

VISHAY



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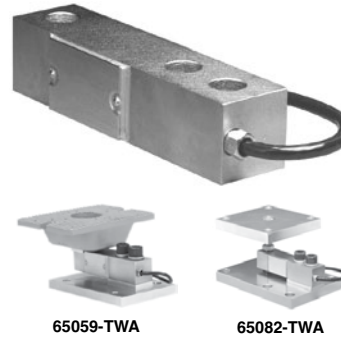
Single-Ended Shear Beams

Model 65023	8
Model 3410/3411	10
Model SQB	12
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Model 5123	16
Model 3420/3421	18
Model MBB	20
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Shear Beam Load Cell

FEATURES

- Rated capacities of 250 to 20,000 pounds, 125 to 10,000 kg
- “Thru” or “threaded” load hole configurations
- Low sensitivity to axial loads
- Low profile (ultra low available in 1000 to 2500 pound ranges)
- Sensorgage™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!).
- Trade certified for NTEP Class III: 5000d, IIII: 10000d and OIML R-60 3000d available
- **Optional**
 - Stainless steel versions available
 - 65059 TWA companion weighing assemblies available



APPLICATIONS

- Floor scales
- Tank weighing
- Bin and hopper weighing

DESCRIPTION

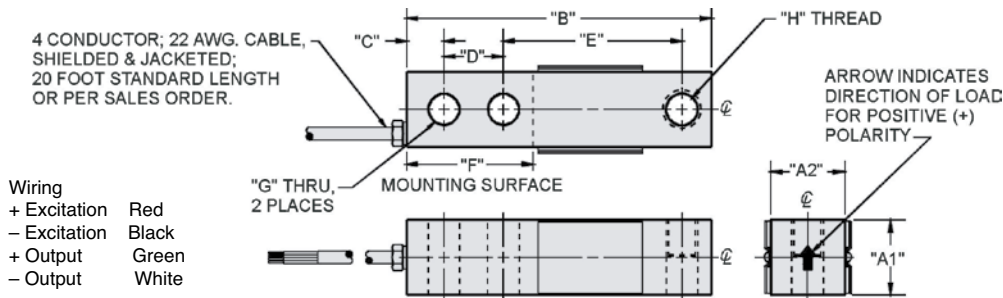
Model 65023 is a low profile shear beam load cell designed for high accuracy platform scales, pallet scales and process weighing applications.

It has high immunity to shock or side loading and is available in 2 or 3 mV/V sensitivity. Approved to OIML, NTEP standards. For hazardous environments this load cell is available with EEx ia IIC T6 level of European approval.

Nickel plating and full environmental sealing assures long-term reliability. A stainless steel option is available for the lb versions for use in harsh or corrosive environments.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in inches [millimeters]



CAPACITY	A1	A2	B	C	D	E	F	G	H	DEFLECTION	WEIGHT
250–500 lbs	1.00	1.25	5.12	0.62	1.00	3.00	2.25	0.53	1/2-20 UNF-2B, Ø0.53 x 0.50 DP C'BORE	0.013	1.7
1–4k	1.25	1.25	5.12	0.62	1.00	3.00	2.25	0.53	1/2-20 UNF-2B, Ø0.53 x 0.62 DP C'BORE	0.017–0.025	4.0
5k–10k	1.50	1.50	6.75	0.75	1.50	3.75	3.00	0.78	3/4-16 UNF-2B, Ø0.78 x 0.75 DP C'BORE	0.025–0.035	6.5
15k–20k	2.00	2.00	8.88	1.00	2.00	4.88	4.00	1.03	1"-14 UNF-2B, Ø1.03 x 1.00 DP C'BORE	0.048–0.063	9.0
[125–250 kg]	[25.0]	[31.0]	[130.0]	[16.0]	[25.0]	[76.0]	[57.0]	[13.0]	M12 x 1.75-6H, Ø13 x 15 DP C'BORE	[0.33]	[0.8]
[500–2T]	[32.0]	[32.0]	[130.0]	[16.0]	[25.0]	[76.0]	[57.0]	[13.0]	M12 x 1.75-6H, Ø13 x 15 DP C'BORE	[0.432–0.635]	[1.8]
[3T–5T]	[38.0]	[38.0]	[171.0]	[19.0]	[38.0]	[95.0]	[76.0]	[20.7]	M20 x 2.5-6H, Ø20.5 x 19 DP C'BORE	[0.635–0.889]	[2.9]
[10T]	[51.0]	[51.0]	[226.0]	[25.0]	[51.0]	[124.0]	[102.0]	[25.0]	M24 x 2-6H, Ø25.4 x 25 DP C'BORE	[1.219–1.600]	[4.1]

Capacities are in pounds [kg/T]. Deflection is ±10%. Certified drawings are available.

Shear Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity – R.C. (E_{max})	250, 500, 1k, 1.5k, 2k, 2.5k, 4k, 5k, 10k, 15k, 20k				lbs
	125, 250, 500, 750, 1000, 2000, 5000, 10,000 ⁽¹⁾				kg
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	3000 single	10000 multiple		3000 ⁽¹⁾	
$Y = E_{max}/V_{min}$	NTEP Cert. No. 86-044A2			6250	Maximum available
Rated output – R.O.	3.0				mV/V
Rated output tolerance	0.25				±% mV/V
Zero balance	1.0				±% FSO
Combined error	0.02	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01				±% FSO
Creep error (30 minutes)	0.025	0.03	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)				°F (°C)
Operating temperature range	0 to 150 (–18 to 65)				°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)				°F (°C)
Sideload rejection ratio	500:1				
Safe sideload	100				% of R.C.
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	343–357				Ω
Output impedance	349–355				Ω
Insulation resistance at 50 VDC	>1000				MΩ
Material	Nickel-plated alloy tool steel ⁽²⁾				
Environmental protection	IP67				
Recommended torque	All capacities up to 5000 kg–136.0 5000 kg–205.0				N*m

Notes
⁽¹⁾ OIML approval 1k–10k lbs and 500–5000 kg only

⁽²⁾ Stainless steel available

FSO—Full Scale Output

All specifications subject to change without notice.

Shear Beam Load Cell

FEATURES

- Capacities 250–2000 kg and 1000–4000 lbs
- Steel and stainless steel construction
- OIML R60 and NTEP approved
- IP67 protection
- **Optional**
 - EEx ia IIC T6 hazardous area approval
 - FM approval available



APPLICATIONS

- Low profile platforms
- Pallet truck weighing
- Tank and silo weighing

DESCRIPTION

Model 3410 is a low profile shear beam load cell designed for high accuracy platform scales, pallet scales and process weighing applications.

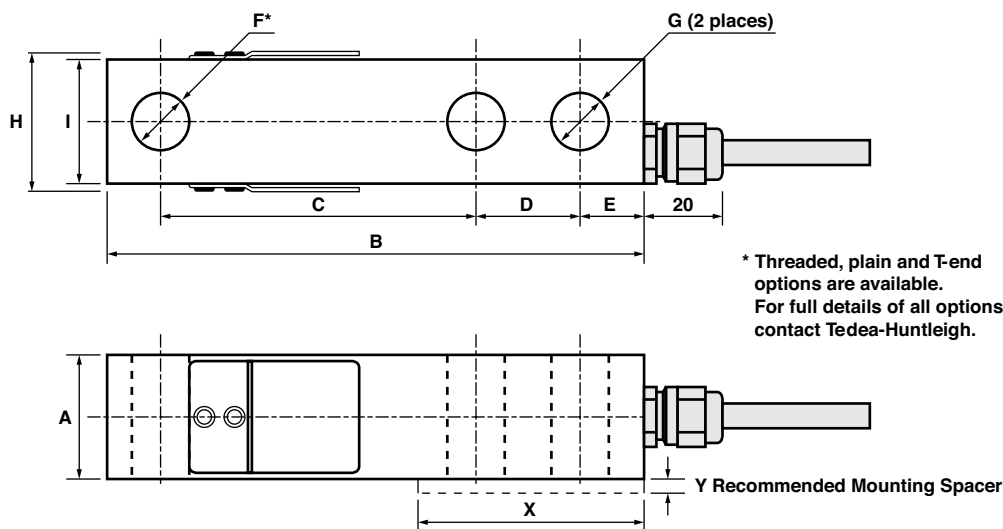
It has high immunity to shock or side loading and is available in 2 or 3 mV/V sensitivity. Approved to OIML,

NTEP standards. For hazardous environments this load cell is available with EEx ia IIC T6 level of European approval.

Nickel plating and full environmental sealing assures long-term reliability. A stainless steel option is available for the lb versions for use in harsh or corrosive environments.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



CAPACITY	A	B	C	D	E	ØF	ØG	H	I	X	Y
1000, 1500, 2500, 4000 lbs	30.5	130	76.2	25.4	16	Ø13.5	Ø13.5	34.0	30.5	57	4
250, 500, 1000 kg	30.5	130	76.2	25.4	16	M12*	Ø13.5	34.0	30.5	57	4
2000 kg	36	130	76.2	25.4	16	M12*	Ø13.5	34.0	30.5	57	4

* Tapped M12 X 1.75 & counterbored Ø13.5 X 14.5 Deep

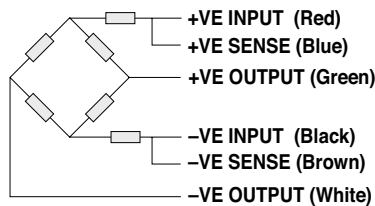
Shear Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	250, 500, 1000, 2000			kg
Rated capacity—R.C. (E_{max})	1000, 1500, 2500, 4000			lbs
NTEP/OIML accuracy class	NTEP	Non-Approved	C3	
Maximum no. of intervals (n)	3000 single 5000 multiple	1000	3000 ⁽¹⁾	
$Y = E_{max}/V_{min}$	6666	1400	10000	Maximum available
Rated output-R.O.	2.0 for kg and 3.0 for lbs			mV/V
Rated output tolerance	0.1			±% of rated output
Zero balance	2			±% of rated output
Zero return, 30 min.	0.0250	0.0300	0.0170	±% of applied load
Total error (per OIML R60)	0.0200	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0010	0.0030	0.0010	±% of applied load/°C
Temperature range	-10 to +40			°C
Temperature range, safe	-20 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	385±10			Ω
Output impedance	351±5			Ω
Insulation resistance	>2000			MΩ
Cable length	3.0—3410 6.0—3411			m
Cable type	6-wire, braided, polyurethane, floating screen			Standard
Construction	Nickel-plated alloy steel and stainless steel			
Environmental protection	IP67			
Recommended torque	136			N*m

* 50% utilization

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM



Single-Ended Beam

FEATURES

- Capacities: 500 to 20k lbs, 250 to 5000 kg
- High side-load tolerance
- Electroless nickel-plated-alloy tool steel
- NTEP Class III 5000M for SQB, SQB-F and SQB-SS available from 1k to 10k lbs
- SQB-SS stainless steel construction
- **Optional**
 - FM approval available



APPLICATIONS

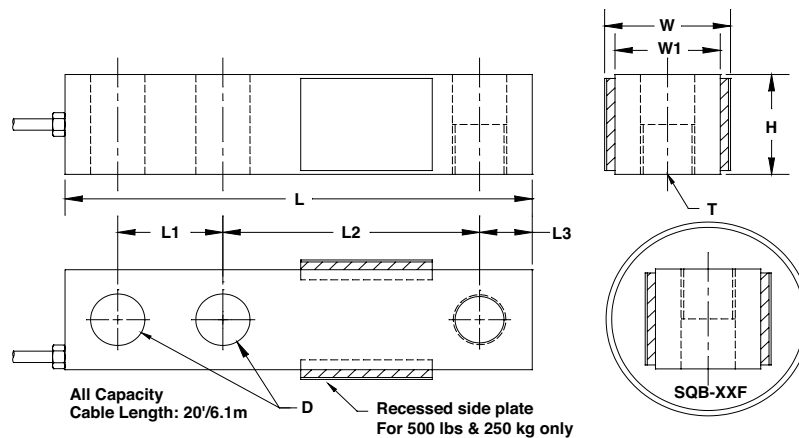
- Truck/rail scales
- Silo/hopper/tank weighing
- Platform scales (multiple load cells)
- Pallet truck scales
- Packaging machines

DESCRIPTION

SQB is a single-ended shear beam load cell designed for multiple cell applications such as low profile platform or small tank scales when used with proper mounting

accessories. It is insensitive to side loading and capable of reversed loading. SQB and SQB-F are constructed of alloy steel and fully potted with special chemical compounds to IP67 to protect the cell from water and moisture damage.

OUTLINE DIMENSIONS



Wiring

+ Excitation	Red
- Excitation	Black
+ Signal	Green
- Signal	White

CAPACITY		L	L ₁	L ₂	L ₃	W	W ₁	H	D	T
250 kg	mm	130.0	25.4	76.2	12.7	31.7	31.7	25.4	13.5	M12 x 1.75
500 lbs	(inch)	5.12	1.00	3.00	0.50	1.25	1.25	1.00	0.53	1/2-20UNF
500/1000/1500/2000 kg	mm	130.0	25.4	76.2	12.7	38.1	31.7	31.7	13.5	M12 x 1.75
1k/2k/2.5k/3k/4k/5kSE lbs	(inch)	5.12	1.00	3.00	0.50	1.50	1.25	1.25	0.53	1/2-20UNF
2500/5000 kg	mm	171.5	38.1	95.3	19.0	44.2	38.1	38.1	19.8	M20 x 1.5
5k/10k lbs	(inch)	6.75	1.50	3.75	0.75	1.74	1.50	1.50	0.78	3/4-16UNF
15k/20k lbs	mm	225.6	50.8	123.9	25.4	56.9	50.8	50.8	26.2	-----
	(inch)	8.88	2.00	4.88	1.00	2.24	2.00	2.00	1.03	1-14UNS

Single-Ended Beam

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	NTEP III	Non-Approved	
Maximum no. of intervals (n)	3000 single ⁽¹⁾ 5000 multiple ⁽¹⁾	1000	
Y = E_{max}/V_{min}	10000	5000	Maximum available
Standard capacities (E_{max})	250, 500, 1000, 1500, 2000, 2500, 5000		kg
Standard capacities (E_{max})	500, 1k, 2k, 2.5k, 3k, 4k, 5kSE, 5k, 10k, 15k, 20k		lbs
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.25		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.025	0.030 (SS: 0.05)	±% of rated output
Hysteresis	0.025	0.030 (SS: 0.05)	±% of rated output
Non-repeatability	0.020	0.020	±% of rated output
Creep error (20 minutes)	0.025	0.030	±% of rated output
Zero return (20 minutes)	0.025	0.030	±% of rated output
Temperature effect on min. dead load output	0.0017	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	385±5		Ω
Output impedance	350±3		Ω
Insulation resistance	>5000		MΩ
Construction	Nickel-plated alloy steel ⁽²⁾		
Environmental protection	IP67		

Notes:
⁽¹⁾ Capacities 1k–10k lbs

⁽²⁾ Stainless steel available

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Single-Ended Beam

FEATURES

- Capacities: 500 kg, 1T, 1.5T, 2T, and 2.5T
- High side-load tolerance
- Electroless nickel-plated-alloy tool steel
- OIML C3 approval from 500 kg to 2.5T
- **Optional**
 - FM approval available

APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing
- Platform scales (multiple load cells)
- Pallet truck scales
- Packaging machines

DESCRIPTION

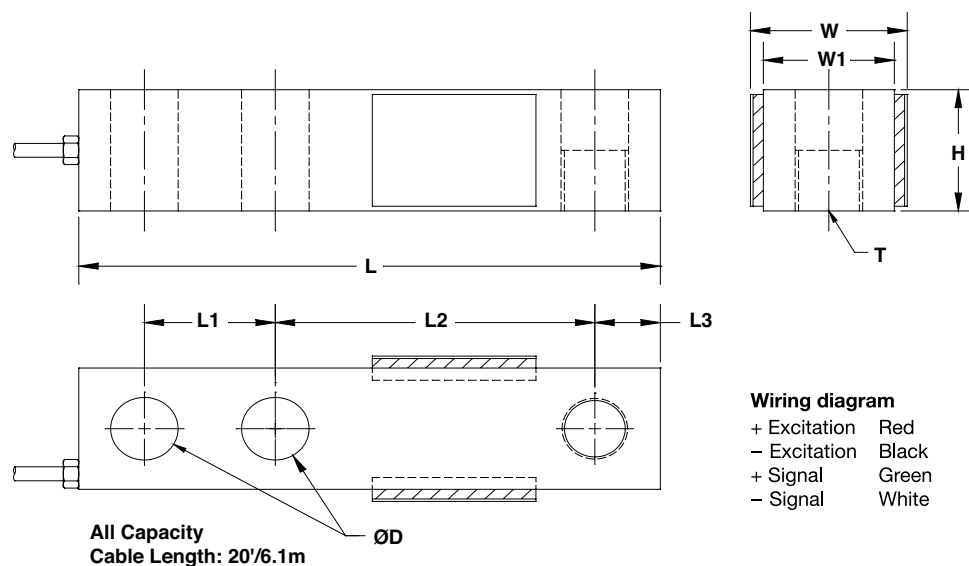
SEB is a single-ended shear beam load cell designed for multiple cell applications such as low profile platform or small tank scales when used with proper mounting



accessories. It is insensitive to side loading and capable of reversed loading.

SEB is constructed of alloy steel and fully potted with special chemical compounds to IP67 to protect the cell from water and moisture damage.

OUTLINE DIMENSIONS



CAPACITY		L	L ₁	L ₂	L ₃	W	W ₁	H	D	T
500 kg/1T/1.5T/2T	mm	130.0	25.4	76.2	12.7	38.1	31.2	31.2	13.5	M12 x 1.75
	(inch)	5.12	1.00	3.00	0.50	1.50	1.25	1.25	0.53	
2.5T	mm	171.5	38.1	95.3	19.0	44.2	38.1	38.1	19.8	M20 x 1.5
	(inch)	6.75	1.50	3.75	0.75	1.74	1.50	1.50	0.78	

Single-Ended Beam

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
NTEP/OIML accuracy class	C3	
Maximum no. of intervals (n)	3000	
Y = E_{max}/V_{min}	10000	Maximum available
Standard capacities (E_{max})	500, 1000, 1500, 2000, 2500	kg
Rated output—R.O.	3.0	mV/V
Rated output tolerance	0.25	±% of rated output
Zero balance	1	±% of rated output
Non-linearity	0.025	±% of rated output
Hysteresis	0.025	±% of rated output
Non-repeatability	0.020	±% of rated output
Creep error (20 minutes)	0.030	±% of rated output
Zero return (20 minutes)	0.030	±% of rated output
Temperature effect on min. dead load output	0.0014	±% of rated output/°C
Temperature effect on sensitivity	0.0008	±% of applied load/°C
Compensated temperature range	-10 to +40	°C
Operating temperature range	-20 to +60	°C
Safe overload	150	% of R.C.
Ultimate overload	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	385±5	Ω
Output impedance	350±3	Ω
Insulation resistance	>5000	MΩ
Construction	Nickel-plated alloy steel	
Environmental protection	IP67	

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Single-Ended Beam Load Cell

FEATURES

- Capacities: 500–5000 kg, 1k–10k lbs.
- Low profile construction
- Certified to OIML R-60, 3000d and NTEP class III, 3000 divisions
- Sealing: IP67 (DIN 40.050)
- Nickel-plated alloy steel construction
- Threaded load hole
- **Optional**
 - FM certified for use in potentially explosive atmospheres



APPLICATIONS

- Floor scales
- Tank weighing
- Bin and hopper weighing

These products are suitable for small and medium platform scales, overhead track scales, hopper scales, and process weighing applications.

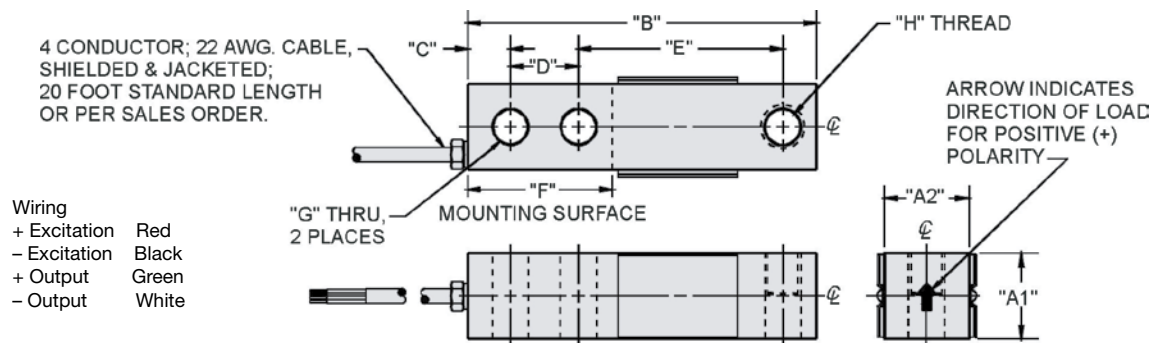
Reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gage area.

DESCRIPTION

The 5123 is a low profile single-ended shear beam type load cell. The 5123 is nickel-plated tool steel.

Ease of installation is made possible through the use of a partially threaded hole to accept levelling feet, load buttons, or loading cables.

OUTLINE DIMENSIONS in inches [millimeters]



CAPACITY	A ₁	A ₂	B	C	D	E	F	G	H	DEFLECTION	WEIGHT
1k–4k lbs.	1.25	1.25	5.12	0.62	1.00	3.00	2.25	0.53	1/2-20 UNF-2B, Ø0.53 x 0.62 DP C'BORE	0.017 - 0.025	4.0
5k–10k lbs.	1.50	1.50	6.75	0.75	1.50	3.75	3.00	0.78	3/4-16 UNF-2B, Ø0.78 x 0.75 DP C'BORE	0.025 - 0.035	6.5
[500 kg–2T]	[32.0]	[32.0]	[130.0]	[16.0]	[25.0]	[76.0]	[57.0]	[13.0]	M12 x 1.75-6H, Ø13 x 15 DP C'BORE	[0.432 - 0.635]	[1.8]
[3T–5T]	[38.0]	[38.0]	[171.0]	[19.0]	[38.0]	[95.0]	[76.0]	[20.7]	M20 x 2.5-6H, Ø20.5 x 19 DP C'BORE	[0.635 - 0.889]	[2.9]

Capacities are in pounds [kg/T]. Deflection is ±10%. Certified drawings are available.

Single-Ended Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	500, 1000, 2000, 5000 ⁽¹⁾			kg
Standard capacities (E_{max})	1k, 2.5k, 4k, 5k, 10k ⁽¹⁾			lbs.
Accuracy class according to OIML R-60 /NTEP	NTEP III	Non-Approved	C3	
Max. no. of verification intervals	3000		3000	
Min. verification interval ($V_{min}=E_{max}/Y$)			$E_{max}/6000$	
Min. verification interval, type MR			$E_{max}/10000$	
Rated output (=S)	3			mV/V
Rated output tolerance	0.0075			±mV/V
Zero balance	1.0			±% FSO
Combined error	0.0200	0.050	0.023	±% FSO
Minimum dead load output return	0.0250	0.050	0.017	±% FSO
Minimum dead load output return, type MI8			0.0063	±% FSO
Non-repeatability	0.0100	0.01	0.01	±% FSO
Creep error (30 minutes)		0.060	0.025	±% FSO
Temp. effect on min. dead load output	(0.0008)	0.0250	0.0120	±% FSO/5°C (°F)
Temp. effect on min. dead load output, type MR			0.0070	±% FSO/5°C
Temperature effect on sensitivity	(0.0010)	0.0250	0.0088	±% FSO/5°C (°F)
Minimum dead load	0			% E_{max}
Maximum safe overload	150			% E_{max}
Ultimate overload	300			% E_{max}
Maximum safe side load	100			% E_{max}
Deflection at E_{max}	0.4 / 0.8 / 1.0 / 1.1 – kg 0.4 / 0.8 / 1.0 / 0.9 / 1.1 – lbs.			mm
Excitation voltage	5 to 12			V
Maximum excitation voltage	15			V
Input resistance	350±7			Ω
Output resistance	352±3			Ω
Insulation resistance	>1000			MΩ
Compensated temperature range	–10 to +40			°C
Operating temperature range	–18 to +65			°C
Storage temperature range	–50 to +85			°C
Element material	Nickel-plated alloy steel			
Sealing (DIN 40.050 / EN 60.529)	IP67			
Recommended torque on fixation bolts	0.5–2T and 1k–4k lbs.: 136 5k lbs. and 5T and over: 205			N*m

⁽¹⁾ 5T and 10k lbs. are not approved by OIML

FSO—Full Scale Output

Correct mounting of the load cell is essential to ensure optimum performance. Further information is available on request.

All specifications are subject to change without notice

Alloy Steel Shear Beam Load Cell

FEATURES

- Capacity range: 5,000–10,000 lbs
- Steel and stainless steel construction
- NTEP approved
- IP67 protection
- **Optional**
 - FM approval available



APPLICATIONS

- Low profile platforms
- Pallet truck weighing
- Tank and silo weighing

DESCRIPTION

Model 3420 is a low profile shear beam load cell designed for high accuracy platform scales, pallet scales and process weighing applications.

It has a high immunity to shock or side loading, and is approved to NTEP standards. For hazardous environments this load cell is available with Factory Mutual approval.

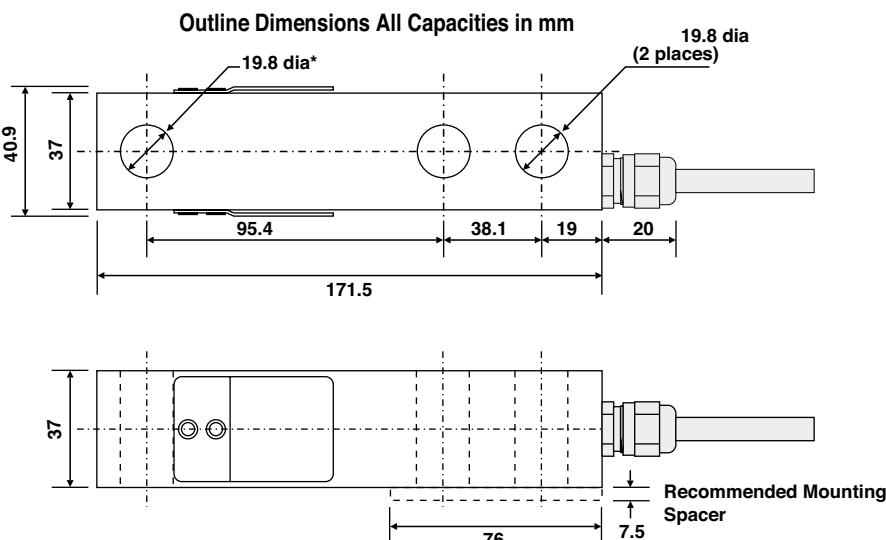
Nickel plating and full environmental sealing assure long-term reliability. A stainless steel option is available for use in harsh or corrosive environments.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension can be achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters

*Threaded options are available
For full details of all options
contact Tedea-Huntleigh.

3420 plain, M20 or 3/4 - 16 UNF
threaded mounting hole
3421 - 3/4 - 16 UNF

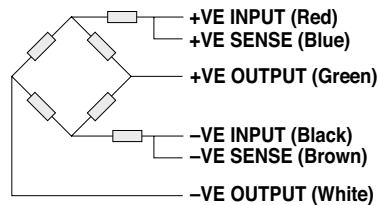


Alloy Steel Shear Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E_{max})	5000, 7500, 10000		lbs
NTEP/OIML accuracy class	NTEP	Non-Approved	
Maximum no. of intervals (n)	3000 single 5000 multiple	3000	
$Y = E_{max}/V_{min}$	6666	10000	
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.1		±% of rated output
Zero balance	2		±% of rated output
Zero return, 30 min.	0.0250	0.0170	±% of applied load
Total error (per OIML R60)	0.0200	0.0200	±% of rated output
Temperature effect on zero	0.0023	0.0023	±% of rated output/°C
Temperature effect on output	0.0010	0.0010	±% of applied load/°C
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	385±10		Ω
Output impedance	351±5		Ω
Insulation resistance	>2000		MΩ
Cable length	3.0m—3420 20 ft.—3421		
Cable type	6-wire, braided, polyurethane, floating screen		Standard
Construction	Nickel-plated alloy steel		
Environmental protection	IP67		
Recommended torque	205		N*m

All specifications subject to change without notice.

Wiring Schematic Diagram
 (Balanced temperature compensation)



Miniature Bending Beam

FEATURES

- Capacities: 50, 100, 150, and 250 lbs
- Low profile for low-capacity scales
- Electroless nickel-plated alloy tool steel
- **Optional**
 - FM approval available

APPLICATIONS

- Silo/hopper/tank weighing
- Packaging machines
- Dosing/filling
- Belt scales/conveyor scales

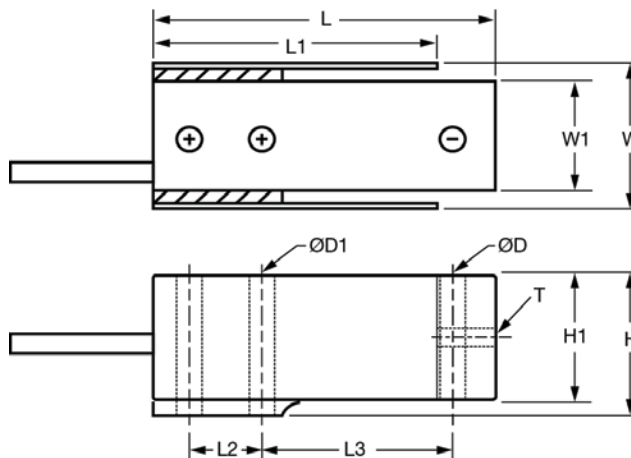
DESCRIPTION

MBB is designed for low profile platform scales and tank scales in low capacities. It is constructed of high alloy tool steel which offers superior performance in creep characteristics and shock load capabilities over standard aluminum units.

MBB is fully potted and sealed with special chemical compounds to IP66 providing excellent protection against moisture and humidity.



OUTLINE DIMENSIONS



Wiring
 + Excitation Red
 - Excitation Black
 + Signal Green
 - Signal White

**All Capacity
 Cable Length: 5' / 1.5m**

CAPACITY		L	L ₁	L ₂	L ₃	W	W ₁	H	H ₁	D ₁	D	T
50/100/150 lbs	mm	60.33	50	12.7	33.66	19.5	12.7	24.8	22.2	4.5	4.5	-
	(inch)	2.38	1.97	0.50	1.33	0.77	0.5	0.98	0.87	0.18	0.18	-
250 lbs	mm	60.33	50	12.7	33.66	25.4	19.05	24.8	22.2	4.5	4.5	-
	(inch)	2.38	1.97	0.50	1.33	1.00	0.75	0.98	0.87	0.18	0.18	-
50/100/150 lbs OL	mm	60.33	50	12.7	33.66	21	12.7	24.8	22.2	4.4	4.4	-
	(inch)	2.38	1.97	0.50	1.33	0.83	0.5	0.98	0.87	0.17	0.17	-
100/250 lbs VT	mm	60.33	50	12.7	33.66	25.4	19.05	24.8	22.2	6.8	-	-
	(inch)	2.38	1.97	0.50	1.33	1.00	0.75	0.98	0.87	0.26	1/4-20UNF	-
100 lbs BCI	mm	60.33	50	12.7	33.66	25.4	19.05	24.8	22.2	6.4	6.4	-
	(inch)	2.38	1.97	0.50	1.33	1.00	0.75	0.98	0.87	0.25	0.25	-
250 lbs BCI	mm	60.33	50	12.7	33.66	25.4	19.05	24.8	22.2	6.4	4.5	-
	(inch)	2.38	1.97	0.50	1.33	1.00	0.75	0.98	0.87	0.25	0.18	-
250 lbs LT	mm	60.33	50	12.7	-	25.4	19.05	24.8	22.2	4.4	-	1/4-28UNF
	(inch)	2.38	1.97	0.50	-	1.00	0.75	0.98	0.87	0.17	-	1/4-28UNF

Miniature Bending Beam

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
NTEP/OIML accuracy class	Non-Approved	
Maximum no. of intervals (n)	3000	
Y = E_{max}/V_{min}	5000	Maximum available
Standard capacities (E_{max})	50, 100, 150, 250	lbs
Rated output—R.O.	3.0	mV/V
Rated output tolerance	10	±% of rated output
Zero balance	1	±% of rated output
Non-linearity	0.030	±% of rated output
Hysteresis	0.030	±% of rated output
Non-repeatability	0.020	±% of rated output
Creep error (20 minutes)	0.030	±% of rated output
Zero return (20 minutes)	0.030	±% of rated output
Temperature effect on min. dead load output	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40	°C
Operating temperature range	-20 to +60	°C
Safe overload	150	% of R.C.
Ultimate overload	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	385±5	Ω
Output impedance	350±3	Ω
Insulation resistance	>5000	MΩ
Construction	Nickel-plated alloy steel	
Environmental protection	IP66	

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Stainless Steel Shear Beam Load Cell

FEATURES

- Capacities 500–2000 kg
- Stainless steel construction
- OIML R60 approved
- Sealed to IP67
- **Optional**
 - EEx ia IIC T6 hazardous area approval



APPLICATIONS

- Low profile platforms
- Pallet truck weighing
- Tank and silo weighing
- Food industry platforms

It has high immunity to shock or side loading, and is available in 2 mV/V sensitivity and is approved to OIML 6000 divisions.

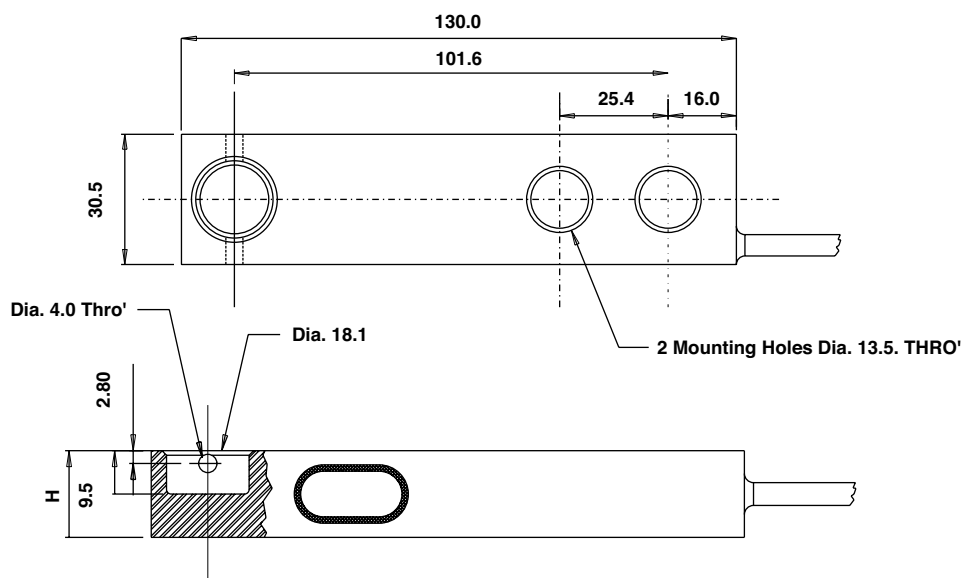
Sealed to IP67 as standard the 3520 is ideally suited for harsh industrial applications where performance and durability are paramount.

DESCRIPTION

Model 3520 is a low profile shear beam load cell designed for high accuracy platform scales, pallet scales and process weighing applications.

The extremely low profile makes this load cell ideal for today's modern low profile industrial platforms.

OUTLINE DIMENSIONS in millimeters



T-End loading shown. Other end options include M12 threaded.

CAPACITY (kg)	H
500	19.0 (0.748")
1000	19.0 (0.748")
2000	28.0 (1.102")

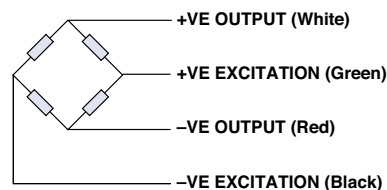
Stainless Steel Shear Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity – R.C. (E_{max})	500, 1000, 2000		kg
OIML accuracy class	Non-Approved	C3 ⁽¹⁾	
Maximum no. of intervals (n)	1000	3000	
$Y = E_{max}/V_{min}$	2000	6000	Maximum available 15000
Rated output – R.O	2.0		mV/V
Rated output tolerance	0.1		±% of rated output
Zero balance	2		±% of rated output
Zero return, 30 min.	0.050	0.017	±% of applied load
Total error	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.007	0.0023	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	±% of applied load/°C
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-30 to +90		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	380±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	3		m
Cable type	4-wire, braided, polyurethane, floating screen		Standard
Construction	Stainless steel		
Environmental protection	IP67		
Recommended torque	136.0		N*m

⁽¹⁾ 50% utilization

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM



Single-Ended Beam Load Cell

FEATURES

- Capacities: 500–5000 kg, 1k–20k lbs.
- Low profile construction
- Certified to OIML R-60, 4000d and NTEP III, 5000 divisions
- Sealing: IP67 (DIN 40.050)
- Stainless steel construction
- Threaded load hole
- **Optional**
 - FM certified for use in potentially explosive atmospheres



APPLICATIONS

- Low profile platforms
- Pallet truck weighing
- Tank and silo weighing

platform scales, overhead track scales, hopper scales, and process weighing applications.

DESCRIPTION

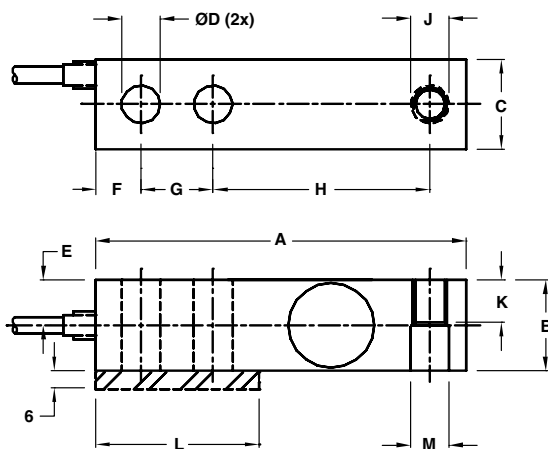
The 9123 is a low profile single-ended shear beam type load cell. The 9123 is stainless steel.

Reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gage area.

Ease of installation is made possible through the use of a partially threaded hole to accept levelling feet, load buttons, or loading cables.

These products are suitable for small and medium

OUTLINE DIMENSIONS in millimeters



Capacity	Dimensions in mm		Dimensions in inches		
	0.5T–2T	5T	1k–4k	5k–15k	20k
A	130.0	171.5	5.12	6.75	8.75
B	31.5	37.8	1.23	1.45	1.95
C	31.8	38.1	1.23	1.45	1.95
ØD	13.5	20.7	0.53	0.78	1.06
E	15.7	19.1	0.62	0.72	0.98
F	15.7	19.1	0.62	0.75	1.00
G	25.4	38.1	1.00	1.50	2.00
H	76.2	95.3	3.00	3.75	4.75
J	M12x1.75-6H	M20x2.5-6H	½-20UNF-2B	¾-16UNF-2B	1-12UNF-2B
K	15.7	19.1	0.62	0.75	0.98
L	57.2	76.2	2.25	3.12	4.00
ØM	13.5	20.7	0.53	0.78	1.030

Cable specifications:

Cable length: 6m

- + Excitation Red
- Excitation Black
- + Output Green
- Output White
- Shield Transparent

Cable screen is not connected to load cell body. Performance may be affected if load cell cables are shortened.

Single-Ended Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Standard capacities (E_{max})	500, 1000, 2000, 5000 ⁽¹⁾				kg
Standard capacities (E_{max})	1k, 2.5k, 4k, 5k, 10k, 15k, 20k ⁽¹⁾				lbs
Accuracy class according to OIML R-60 /NTEP	NTEP III	Non-Approved	C3	C4	
Max. no. of verification intervals	5000		3000	4000	
Min. verification interval ($V_{min}=E_{max}/Y$)			$E_{max}/6000$	$E_{max}/8000$	
Min. verification interval, type MR			$E_{max}/10000$	$E_{max}/18000$	
Rated output (=S)	3				mV/V
Rated output tolerance	0.003				±mV/V
Zero balance	1.0				±% FSO
Combined error	0.0200	0.050	0.023	0.018	±% FSO
Minimum dead load output return	0.0250	0.050	0.017	0.013	±% applied load
Non-repeatability	0.0100	0.070	0.035	0.026	±% FSO
Creep error (30 minutes)		0.060	0.025	0.018	±% applied load
Temp. effect on min. dead load output	(0.0008)	0.0250	0.0120	0.0088	±% FSO/5°C (°F)
Temp. effect on min. dead load output, type MR			0.0070	0.0039	±% FSO/5°C
Temperature effect on sensitivity	(0.0010)	0.0250	0.0088	0.0065	% applied load/5°
Minimum dead load	0				% E_{max}
Maximum safe overload	150				% E_{max}
Ultimate overload	300				% E_{max}
Maximum safe side load	100				% E_{max}
Deflection at E_{max}	0.4 / 0.8 / 1.0 / 1.1—kg 0.4 / 0.8 / 1.0 / 0.9 / 1.1—lbs				mm
Excitation voltage	5 to 12				V
Maximum excitation voltage	15				V
Input resistance	350±3.5				Ω
Output resistance	350±3.5				Ω
Insulation resistance	≥5000				MΩ
Compensated temperature range	-10 to +40				°C
Operating temperature range	-40 to +80				°C
Storage temperature range	-50 to +90				°C
Element material	Stainless steel				
Sealing (DIN 40.050 / EN60.529)	IP67				
Recommended torque on fixation bolts	0.5–2T and 1k–4k lbs.: 149 5k lbs. and 5T and over: 271				N*m

⁽¹⁾ 5T and 10k lbs. are not approved by OIML

FSO— Full Scale Output

Correct mounting of the load cell is essential to ensure optimum performance.

Further information is available on request.

All specifications subject to change without notice.

Aluminum Shear Beam Load Cell

FEATURES

- Capacities 250–1000 kg
- Low profile for industrial platforms
- Anodized aluminum construction
- 6-Wire (sense) circuit
- IP67 protection
- Low cost

APPLICATIONS

- Low profile platform
- Medical bed weighing
- Tank and silo weighing

DESCRIPTION

Model 3310 is a low profile shear beam load cell designed for high accuracy platform scales, pallet scales and process weighing applications.

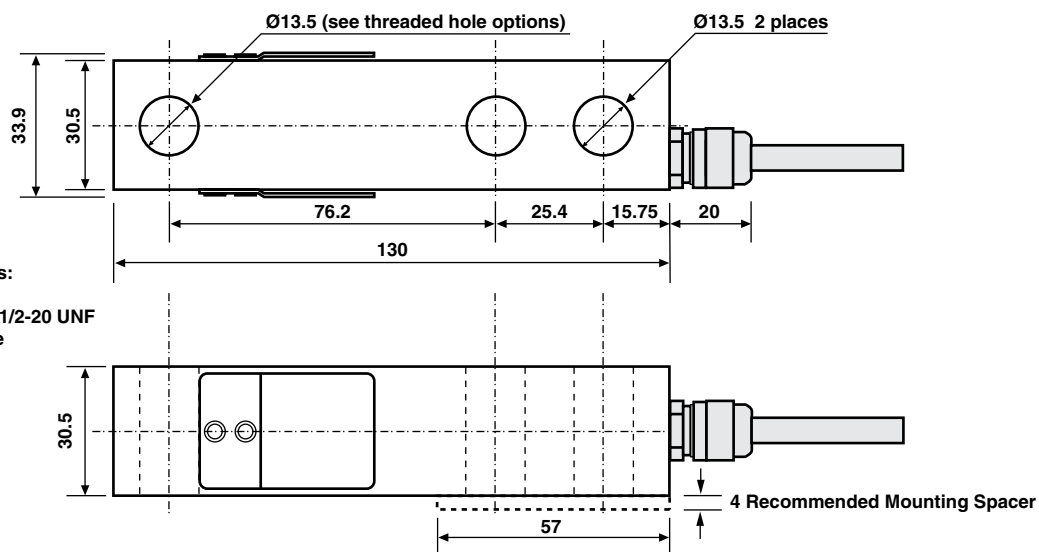


It has high immunity to shock or side loading and is available in 2 mV/V sensitivity.

A special humidity resistant protective coating assures long-term stability over the entire compensated temperature range.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters

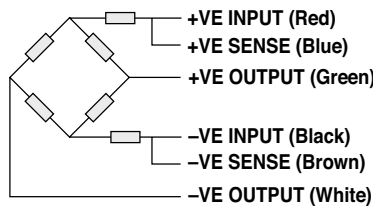


Aluminum Shear Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Grade	E	F	G	Units
Rated capacity: metric	250, 500, 750, 1000			kg
Rated output	2.0 ± 0.10%			mV/V
Zero return, 30 min.	0.050	0.025	0.0170	±% of applied load
Total error	0.050	0.30	0.0200	±% of applied load
Temperature effect on zero	0.007	0.0035	0.0023	±% of rated output/°C
Temperature effect on output	0.004	0.0014	0.0012	±% of applied load/°C
Zero balance	3.0	2.0	2.0	±% of rated output
Temperature range: operating	-10 to +70			°C
Temperature range: compensated	-10 to +40			°C
Safe overload	150			±% of rated capacity
Ultimate overload	300			±% of rated capacity
Excitation, recommended	10			VDC or VAC
Excitation, maximum	15			VDC or VAC
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Deflection at rated capacity	<0.4			mm
Weight	0.5			kg
Construction	Anodized aluminum			
Environmental protection	IP67			
Cable	3 meters (standard), 6-wire, polyurethane jacket, dual floating screen			
Recommended torque	100 136			lb-ft N*m

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM





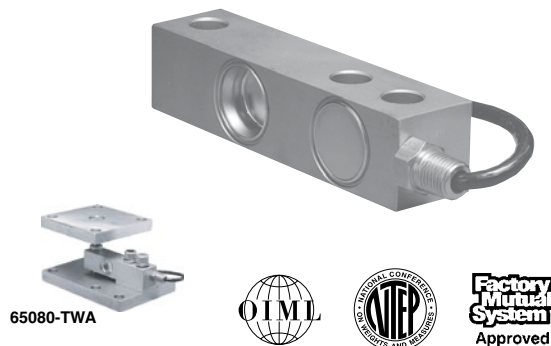
Model 65083	30
Model 65083H.....	32
Model SQB-H.....	34
Model ACB	36
Model SSB	38
Model 3510	40

Single-Ended, Hermetically Sealed Shear Beams

Stainless Steel, Welded Seal Shear Beam Load Cell

FEATURES

- Rated capacities of 1000 to 20,000 pounds
- Stainless steel, welded seal construction
- Trade certified for NTEP Class III L 10000 and III 5000 divisions and OIML R-60 3000 divisions
- Hostile or clean environment
- *Sensorgage™* sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Integral conduit adaptor with teflon jacketed cable available



APPLICATIONS

- Hostile environments: food and beverage processing, chemical and plastics processing, pharmaceutical and biomedical processing
- Tank, bin and hopper weighing
- Batching, blending and mixing systems

profile platforms, pallet truck weighers, tanks and silos. The guide slots incorporated into the upper and lower mounting faces enable manufacturers to easily position the load cell.

DESCRIPTION

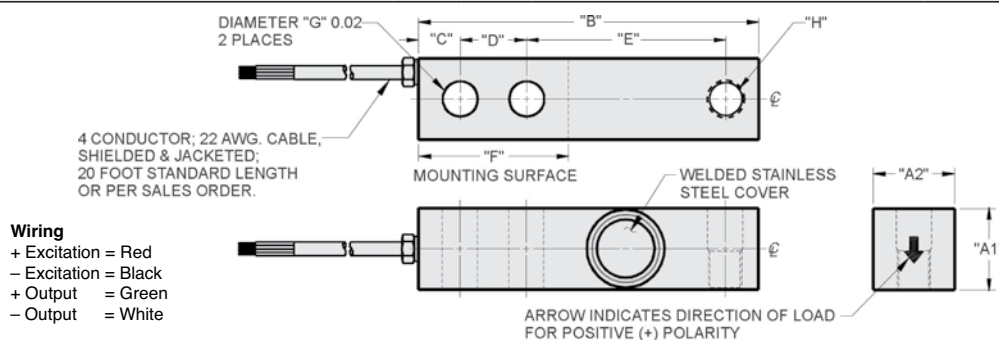
Model 65083 provides the weighing industry with excellent protection necessary for today's hostile environments in an economical low profile range suitable for platform scale manufacture.

Hermetically sealed against moisture, the construction of the model 65083 in combination with a polyurethane dual shielded cable, enables continuous operation in harsh environments while maintaining a high operating specification.

Its low profile and all welded sealing combined with high accuracy makes this load cell ideally suited for low

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in inches



CAPACITY	A1	A2	B	C	D	E	F	G	H	DEFLECTION	WEIGHT
1k-4k	1.22	1.22	5.12	0.62	1.00	3.00	2.25	0.53	1/2-20 UNF-2B, Ø0.53 x 0.61 DEEP C'BORE	0.008-0.026	4.0
5k-SE*	1.22	1.22	5.12	0.62	1.00	3.00	2.25	0.53	1/2-20 UNF-2B, Ø0.53 x 0.61 DEEP C'BORE	0.008-0.026	4.0
5k-10k	1.50	1.50	6.75	0.75	1.50	3.75	3.00	0.78	3/4-16 UNF-2B, Ø0.78 x 0.75 DEEP C'BORE	0.030-0.055	6.5
15k-20k	2.00	2.00	8.75	1.00	2.00	4.88	4.00	1.06	1-14 UNS-2B, Ø1.06 x 1.00 DEEP C'BORE	0.025-0.032	9.0

Capacities are in pounds. Deflection is ±10%. Certified drawings are available.
 * SE denotes "Small Envelope". A 5k capacity is available in the 1k/4k dimensional envelope.

Stainless Steel, Welded Seal Shear Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	1k, 1.5k, 2k, 2.5k, 4k, 5k, 10k, 15k, 20k ⁽¹⁾ 500 kg, 750 kg, 1T, 2T, 5T, 10T ⁽¹⁾				lbs kg/metric tons
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	5000 single	10000 multiple		3000 ⁽¹⁾	
Y = E_{max}/V_{min}	NTEP Cert. No. 98-175				8333
Rated output—R.O.	2.0	2.0	3.0	2.0	mV/V
Rated output tolerance	0.25				±% mV/V
Zero balance	1.0				±% FSO
Combined error	0.02	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01				±% FSO
Creep error (30 minutes)	0.025	0.03	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)				°F (°C)
Operating temperature range	0 to 150 (–18 to 65)				°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)				°F (°C)
Sideload rejection ratio	500:1				
Safe sideload	100				% of R.C.
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	343–357				Ω
Output impedance	349–355				Ω
Insulation resistance at 50 VDC	>1000				MΩ
Material	Stainless steel				
Environmental protection	IP68				
Recommended torque	All capacities up to 5000 kg–136.0 5000 kg–205.0				N*m

Notes
⁽¹⁾ OIML approval 1–10k lbs and 500–5000 kg only

NTEP approval 1–10k lbs only (kg/metric capacities are not approved)

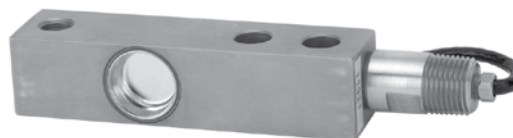
FSO—Full Scale Output

All specifications subject to change without notice.

Hermetically Sealed Stainless Steel Shear Beam Load Cell

FEATURES

- Rated capacities of 1000 to 10,000 pounds
500kg to 5 metric tons
- Stainless steel, welded seal construction
- Interchangeable with Sensortronics model 65023 shear beam
- Trade certified for NTEP Class III: 5000 Divisions and Class IIIL: 10000 Divisions; OIML R60: 3000 Divisions
- Hermetically *Sensorgage™* sealed to IP68 standards
- *Cell Guard™* two year warranty
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Companion weigh module is Model 65080 Stainless Steel *TantaMount*



65080-TWA



APPLICATIONS

- Hostile environments: Food and beverage processing
Chemical and plastics processing
Pharmaceutical and biomedical processing
- Washdown and Clean-In-Place environments
- High performance weighing modules and assemblies

Its low profile and all welded sealing combined with high accuracy makes this load cell ideally suited for low profile platforms, pallet truck weighers, tanks and silos. The guide slots incorporated into the upper and lower mounting faces enable manufacturers to easily position the load cell.

DESCRIPTION

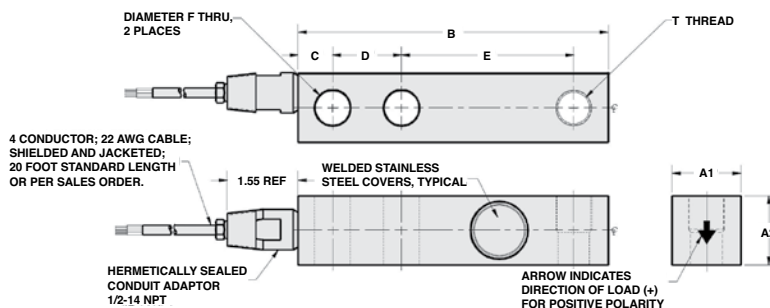
Model 65083H provides the weighing industry with the ultimate protection necessary for today's hostile environments in an economical low profile range suitable for platform scale manufacture.

Hermetically sealed against moisture, the construction of the model 65083H in combination with a polyurethane dual shielded cable, enables continuous operation in harsh environments while maintaining a high operating specification.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in inches [millimeters]

Wiring
 + Excitation = Red
 - Excitation = Black
 + Output = Green
 - Output = White



CAPACITY	A1	A2	B	C	D	E	F	G-THREAD	DEFLECTION	WEIGHT
1k-4k	1.22	1.25	5.12	0.62	1.00	3.00	0.53	1/2-20 UNF-2B, Ø0.53 x 0.61 DP C'BORE	0.012	2.4
5k-SE*	1.22	1.50	5.12	0.62	1.00	3.00	0.53	1/2-20 UNF-2B, Ø0.53 x 0.61 DP C'BORE	0.012	2.4
5k-10k	1.50	2.00	6.75	0.75	1.50	3.75	0.78	3/4-16 UNF-2B, Ø0.78 x 0.75 DP C'BORE	0.030	3.9
[500kg-2T]	[31.0]	[31.0]	[130.0]	[16.0]	[25.0]	[76.0]	[13.0]	M12 x 1.75-6H	[0.305]	[1.1]
[500kg-2T]	[31.0]	[32.0]	[130.0]	[16.0]	[25.0]	[76.0]	[13.0]	M12 x 1.75-6H	[0.305]	[1.1]
[3T-5T]	[38.0]	[38.0]	[171.0]	[19.0]	[38.0]	[95.0]	[20.0]	M20 x 2.5-6H	[0.762]	[1.8]

Capacities are in pounds. Deflection is ±10%. Certified drawings are available.
 * SE denotes "Small Envelope". A 5k capacity is available in the 1k/4k dimensional envelope.

Hermetically Sealed Stainless Steel Shear Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity – R.C. (E_{max})	1k, 1.5k, 2.5k, 4k, 5k, 10k 500 kg, 750 kg, 1T, 2T, 5T				lbs kg/metric tons
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	5000 multiple	10000 multiple		3000	
$Y = E_{max}/V_{min}$	NTEP Cert. No. 98-175			8333	Maximum available
Rated output – R.O.	2.0	2.0	3.0	2.0	mV/V
Rated output tolerance	0.25				±% mV/V
Zero balance	1.0				±% FSO
Combined error	0.02	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01				±% FSO
Creep error (30 minutes)	0.03	0.03	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)				°F (°C)
Operating temperature range	0 to 150 (–18 to 65)				°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)				°F (°C)
Sideload rejection ratio	500:1				
Safe sideload	100				% of R.C.
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	343–357				Ω
Output impedance	349–355				Ω
Insulation resistance at 50 VDC	>1000				MΩ
Material	Stainless steel				
Environmental protection	IP68 welded seals, glass to metal cable!!				Special
Recommended torque	All capacities up to 5000 kg–136.0 5000 kg–205.0				N*m

FSO—Full Scale Output

All specifications subject to change without notice.

Hermetically Sealed Single-Ended Beam

FEATURES

- Capacities: 1k to 10k lbs and 500 to 5000 kg
- High side-load tolerance
- Easy installation
- Electroless nickel-plated-alloy tool steel or stainless steel
- NTEP III 5000M approval 1k to 10k lbs
- **Optional**
 - FM approval available
 - SQB-H(HSS) hermetically sealed stainless steel



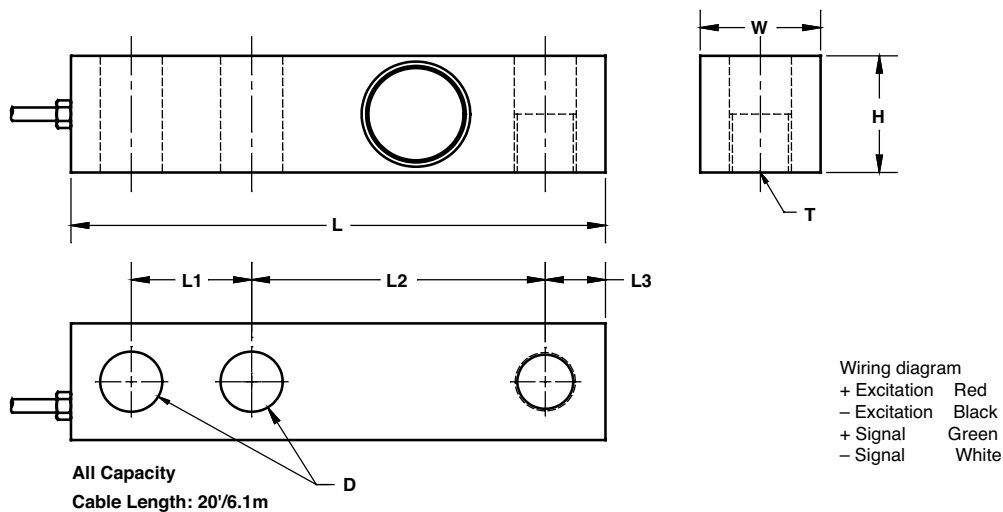
APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing
- Platform scales (multiple load cells)
- Pallet truck scales
- Packaging machines

DESCRIPTION

SQB-H(HSS) is a single-ended shear beam load cell designed for multiple cell applications such as low profile platform or small tank scales when used with proper mounting accessories. It is insensitive to side loading and capable of reversed loading. SQB-H(HSS) is constructed of stainless steel and is hermetically sealed to IP68 providing excellent protection against corrosive and washdown environments.

OUTLINE DIMENSIONS



CAPACITY		L	L1	L2	L3	W	H	D	T
500, 1000, 2000 kg	mm	130.2	25.4	76.2	12.7	31.2	31.2	13.5	M12 x 1.75
1k/2k/2.5k/3k/4k/5k(SE) lbs	(inch)	5.12	1.00	3.00	0.50	1.22	1.22	0.53	1/2-20UNF
1500 kg	mm	130.2	25.4	88.9	12.7	31.2	31.2	13.5	M12 x 1.75
5000 kg	mm	171.5	38.1	95.3	19.0	38.1	38.1	19.8	M20 x 1.5
5k/10k lbs	(inch)	6.75	1.50	3.75	0.75	1.50	1.50	0.78	3/4-16UNF

Hermetically Sealed Single-Ended Beam

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	NTEP III	Non-Approved	
Maximum no. of intervals (n)	3000 single 5000 multiple	1000	
Y = E_{max}/V_{min}	10000	5000	Maximum available
Standard capacities (E_{max})	1k, 2k, 2.5k, 3k, 4k, 5kSE, 5k, 10k		lbs
Standard capacities (E_{max})	500, 1000, 1500, 2000, 5000		kg
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.25		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.025	0.030 (SS: 0.05)	±% of rated output
Hysteresis	0.025	0.030 (SS: 0.05)	±% of rated output
Non-repeatability	0.020	0.020	±% of rated output
Creep error (20 minutes)	0.025	0.030	±% of rated output
Zero return (20 minutes)	0.025	0.030	±% of rated output
Temperature effect on min. dead load output	0.0017	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	±% of rated output/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	385±5		Ω
Output impedance	350±3		Ω
Insulation resistance	>5000		MΩ
Construction	Nickel-plated alloy steel ⁽¹⁾		
Environmental protection	IP68		

Notes
⁽¹⁾ Stainless steel available

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Single-Ended Beam Load Cell

FEATURES

- Capacities: 500 kg, 1T, 2T, and 5T
- Low profile, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R60, 6000d
- 1000 Ohm bridge impedance
- Current calibration output (SC) ensures easy and accurate connection of multiple load cells
- Integral mounting step
- **Optional**
 - ATEX versions are available for use in potentially explosive atmospheres, caused by gas or dust



APPLICATIONS

- Platform scales
- Belt scales
- Overhead track scales
- Silo hopper weighing

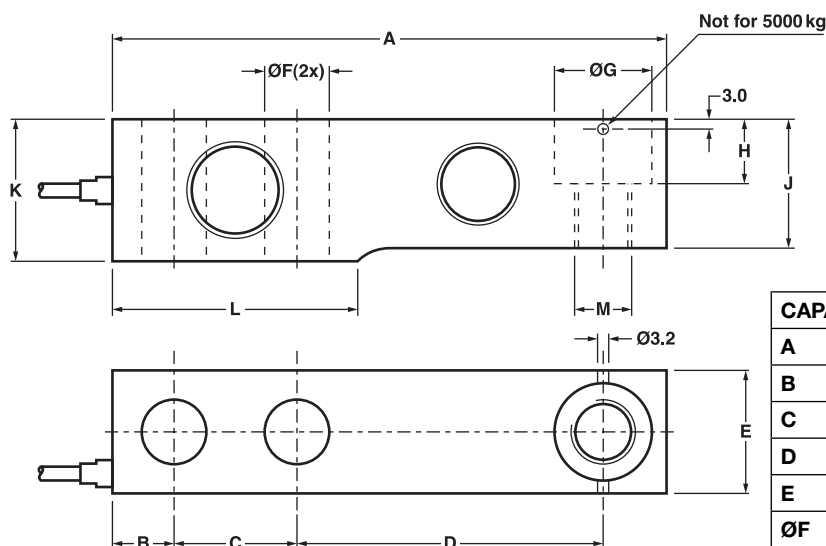
DESCRIPTION

The ACB is a high performance stainless steel beam type load cell. An integral mounting step removes the need for spacer plates and ensures optimum “bolt down” conditions.

This product is suitable for small and medium platform scales, hybrid scales, pallet weighers, and process weighing.

The fully welded construction and the cable entry ensure that this product can be used successfully in harsh environments found in the food, chemical, and allied process industries.

OUTLINE DIMENSIONS in millimeters



Cable specifications:
Cable length: 3m for 500 kg, 1T
6m for 2T, 5T

Excitation + Green
Excitation - Black
Sense + Yellow
Sense - Blue
Output + White
Output - Red
Shield Transparent

CAPACITY	500 kg	1000 kg	2000 kg	5000 kg
A	130.0	130.0	130.0	172.0
B	15.5	15.5	15.5	19.1
C	25.4	25.4	25.4	38.1
D	76.2	76.2	76.2	95.3
E	31.8	31.8	31.8	38.0
ØF	13.0	13.0	13.0	20.5
ØG	20.5	20.5	20.5	30.2
H	14.2	14.2	14.2	20.0
J	26.0	27.95	31.95	40.0
K	31.8	31.8	35.8	44.0
L	57.1	57.1	57.1	76.2
M	M12	M12	M12	M20

Single-Ended Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	500, 1000, 2000, 5000			kg
Accuracy class according to OIML R-60	Non-Approved	C3	C6 ⁽¹⁾	
Maximum no. of verification intervals (n)		3000	6000	
Minimum verification interval, (V_{min} E_{max}/Y)		E _{max} /6000	E _{max} /12,000	
Minimum verification interval, Type MR		E _{max} /15,000	E _{max} /20,000	
Rated output (=S)	2			mV/V
Tolerance on rated output	0.02			±mV/V
Zero balance	1.0			±% FSO
Combined error	0.0500	0.0230	0.0120	±% FSO
Non-repeatability	0.070	0.035	0.018	±% FSO
Minimum dead load output return	0.0500	0.017	0.008	±% of applied load
Creep error (30 minutes)	0.0600	0.0245	0.012	±% of applied load
Temperature effect on minimum dead load	0.0250	0.0117	0.0058	±% FSO/5°C
Temperature effect on sensitivity	0.0250	0.0088	0.0045	±% applied load/5°C
Maximum safe over load	150			% E _{max}
Ultimate over load	300			% E _{max}
Maximum safe side load	100			% E _{max}
Deflection at E_{max}	0.20, 0.20, 0.22, 0.31			mm
Excitation voltage	5 to 12			V
Maximum excitation voltage	15			V
Input resistance	1000±50			Ω
Output resistance	1000±10			Ω
Insulation resistance	≥5000			MΩ
Compensated temperature range	-10 to +40			°C
Operating temperature range	-40 to +80			°C
Storage temperature range	-40 to +90			°C
Element material (DIN)	Stainless steel 1.4542			
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68			
SC-Version (current calibration)	Standard			
Recommended torque on fixation bolts	150			N*m

⁽¹⁾ 500 kg is approved to C3 only

FSO—Full Scale Output

SC-version: The rated output and the output resistance are balanced in such a way, that the output current is calibrated to within 0.05% of a reference value. This allows easy parallel connection of the load cells.

All specifications subject to change without notice.

Single-Ended Load Beam

FEATURES

- Capacities: 0.5T, 1T, 2T, 5T, 10T, 1k lbs, 2k lbs, 5k lbs, and 10k lbs
- Fully welded, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 4000d and NTEP 10000d
- Current calibration output (SC version) ensures easy and accurate parallel connection of multiple load cells
- Digital version available (model SBC)
- **Optional**
 - ATEX- EEx ib IIC T6 hazardous area approval
 - FM approval available



APPLICATIONS

- Platform scales
- Belt scales
- Pallet scales
- Overhead track scales
- On-board weighing
- Silo hopper weighing

DESCRIPTION

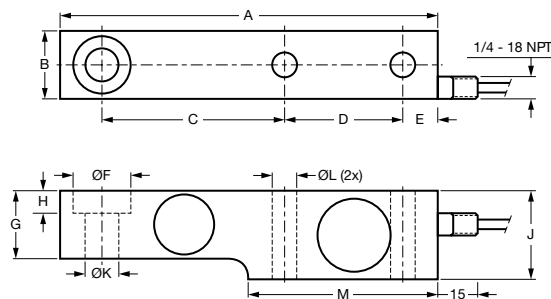
The SSB is a stainless steel single-ended shear beam type load cell.

This robust product is suitable for a wide range of platform scales, pallet scales, overhead track scales, and process weighing applications.

The fully welded construction and water block cable entry ensure that this product can be used successfully in harsh environments found in the food, chemical, and allied process industries.

This product meets the stringent Weights and Measures requirements throughout Europe and the USA.

OUTLINE DIMENSIONS in millimeters [inches]



CAPACITY (kg)	500-2000		5000	
	mm	inch	mm	inch
A	203.2	8.00	235.0	9.25
B	36.5	1.44	47.5	1.87
C	98.4	3.87	123.8	0.50
D	63.5	2.50	66.7	2.63
E	19.1	0.75	20.6	0.81
F	30.2 ^{+0.2/-0}	1.19 ^{+0.008/-0}	41.3 ^{+0.2/-0}	1.63 ^{+0.008/-0}
G	36.5	1.44	47.6	1.87
H	11.9	0.47	15.8	0.62
J	47.6	1.87	69.9	2.75
K	17.5 H11	0.69 H11	25.5 H11	1 H11
L	14.0	0.55	22.0	0.87
M	101.6	4.00	111.2	4.38

For 10 tonne capacity, please consult factory

Single-Ended Load Beam

SPECIFICATIONS						
PARAMETER	VALUE					UNIT
Standard capacities (E_{max})	0.5, 1, 2, 5 ⁽¹⁾			2, 5 ⁽¹⁾		T
Accuracy class according to OIML R-60	NTEP III	Non-Approved	C3	C3MI8	C4	
Max. no. of verification intervals	10000		3000	3000	4000	
Min. verification interval ($V_{min}=E_{max}/Y$)			$E_{max}/10000$	$E_{max}/15,000$	$E_{max}/10000$	
MDLOR ($Z=E_{max}/2 \cdot DR$)			–	8000	–	
Min. verification interval, type MR			$E_{max}/20000$		$E_{max}/20000$	
Rated output (=S)	2					mV/V
Rated output tolerance	0.02					±mV/V
Zero balance	1.0					±% FSO
Combined error	0.0200	0.0500	0.0200	0.0200	0.0170	±% FSO
Non-repeatability	0.0100	0.0200	0.0100	0.0100	0.0090	±% FSO
Minimum dead load output return	0.0250	0.0500	0.0167	0.0063	0.0125	±% applied load
Creep error (30 minutes)		0.0600	0.0245	0.0245	0.0184	±% applied load
Creep error (20 minutes)	0.030	0.0200	0.0053	0.0053	0.0039	±% applied load
Temp. effect on min. dead load output	(0.001)	0.0250	0.0070	0.0050	0.0070	±% FSO/5°C (°F)
Temp. effect on min. dead load output, type MR			0.0035		0.0035	±% FSO/5°C
Temperature effect on sensitivity	(0.0008)	0.0250	0.0050	0.0050	0.0045	±% applied load/ 5°C(°F)
Minimum dead load	0					% E_{max}
Maximum safe over load	150					% E_{max}
Ultimate over load	300					% E_{max}
Maximum safe side load	100					% E_{max}
Deflection at E_{max}	0.5 max.					mm
Excitation voltage	5 to 15					V
Maximum excitation voltage	18					V
Input resistance	350±3.5					Ω
Output resistance	350±3					Ω
Insulation resistance	≥5000					MΩ
Compensated temperature range	–10 to +40					°C
Operating temperature range	–40 to +80					°C
Storage temperature range	–40 to +90					°C
Element material	Stainless steel 1.4542					
Sealing (DIN 40.050 / EN60.529)	IP66 & IP68					
SC-Version (current calibration)	Standard					
Recommended torque on fixation bolts	0.5-2T: 110 / 5T: 540					N*m

⁽¹⁾ For 10T capacity please consult factory

FSO—Full Scale Output

SC-version: The rated output and the output resistance are balanced in such a way that the output current is calibrated to within 0.05% of a reference value. This allows easy parallel connection of the load cells.

All specifications subject to change without notice.

Stainless Steel Shear Beam Load Cell

FEATURES

- Capacities 300–5000 kg, 1000–5000 lbs
- Stainless steel construction
- OIML R60 and NTEP approved
- Hermetically sealed to IP68
- Specially designed for harsh environment
- **Optional**
 - EEx ia IIC T6 hazardous area approval
 - FM approval available
 - 1100Ω impedance available



APPLICATIONS

- Low profile platforms
- Pallet truck weighing
- Tank and silo weighing
- Harsh environment weighing
- Food industry weighing

profile platforms, pallet truck weighers, tanks and silos. The guide slots incorporated into the upper and lower mounting faces enable manufacturers to easily position the load cell.

Hermetically sealed against moisture, the construction of the Model 3510 in combination with a polyurethane dual shielded cable, enables continuous operation in harsh environments while maintaining a high operating specification.

DESCRIPTION

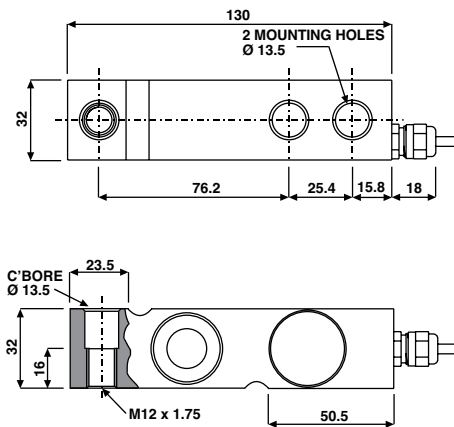
Model 3510 provides the weighing industry with the ultimate protection necessary for today's hostile environments in an economical low profile range suitable for platform scale manufacture.

Its low profile and all welded sealing combined with high accuracy makes this load cell ideally suited for low

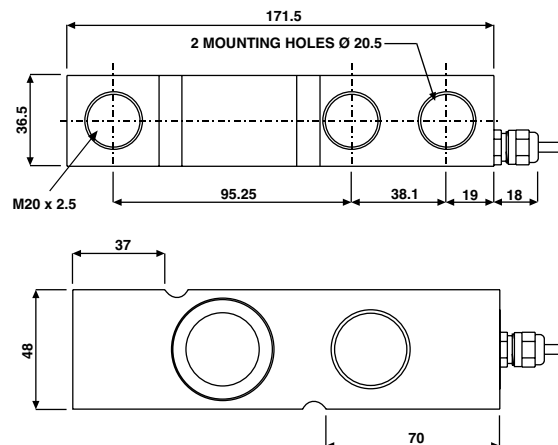
The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters

**DIMENSIONS FOR CAPACITIES
300, 500, 1000 and 2000 kg**



**DIMENSIONS FOR CAPACITY
3000 kg**



Standard end loading shown.

Options include:

'Through-hole' - plain or threaded.

'T-End' - supplied current and voltage matched for platforms.

Imperial capacities can be manufactured with M12 or 1/2"-20 UNC threading

Stainless Steel Shear Beam Load Cell

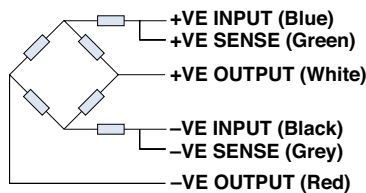
SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	300, 500, 750, 1000, 1200, 2000, 3000, 5000				kg
Rated capacity—R.C. (E_{max})	1000, 1500, 2500, 4000				lbs
NTEP/OIML accuracy class	NTEP	Non-Approved	C3	C6	
Maximum no. of intervals (n)	3000 single 5000 multiple	1000	3000 ⁽¹⁾	6000 ⁽²⁾	
$Y = E_{max}/V_{min}$	12500	1400	12000	20000	Maximum available 20000
Rated output—R.O	2.0 for kg and 3.0 for lbs				mV/V
Rated output tolerance	0.1				±% of rated output
Zero balance	2				±% of rated output
Zero return, 30 min.	0.0250	0.0300	0.0170	0.0083	±% of applied load
Total error	0.0200	0.0500	0.0200	0.0100	±% of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	0.0009	±% of rated output/°C
Temperature effect on output	0.0010	0.0030	0.0010	0.00058	±% of applied load/°C
Temperature range, compensated	-10 to +40				°C
Temperature range, safe	-20 to +70				°C
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	380±10				Ω
Output impedance	350±3				Ω
Insulation resistance	>2000				MΩ
Cable length	5				m
Cable type	6-wire, braided, polyurethane, dual floating screen				Standard
Construction	Stainless steel				
Environmental protection	IP68				
Recommended torque	136.0 (3000 and 5000 kg—205.0)				N*m

⁽¹⁾ 50 % utilization

⁽²⁾ Capacities 300–1200 kg, and 1000–2500 lbs only

All specifications subject to change without notice.

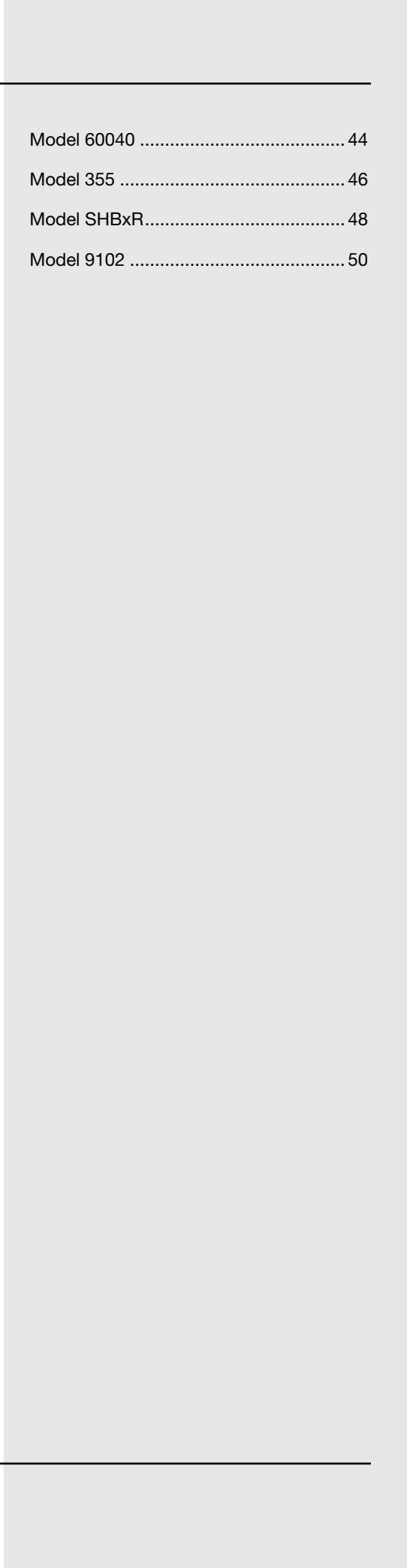
WIRING SCHEMATIC DIAGRAM





Model 60040	44
Model 355	46
Model SHBxR.....	48
Model 9102	50

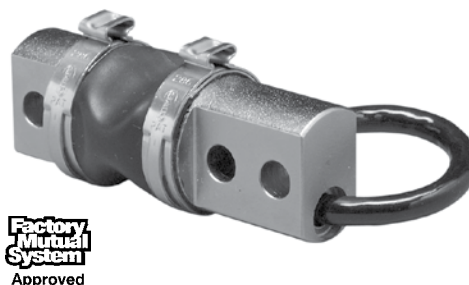
Single-Ended Bending Beams



Low Profile Bending Beam

FEATURES

- Rated capacities of 25 to 500 pounds
- Tension or compression loading capabilities
- Compact, low profile design
- *Sensorgage*™ sealed to IP65 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Companion tank weighing assemblies available (65059 TWA)



APPLICATIONS

- Bin and hopper weighing
- Belt conveyor scales
- Netweighing

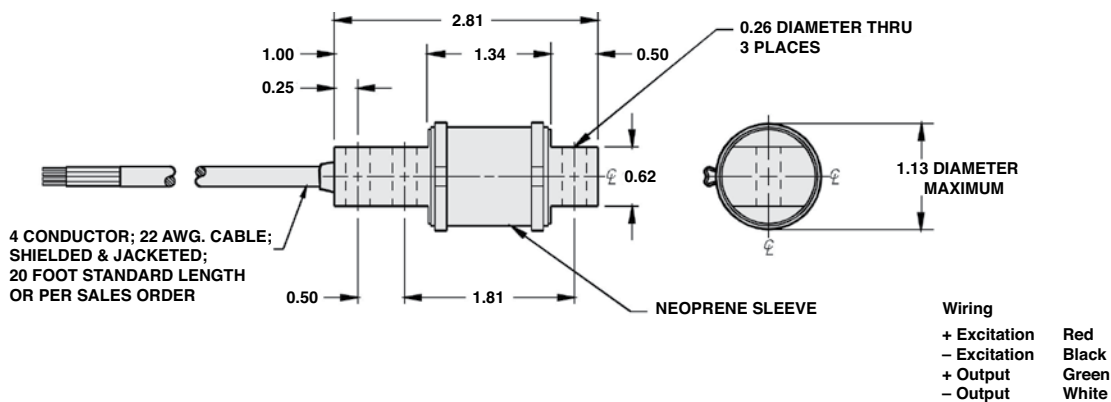
DESCRIPTION

The 60040 is a compact, low capacity, alloy-steel, high-precision bending-beam load cell.

This product's small size and accuracy makes it ideal for applications that demand high performance from a small package. This load cell is commonly used in platform scales, conveyer scales, and varied process weighing applications.

This product is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. It is also available with mounting accessories under Weighing Assembly Model 65059.

OUTLINE DIMENSIONS in inches



Low Profile Bending Beam

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity – R.C. (E_{max})	25, 50, 100, 150, 250, 500	lbs
NTEP/OIML accuracy class	Standard	
Maximum no. of intervals (n)	–	
Rated output – R.O.	2.0	mV/V
Rated output tolerance	+0.25 to –10	±% mV/V
Zero balance	1.0	±% FSO
Combined error	0.03	±% FSO
Non-repeatability	0.01	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temperature effect on zero	0.0015	±% FSO/°F
Temperature effect on output	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)	°F (°C)
Operating temperature range	0 to 150 (–18 to 65)	°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)	°F (°C)
Maximum safe central overload	150	% of R.C.
Ultimate central overload	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	380–450	Ω
Output impedance	349–355	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Nickel-plated alloy steel	
Environmental protection	IP65	

FSO—Full Scale Output

All specifications subject to change without notice.

Welded, Hermetically Sealed Load Cell

FEATURES

- Capacities 5–500 kg
- Stainless steel construction
- OIML R60 and NTEP approved
- IP68 protection
- **Optional**
 - EEx ia IIC T6 hazardous area approval
 - FM approval available



APPLICATIONS

- Low profile platforms
- Loss-in-weight feeders
- Marine and hybrid scales
- Belt weighers
- Food industry harsh environment

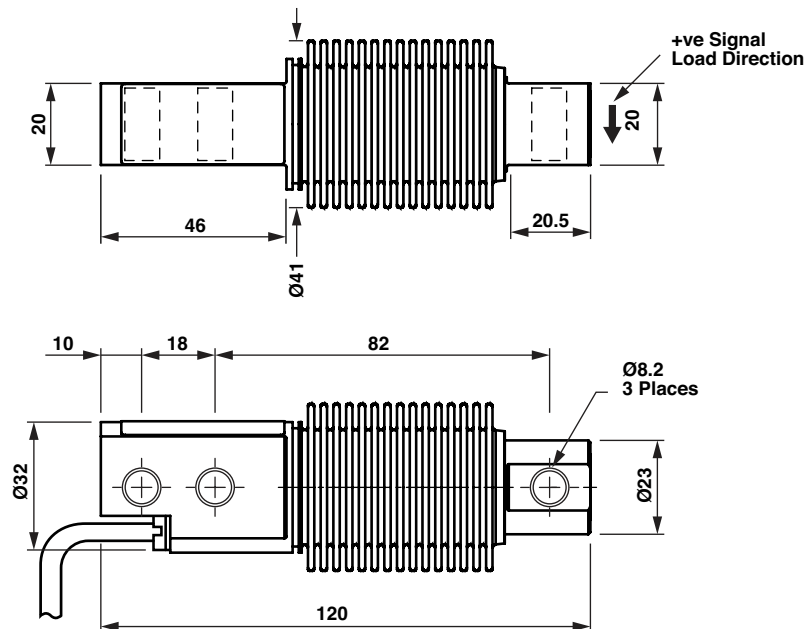
The low profile, high accuracy and sealing makes this load cell highly suitable for applications such as low profile platforms, weighing and packing machines, conversion of mechanical scales and variety of other applications where sealed cells are required. For hazardous environments this load cell is available with EEx ia IIC T6 level of approval as an option.

DESCRIPTION

Model 355 is a welded bending load cell manufactured in stainless steel. Hermetically sealed against moisture the Model 355 construction and polyurethane shielded cable enables the load cell to function in harsh environments while maintaining its operating specifications.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of change in the lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Welded, Hermetically Sealed Load Cell

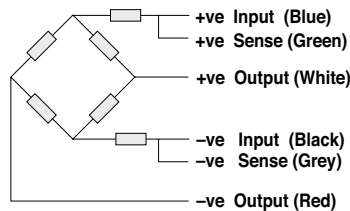
SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	5, 10, 20, 30, 50, 100, 200, 250, 500				kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3 ⁽¹⁾	C4 ⁽²⁾	
Maximum no. of intervals (n)	4000 single	1000	3000	4000	
$Y = E_{max}/V_{min}$	5800	2000	15000	13333	Maximum available 15000
Rated output—R.O.	2.00 (UR matched = 2.02)				mV/V
Rated output tolerance	0.002				±mV/V
Zero balance	0.04				±mV/V
Zero return, 30 min.	0.0125	0.0500	0.0170	0.0125	±% of applied load
Total error	0.0200	0.05	0.0200	0.0150	±% of rated output
Temperature effect on zero	0.0023	0.007	0.0009	0.0011	±% of rated output/°C
Temperature effect on output	0.001	0.0040	0.0010	0.0008	±% of applied load/°C
Temperature range, compensated	-10 to +40				°C
Temperature range, safe	-20 to +70				°C
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	380±10				Ω
Output impedance	355±5				Ω
Insulation resistance	>2000				MΩ
Cable length	3				m
Cable type	6-wire, braided, polyurethane, dual floating screen				Standard
Construction	Stainless steel				
Environmental protection	IP68				
Recommended torque	22.0				N*m

⁽¹⁾ 20% utilization

⁽²⁾ 30% utilization

All specifications subject to change without notice.

Wiring Schematic Diagram



Single-Ended Load Beam

FEATURES

- Capacities: 5–500 kg
- Fully welded, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 4000d and NTEP class III, 10000 divisions
- Current calibration output (SC version) ensures easy and accurate parallel connection of multiple load cells
- **Optional**
 - ATEX and FM certified versions are available for use in potentially explosive atmospheres



APPLICATIONS

- Platform scales
- Belt scales
- Packaging machines
- Silo/hopper weighing

This product is suitable for low capacity platform scales, packaging machines, hybrid scales and process weighing.

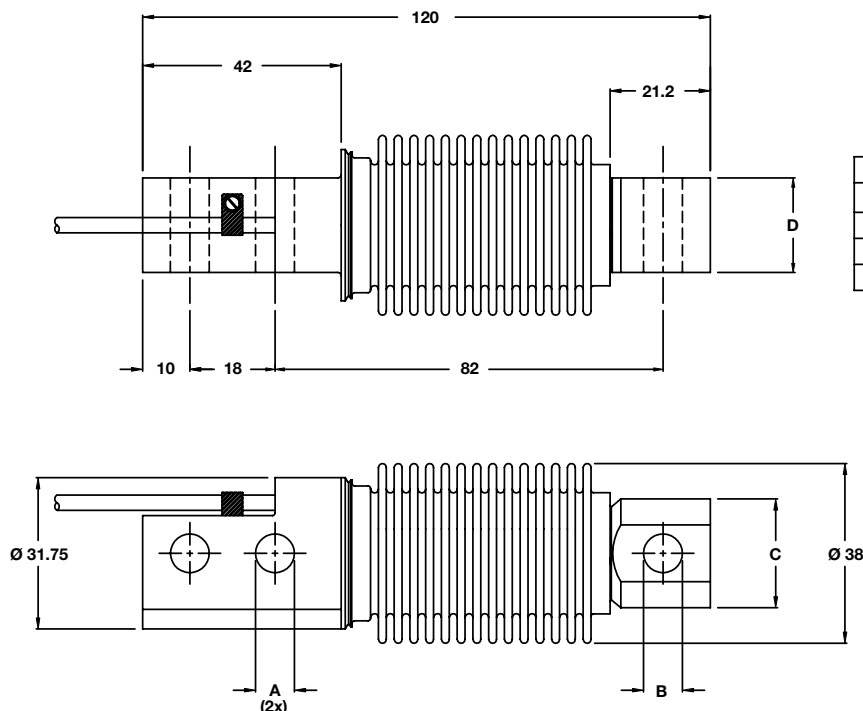
Fully welded construction and water block cable-entry ensure that this product can be used successfully in harsh environments found in the food, chemical and allied industries.

DESCRIPTION

The SHBxR is a fully weld-sealed stainless steel bending beam type load cell.

This product meets the stringent Weights and Measures requirements throughout Europe.

OUTLINE DIMENSIONS in millimeters



Capacity (kg)	5–200	350 / 500
A	8.2	10.3
B	8.2 ^{+0.1} ₀	10.3 ^{+0.1} ₀
C	23.0	24.0
D	20.0	19.0

Note: Dimensions in millimeters

Cable specifications:

- Cable length 3m
- Excitation + Green
- Excitation - Black
- Output + White
- Output - Red
- (Sense + Yellow)
- (Sense - Blue)
- Shield Transparent

4-wire cable standard,
6-wire cable optional

Single-Ended Load Beam

SPECIFICATIONS						
PARAMETER	VALUE					UNIT
Standard capacities (E_{max})	5, 10, 20, 30, 50, 100, 200, 350, 500 ⁽¹⁾				100, 200, 350, 500 ⁽²⁾	kg
Accuracy class according to OIML R-60 /NTEP	NTEP III L	Non-Approved	C3	C4	C3MI7.5	
Max. no. of verification intervals	10000		3000	4000	3000	
Min. verification interval ($V_{min}=E_{max}/\gamma$)			$E_{max}/15,000$	$E_{max}/15,000$	$E_{max}/15,000$	
MDLOR ($Z=E_{max}/2*DR$)					7500	
Rated output (=S)	2					mV/V
Rated output tolerance	0.02					\pm mV/V
Zero balance	1.0					\pm % FSO
Combined error	0.0200	0.05000	0.0200	0.0170	0.0200	\pm % FSO
Non-repeatability	0.0100	0.0200	0.0100	0.0090	0.0100	\pm % FSO
Minimum dead load output return	0.0250	0.0500	0.0167	0.0125	0.0067	\pm % applied load
Creep error (30 minutes)		0.0600	0.0245	0.0184	0.0245	\pm % applied load
Creep error (20 - 30 minutes)	0.0300	0.0500				\pm % applied load
Temp. effect on min. dead load output	(0.0008)	0.0250	0.0047	0.0047	0.0047	\pm % FSO/5 °C (°F)
Temperature effect on sensitivity	(0.0010)	0.0250	0.0050	0.0045	0.0050	\pm % applied load/5°C (°F)
Minimum dead load	0					% E_{max}
Maximum safe over load	150					% E_{max}
Ultimate over load	300					% E_{max}
Maximum safe side load	100					% E_{max}
Deflection at E_{max}	0.30 \pm 0.03					mm
Excitation voltage	5 to 12					V
Maximum excitation voltage	15					V
Input resistance	460 \pm 50					Ω
Output resistance	350 \pm 3.5					Ω
Insulation resistance	\geq 5000					M Ω
Compensated temperature range	-10 to +40					°C
Operating temperature range	-40 to +80					°C
Storage temperature range	-40 to +90					°C
Element material (DIN)	Stainless steel 1.4542					
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68					
SC-Version (current calibration)	Standard					
Recommended torque on fixation bolts	23 (70 for 350/500 kg)					N*m

⁽¹⁾ 5 and 10 kg capacities are not approved by NTEP.
5 kg is not approved by OIML.

⁽²⁾ $D_{max} = 0.75 * E_{max}$

FSO—Full Scale Output

SC-version: The rated output and the output resistance are balanced in such a way that the output current is calibrated to within 0.05% of a reference value. This allows easy parallel connection of the load cells.

All specifications subject to change without notice.

Single-Ended Beam Load Cell

FEATURES

- Capacities: 200–2500 lbs.
- Low profile, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 5000d and NTEP class III, 5000 divisions
- Current calibration output (SC version) ensures easy and accurate parallel connection of multiple load cells
- Interchangeable with existing Model 5102
- **Optional**
 - ATEX and FM certified versions are available for use in potentially explosive atmospheres



APPLICATIONS

- Platform scales
- Belt scales
- Silo/hopper weighing
- Overhead track scales

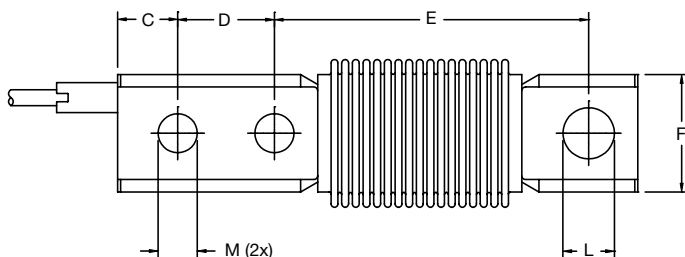
This product is suitable for small and medium platform scales, overhead track scales and process weighing.

DESCRIPTION

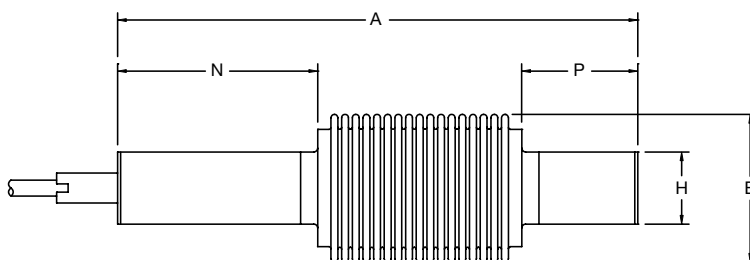
The 9102 is a stainless steel single-ended beam load cell.

The fully welded construction and water block cable entry ensure that this product can be used successfully in harsh environments found in the food, chemical and allied process industries.

OUTLINE DIMENSIONS in millimeters



Capacity (lbs)	200	500–1000	2500
A	127.0	136.7	136.7
B	39.6	39.6	39.6
C	9.7	15.8	15.8
D	15.9	25.4	25.4
E	88.9	82.6	82.6
F	31.2	31.2	31.2
H	19.0	19.0	19.0
L _{THRU}	9.9	10.3	13.5
M _{THRU}	6.8	10.3	10.3
N	38.1	52.6	52.6
P	31.8	30.5	30.5



Cable specifications:
 Cable length 3m
 Excitation + Red
 Excitation - Black
 Output + Green
 Output - White
 Shield Transparent

Cable screen is not connected to load cell body. Performance may be affected if load cell cables are shortened.

Single-Ended Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Standard capacities (=E_{max})	200, 500, 1000, 2500				lbs.
Accuracy class according to OIML R-60 /	NTEP III	Non-Approved	C3	C5	
Max. no. of verification intervals (n)	5000		3000	5000	
Minimum verification interval (V_{min})			E _{max} /15000	E _{max} /15000	
Rated output (=S)	2				mV/V
Rated output tolerance	0.02				±mV/V
Zero balance	1.0				±% FSO
Combined error	0.0200	0.0500	0.0200	0.0100	±% FSO
Non-repeatability	0.0100	0.0200	0.0100	0.0070	±% FSO
Minimum dead load output return	0.0250	0.0500	0.0167	0.0100	±% applied load
Creep error (30 minutes)		0.0600	0.0245	0.0147	±% applied load
Creep error (20-30 minutes)		0.0200	0.0053	0.0032	±% applied load
Temp. effect on min. dead load output	(0.0008)	0.0250	0.0047	0.0047	±% FSO/5°C (°F)
Temp. effect on sensitivity	(0.0010)	0.0250	0.0055	0.0035	±% applied load/5°C (°F)
Minimum dead load	0				% E _{max}
Maximum safe overload	150				% E _{max}
Ultimate overload	300				% E _{max}
Maximum safe side load	100 (50 for 200 lbs.)				% E _{max}
Deflection at E_{max}	0.2/ 0.2/ 0.8/ 0.8				mm
Excitation voltage	5 to 12				V
Maximum excitation voltage	15				V
Input resistance	350±3.5				Ω
Output resistance	350±3.5				Ω
Insulation resistance	>5000				MΩ
Compensated temperature range	-10 to +40				°C
Operating temperature range	-40 to +80				°C
Storage temperature range	-40 to +90				°C
Element material	Stainless steel 1.4542				
Sealing (DIN 40.050 / EN 60.529)	IP66 and IP68				
SC-Version	Standard				
Recommended torque on fixation bolts	80 (70 for 200 lbs.)				N*m

FSO—Full Scale Output

SC-version: The rated output and the output resistance are balanced in such a way that the output current is calibrated to within 0.05% of a reference value. This allows easy parallel connection of the load cells.

Correct mounting of the load cells is essential to ensure optimum performance. Further information is available on request.

All specifications are subject to change without notice.



Double-Ended Bending Beams

Model 65058	54
Model 65058S	56
Model 5303	58
Model 9303	60
Model CLB	62
Model 4158	64
Model 65016	66
Model 65016-0104W.....	68
Model 5203	70
Model 9203	72
Model DSR	74
Model 65040	76
Model 65040-1127W.....	78
Model 65040W	80
Model DLB	82
Model 5223	84
Model 9223	86
Model 9423	88
Model 9803	90
Model 5103	92
Model 9103	94
Model 60058	96
Model CSB	98
Model MDB	100

Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 10,000 to 100,000 pounds
- Center-link loaded
- Integral conduit adaptor
- Trade certified for NTEP Class III: 10000 divisions; Class III: 5000 divisions and OIML R60 3000 divisions in 20,000 to 100,000 pounds range
- *Sensorgage™* sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!).
- **Optional**
 - 65058S stainless steel, welded seal version available
 - 65058-TSA companion assemblies for vehicle scales
 - 65069-TWA companion assemblies for vessel weighing
 - Capacities up to 500,000 consult factory



65058-TSA

65069-TWA



APPLICATIONS

- Truck scales
- Railroad track scales
- Precision tank, bin and silo weighing
- Level and inventory monitoring

DESCRIPTION

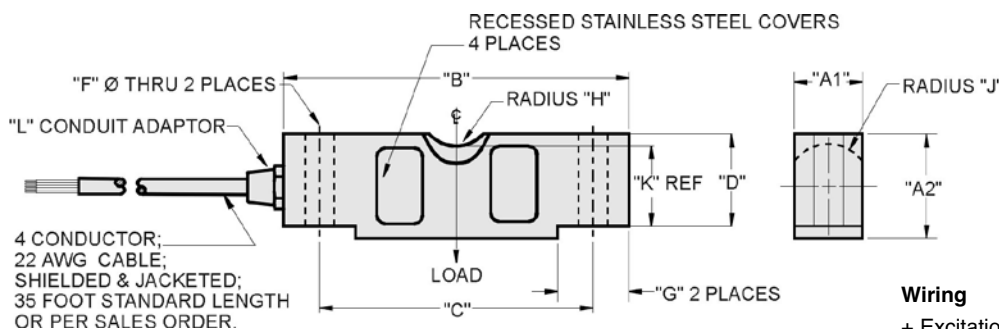
The 65058 is a mid to high capacity, nickel-plated alloy steel, double ended Shear beam load cell.

This product is designed for use in certified truck and rail scales and is available in capacities ranging from 10k to 100k lbs.

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environment.

This load cell is certified for legal for trade applications by both American NTEP and International OIML standards.

OUTLINE DIMENSIONS in inches



Wiring

- + Excitation Red
- Excitation Black
- + Output Green
- Output White

CAPACITY	A1	A2	B	C	D	F	G	H	J	K	L
10k-25k	1.69	1.94	7.75	6.50	1.70	0.68	1.38	0.75	0.90	1.63	1/4 - 18 NPT
40k	1.94	2.44	10.25	8.50	2.10	0.81	1.93	1.00	1.12	2.00	1/4 - 18 NPT
50k-75k	2.44	2.94	10.25	8.50	2.65	1.06	1.93	1.00	1.37	2.54	1/2 - 14 NPT
100k	2.90	3.86	15.25	12.75	3.43	1.62	3.13	1.50	1.80	3.30	1/2 - 14 NPT

Capacities are in pounds.

Double-Ended Shear Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	10k, 25k, 40k, 50k, 60k, 75k, 100k ⁽¹⁾				lbs
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	5000 multiple	10000 multiple		3000	
$Y = E_{max}/V_{min}$	See NTEP cert. 86-046A3			6667	Maximum available
Rated output—R.O.	3.0				mV/V
Rated output tolerance	0.25				±% mV/V
Zero balance	1.0				±% FSO
Combined error	0.02	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01	0.01	0.015	0.01	±% FSO
Creep error (30 minutes)	0.025	0.030	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)				°F (°C)
Operating temperature range	0 to 150 (–18 to 65)				°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)				°F (°C)
Sideload rejection ratio	500:1				
Safe sideload	100				% of R.C.
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	25				VDC or VAC RMS
Input impedance	686–714				Ω
Output impedance	699–707				Ω
Insulation resistance at 50 VDC	>1000				MΩ
Material	Nickel-plated alloy tool steel ⁽²⁾				
Environmental protection	IP67				

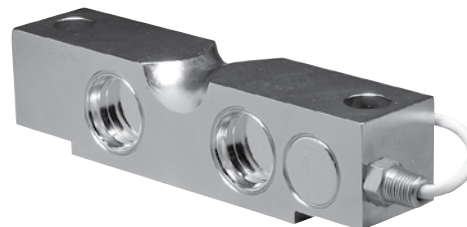
Notes

- ⁽¹⁾ Consult factory for capacities over 100k
NTEP approval 20-200k lbs only
- ⁽²⁾ Stainless steel available—model name is 65058S
- FSO—Full Scale Output
- All Specifications subject to change without notice.

Stainless Steel, Welded Seal Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 10,000 to 100,000 pounds
- Stainless steel, welded seal construction
- Center-link recessed pivot load
- Insensitive to side loads and bending moments
- Load cells have matched outputs for multi-cell systems
- Integral conduit adaptor
- Trade certified for NTEP Class III: 5000 divisions and Class IIIIL: 10000 divisions
- *Sensorgage*™ sealed to IP68 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - 65058-TSA companion assemblies for vehicle scales
 - 65069-TWA companion assemblies for vessel weighing



DESCRIPTION

Model 65058S is specifically designed to be installed in extremely harsh environments. It is specially suitable for the process industry of food, chemical and pharmaceutical industries.

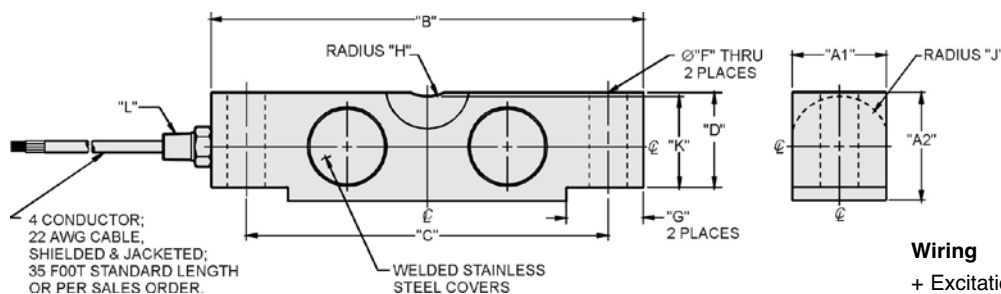
Protected to meet IP68 requirements, the construction of the 65058S load cell uses double—redundant sealing methods, to ensure long and reliable service and constant calibration.

The additional sense wires compensate for changes in lead resistance due to temperature change and/or cable extension. Complete compensation of changes in lead resistance is achieved by feeding this voltage into the appropriate electronics.

APPLICATIONS

- Hostile environments:
 - Food and beverage processing
 - Chemical processing
 - Pharmaceutical and biomedical processing
- High performance weighing modules and assemblies
- Tank and reactor weighing
- Batching, blending and mixing systems

OUTLINE DIMENSIONS in inches



Wiring

- + Excitation Red
- Excitation Black
- + Output Green
- Output White

CAPACITY	A1	A2	B	C	D	F	G	H	J	K	L
10k-25k	1.69	1.94	7.75	6.50	1.70	0.68	1.38	0.75	0.90	1.63	1/4-18 NPT
40k	1.94	2.44	10.25	8.50	2.10	0.81	1.93	1.00	1.12	2.00	1/4-18 NPT
50k-75k	2.44	2.94	10.25	8.50	2.65	1.06	1.93	1.00	1.37	2.54	1/2-14 NPT
100k	2.44	3.44	10.25	8.50	2.65	1.06	1.93	1.00	1.37	2.54	1/2-14 NPT

Capacities are in pounds.

Stainless Steel, Welded Seal Double-Ended Shear Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	10k, 25k, 40k, 50k, 60k, 75k, 100k ⁽¹⁾			lbs
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	
Maximum no. of intervals (n)	5000 multiple	10000 multiple		
$Y = E_{max}/V_{min}$	See NTEP cert. 86-046A3			Maximum available
Rated output—R.O.	3.0			mV/V
Rated output tolerance	±0.25			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.02	0.03	±% FSO
Non-repeatability	0.01			±% FSO
Creep error (20 minutes)	0.030	0.030	0.03	±% FSO
Temperature effect on zero	0.0015	0.0010	0.0015	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)			°F (°C)
Operating temperature range	0 to 150 (–18 to 65)			°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)			°F (°C)
Sideload rejection ratio	500:1			
Safe sideload	100			% of R.C.
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	25			VDC or VAC RMS
Input impedance	686–714			Ω
Output impedance	699–707			Ω
Insulation resistance at 50 VDC	>1000			MΩ
Material	Stainless steel			
Environmental protection	IP68			

Notes
⁽¹⁾ NTEP approval 20-200k lbs only

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 25k to 125k lbs
- Environmental protection: IP67 (DIN 40.050)
- Material: Nickel-plated steel
- Certified to NTEP class III L, 10000 divisions
- **Optional**
 - FM approved for use in potentially explosive atmosphere



APPLICATIONS

- Weighbridges
- Silos, tanks and hoppers

DESCRIPTION

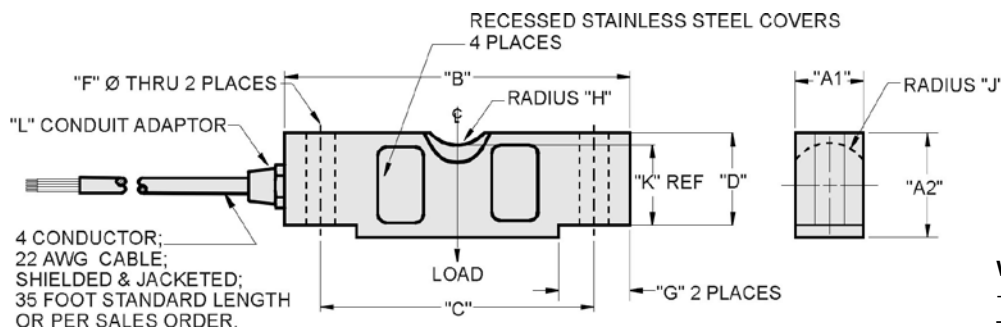
The 5303 is a link loaded mid to high capacity, nickel-plated alloy steel double-ended shear beam type load cell.

This product is designed for use in certified truck and rail scales and is available in capacities from 25k to 125k lbs.

This load cell is rated intrinsically safe by the FM system, making it suitable for use in potentially explosive atmospheres.

This load cell is certified for trade applications by American NTEP standards.

OUTLINE DIMENSIONS in inches



Wiring

+Excitation	Red
-Excitation	Black
+Output	Green
-Output	White

CAPACITY	A ₁	A ₂	B	C	D	F	G	H	J	K	L
25k	1.69	1.94	7.75	6.50	1.70	0.68	1.38	0.75	0.90	1.63	1/4 - 18 NPT
40k	1.94	2.44	10.25	8.50	2.10	0.81	1.93	1.00	1.12	2.00	1/4 - 18 NPT
50k-75k	2.44	2.94	10.25	8.50	2.65	1.06	1.93	1.00	1.37	2.54	1/2 - 14 NPT
100k-125k	2.90	3.86	15.25	12.75	3.43	1.62	3.13	1.50	1.80	3.30	1/2 - 14 NPT

Capacities are in pounds

Double-Ended Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	25k, 40k, 50k, 60k, 75k, 100k, 125k		lbs
Accuracy class according to NTEP	NTEP IIIIL	Non-Approved	
Maximum no. of verification intervals (n/c)	10000d		
Rated output (=S)	3.0		mV/V
Rated output tolerance	0.0075		±% mV/V
Zero balance	1.0		±% FSO
Combined error	0.0200	0.0500	±% FSO
Temperature effect on min minimum dead load output	0.0010	0.0250	±% FSO/5°C (°F)
Temperature effect on sensitivity	0.0008	0.0250	±% FSO/5°C (°F)
Compensated temperature range	-10 to +40 (+14 to 104)		°C (°F)
Operating temperature range	-18 to +65 (0 to +150)		°C (°F)
Safe load limit	150		% E _{max}
Ultimate load	300		% E _{max}
Safe side load limit	100		% E _{max}
Excitation voltage recommended	10		V
Excitation voltage maximum	15		V
Input resistance	700±14		Ω
Output resistance	703±4		Ω
Insulation resistance	≥1000		MΩ
Environmental protection	IP67		
Element material	Nickel-plated steel		ASTM

Mounting:

Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request.

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 10k to 125k lbs
- Environmental protection: IP67 (DIN 40.050)
- Material: Stainless steel
- Certified by NTEP class III, 10000 divisions
- **Optional**
 - FM certified for use in potentially explosive atmosphere



APPLICATIONS

- Silos, tanks and hoppers
- Weighbridges

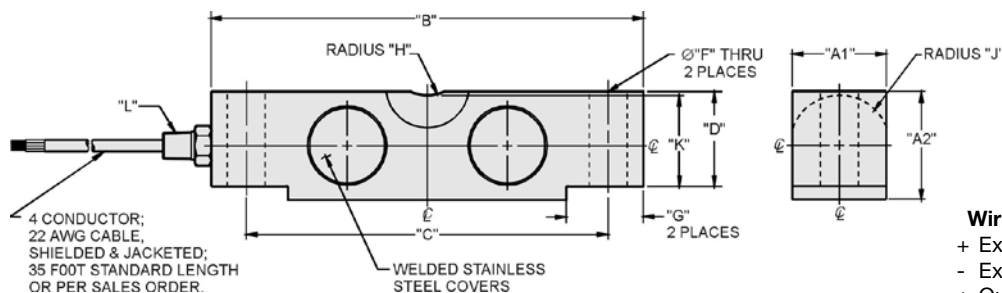
DESCRIPTION

The 9303 is a link-loaded stainless steel double-ended shear beam type load cell, specifically designed for truck scales, track scales and high capacity weighing applications.

A reliable sealing and mechanical protection of the strain gage area is ensured by the use of potting compound with a metal cover.

This load cell is rated intrinsically safe by the FM system, making it suitable for use in potentially explosive atmospheres.

OUTLINE DIMENSIONS in inches



Wiring

+ Excitation	Red
- Excitation	Black
+ Output	Green
- Output	White

CAPACITY	A ₁	A ₂	B	C	D	F	G	H	J	K	L
10k-25k	1.69	1.94	7.75	6.50	1.70	0.68	1.38	0.75	0.90	1.63	1/4-18 NPT
40k	1.94	2.44	10.25	8.50	2.10	0.81	1.93	1.00	1.12	2.00	1/4-18 NPT
50k-125k	2.44	2.94	10.25	8.50	2.65	1.06	1.93	1.00	1.37	2.54	1/2-14 NPT

Capacities are in pounds.

Double-Ended Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	10k, 15k, 20k, 25k, 30k, 40k, 50k, 60k, 75k, 125k ⁽¹⁾		lbs
Accuracy class according to NTEP	NTEP IIIIL	Non-Approved	
Maximum no. of verification intervals (n_{IC})	10000		
Rated output (=S)	3		mV/V
Rated output tolerance	0.0075		±% mV/V
Zero balance	1.0		±% FSO
Combined error	0.0200	0.0300	±% FSO
Temperature effect on zero	0.0010	0.0015	±% FSO/5°C (°F)
Temperature effect on output	0.0008	0.0008	±% FSO/5°C (°F)
Compensated temperature range	-10 to +40 (+14 to 104)		°C (°F)
Operating temperature range	-18 to +65 (0 to +150)		°C (°F)
Safe load limit	150		% E_{max}
Ultimate load	300		% E_{max}
Safe side load limit	100		% E_{max}
Excitation voltage recommended	10		V
Excitation voltage maximum	15		V
Input resistance	700±14		Ω
Output resistance	697±4		Ω
Insulation resistance	≥1000		MΩ
Environmental protection	IP67		
Element material	Stainless steel		

⁽¹⁾ 10K is not approved by NTEP

FSO—Full Scale Output

Mounting:

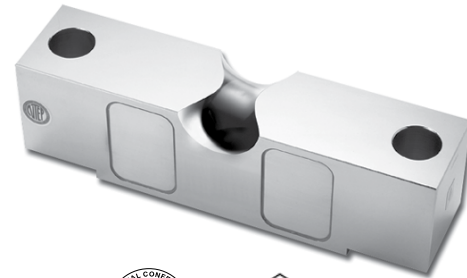
Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request. No mounts available for 9303.

All specifications subject to change without notice.

Double-Ended Shear Beam

FEATURES

- Capacities 20k–125k lbs
- Free of horizontal movement
- Insensitive to side load
- Electroless nickel-plated alloy tool steel
- NTEP Class III L 10000 approval from 20k lbs to 125k lbs
- **Optional**
 - FM approval available



APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing
- Fork-lift scales

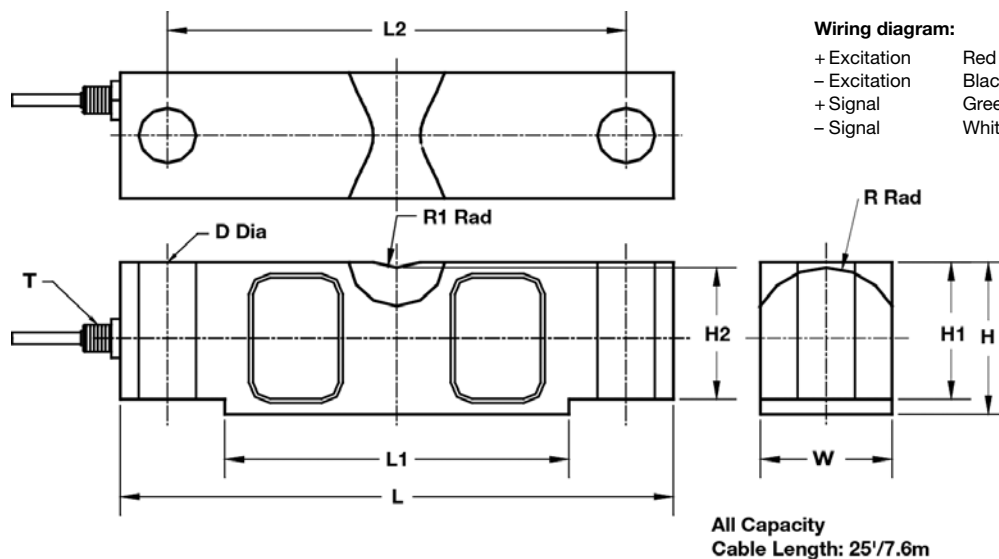
DESCRIPTION

The double-ended mounting provides good restraint for possible movement of the tanks and, in many cases, eliminates the need for check rods.

The shear beam design gives excellent performance for high capacity loading.

CLB is constructed of alloy steel and is fully potted with special chemical compounds to IP67 providing excellent protection against moisture and humidity.

OUTLINE DIMENSIONS



CAPACITY		L	L ₁	L ₂	W	H	H ₁	H ₂	D	R	R ₁	T
20k/25k lbs	mm	196.9	126.7	165.1	42.9	49.3	43.2	41.4	17.3	22.9	19.1	1/4-18NPT
	(inch)	7.75	4.99	6.50	1.69	1.94	1.70	1.63	0.68	0.90	0.75	
40k lbs	mm	260.4	162.3	215.9	49.3	62.0	53.3	50.8	20.6	28.5	25.4	1/4-18NPT
	(inch)	10.25	6.39	8.50	1.94	2.44	2.10	2.00	0.81	1.12	1.00	
50k/60k/75k lbs	mm	260.4	162.3	215.9	62.0	74.7	67.3	64.5	26.9	34.8	25.4	1/2-14NPT
	(inch)	10.25	6.39	8.50	2.44	2.94	2.65	2.54	1.06	1.37	1.00	
100k/125k lbs	mm	387.4	228.4	323.9	73.7	98.0	87.1	83.8	41.2	45.7	38.1	1/2-14NPT
	(inch)	15.25	8.99	12.75	2.90	3.86	2.43	3.30	1.62	1.80	1.50	

Double-Ended Shear Beam

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	NTEP IIIIL	Non-Approved	
Maximum no. of intervals (n)	10000 multiple	1000	
Y = E_{max}/V_{min}	14000	5000	Maximum available
Standard capacities (E_{max})	20k, 25k, 40k, 50k, 60k, 75k, 100k, 125k		lbs
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.25		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.025		±% of rated output
Hysteresis	0.025		±% of rated output
Non-repeatability	.02		±% of rated output
Creep error (20 minutes)	0.030		±% of rated output
Zero return (20 minutes)	0.030		±% of rated output
Temperature effect on min. dead load output	0.0010	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	770±10		Ω
Output impedance	700±5		Ω
Insulation resistance	>5000		MΩ
Construction	Nickel-plated alloy steel		
Environmental protection	IP67		

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G
 Non-Incendive: Class I; Div. 2 Groups A-D

Alloy Steel Double-Ended Shear Beam

FEATURES

- Capacities 10k–75k lbs
- Low profile design for weigh bridge and silo applications
- Nickel plated alloy steel construction
- NTEP approved
- IP67 protection
- **Optional**
 - EEx ia IIC T6 hazardous area approval
 - FM approval available



APPLICATIONS

- Weigh bridges
- Tank and silo weighing



DESCRIPTION

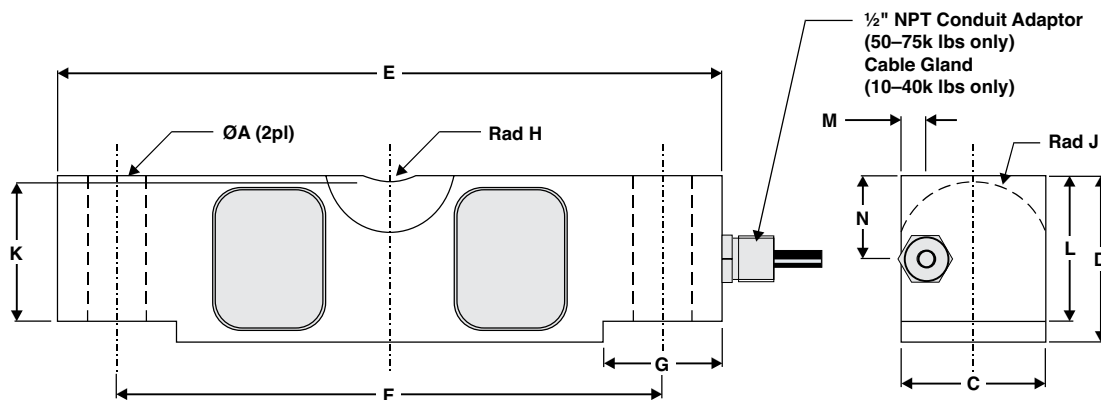
Model 4158 is a double-ended shear beam load cell designed for high capacity silo weighing applications.

This high accuracy load cell is designed to meet NTEP standards. When combined with suitable mounting arrangements, this load cell will provide a simple, accurate and reliable weighing system.

Nickel plated and full environmental sealing assure long-term reliability. For hazardous environments, this load cell has a EEx ia IIC T6 approved option.

When used in conjunction with Tedea-Huntleigh's custom designed mount, the unit combines ease of installation with both side load and lift-off protection.

OUTLINE DIMENSIONS in millimeters



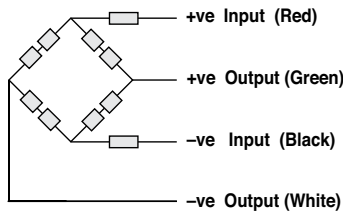
CAPACITY	ØA	C	D	E	F	G	RadH	Rad J	K	L	M	N
10–25k lbs	17.3	42.9	49.3	196.9	165.1	35.9	19.1	22.9	41.4	43.2	8.8	13.6
40k lbs	20.6	49.3	62.0	260.4	215.9	49.0	25.4	28.5	50.8	53.3	9.0	31.0
50–75k lbs	26.9	62.0	74.7	260.4	215.9	49.0	25.4	34.8	64.5	67.3	10.4	37.4

Alloy Steel Double-Ended Shear Beam

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E_{max})	10, 20, 25, 40, 50, 60, 75 ⁽¹⁾		Klbs
NTEP/OIML accuracy class	NTEP	Non-Approved	
Maximum no. of intervals (n)	10000 IIIIL	1000	
$Y = E_{max}/V_{min}$	12000	4000	Maximum available
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.075		±mV/V
Zero balance	0.09		±mV/V
Zero return, 30 min.	0.030	0.050	±% of applied load
Total error	0.30	0.050	±% of rated output
Temperature effect on zero	0.0013	0.0067	±% of rated output/°C
Temperature effect on output	0.0025	0.0040	±% of applied load/°C
Temperature range, compensated	-10 to 40		°C
Temperature range, safe	-30 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	780±20		Ω
Output impedance	705±5		Ω
Insulation resistance	>1000		MΩ
Cable length	7.5		m
Cable type	6-wire, braided, PVC, dual floating screen		Standard
Construction	Nickel-plated alloy steel		
Environmental protection	IP67		

⁽¹⁾10k lbs is not approved by NTEP
All specifications subject to change without notice.

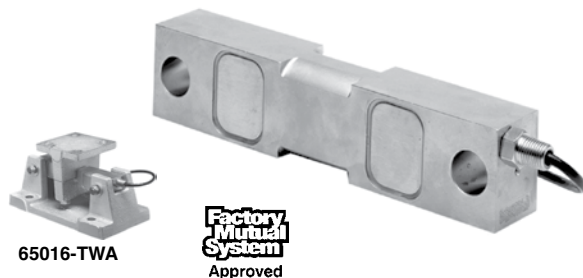
Wiring Schematic Diagram



Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 1000 to 100,000 pounds
- Insensitive to side loads and bending moments
- High output—well suited to high deadload/low liveload applications
- Load cells have matched outputs for multi-cell systems
- Excellent combined error and repeatability
- Integral conduit adaptor
- *Sensorgage*™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!);
- **Optional**
 - Weighing assemblies available—65016 TWA



DESCRIPTION

The double-ended mounting provides good restraint to possible movement of the tanks and, in many cases, eliminates the need for check rods. The double Shear Beam design gives excellent performance for high capacity loading.

The output is rationalized to facilitate multiple-cell application.

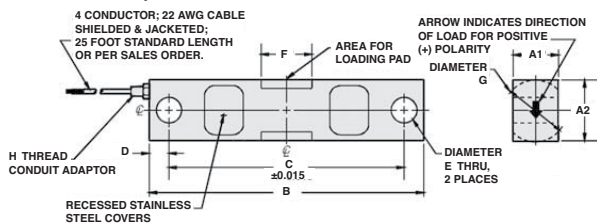
This load cell is constructed of alloy tool steel and is potted to IP67 providing excellent protection against moisture and humidity.

APPLICATIONS

- Tank, bin, and silo weighing
- Batching, blending and mixing systems
- Level and inventory monitoring

OUTLINE DIMENSIONS in millimeters

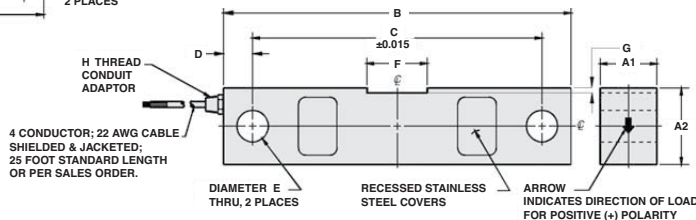
1000 to 50,000 lb capacities



Wiring

- + Excitation Red
- Excitation Black
- + Output Green
- Output White

75,000 to 100,000 lb capacities



CAPACITY	A1	A2	B	C	D	E	F	G	H
1k-5k	1.25	1.25	7.50	6.25	0.62	0.50	1.22	1.25	1/4-18NPT
10k-25k	1.44	1.94	8.75	7.50	0.62	0.81	1.62	1.99	1/4-18NPT
35k	1.50	2.50	8.75	7.50	0.62	0.81	1.62	2.50	1/4-18NPT
50k	2.44	2.94	13.50	11.50	1.00	1.31	3.25	2.99	1/2-14NPT
75k	2.44	2.94	13.50	11.50	1.00	1.31	3.12	0.18	1/2-14NPT
100k	2.94	3.94	18.50	15.00	1.75	1.63	3.25	0.25	1/2-14NPT

Double-Ended Shear Beam Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C. (E_{max})	1k, 1.5k, 2.5k, 5k, 10k, 15k, 25k, 35k, 50k, 75k, 100k	lbs
NTEP/OIML accuracy class	Standard	
Maximum no. of intervals (n)	—	
Rated output—R.O.	3.0	mV/V
Rated output tolerance	0.25	±% mV/V
Zero balance	1.0	±% FSO
Combined error	0.03	±% FSO
Non-repeatability	0.01	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temperature effect on zero	0.0015	±% FSO/°F
Temperature effect on output	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)	°F (°C)
Operating temperature range	0 to 150 (–18 to 65)	°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)	°F (°C)
Sideload rejection ratio	500:1	
Safe sideload	100	% of R.C.
Maximum safe central overload	150	% of R.C.
Ultimate central overload	300	% of R.C.
Excitation, recommended	15	VDC or VAC RMS
Excitation, maximum	25	VDC or VAC RMS
Input impedance	700±14	Ω
Output impedance	703±4	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Nickel-plated alloy tool steel	
Environmental protection	IP67	

Notes

FSO—Full Scale Output

All Specifications subject to change without notice.

Welded, Stainless Steel Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 1000 to 75,000 pounds
- Stainless steel, welded seal construction
- Insensitive to side loads and bending moments
- High output—well suited to high deadload/low liveload applications
- Load cells have matched outputs for multi-cell systems
- Integral conduit adaptor
- *Sensorgage*™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Fully hermetically sealed available



65016-TWA



65086



APPLICATIONS

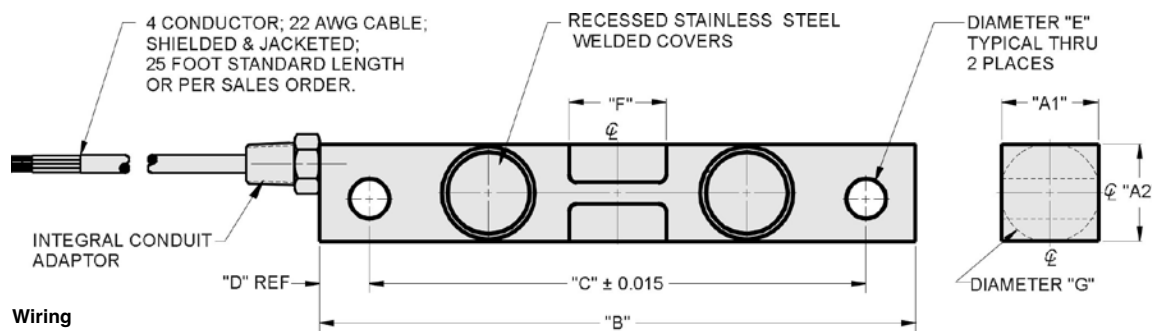
- Hostile environments:
 - Food and beverage processing
 - Chemical and plastics processing
 - Pharmaceutical and biomedical processing
- Tank, bin, and silo weighing
- Batching, blending and mixing systems
- Level and inventory monitoring

DESCRIPTION

65016-0104W is designed to be center-mounted with double-linked loading. This design provides free movement in all horizontal directions virtually eliminating binding or friction points. The double Shear Beam design gives excellent performance for high capacity loading.

65016-0104W is constructed of stainless steel and is designed to work in extremely harsh environments such as chemical and food industry.

OUTLINE DIMENSIONS in inches



CAPACITY	A1	A2	B	C	D	E	F	G	THREAD
1k-5k	1.22	1.22	7.50	6.25	0.62	0.50	1.12	1.25	1/4-18NPT
10k-25k	1.44	1.94	8.75	7.50	0.62	0.81	1.62	1.99	1/4-18NPT
35k	1.44	2.44	8.75	7.50	0.62	0.81	1.62	2.50	1/4-18NPT
50k-75k	2.44	2.94	13.50	11.50	1.00	1.31	3.25	2.99	1/2-14NPT

Capacities are in pounds.

Welded, Stainless Steel Double-Ended Shear Beam Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C. (E_{max})	1k, 1.5k, 2.5k, 5k, 10k, 15k, 25k, 35k, 50k, 75k	lbs
NTEP/OIML accuracy class	Standard	
Maximum no. of intervals (n)	—	
Rated output—R.O.	3.0	mV/V
Rated output tolerance	0.25	±% mV/V
Zero balance	1.0	±% FSO
Non-linearity	0.07%	±% FSO
Hysteresis	0.07%	±% FSO
Non-repeatability	0.01	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temperature effect on zero	0.0015	±% FSO/°F
Temperature effect on output	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)	°F (°C)
Operating temperature range	0 to 150 (–18 to 65)	°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)	°F (°C)
Sideload rejection ratio	500:1	
Safe sideload	100	% of R.C.
Maximum safe central overload	150	% of R.C.
Ultimate central overload	300	% of R.C.
Excitation, recommended	15	VDC or VAC RMS
Excitation, maximum	25	VDC or VAC RMS
Input impedance	686–714	Ω
Output impedance	699–707	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Stainless steel	
Environmental protection	IP67 IP68 welded seals, glass to metal seal	Standard Special

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 1k to 75k lbs
- Environmental protection: IP67 (DIN 40.050)
- Material: nickel-plated steel
- Center-loaded design
- **Optional**
 - FM certified versions are available for use in potentially explosive atmospheres



APPLICATIONS

- Silo, tank, hopper weighing
- Custom system designs
- Low capacity vehicle scales

A reliable sealing and mechanical protection of the strain gage area is ensured by the use of potting compound with a metal cover.

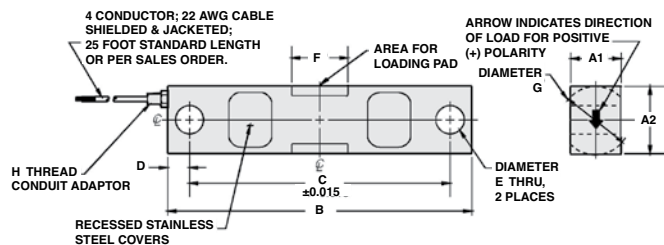
DESCRIPTION

The 5203 is a double-ended shear beam type load cell.

The center-loaded design results in minimal sensitivity to off-center forces.

OUTLINE DIMENSIONS in inches

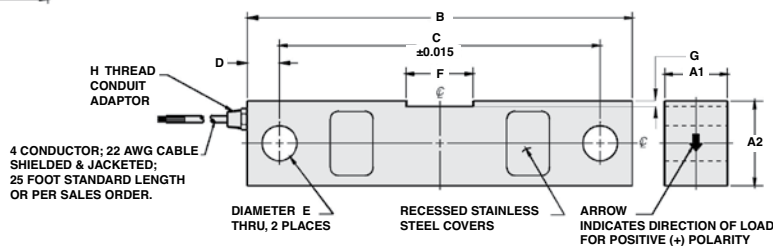
1000 to 50000 lb capacities



Wiring

+ Excitation	Red
- Excitation	Black
+ Output	Green
- Output	White

75000 lb capacity



CAPACITY	A1	A2	B	C	D	E	F	G	H
1k-5k	1.25	1.25	7.50	6.25	0.62	0.50	1.22	1.25	1/4-18NPT
10k-25k	1.44	1.94	8.75	7.50	0.62	0.81	1.62	1.99	1/4-18NPT
35k	1.50	2.50	8.75	7.50	0.62	0.81	1.62	2.50	1/4-18NPT
50k	2.44	2.94	13.50	11.50	1.00	1.31	3.25	2.99	1/2-14NPT
75k	2.44	2.94	13.50	11.50	1.00	1.31	3.12	0.18	1/2-14NPT

Capacities are in pounds.

Double-Ended Beam Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Standard capacities (E_{max})	1k, 1.5k, 2k, 2.5k, 5k, 10k, 15k, 20k, 25k, 35k, 50k, 75k	lbs
Accuracy class	Non Approved - D3	
Rated output (=S)	3	mV/V
Rated output tolerance	0.008	±mV/V
Zero balance	1.0	±% FSO
Combined error	0.03	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temperature effect on minimum dead load output	0.0015	±% FSO/°F (/5°C)
Temperature effect on sensitivity	0.0008	±% FSO/°F (/5°C)
Maximum safe overload	150	% E _{max}
Ultimate overload	300	% E _{max}
Maximum safe side load	100	% E _{max}
Excitation voltage	10	V
Maximum excitation voltage	15	V
Input resistance	700±14	Ω
Output resistance	697±4	Ω
Insulation resistance	≥1000	MΩ
Compensated temperature range	-10 to +40 (+14 to +104)	°C (°F)
Operating temperature range	-18 to +65 (0 to +150)	°C (°F)
Element material (DIN)	Nickel-plated alloy steel	
Sealing (DIN 40.050 / EN60.529)	IP67	

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 1k to 75k lbs
- Environmental protection: IP67 (DIN 40.050)
- Material: stainless steel
- Center loaded design
- Welded covers for all capacities
- **Optional**
 - FM certified versions are available for use in potentially explosive atmospheres



APPLICATIONS

- Silo, tank, hopper weighing
- Custom system designs
- Low capacity vehicle scales

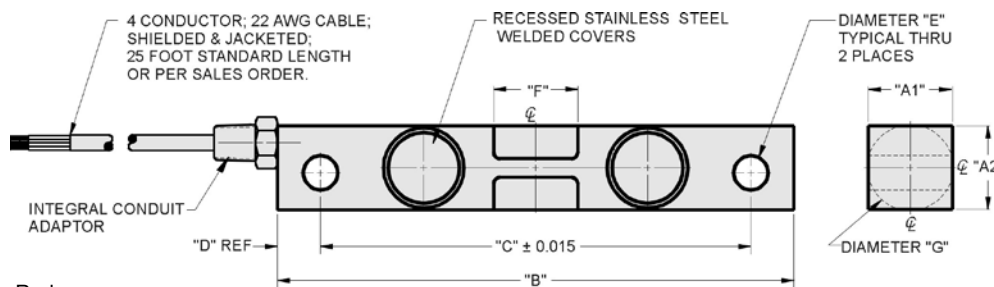
DESCRIPTION

The 9203 is a stainless steel double-ended shear beam type load cell.

A reliable sealing and mechanical protection of the strain gage area is ensured by the use of potting compound with a metal cover.

The center-loaded design results in minimal sensitivity to off-center forces.

OUTLINE DIMENSIONS in inches



Wiring

- +Excitation Red
- Excitation Black
- +Output Green
- Output White

CAPACITY	A ₁	A ₂	B	C	D	E	F	G	Thread
1k-5k	1.22	1.22	7.50	6.25	0.62	0.50	1.12	1.25	1/4-18NPT
10k-25k	1.44	1.94	8.75	7.50	0.62	0.81	1.62	1.99	1/4-18NPT
35k	1.44	2.44	8.75	7.50	0.62	0.81	1.62	2.50	1/4-18NPT
50k-75k	2.44	2.94	13.50	11.50	1.00	1.31	3.25	2.99	1/2-14NPT

Capacities are in pounds.

Double-Ended Beam Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Standard capacities (E_{max})	1k, 1.5k, 2k, 2.5k, 5k, 10k, 15k, 20k, 25k, 35k, 50k, 75k	lbs
Accuracy class	Non Approved—D3	
Rated output (=S)	3.0	mV/V
Rated output tolerance	0.008	±mV/V
Zero balance	1.0	±% FSO
Combined error	0.03	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temp. effect on min. dead load output	0.0015	±% FSO/5°C (°F)
Temperature effect on sensitivity	0.0008	±% FSO/5°C (°F)
Maximum safe overload	150	% E _{max}
Ultimate overload	300	% E _{max}
Maximum safe side load	100	% E _{max}
Excitation voltage	10	V
Maximum excitation voltage	15	V
Input resistance	700±14	Ω
Output resistance	703±4	Ω
Insulation resistance	≥1000	MΩ
Compensated temperature range	-10 to +40 (+14 to +104)	°C (°F)
Operating temperature range	-18 to +65 (0 to +150)	°C (°F)
Element material (DIN)	Stainless steel	
Sealing	IP67	

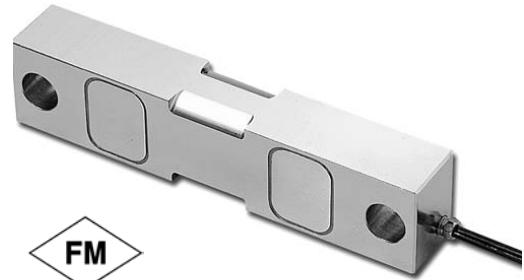
FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Shear Beam

FEATURES

- Capacities 1k–75k lbs
- Double-ended center-load shear beam design
- Rationalized outputs
- Free of horizontal movement
- Insensitive to side load
- Electroless nickel-plated alloy tool steel
- **Optional**
 - Hermetically sealed available
 - Stainless steel available
 - FM approval available



APPLICATIONS

- Silo/hopper/tank weighing

DESCRIPTION

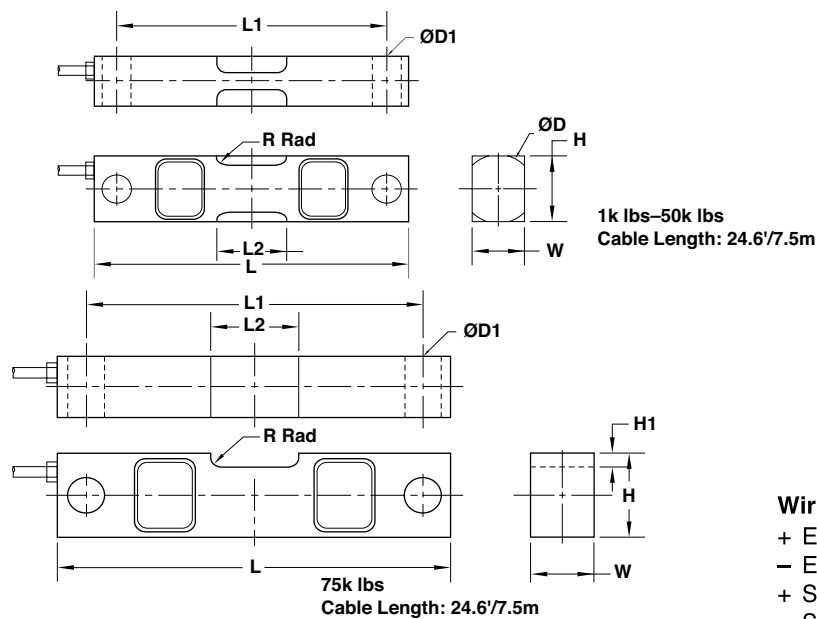
The double-ended mounting provides good restraint to possible movement of the tanks and, in many cases, eliminates the need for check rods.

The shear beam design gives excellent performance for high capacity loading.

The output is rationalized to facilitate multiple-cell application.

DSR is constructed of alloy tool steel and is potted to IP67 providing excellent protection against moisture and humidity.

OUTLINE DIMENSIONS



CAPACITY		L	L ₁	L ₂	W	H	H ₁	D	D ₁	R
1k / 1.5k / 2k / 2.5k / 3k / 5k lbs	mm	190.5	158.8	35.4	31.7	31.7	-	31.7	12.7	5.0
	(inch)	7.50	6.25	1.39	1.25	1.25	-	1.25	0.50	0.20
10k / 15k / 20k / 25k lbs	mm	222.3	190.5	50.0	36.6	49.3	-	50.8	20.6	5.0
	(inch)	8.75	7.50	1.97	1.44	1.94	-	2.00	0.81	0.20
50k / 75k lbs	mm	342.9	292.1	82.6	62.0	74.7	4.6	76.2	33.3	5.0
	(inch)	13.50	11.50	3.25	2.44	2.94	0.18	3.00	1.31	0.20

Double-Ended Shear Beam

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
NTEP/OIML accuracy class	Non-Approved	
Y = E_{max}/V_{min}	5000	Maximum available
Standard capacities (E_{max})	1k, 1.5k, 2k, 3k, 5k, 10k, 15k, 20k, 25k, 50k, 75k	lbs
Rated output—R.O.	3.0	mV/V
Rated output tolerance	0.25	±% of rated output
Zero balance	1	±% of rated output
Non-linearity	0.030 (SS: 0.07%)	±% of rated output
Hysteresis	0.030 (SS: 0.07%)	±% of rated output
Non-repeatability	0.02	±% of rated output
Creep error (20 minutes)	0.030	±% of rated output
Zero return (20 minutes)	0.030	±% of rated output
Temperature effect on min. dead load output	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40	°C
Operating temperature range	-20 to +60	°C
Safe overload	150	% of R.C.
Ultimate overload	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	770±10	Ω
Output impedance	700±5	Ω
Insulation resistance	>5000	MΩ
Construction	Nicke-plated alloy steel	
Environmental protection	IP67	

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 25,000 to 125,000 pounds, 10 to 45 metric tons
- Center supported, external pivot loading
- Integral conduit adaptor
- Trade certified for NTEP Class III L:10000 divisions and OIML R60 3000 divisions
- Sensorgage™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Stainless steel available as 65040W
 - Internal pivot loading available as 65040-1122

APPLICATIONS

- Truck scales
- Railroad track scales
- “Legal-for-Trade” tank, bin, and hopper weighing



65040-1122

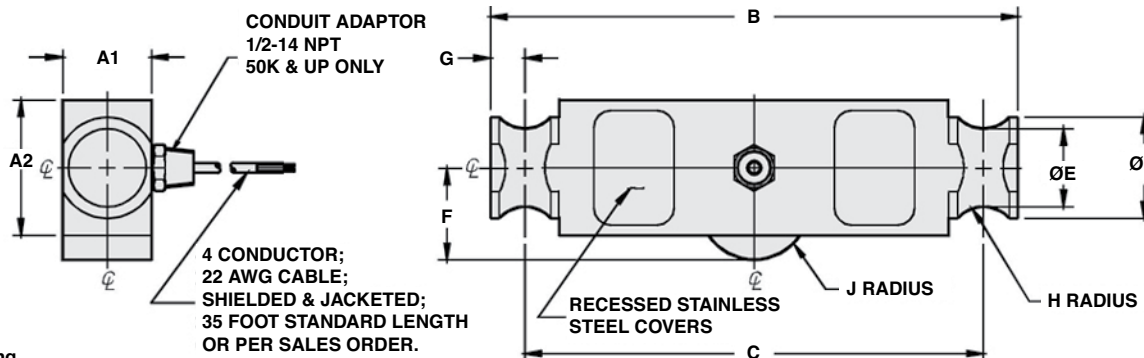
DESCRIPTION

The 65040 is a mid to high capacity nickel-plated alloy steel, double-ended shear beam load cell.

This product is designed for use in certified truck and rail scales and is available in capacities ranging from 25k to 125k lbs.

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This load cell is certified for Legal-for-Trade applications by both American NTEP and International OIML standards.

OUTLINE DIMENSIONS in millimeters



Wiring

- | | |
|--------------|-------|
| + Excitation | Red |
| - Excitation | Black |
| + Output | Green |
| - Output | White |

CAPACITY	A1	A2	B	C	D	E	F	G	H	J
25k-40k	1.94	2.44	8.25	7.25	2.0	1.63	1.75	0.50	0.50	0.50
50k-75k	1.94	2.94	11.50	10.00	2.2	1.70	2.00	0.75	0.75	1.00
100k-125k	2.90	3.86	14.50	12.50	3.2	2.44	2.75	1.00	1.00	1.50
[10T]	[49.3]	[61.9]	[209.6]	[184.2]	[50.8]	[41.4]	[44.5]	[12.7]	[12.7]	[12.7]
[25-35T]	[49.3]	[74.7]	[292.1]	[254.0]	[55.9]	[43.2]	[50.8]	[19.1]	[19.1]	[25.4]
[45T]	[73.7]	[98.0]	[368.3]	[317.5]	[81.3]	[62.0]	[69.9]	[25.4]	[25.4]	[38.1]

Capacities are in pounds [kg/T].

Double-Ended Shear Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	25k, 40k, 50k, 60k, 75k, 100k, 125k 10T, 25T, 35T, 45T			lbs kg/metric tons
NTEP/OIML accuracy class	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	10000 multiple		3000	
$Y = E_{max}/V_{min}$	See NTEP cert. 86-045A1		6250	Maximum available
Rated output—R.O.	3.0			mV/V
Rated output tolerance	0.25			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01			±% FSO
Creep error (30 minutes)	0.025	0.03	0.017	±% FSO
Temperature effect on zero	0.0009	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)			°F (°C)
Operating temperature range	0 to 150 (–18 to 65)			°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)			°F (°C)
Sideload rejection ratio	500:1			
Safe sideload	100			% of R.C.
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	25			VDC or VAC RMS
Input impedance	686–714			Ω
Output impedance	699–707			Ω
Insulation resistance at 50 VDC	>1000			MΩ
Material	Nickel-plated alloy tool steel*			
Environmental protection	IP67			

* Stainless steel available as 65040W

FSO—Full Scale Output

All specifications subject to change without notice.

Alloy Tool Steel, Welded Sealed, Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 50,000 to 100,000 pounds, 20 to 50 metric tons
- Center supported, internal pivot loading
- Replacement for Revere model 5223 and compatible load cells
- Trade certified for NTEP Class III: 10000 divisions and OIML R60: 3000 divisions
- *Sensorgage*™ sealed to IP68 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)



APPLICATIONS

- Truck scales
- Railroad track scales

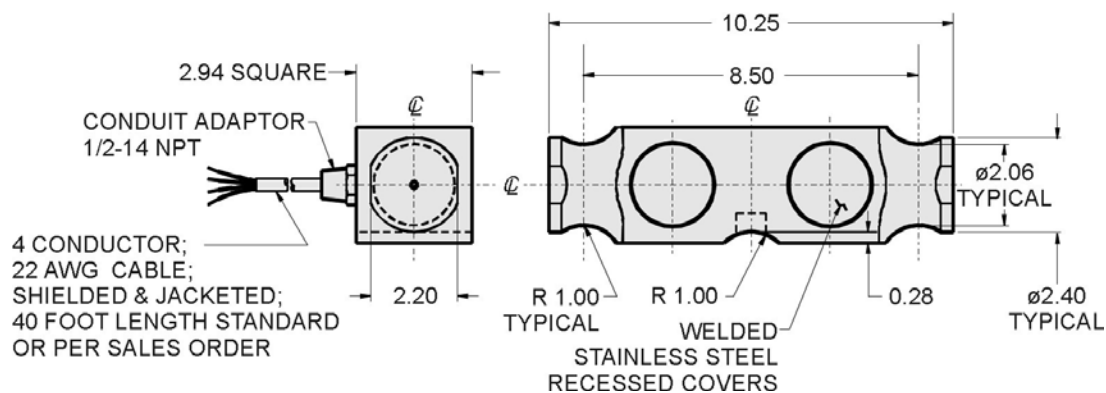
DESCRIPTION

The 65040-1127W is a mid to high capacity, welded nickel-plated alloy steel. Its sealing is creating a very good load cell with extremely high protection for harsh environmental conditions.

This double ended shear beam is designed for use in certified truck and rail scales and is available in capacities ranging from 50k through 100k lbs, and 20 to 50 tons.

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This load cell is certified for Legal For Trade applications by both American NTEP and International OIML standards.

OUTLINE DIMENSIONS in inches



Wiring

+ Excitation	Red
- Excitation	Black
+ Output	Green
- Output	White

Alloy Tool Steel, Welded Sealed, Double-Ended Shear Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	50k, 65k, 100k 20t, 30t, 50t			lbs metric tons
NTEP/OIML accuracy class	NTEP III ^L **	Standard	OIML R60	
Maximum no. of intervals (n)	10000 multiple		3000	
$Y = E_{max}/V_{min}$	NTEP Cert. No 86-045A1		6250	Maximum available
Rated output—R.O.	3.0			mV/V
Rated output tolerance	0.25			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01			±% FSO
Creep error (30 minutes)	0.025	0.03	0.017	±% FSO
Temperature effect on zero	0.0009	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)			°F (°C)
Operating temperature range	0 to 150 (–18 to 65)			°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)			°F (°C)
Sideload rejection ratio	500:1			
Safe sideload	100			% of R.C.
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	25			VDC or VAC RMS
Input impedance	686–714			Ω
Output impedance	699–707			Ω
Insulation resistance at 50 VDC	>1000			MΩ
Material	Nickel-plated alloy steel*			
Environmental protection	IP68			

* Stainless steel available as 65040W

** Only imperial capacities are NTEP approved

FSO—Full Scale Output

All specifications subject to change without notice.

Stainless Steel, Welded Seal Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 25,000 to 75,000 lbs (higher capacities also available)
- Welded seal, stainless steel construction
- Center supported, external pivot loading
- Integral conduit adaptor
- Trade certified for NTEP Class III: 10000 divisions
- *Sensorgage*™ sealed to IP68 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)



65040 Steel



APPLICATIONS

- Hostile environments:
 - Food and beverage processing
 - Chemical and plastics processing
 - Pharmaceutical and biomedical processing
- Truck scales
- Railroad track scales

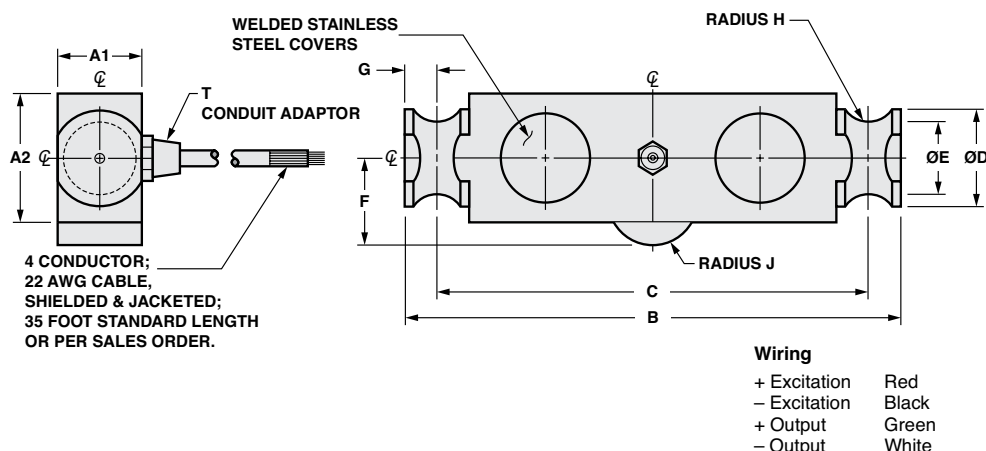
This product is designed for use in certified truck and rail scales and is available in capacities ranging from 25k through 75k lbs. (For higher capacities, please consult factory.)

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This load cell is certified for Legal For Trade applications by American NTEP standards.

DESCRIPTION

The 65040W is a mid to high capacity welded stainless steel, double-ended shear beam load cell.

OUTLINE DIMENSIONS in inches



CAPACITY	A1	A2	B	C	D	E	F	G	H	J	T-THREAD
25k-40k	1.94	2.44	8.25	7.25	2.0	1.63	1.75	0.50	0.50	0.50	1/4-18NPT
50k-75k	1.94	2.94	11.50	10.00	2.2	1.70	2.00	0.75	0.75	1.00	1/2-14NPT

Capacities are in pounds.

Stainless Steel, Welded Seal Double-Ended Shear Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E_{max})	25k, 40k, 50k, 75k*		lbs
NTEP/OIML accuracy class	NTEP IIIIL	Standard	
Maximum no. of intervals (n)	10000 multiple		
$Y = E_{max}/V_{min}$	See NTEP cert. 86-045A1		Maximum available
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.25		±% mV/V
Zero balance	1.0		±% FSO
Combined error	0.02	0.03	±% FSO
Non-repeatability	0.01	0.015	±% FSO
Creep error (30 minutes)	0.025	0.03	±% FSO
Temperature effect on zero	0.0009	0.0015	±% FSO/°F
Temperature effect on output	0.0008	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)		°F (°C)
Operating temperature range	0 to 150 (–18 to +65)		°F (°C)
Storage temperature range	–60 to 185 (–50 to +85)		°F (°C)
Sideload rejection ratio	500:1		
Safe sideload	100		% of R.C.
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10–15		VDC or VAC RMS
Excitation, maximum	25		VDC or VAC RMS
Input impedance	686–714		Ω
Output impedance	699–707		Ω
Insulation resistance at 50 VDC	>1000		MΩ
Material	17-4 Ph stainless steel**		
Environmental protection	IP68		

* Consult factory for higher capacities

** Alloy steel available as 65040

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Link Shear Beam

FEATURES

- Capacities 25k–125k lbs
- Center-mounted with double-linked shear beam design
- Free of horizontal movement
- Insensitive to side load
- Electroless nickel-plated alloy tool steel
- NTEP Class III L 10000 for whole series
- **Optional**
 - Surge protection optional for 60k lbs
 - FM approval available



APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing
- Fork-lift scales

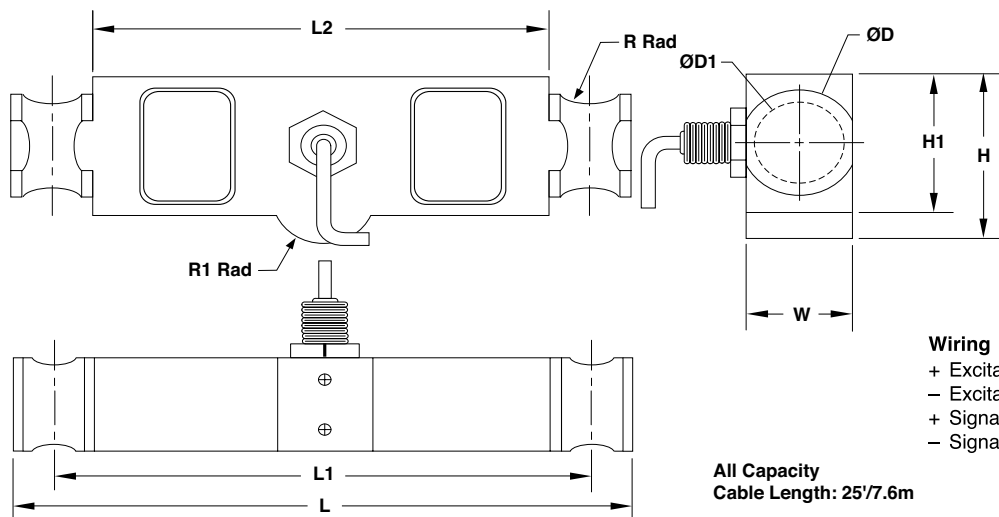
DESCRIPTION

DLB is designed to be center-mounted with double-linked loading. This design provides free movement in

all horizontal directions virtually eliminating binding or friction points. The Shear Beam design gives excellent performance for high capacity loading.

DLB is constructed of alloy steel and fully potted sealed with special chemical compounds to IP67 providing excellent protection against moisture and humidity.

OUTLINE DIMENSIONS



CAPACITY		L	L ₁	L ₂	W	H	H ₁	D	D ₁	R	R ₁
25k/40k lbs	mm	209.6	184.2	158.8	49.3	75.5	62.0	50.8	41.4	12.7	12.7
	(inch)	8.25	7.25	6.25	1.94	2.97	2.44	2.00	1.63	0.50	0.50
50k/60k/75k lbs	mm	292.1	254.0	215.9	49.3	88.2	74.7	55.9	43.2	19.1	25.4
	(inch)	11.50	10.00	8.50	1.94	3.47	2.94	2.20	1.70	0.75	1.00
100k/125k lbs	mm	368.3	317.5	266.7	73.7	118.9	98.0	81.3	62.0	25.4	38.1
	(inch)	14.50	12.50	10.5	2.90	4.68	3.86	3.20	2.44	1.00	1.50

Double-Ended Link Shear Beam

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	NTEP III L	Non-Approved	
Maximum no. of intervals (n)	10000 multiple		
Y = E_{max}/V_{min}	14000	5000	Maximum available
Standard capacities (E_{max})	25k, 40k, 50k, 60k, 75k, 100k, 125k		lbs
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.25		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.025		±% of rated output
Hysteresis	0.025		±% of rated output
Non-repeatability	0.02		±% of rated output
Creep error (20 minutes)	0.030		±% of rated output
Zero return (20 minutes)	0.030		±% of rated output
Temperature effect on min. dead load output	0.0010	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	770±10		Ω
Output impedance	700±5		Ω
Insulation resistance	>5000		MΩ
Construction	Nickel-plated alloy steel		
Environmental protection	IP67		

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Double-Link Beam Load Cell

FEATURES

- Capacities: 50k to 100k lbs.
- Nickel-plated element
- Certified to OIML R60 3000d and NTEP class IIIIL 10000 divisions
- Sealing: IP67 (DIN 40.050)
- Low profile, self-checking, and self-centering
- Optimized design specially for weigh-bridge use
- **Optional**
 - Conduit adapter
 - FM approved for use in potentially explosive atmospheres



APPLICATIONS

- Truck scales
- Railroad track scales
- “Legal-for-Trade” tank, bin and hopper weighing

DESCRIPTION

The 5223 is a hermetically sealed, end loaded, center supported double-ended shear beam.

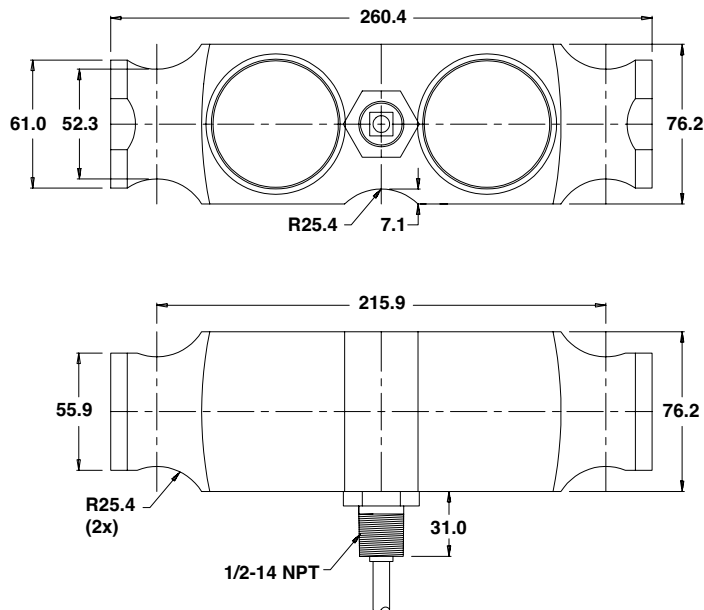
This product is suitable for a wide range of truck and rail scales. It is designed to use parallel link

loading, considered by many weighing experts to be advantageous when compared to other loading techniques.

Fully welded stainless steel seals ensure high environmental integrity and provided that additional cable sealing is used, occasional submersion can occur without damage.

These products meet the stringent Weights and Measures requirements throughout Europe.

OUTLINE DIMENSIONS in millimeters



Cable specifications:

Cable length: 12m

+ Excitation	Red
- Excitation	Black
+ Output	Green
- Output	White
Shield	Transparent

Cable screen is not connected to load cell body. Performance may be affected if load cell cables are shortened.

Double-Link Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	50k, 65k, 100k			lbs.
Accuracy class according to OIML R-60 / NTEP	NTEP IIIIL	Non-Approved	C3	
Max. no. of verification intervals (n_{IC})	10000		3000	
Min. verification interval (V_{min})			$E_{max}/10000$	
Rated output (=S)	3			mV/V
Rated output tolerance	0.003			±mV/V
Zero balance	1.0			±% FSO
Combined error	0.0200	0.0300	0.0200	±% FSO
Non-repeatability	0.0100	0.0100	0.0100	±% FSO
Minimum dead load output return	0.0250	0.0300	0.0167	±% applied load
Creep error (30 minutes)		0.0300	0.0245	±% applied load
Creep error (20 minutes)	0.0027	0.0045		±% applied load
Temp. effect on min. dead load output	(0.0008)	0.0140	0.0070	±% FSO/5°C (°F)
Temperature effect on sensitivity	(0.0010)	0.0070	0.0045	±% applied load/5°C(°F)
Minimum dead load	0			% E_{max}
Maximum safe over load	150			% E_{max}
Ultimate over load	300			% E_{max}
Maximum safe side load	100			% E_{max}
Deflection at E_{max}	0.5 / 0.6 / 0.9			mm
Excitation voltage	5 to 18			V
Maximum excitation voltage	20			V
Input resistance	700±7			Ω
Output resistance	700±7			Ω
Insulation resistance	≥5000			MΩ
Compensated temperature range	-10 to +40			°C
Operating temperature range	-40 to +80			°C
Storage temperature range	-40 to +90			°C
Element material (DIN)	Nickel-plated alloy steel			
Sealing (DIN 40.050 / EN60.529)	IP67			

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Link Beam Load Cell

FEATURES

- Capacities: 50k to 125k lbs
- Stainless steel construction
- Certified to NTEP class IIIIL 10000 divisions
- Sealing: IP68
- Low profile, self-checking and self-centering
- Optimized design specially for weighbridge use
- Optional conduit adapter
- **Optional**
 - FM approved for use in potentially explosive atmospheres



APPLICATIONS

- Truck scales
- Railroad track scales
- “Legal for Trade” tank, bin and hopper weighing

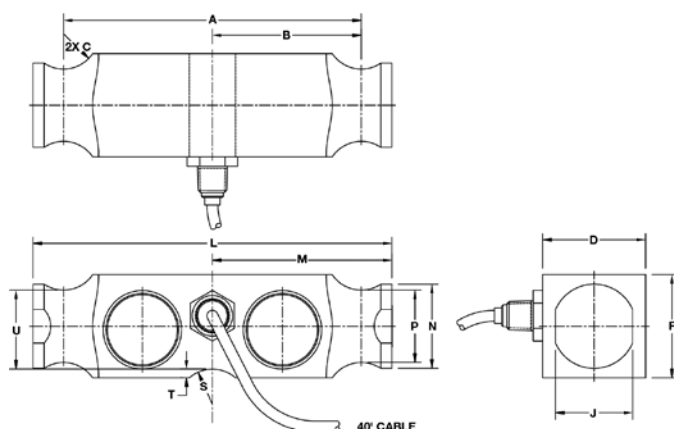
DESCRIPTION

The 9223 is a hermetically sealed, end loaded, center supported double-ended shear beam.

This product is suitable for a wide range of truck and rail scales. It is designed to use parallel link loading, considered by many weighing experts to be advantageous when compared to other loading techniques.

Fully welded stainless steel seals ensure high environmental integrity and provided that additional cable sealing is used, occasional submersion can occur without damage. These products meet the stringent Weights and Measures requirements throughout USA.

OUTLINE DIMENSIONS in inches



Cable specifications:

Cable length: 40 feet

- + Excitation Red
- Excitation Black
- + Output Green
- Output White
- Shield Transparent

Cable screen is not connected to load cell body. Performance may be affected if load cell cables are shortened.

CAPACITY (lbs)	50k, 65k, 100k, 125k
A	8.50
B	4.25
C RAD	1.00
D	2.94
F	2.94
J	2.20
L	10.25
M	5.13
N	2.40
P	2.06
S RAD	1.00
T	0.25
U	2.25

Double-Link Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	50k, 65k, 100k, 125k		lbs
Accuracy class according to NTEP	NTEP IIIIL	Non-Approved	
Maximum no. of verification intervals (n_v)	10000		
Rated output (=S)	3		mV/V
Rated output tolerance	0.003		±% mV/V
Zero balance	1.0		±% FSO
Combined error	0.0200	0.0500	±% FSO
Non-repeatability	0.0100	0.0200	±% FSO
Creep error (20–30 minutes)	0.0300	0.0300	±% applied load
Temperature effect on minimum dead load output	0.0008	(0.0140)	±% FSO/°F (/5°C)
Temperature effect on sensitivity	0.0010	(0.0070)	±% applied load/°F (/5°C)
Compensated temperature range	-10 to +40 (+14 to 104)		°C (°F)
Operating temperature range	-53 to +93 (-65 to +200)		°C (°F)
Safe load limit	150		% E _{max}
Ultimate load	300		% E _{max}
Safe side load limit	100		% E _{max}
Excitation voltage recommended	10		V
Excitation voltage maximum	15		V
Input resistance	700±7		Ω
Output resistance	700±7		Ω
Insulation resistance	≥5000		MΩ
Environmental protection	IP68		
Element material	Stainless steel		ASTM

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 10k to 75k lbs
- Environmental protection: IP67 (DIN 40.050)
- Material: Stainless steel
- Certified to NTEP class III L, 10000 divisions
- **Optional**
 - FM approved for use in potentially explosive atmospheres

APPLICATIONS

- Weighbridges
- Silos, tanks and hoppers

DESCRIPTION

The 9423 is a medium capacity double-ended beam type load cell made of stainless steel.

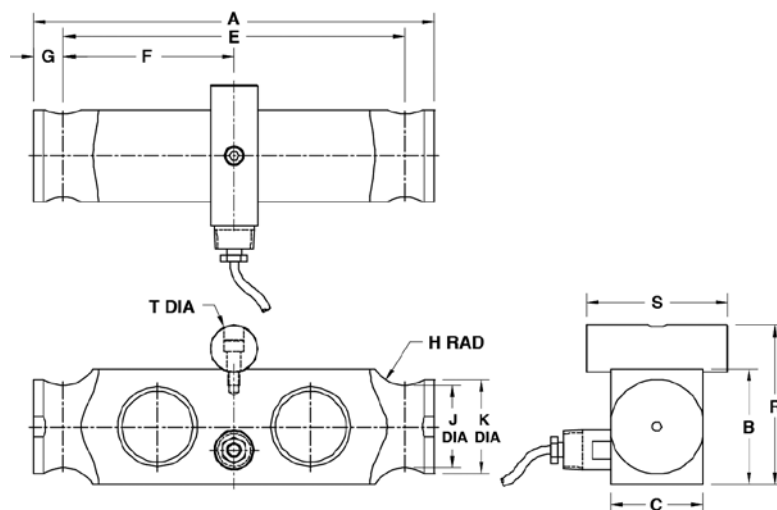
This product is designed for use in certified truck and rail scales and is available in capacities from 10k to 75k lbs.



A reliable sealing and mechanical protection of the strain gage area is ensured by the use of potting compound with a metal cover.

This load cell is rated intrinsically safe by the FM system, making it suitable for use in potentially explosive atmospheres.

OUTLINE DIMENSIONS in inches



Cable specifications

Cable length: 9m (30 ft)

Excitation + Red
 Excitation - Black
 Output + Green
 Output - White
 Shield Transparent

Cable screen is not connected to the load cell body.

Capacity (lbs)	10k, 15k, 20k, 25k	30k, 40k, 50k, 60k, 75k
A	8.00	8.50
B	1.94	2.45
C	1.44	1.95
E	7.12	7.25
F	3.56	3.62
G	0.44	0.63
H RAD	0.38	0.75
J	0.80	1.75
K	1.00	2.00
R	2.57	3.38
S	1.94	3.00
T	0.75	1.00

Double-Ended Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Capacities	10k*, 15k*, 20k, 25k, 30k, 40k, 50k, 60k, 75k		lbs
Accuracy class according to NTEP	NTEP IIIIL	Non-Approved	
Max. no. of verification intervals	10000d		
Rated output (=S)	3		mV/V
Rated output tolerance	0.003		±mV/V
Zero balance	1.0		±% FSO
Combined error	0.0200	0.0300	±% FSO
Creep error (20-30 minutes)	0.0300	0.0300	±% applied load
Temperature effect on min. dead load output	0.0090 (0.0010)	0.0135 (0.0015)	±% FSO/5°C (1°F)
Temperature effect on sensitivity	0.0072 (0.0008)		±% applied load/5°C (1°F)
Compensated temperature range	-10 to +40 (+14 to 104)		°C (°F)
Operating temperature range	-53 to +93 -65 to +200)		°C (°F)
Safe load limit	150		% E _{max}
Ultimate load	300		% E _{max}
Safe side load limit	100		% E _{max}
Excitation voltage recommended	10		V
Excitation voltage maximum	15		V
Input resistance	700±7		Ω
Output resistance	700±7		Ω
Insulation resistance	≥5000		MΩ
Environmental protection	IP67		
Element material	Stainless steel		ASTM

* Capacities 10k and 15k are not NTEP approved.

FSO—Full Scale Output

Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request.

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 25k to 75k lbs
- Environmental protection: IP67 (DIN 40.050)
- Material: Stainless steel
- Certified by NTEP class III, 10000 divisions
- **Optional**
 - FM approved for use in potentially explosive atmospheres

APPLICATIONS

- Weighbridges
- Silos, tanks and hoppers

DESCRIPTION

The 9803 is a medium to high capacity double-ended beam type load cell, made of stainless steel.

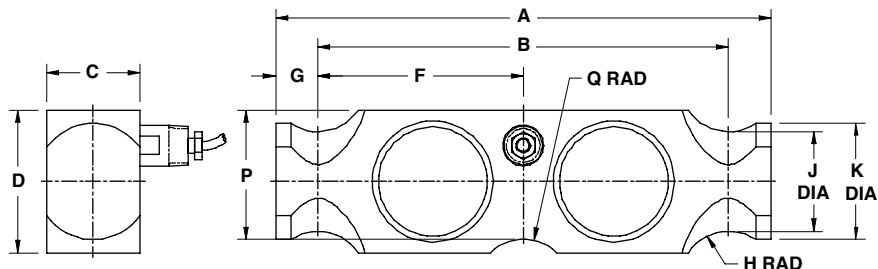
This product is designed for use in certified truck and rail scales and is available in capacities from 25k to 75k lbs.



A reliable sealing and mechanical protection of the strain gage area is ensured by the use of potting compound with a metal cover.

This load cell is rated intrinsically safe by the FM system, making it suitable for use in potentially explosive atmospheres.

OUTLINE DIMENSIONS in inches



Cable specifications

Cable length: 6m

Excitation + Red
 Excitation - Black
 Output + Green
 Output - White
 Shield Transparent

Cable screen is not connected to the load cell body.

Capacity (lbs)	25k, 50k, 65k, 75k
A	10.25
B	8.50
C	1.94
D	2.94
F	4.25
G	0.88
H Rad	1.00
ØK	2.40
ØJ	2.06
P	2.66
Q Rad	1.00

Double-Ended Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	25k, 50k, 65k, 75k		lbs
Accuracy class according to NTEP	NTEP IIIIL	Non-Approved	
Maximum no. of verification intervals (n)	10000d		
Rated output (=S)	3		mV/V
Rated output tolerance	0.003		±mV/V
Zero balance	1.0		±%FSO
Combined error	0.0200	0.0500	±%FSO
Creep error (20 - 30 minutes)	0.0300		±% applied load
Temperature effect on zero	0.0090 (0.0010)	0.025	±% FSO/5°C (1°F)
Temperature effect on output	0.0072 (0.0008)	0.025	±% applied load/5°C (1°F)
Compensated temperature range	-10 to +40 (+14 to +104)		°C (°F)
Operating temperature range	-53 to +93 -65 to +200)		°C (°F)
Safe load limit	150		% E_{max}
Ultimate load	300		% E_{max}
Safe side load limit	100		% E_{max}
Excitation voltage recommended	10		V
Excitation voltage maximum	15		V
Input resistance	700±7		Ω
Output resistance	700±7		Ω
Insulation resistance	≥5000		MΩ
Environmental protection	IP67		
Element material	Stainless steel		ASTM

FSO—Full Scale Output

Mounting:

Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request.

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 5k to 250k lbs
- Low profile construction
- Nickel-plated alloy steel construction
- Certified to OIML R60 3000d, NTEP CoC—10000d
- Sealing: IP67 (DIN 40.050)
- **Optional**
 - FM approved for use in hazardous locations
 - Atex versions are available for use in potentially explosive atmospheres

APPLICATIONS

- Platform scales
- On-board weighing
- Weighbridges
- Silo hopper weighing

DESCRIPTION

5103 transducers are double-ended, center-loaded shear beam load cells. The 5103 is constructed of nickel-plated alloy steel.

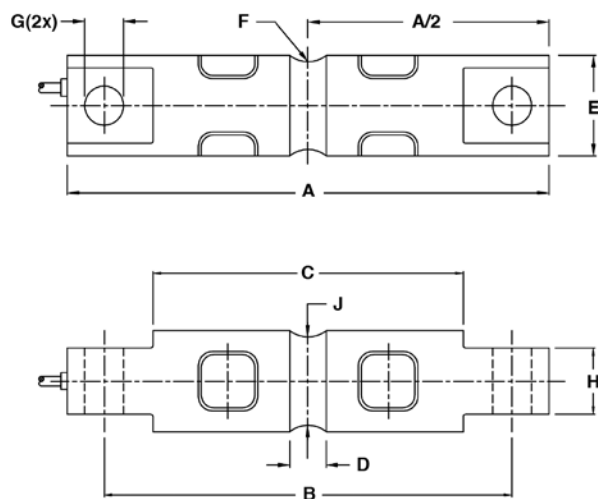


These products are suitable for tank weighing systems, low cost weighbridges, and axle weighers.

A reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gage area.

A specially designed mounting arrangement is available, providing the ideal solution for vessel / tank weighing.

OUTLINE DIMENSIONS in millimeters



Capacity (lbs)	5k, 10k	20k	30k-60k	100k	150k	200k, 250k
A	206.2	206.2	260.4	285.8	285.8	406.9
B	174.6	174.6	215.9	241.3	241.3	330.2
C	133.1	133.1	165.1	190.5	190.5	254.0
D	15.7	21.3	25.4	31.8	31.8	33.0
E	43.2	49.5	76.2	88.9	99.1	136.5
F	12.7	12.7	25.4	38.1	38.1	50.8
G	16.7	16.7	26.9	26.9	26.9	39.6
H	28.4	28.4	60.2	63.5	71.1	116.8
J	37.6	37.6	69.3	82.3	92.5	131.4

Cable specifications

Cable length 10m (6m for 5k-20k)

Excitation +	Red
Excitation -	Black
Output +	Green
Output -	White
Shield	Transparent

Double-Ended Beam Load Cell

SPECIFICATIONS				
PARAMETER	UNIT			VALUE
Standard capacities (E_{max})	2.3, 4.5, 9.1, 13.6, 18.2, 22.7, 27.2, 45.4, 68, 91, 113			T
Standard capacities (E_{max})	5k, 10k, 20k, 30k, 40k, 50k, 60k, 100k, 150k, 200k, 250k			lbs
Accuracy class according to OIML / NTEP	NTEP	Non-Approved	C3	
Max. number of verification intervals (n_{IC})	III L 10000	D3	3000	
Minimum verification interval (v_{min})			$E_{max}/10,000$	
Rated output (= S)	3.0			mV/V
Rated output tolerance	0.003			\pm mV/V
Zero balance	1.0			\pm % FSO
Combined error	0.0200	0.0300	0.0200	\pm % FSO
Non-repeatability	0.0100	0.0100	0.0100	\pm % FSO
Minimum dead load output return	0.0250	0.0300	0.0167	\pm % applied load
Creep error (30 minutes)		0.0300	0.0245	\pm % applied load
Creep error (20 minutes)	0.030	0.0450	0.0053	\pm % applied load
Temp. effect on min. dead load output	(0.001)	0.0140	0.0070	\pm % FSO/5°C (/°F)
Temperature effect on sensitivity	(0.0008)	0.0070	0.0050	\pm % applied load/5°C (/°F)
Minimum dead load	0			% E_{max}
Maximum safe overload	150			% E_{max}
Ultimate overload	300			% E_{max}
Maximum safe side load	100			% E_{max}
Deflection at E_{max}	0.5/0.6/1.1/0.5/0.5/0.5/0.6/0.5/0.5/0.9/0.9			mm
Excitation voltage	5 to 12			V
Maximum excitation voltage	15			V
Input resistance	700 \pm 7			Ω
Output resistance	700 \pm 7			Ω
Insulation resistance	\geq 5000			M Ω
Compensated temperature range	-10 to +40			°C
Operating temperature range	-40 to +80			°C
Storage temperature range	-40 to +90			°C
Element material (DIN)	Nickel-plated alloy steel			
Sealing (DIN 40.050 / EN 60.529)	IP67			
Recommended torque on fixation bolts	12 to 14			Nm

FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Beam Load Cell

FEATURES

- Capacities: 5k to 250k lbs
- Low profile construction
- Stainless steel construction
- Certified to NTEP class III L, 10000 divisions
- Sealing: IP67 (DIN 40.050)
- **Optional**
 - FM and ATEX certified versions are available for use in potentially explosive atmospheres

APPLICATIONS

- Platform scales
- On-board weighing
- Weighbridges
- Silo hopper weighing

DESCRIPTION

The 9103 is a double-ended, center-loaded shear beam type load cell constructed of stainless steel.

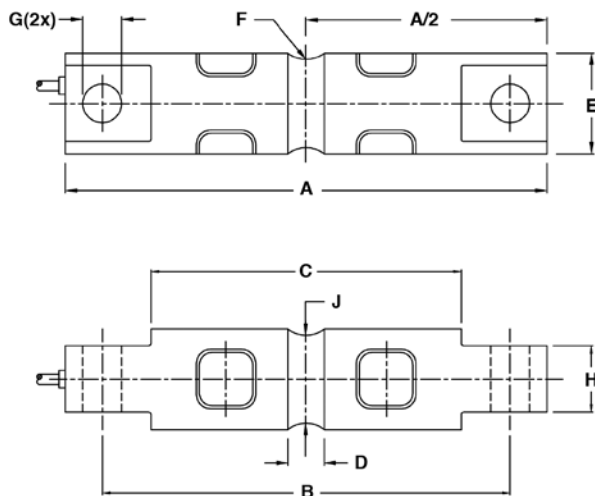


This product is suitable for tank weighing systems, low cost weighbridges and axle weighers.

A reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gage area.

A specially designed mounting arrangement is available, providing the ideal solution for vessel/tank weighing.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length: 10m (6m for 5–20k)

Excitation +	Red
Excitation -	Black
Output +	Green
Output -	White
Shield	Transparent

Cable screen is not connected to the load cell body.

Capacity (lbs)	5k, 10k	20k	30–60k	100k	150k	200k, 250k
A	206.2	206.2	260.4	285.8	285.8	408.9
B	174.6	174.6	215.9	241.3	241.3	330.2
C	133.1	133.1	165.1	190.5	190.5	254.0
D	15.7	21.3	25.4	31.8	31.8	33.0
E	43.2	49.5	76.2	88.9	99.1	136.5
F	12.7	12.7	25.4	38.1	38.1	50.8
G	16.7	16.7	26.9	26.9	26.9	39.6
H	28.4	28.4	60.2	63.5	71.1	116.8
J	37.6	37.6	69.3	82.3	92.5	131.4

Double-Ended Beam Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	5k*, 10k, 20k, 30k, 40k, 50k, 60k, 100k, 150k*, 200k*, 250k*		lbs
Metric equivalents	2.3*, 4.5, 9.1, 13.6, 18.2, 22.7, 27.2, 45.4, 68*, 91*, 113*		ton
Accuracy class according to NTEP	NTEP IIIIL	Non-Approved	
Maximum no. of verification intervals (n_v)	10000		
Rated output (=S)	3.0		mV/V
Rated output tolerance	0.03		±mV/V
Zero balance	2.0		±% FSO
Combined error	0.0200	0.1000	±% FSO
Non-repeatability	0.0100	0.0200	±% FSO
Minimum dead load output return	0.0300	0.0500	±% applied load
Creep error (30 minutes)		0.0600	±% applied load
Creep error (20–30 minutes)	0.0300	0.0200	±% applied load
Temperature effect on minimum dead load output	(0.0008)	(0.0140)	±% FSO/°F (/5°C)
Temperature effect on sensitivity	0.0010	(0.0070)	±% applied load/°F (/5°C)
Minimum dead load	0		% E _{max}
Maximum safe overload	150		% E _{max}
Ultimate overload	300		% E _{max}
Maximum safe side load	100		% E _{max}
Deflection at E_{max}	0.5/0.6/1.1/0.5/0.5/0.5/0.6/0.5/0.5/0.9/0.9		mm
Excitation voltage	5 to 12		V
Maximum excitation voltage	15		V
Input resistance	880±80		Ω
Output resistance	700±7		Ω
Insulation resistance	≥5000		MΩ
Compensated temperature range	–10 to +40		°C
Operating temperature range	–40 to +80		°C
Storage temperature range	–40 to +90		°C
Element material (DIN)	Stainless steel		
Sealing (DIN 40.050 / EN60.529)	IP67		
Recommended torque on fixation bolts	12 to 14		N*m

⁽¹⁾ Capacities 5k, 150k, 200k, and 250k lbs are not approved by NTEP

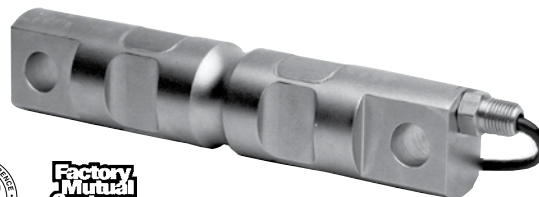
FSO—Full Scale Output

All specifications subject to change without notice.

Double-Ended Shear Beam Load Cell

FEATURES

- Rated capacities of 5,000 to 100,000 pounds, 2.3 to 45 metric tons
- High quality alloy tool steel construction
- Nickel plated for outstanding corrosion resistance
- Replacement for RTI model 5103 (EZM1)
- Integral conduit adaptor
- *Sensorgage™* sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)



APPLICATIONS

- Tank, bin, and silo weighing
- Railroad track scales
- Truck scales

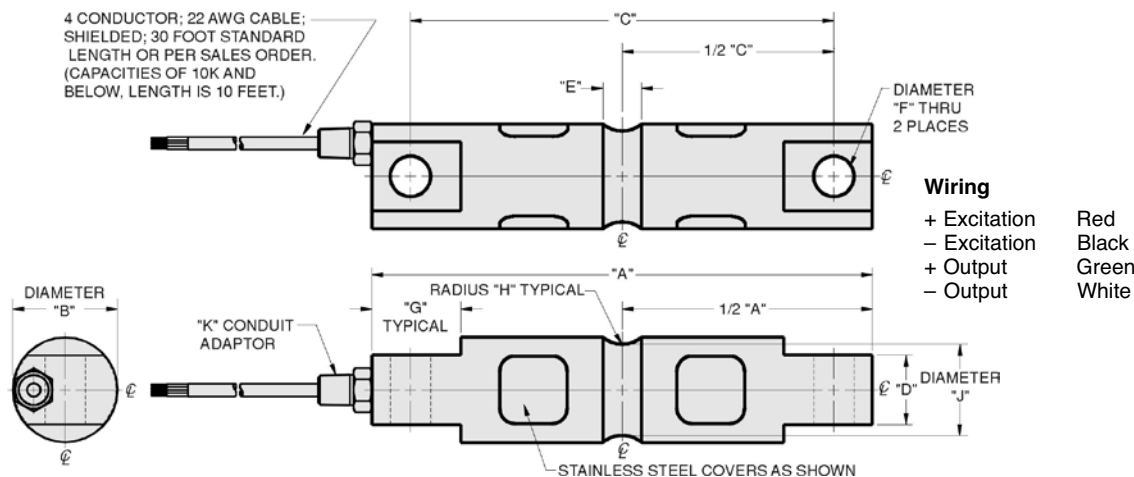
DESCRIPTION

The 60058 is a mid to high capacity nickel-plated alloy steel, double-ended shear beam load cell.

This product is designed for use in industrial and outdoor environments. Nickel plated steel construction limits corrosion from outdoor use. The IP67 sealing makes it suitable for applications that are subject to high-pressure wash down. Tank weighing is made simple when this load cell is combined with the EZ mount mounting hardware it was designed for. Its high accuracy and availability in high capacities make it ideal for certified truck and rail scales.

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This load cell is certified for Legal For Trade applications by the American NTEP standards.

OUTLINE DIMENSIONS in inches [millimeters]



CAPACITY	A	B	C	D	E	F	G	H	J	K-THREAD
5k-20k	8.12	1.70	6.88	1.13	0.63	0.65	1.44	0.50	1.48	1/4-18 NPT
30k-60k	10.25	2.97	8.50	2.38	0.95	1.06	1.94	1.00	2.73	1/2-14 NPT
100k	11.25	3.50	9.50	2.50	1.25	1.06	1.88	1.50	3.24	1/2-14 NPT
[2.3-9T]	[206.2]	[43.2]	[174.8]	[28.7]	[16.0]	[16.5]	[36.6]	[12.7]	[37.6]	1/4-18 NPT
[13.6-27T]	[260.4]	[75.4]	[215.9]	[60.5]	[24.1]	[26.9]	[49.3]	[25.4]	[69.3]	1/2-14 NPT
[45T]	[285.8]	[88.9]	[241.3]	[63.5]	[31.8]	[26.9]	[47.8]	[38.1]	[82.3]	1/2-14 NPT

Capacities are in pounds [kg/T].

Double-Ended Shear Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	5k, 10k, 20k, 30k, 40k, 50k, 60k, 100k 2.3, 4.5, 9.0, 13.6, 18.0, 23.0, 27.0, 45.0			lbs tons
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	
Maximum no. of intervals (n)	5000 multiple	10000 multiple		
$Y = E_{max}/V_{min}$	See NTEP cert. 97-042A1			Maximum available
Rated output—R.O.	3.0			mV/V
Rated output tolerance	0.25			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.02	0.03	±% FSO
Non-repeatability	0.01	0.01	0.01	±% FSO
Creep error (20 minutes)	0.030	0.030	0.03	±% FSO
Temperature effect on zero	0.0015	0.0010	0.0015	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)			°F (°C)
Operating temperature range	0 to 150 (–18 to 65)			°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)			°F (°C)
Safe sideload	100			% of R.C.
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	686–714			Ω
Output impedance	699–707			Ω
Insulation resistance at 50 VDC	>1000			MΩ
Material	Nickel-plated alloy tool steel			
Environmental protection	IP67			

FSO—Full Scale Output

R.C.—Rated Capacity

All specifications subject to change without notice.

Cylindrical Double-Ended Shear Beam

FEATURES

- Capacities 5k–150k lbs
- Center-loaded double-ended shear beam design
- Free of horizontal movement
- Insensitive to side load
- Electroless nickel-plated alloy tool steel
- NTEP Class III L 10000 approval from 20k lbs to 150k lbs
- **Optional**
 - FM approval available



APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing
- Fork-lift scales

DESCRIPTION

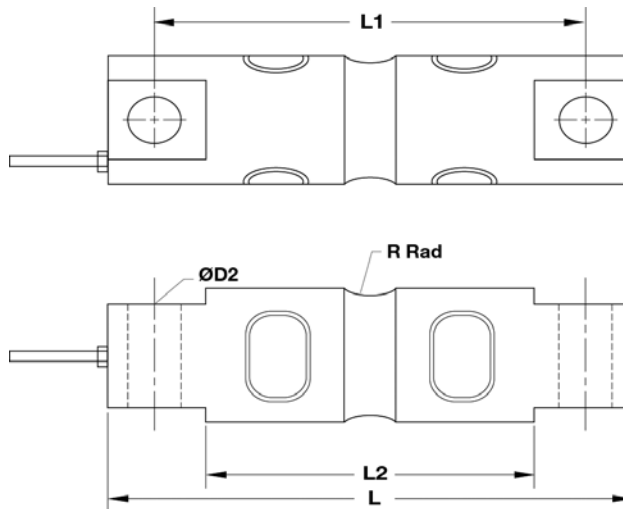
The double-ended mounting provides good restraint for possible movement of tanks and, in many cases, eliminates the need for check rods.

The shear beam design gives excellent performance for high capacity loading.

The cylindrical construction provides easy installation with simple loading features.

CSB is constructed of alloy steel and is fully potted with special chemical compounds to IP67 providing excellent protection against moisture and humidity.

OUTLINE DIMENSIONS



Wiring diagram:

- + Excitation Red
- Excitation Black
- + Signal Green
- Signal White

All Capacity
Cable Length: 15m (4'11")

CAPACITY		L	L1	L2	D	D1	D2	P	R
5k/10k lbs	mm	206.3	174.8	133.1	43.2	37.7	16.8	28.5	12.7
	(inch)	8.12	6.88	5.24	1.70	1.48	0.66	1.12	0.50
20k lbs	mm	206.3	174.8	133.1	49.5	37.9	16.8	28.5	12.7
	(inch)	8.12	6.88	5.24	1.95	1.49	0.66	1.12	0.50
30k/40k/50k/60k lbs	mm	260.4	215.9	164.8	76.2	69.4	26.9	60.2	25.4
	(inch)	10.25	8.50	6.49	3.20	2.73	1.06	2.37	1.00
100k lbs	mm	285.8	241.3	190.2	88.9	82.3	26.9	63.5	25.4
	(inch)	11.25	9.50	7.49	3.5	3.24	1.06	2.50	1.00
150k lbs	mm	285.8	241.3	190.2	99.1	92.5	26.9	71.1	38.1
	(inch)	11.25	9.50	7.49	3.90	3.64	1.06	2.80	1.50

Cylindrical Double-Ended Shear Beam

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	NTEP III L	Non-Approved	
Maximum no. of intervals (n)	10000 multiple*		
Y = E_{max}/V_{min}	14000	5000	Maximum available
Standard capacities (E_{max})	5k, 10k, 20k, 30k, 40k, 50k, 60k, 100k, 150k		lbs
Rated output—R.O.	3.0		mV/V
Rated output tolerance	0.25		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.025		±% of rated output
Hysteresis	0.025		±% of rated output
Non-repeatability	.02		±% of rated output
Creep error (20 minutes)	0.030		±% of rated output
Zero return (20 minutes)	0.030		±% of rated output
Temperature effect on min. dead load output	0.0010	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	770±10		Ω
Output impedance	700±5		Ω
Insulation resistance	>5000		MΩ
Construction	Nickel-plated alloy steel		
Environmental protection	IP67		

*Capacities 20k–150k lbs only

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Miniature Double-Ended Beam

FEATURES

- Capacities: 10–50T
- High side load tolerance
- Electroless nickel-plated alloy tool steel
- Surge protection optional for 10T to 50T
- **Optional**
 - Hermetically sealed available
 - FM approval available

APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing

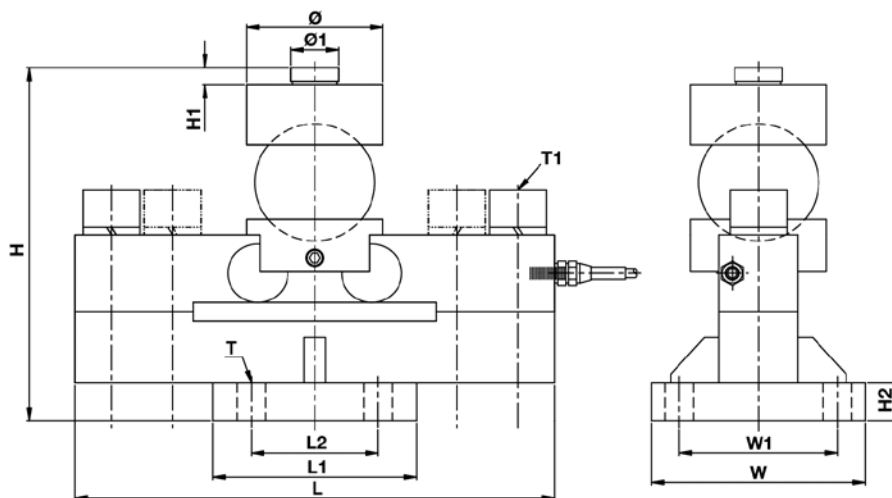
DESCRIPTION

MDB is designed for truck and rail scales in high capacities with low profile. The design of loading through a ball is insensitive to side load.



MDB is constructed of alloy steel and is fully potted and sealed with special chemical compounds to IP67 providing excellent protection against water and moisture attack. MDB Hermetically-Sealed is constructed to IP68 providing excellent protection against corrosive and wash-down environments.

OUTLINE DIMENSIONS



Wiring diagram:

- + Excitation Red
- Excitation Black
- + Signal Green
- Signal White

CAPACITY		L	L ₁	L ₂	H	H ₁	H ₂	Ø	Ø ₁	W	W ₁	T	T ₁
10 / 20 / 25 / 30T	mm	240	125	80	230	11	20	88	30	135	100	4-Ø18	2-M24
	(inch)	9.45	4.92	3.15	8.85	0.43	0.79	3.46	1.18	5.31	3.94		
40–50T	mm	340	160	124	261	11	20	98	40	160	124	4-Ø21	4-M24
	(inch)	13.38	6.30	4.88	10.28	0.43	0.79	3.86	1.57	6.30	4.88		

Miniature Double-Ended Beam

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
NTEP/OIML accuracy class	Non-Approved	
Maximum no. of intervals (n)	3000	
Y = E_{max}/V_{min}	5000	Maximum available
Standard capacities (E_{max})	10000, 20000, 25000, 30000, 40000, 50000	kg
Rated output—R.O.	2.0	mV/V
Rated output tolerance	0.2	±% of rated output
Zero balance	1	±% of rated output
Non-linearity	0.030	±% of rated output
Hysteresis	0.030	±% of rated output
Non-repeatability	0.020	±% of rated output
Creep error (20 minutes)	0.030	±% of rated output
Zero return (20 minutes)	0.030	±% of rated output
Temperature effect on min. dead load output	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40	°C
Operating temperature range	-20 to +60	°C
Safe overload	150	% of R.C.
Ultimate overload	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	770±10	Ω
Output impedance	700±5	Ω
Insulation resistance	>5000	MΩ
Cable length	13.5	m
Construction	Nickel-plated alloy steel	
Environmental protection	IP67	

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G
 Non-Incendive: Class I; Div. 2 Groups A-D



S-Type Load Cells

Model 363	104
Model 9363	106
Model 60001	108
Model 60063	110
Model 614	112
Models 615 and 616.....	114
Model 619	116
Model 620	118
Model BSP	120
Model STC	122
Model 327	125
Model 91002	127

Universal Load Cell

FEATURES

- Capacities 50 to 10000 kg (50 to 20k lbs)
- Nickel-plated steel construction
- Certified to NTEP class III 3000d and class IIIIL 10000d
- Suitable for compression and tension applications
- Trimmed output versions available
- Sealing: IP65
- **Optional**
 - FM approved for use in potentially explosive atmospheres



APPLICATIONS

- Suspended hoppers
- Overhead track scales
- Force measurement

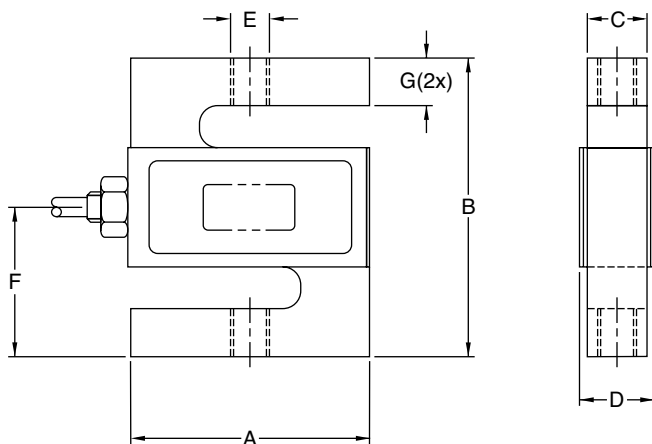
DESCRIPTION

The 363 is a multi-purpose nickel-plated S-Type load cell which can be used in tension or compression.

This product is suitable for a wide range of hybrid scales, overhead track scales, belt scales, and process weighing applications.

Reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gage area.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length: 6m

- Excitation + Red
- Excitation - Black
- Output + Green
- Output - White
- Shield Transparent

Cable screen is not connected to the load cell body.

Cap (kg)	50, 100	250, 500	1000	2500	5000	7500	10000
Cap (lbs)	50-300	500-1.5k	2k, 2.5k	3k*, 5k	10k	15k	20k
A	50.8	50.8	50.8	76.2	74.7	87.4	112.8
B	61.0	61.0	61.0	99.1	99.1	139.7	177.8
C	11.7	18.0	24.4	24.4	30.7	37.1	42.9
D _{max}	16.5	22.9	29.2	29.2	35.6	41.4	47.8
E (kg)	M8x1.25 - 6H	M12x1.75 - 6H		M20x1.5 - 6H		M24x2 - 6H	M30x2 - 6H
E (lbs)	¼ - 28UNF - 2B	½ - 20UNF - 2B		¾ - 16UNF - 2B		1 - 14UNS - 2B	1¼ - 12UNF - 2B
F	30.5	30.5	30.5	49.5	49.3	69.9	88.9
G	8.9	8.9	8.9	14.0	15.7	22.4	31.8

Universal Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E _{max})	50, 100, 250, 500, 1000, 2500, 5000, 7500, 10000		kg
Standard capacities (E _{max})	50, 75, 100, 150, 200, 250, 300, 500, 750, 1k, 1.5k, 2k, 2.5k, 3k, 5k, 10k, 15k, 20k		lbs
Accuracy class per NTEP	NTEP IIIIL	Non-Approved	
Maximum no. of verification intervals (n)	10000		mV/V
Rated output—R.O.	3.3±0.3		mV/V
Rated output—R.O. (trimmed option)	3.0±0.0075		mV/V
Zero balance	1.0		±%FSO
Combined error	0.0200	0.05	±%FSO
Non-repeatability	0.0100	0.0200	±%FSO
Minimum dead load output return	0.0500		±% applied load
Creep error (30 minutes)	-	0.0600	±% applied load
Creep error (20 minutes)	0.0030	0.0200	±% applied load
Temperature effect on min. dead load output	0.0090	0.0250	±% FSO/5°C
Temperature effect on sensitivity	0.0072	0.0250	±% applied load/5°C
Minimum dead load	0		% E _{max}
Maximum safe overload	150		% E _{max}
Ultimate overload	300		% E _{max}
Maximum safe side load	100		% E _{max}
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	390±15		Ω
Output impedance	350±3.5		Ω
Insulation resistance	≥5000		MΩ
Compensated temperature range	-10 to +40		°C
Operating temperature range	-40 to +80		°C
Storage temperature range	-40 to +90		°C
Element material	Nickel-plated alloy steel		
Sealing	IP65		

FSO—Full Scale Output

All specifications subject to change without notice.

Universal Load Cell

FEATURES

- Capacities: 50 to 10,000 kg (50 to 20,000 lbs)
- Stainless steel construction
- Suitable for compression and tension applications
- Trimmed output versions standard
- Sealing: IP67
- Certified to OIML R-60, 3000d, NTEP class III, 10000 divisions
- **Optional**
 - FM approved for use in potentially explosive atmospheres



APPLICATIONS

- Suspended hoppers
- Overhead track scales
- Force measurement

This product is suitable for a wide range of hybrid scales, overhead track scales, belt scales, and process weighing applications.

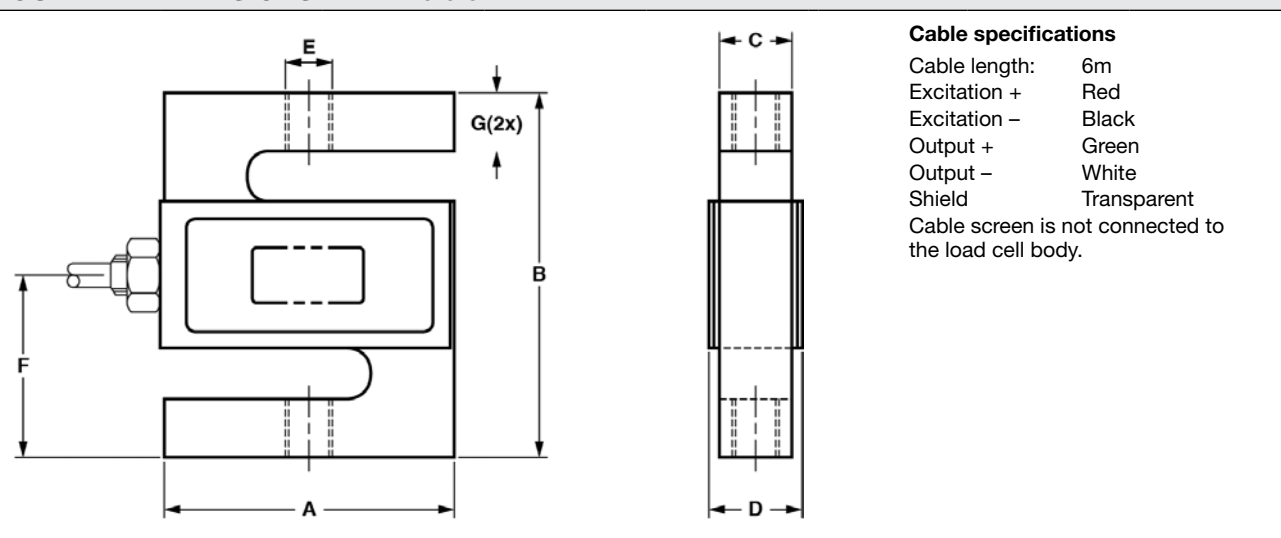
Reliable sealing is ensured by the proprietary TRANSEAL potting compound and additional mechanical protection of the strain gage area.

DESCRIPTION

The 9363 is a multipurpose stainless steel S-type load cell which can be used in tension or compression.

This product meets the stringent Weights and Measures requirements throughout Europe and the USA.

OUTLINE DIMENSIONS in millimeters



Cable specifications

- Cable length: 6m
 - Excitation + Red
 - Excitation - Black
 - Output + Green
 - Output - White
 - Shield Transparent
- Cable screen is not connected to the load cell body.

Cap (kg)	50, 100	250, 500	1000	2500	5000	7500	10000
Cap (lbs)	50, 100, 200, 300	500-1.5k	2k, 2.5k	3k*, 5k	10k	15000	20000
A	50.8	50.8	50.8	76.2	74.7	87.4	112.8
B	61.0	61.0	61.0	99.1	99.1	139.7	177.8
C	11.7	18.0	24.4	24.4	30.7	37.1	42.9
D max	16.5	22.9	29.2	29.2	35.6	41.4	47.8
E (kg)	M8 x 1.25-6H	M12 x 1.75-6H		M20 x 1.5-6H8		M24 x 2-6H	M30 x 2-6H
E (lbs)	1/4-28UNF-2B	1/2-20UNF-2B		3/4-16UNF-2B		1"-14UNS-2B	1 1/4-12UNF-2B
F	30.5	30.5	30.5	49.5	49.3	69.9	88.9
G	8.9	8.9	8.9	14.0	15.7	22.4	31.8

*3k lb version has 1/2-20UNF-2B holes.

Universal Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	50, 100, 250, 500, 1000, 2500, 5000, 7500, 10000*			kg
Standard capacities (E_{max})	50, 75, 100, 150, 200, 250, 300, 500, 750, 1k, 1.5k, 2k, 3k, 5k, 10k, 15k, 20k			lbs
Accuracy class per OIML R-60 / NTEP	NTEP IIIIL	Non-Approved	OIML C3	
Maximum no. of verification intervals (n)	10000	D3	3000	
Minimum verification intervals (V_{min})			$E_{max}/9000$	
Rated output (=FS)	3.0			mV/V
Rated output tolerance	0.0075			±mV/V
Zero balance	1.0			±% FSO
Combined error	0.0200	0.0300	0.0200	±% FSO
Non-repeatability	0.0100	0.0100	0.0100	±% FSO
Minimum dead load output return		0.0300	0.0165	±% applied load
Temp. effect on min. dead load output	(0.001)	(0.0015)	0.0140	±% FSO/5°C (1°F)
Temperature effect on sensitivity	(0.0008)	(0.0008)	0.0055	±% applied load/5°C (1°F)
Maximum safe overload	150			% E_{max}
Ultimate overload	250			% E_{max}
Excitation voltage	5 to 12			V
Maximum excitation voltage	15			V
Input resistance	390±15			Ω
Output resistance	350±3.5			Ω
Insulation resistance	≥5000			MΩ
Compensated temperature range	14 to +104°F	-10 to +40		°C
Operating temperature range	-65 to +200°F	-40 to +80		°C
Element material (DIN)	Stainless steel			
Sealing (DIN 40.050)	IP67			

* 10000 kg is not OIML approved

FSO—Full Scale Output

All specifications subject to change without notice.

S-Beam Load Cell

FEATURES

- Rated capacities of 25 to 20,000 pounds
50 kilograms to 10 metric tons
- Designed for single or multiple load cell applications
- Constructed of high quality alloy tool steel
- Nickel plated for outstanding corrosion resistance
- *Sensorgage™* sealed to IP67 standards
- Trade certified for NTEP Class III: 5000d, III.L:
10000d and OIML R-60 3000d available
- Factory Mutual System Approved for Classes I, II, III;
Divisions 1 and 2; Groups A through G.
Also, non-incendive ratings (No barriers!).
- **Optional**
 - Stainless steel version is Model 60050



DESCRIPTION

Model 60001 is a tension-compression load cell with a humidity-resistant coating and shielded cables, which enable use in harsh environments while maintaining operating specifications. Additional sense wires compensate for changes in lead resistance due to temperature change and/or cable extension.

Ideally suited for lever conversions, hanging scales, force measurement and a wide range of other industrial applications. Nickel-plated for outstanding corrosion resistance.

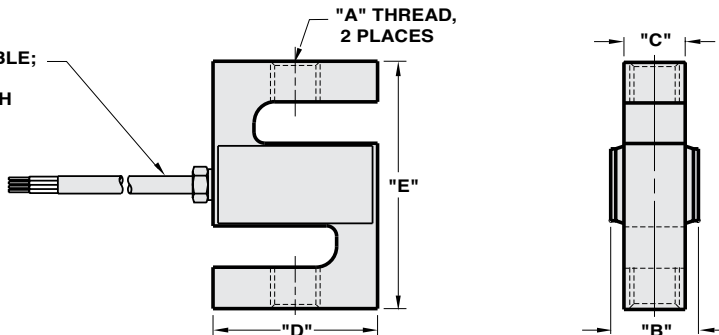
APPLICATIONS

- Tank, bin and hopper weighing
- Level and inventory monitoring
- Truck scale conversions
- Tension and compression measurements

OUTLINE DIMENSIONS in inches [millimeters]

4 CONDUCTOR, 22 AWG CABLE;
SHIELDED & JACKETED;
20 FOOT STANDARD LENGTH
OR PER SALES ORDER.

Wiring
+ Excitation Red
- Excitation Black
+ Output Green
- Output White



CAPACITY	A	B	C	D	E	DEFLECTION	WEIGHT
25-200	1/4-28 UNF-2B	0.65	0.50	2.00	2.50	0.015-0.010	4.0
250-300	3/8-24 UNF-2B	0.75	0.50	2.00	3.00	0.010	4.0
500-2k	1/2-20 UNF-2B	1.00	0.75	2.00	3.00	0.010-0.012	6.5
2.5k-4k	1/2-20 UNF-2B	1.25	1.00	2.00	3.00	0.012	6.5
5k	3/4-16 UNF-2B	1.25	1.00	3.00	4.25	0.017	6.5
10k	3/4-16 UNF-2B	1.25	1.00	3.50	4.75	0.025	6.5
15k	1-14 UNF-2B	1.50	1.25	4.00	5.50	0.025	9.0
20k	1-1/4-12 UNF-2-B	2.25	2.00	5.00	7.00	0.025	9.0
[50-100 kg]	M8.0 x 1.25-6H	[16.5]	[12.7]	[50.8]	[63.5]	[0.03-0.004]	[0.8]
[250 kg-1T]	M12 x 1.75-6H	[25.4]	[19.1]	[50.8]	[76.0]	[0.004]	[1.8]
[2.5T]	M20 x 1.5-6H	[31.8]	[25.4]	[76.2]	[108.0]	[0.008]	[2.9]
[5T]	M20 x 1.5-6H	[31.8]	[25.4]	[88.9]	[120.7]	[0.011]	[2.9]
[10T]	M30 x 2.0-6H	[57.2]	[50.8]	[127.0]	[177.8]	[0.011]	[4.0]

Capacities are in pounds [kg/T]. Deflection is ±10%. Certified drawings are available.

S-Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	25, 50, 75, 100, 150, 200, 250, 300, 500, 750, 1k, 1.5k, 2k, 2.5k, 3k, 5k, 10k, 15k, 20k 50 kg, 100 kg, 250 kg, 500 kg, 1T, 2.5T, 5T, 10T*				lbs kg/metric tons
NTEP/OIML accuracy class	NTEP III	NTEP III L	Standard	OIML R60	
Maximum no. of intervals (n)	5000 single	10000 single		3000*	
$Y = E_{max}/V_{min}$	NTEP Cert. No. 86-043A1			6667	Maximum available
Rated output—R.O. lbs	3.0				mV/V
Rated output tolerance lbs	25–3k: +25 / –10		5k–20k: ±0.25		%
Rated output—R.O. kg	3.0				mV/V
Rated output tolerance kg	50 kg–1T: +25 / –10		2.5T–3T: ±0.25		%
Zero balance	1.0				±% FSO
Combined error	0.02	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01				±% FSO
Creep error (30 minutes)	0.03	0.025	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)				°F (°C)
Operating temperature range	0 to 150 (–18 to 65)				°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)				°F (°C)
Safe sideload	30				% of R.C.
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	343–450				Ω
Output impedance	349–355				Ω
Insulation resistance at 50 VDC	>1000				MΩ
Material	Nickel-plated alloy tool steel**				
Environmental protection	IP67				

Notes

* OIML approval 100–5k lbs and 50–2500 kg only

NTEP approval from 25–20k lbs only

** Stainless steel available—Model Number 60050

FSO—Full Scale Output

All specifications subject to change without notice.

Stainless Steel, Welded Seal S-Beam Load Cell

FEATURES

- Rated capacities of 500 to 10,000 pounds
- Stainless steel, welded seal construction
- Integral loading brackets
- Compatible with TCM tension mounting hardware
- Designed for single or multiple load cell applications
- Trade certified for NTEP Class III: 10000d and III: 5000d
- *Sensorgage*™ sealed to IP68 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Mounting and loading accessory hardware available



APPLICATIONS

- Hostile environments: Food and beverage processing
Chemical and plastics processing
Pharmaceutical and biomedical
- Bin, hopper and belt conveyor scales
- Level and inventory monitoring
- Tension and compression measurements

DESCRIPTION

Model 60063 is a stainless steel S-Type load cell. Its welded sealing combined with high accuracy, make this load cell ideally suited for a wide range of applications of process weighing and force measurement.

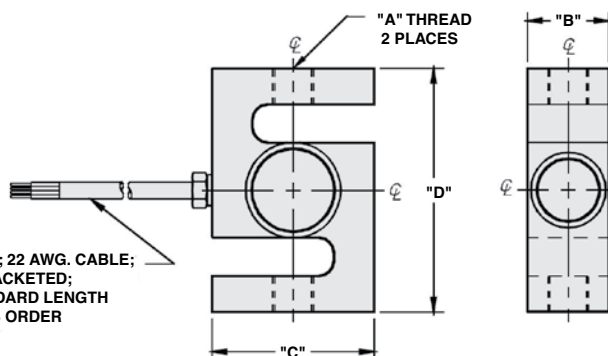
Approvals included NTEP III 5000d single and NTEP III L10000d multiple. Also available are versions approved for hazardous areas - FM I, II, III Division 1.

OUTLINE DIMENSIONS in inches

Wiring

+ Excitation	Red
- Excitation	Black
+ Output	Green
- Output	White

4 CONDUCTOR; 22 AWG. CABLE;
SHIELDED & JACKETED;
20 FOOT STANDARD LENGTH
OR PER SALES ORDER



CAPACITY	A	B	C	D	DEFLECTION	WEIGHT
500-3k	1/2-20	1.00	2.00	3.00	0.010	3.0
5k-10k	3/4-16	1.00	3.50	4.75	0.010	5.00

Capacities are in pounds. Deflection is ±10%. Certified drawings are available.

Stainless Steel, Welded Seal S-Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	500, 750, 1k, 1.5k, 2k, 2.5k, 3k, 5k, 10k*			lbs
NTEP/OIML accuracy class	NTEP III	NTEP III L	Standard	
Maximum no. of intervals (n)	5000 multiple	10000 multiple		
Y = E_{max}/V_{min}	See NTEP cert. 98-019			Maximum available
Rated output—R.O.	2.0			mV/V
Rated output tolerance	+25%...-10%			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.02	0.03	±% FSO
Non-repeatability	0.01	0.01	0.015	±% FSO
Creep error (30 minutes)	0.025	0.03	0.03	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (-10 to 40)			°F (°C)
Operating temperature range	0 to 150 (-18 to 65)			°F (°C)
Storage temperature range	-60 to 185 (-50 to 85)			°F (°C)
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	349-450			Ω
Output impedance	349-355			Ω
Insulation resistance at 50VDC	>1000			MΩ
Material	Stainless steel			
Environmental protection	IP68			

Note: * NTEP approval 500-5k lbs only.

FSO—Full Scale Output

All specifications subject to change without notice.

Model 614

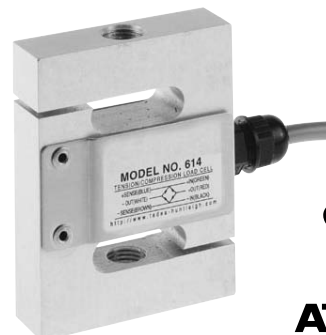
Tedea-Huntleigh



Tension Compression Load Cell

FEATURES

- Capacities 50–500 kg
- Anodized aluminum construction
- OIML R60 approved
- IP67 protection
- For use in tension or compression
- 6 wire (sense) circuit
- **Optional**
 - EEx ia IIC T4 hazardous area approval



APPLICATIONS

- Hopper (Tank weighing)
- Hybrid scales
- Belt weighing
- Lever arm conversions
- Material testing machines
- Vibrations filling equipment
- Dynamometers

to be used in harsh environments while maintaining its operating specifications.

The additional sense wires compensate for changes in lead resistance due to temperature change and/or cable extension.

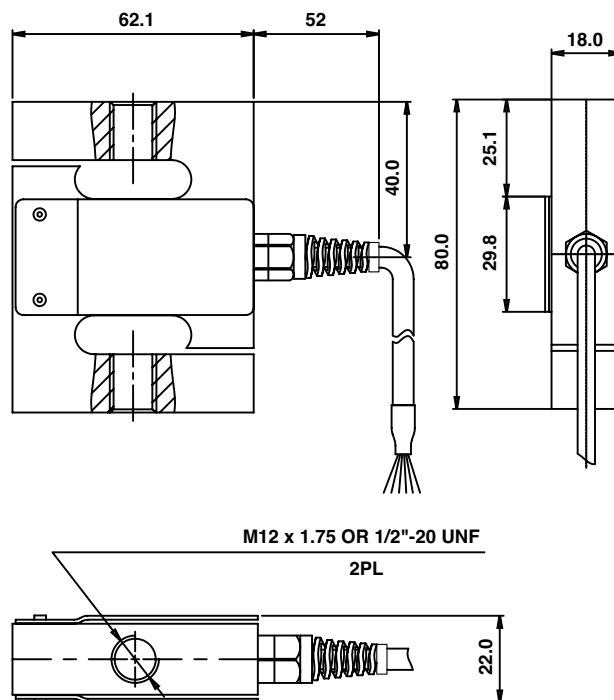
Ideally suited for lever conversions, hanging scales, force measurement and a wide range of other industrial applications.

Model 614 is made from aluminum.

DESCRIPTION

Model 614 is a tension-compression load cell. Humidity resistant coating and shielded cables enable this load cell

OUTLINE DIMENSIONS in millimeters



Tension Compression Load Cell

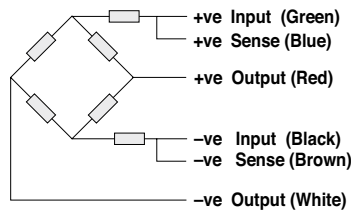
SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E _{max})	50, 100, 150, 200, 300, 500			kg
Accuracy class	Non-Approved	C3*		
Maximum no. of intervals (n)	1000	3000		
Y = E _{max} /V _{min}	2500	8000	12000**	
Rated output—R.O.	2.0			mV/V
Rated output tolerance	0.2			±% mV/V
Zero balance	0.02			±% mV/V
Zero return, 30 min.	0.05	0.017		±% of applied load
Total error (per OIML R60)	0.05	0.020		±% of rated output
Temperature effect on zero	0.01	0.0023		±% of rated output/°C
Temperature effect on output	0.003	0.0012		±% of load/°C
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-30 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Cable length	3.0			m
Cable type	6-wire, braided PVC, dual floating screen			Standard
Construction	Plated (anodized) aluminum			
Environmental protection	IP67			

* 50% utilization

** Y=8000 for capacities 50–200 kg. Y=12000 for capacities 300–500 kg

All specifications subject to change without notice.

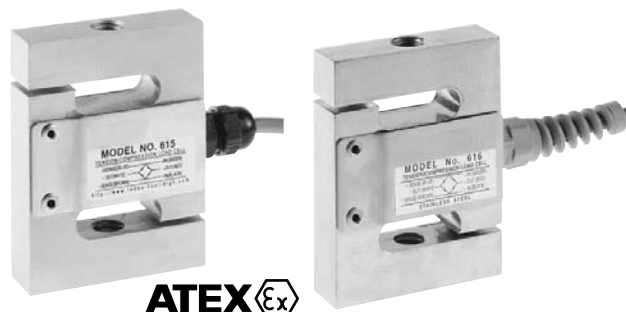
Wiring Schematic Diagram
(Balanced bridge configuration)



Tension Compression Load Cells

FEATURES

- Capacities 50–1000 kg
- Nickel-plated alloy steel (615) or stainless steel (616) construction
- IP67 protection
- For use in tension or compression
- 6-wire (sense) circuit
- Model 615 output standardised to $\pm 0.1\%$
- **Optional**
 - EEx ia IIC T4 hazardous area approval



APPLICATIONS

- Hopper (tank weighing)
- Hybrid scales
- Belt weighing
- Lever arm conversions
- Material testing machines
- Vibrations filling equipment
- Dynamometers

coating and shielded cables enable these load cells to be used in harsh environments while maintaining their operating specifications.

The additional sense wires compensate for changes in lead resistance due to temperature change and/or cable extension.

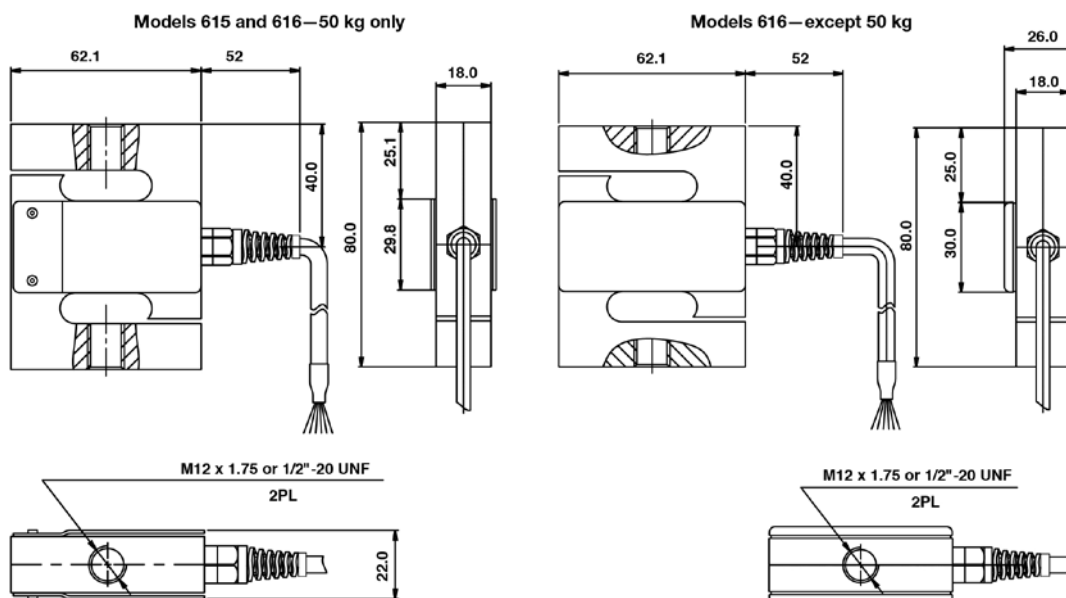
Ideally suited for lever conversions, hanging scales, force measurement and a wide range of other industrial applications.

DESCRIPTION

Models 615 and 616 are tension compression load cells which share the same dimensions. Humidity-resistant

Model 616 is made from stainless steel and has bonded covers for additional protection (except 50 kg). An alternative lower cost version is made from alloy steel (Model 615), with riveted covers.

OUTLINE DIMENSIONS in millimeters



Tension Compression Load Cells

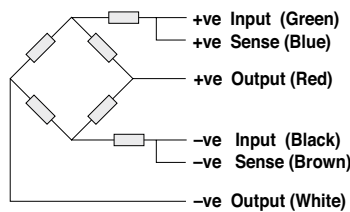
SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Accuracy class	Non-Approved	G	
Maximum no. of intervals (n)	1000	3000	
Rated capacity—R.C. (Emax)	50, 100, 150, 200, 300, 500, 750, 1000*		kg
Rated output—R.O.	2.0		mV/V
Rated output tolerance	0.002		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.05	0.017	±% of applied load
Total error (per OIML R60)	0.05	0.02	±% of rated output
Temperature effect on zero	0.01	0.004	±% of rated output/°C
Temperature effect on output	0.003	0.0012	±% of load/°C
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-30 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	400±20		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	3.0		m
Cable type	6-wire, PVC, single floating screen**		Standard
Construction	615—alloy steel	616—stainless steel	
Environmental protection	IP67		

* 616 does not include 50 kg

** 616 has polyurethane jacket braided cable with dual floating screen

All specifications subject to change without notice.

Wiring Schematic Diagram
 (Balanced bridge configuration)



S-Type Alloy Steel Load Cell

FEATURES

- Capacities 1500–6000 kg
- Alloy steel construction
- Sealing: welded to IP67
- S-Type design for use in tension and compression
- Choice of mounting threads metric or unified systems
- 6 Wire cable (sense circuit)
- **Optional**
 - EEx ia IIC T6-ATEX hazardous area approval

APPLICATIONS

- Hopper (tank weighing)
- Hybrid scales
- Belt weighing
- Lever arm conversions
- Material testing machines
- Vibrations filling equipment
- Dynamometers

DESCRIPTION

Model 619 is a low cost tension-compression load cell made from nickel plated alloy steel and has bonded covers for additional protection. It is suitable for use in a wide range of weighing, process weighing, force measurement and industrial process control applications.

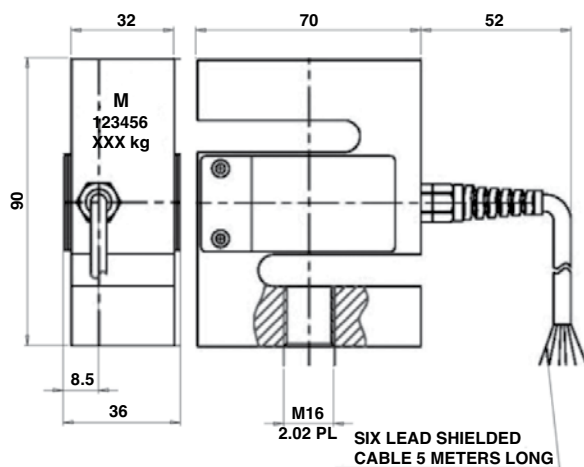


Protected to meet IP67 requirements, the construction of the 619 load cell allows its use in most industrial process applications.

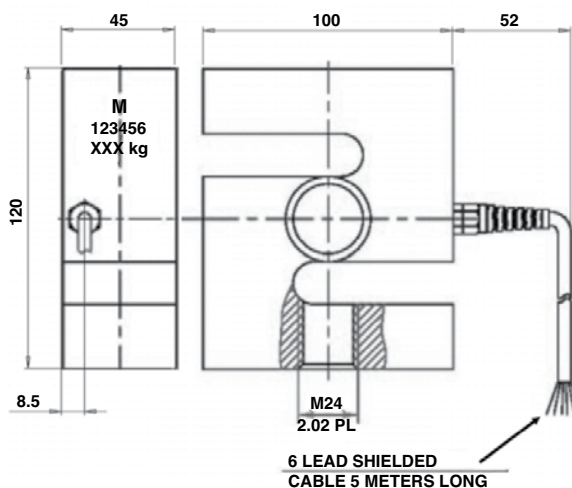
For IP68 requirements, select the fully-welded stainless steel Model 620, which shares the same dimensions as Model 619.

The additional sense wires compensate for changes in lead resistance due to temperature change and/or cable extension. Complete compensation of changes in lead resistance is achieved by feeding this voltage into appropriate electronics.

OUTLINE DIMENSIONS in millimeters



1500, 2000 kg cell outline



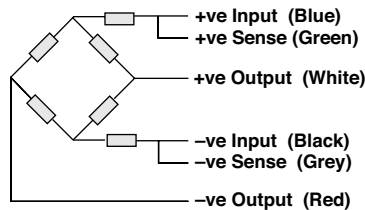
3000, 5000, 6000 kg cell outline

S-Type Alloy Steel Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E _{max})	1500, 2000, 3000, 5000, 6000		kg
Accuracy class	E	G	
Maximum no. of intervals (n)	1000	3000	
Rated output—R.O.	2.0		mV/V
Rated output tolerance	0.002		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.050	0.0170	±% of applied load
Total error	0.050	0.020	±% of rated output
Temperature effect on zero	0.030	0.0040	±% of rated output/°C
Temperature effect on output	0.0030	0.0012	±% of applied load/°C
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	385±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	5.0		m
Cable type	6-wire, braided, PVC, dual floating screen		Standard
Construction	Nickel-plated alloy tool steel		
Environmental protection	IP67		

All specifications subject to change without notice.

Wiring Schematic Diagram



S-Type Stainless Steel Load Cell

FEATURES

- Capacity range: 500–5000 kg
- Stainless steel construction
- Sealed by welding to IP68
- S-type design for use in tension and compression
- OIML approved to 3000d (500–5000 kg)
- NTEP approved to 5000d (500–2000 kg)
- Choice of mounting threads metric or unified systems
- 6-Wire cable (sense circuit)
- **Optional**
 - EEx ia IIC T6-ATEX hazardous area approval
 - Class I, II, III Division 1 – FM hazardous area approval



APPLICATIONS

- Hopper (tank Weighing)
- Hybrid scales
- Belt weighing
- Lever arm conversions
- Material testing machines
- Vibrations filling equipment
- Dynamometers



Approvals include OIML C3 (3000d); NTEP 3000d single and NTEP 5000d multiple.

Also available are versions approved for hazardous areas—ATEX II 1 GD EEx ia T6 for Europe and FM I, II, III Division 1 for the USA.

The six-wire cable includes two sense wires that compensate for changes in lead resistance due to temperature changes and cable extension.

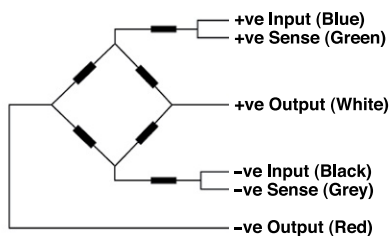
Model 620 offers a choice of bolt threads in metric or unified systems; see table below.

DESCRIPTION

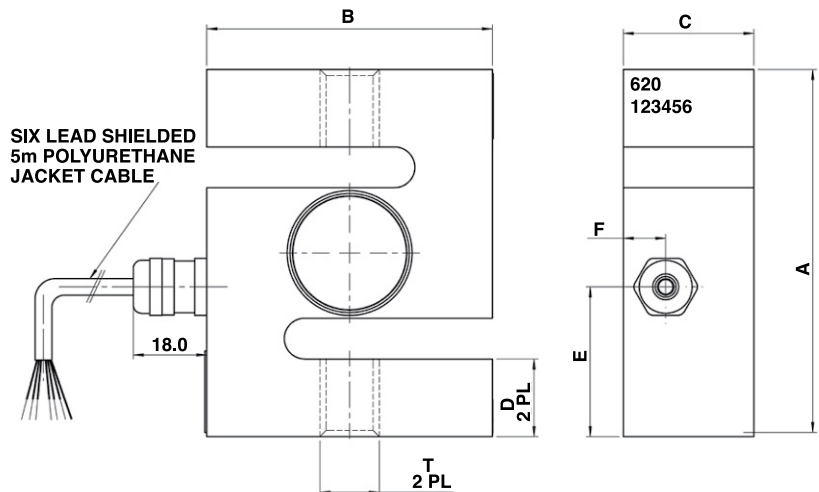
Model 620 is a stainless steel S-type load cell. Its welded sealing combined with high accuracy, make this load cell ideally suited for a wide range of applications of process weighing and force measurements.

OUTLINE DIMENSIONS in millimeters

Wiring Schematic Diagram



Thread Type "T" by Capacity		
Capacity	Metric	Unified
500 kg	M12 x 1.75	1/2-20 UNF
1000 kg	M16 x 2.0	1/2-20 UNF
2000 kg	M16 x 2.0	3/4-16 UNF
5000 kg	M24 x 2.0	1 - 12 UNF



Optional rod end bearings for use with all VPG Transducers S-type load cells are available—consult the sales office.

Capacity	A	B	C	D	E	F
500, 1000, 2000 kg	90	70	32	19	36.6	10.4
5000 kg	120	100	45	26	60	13.8

S-Type Stainless Steel Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity – R.C. (E_{max})	500, 1000, 2000, 5000*				kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C2/50	C3/50	
Maximum no. of intervals (n)	Class IIIIL	1000	2000*	OIML 3000	
$Y = E_{max}/V_{min}$	5000	2000	4000	6000	
Rated output – R.O.	2.0				mV/V
Rated output tolerance	0.0035				±mV/V
Zero balance	0.04				±mV/V
Total error (per OIML R60)	0.0200	0.0500	0.0300	0.0200	±% of R.O.
Zero return, 30 min.	0.0250	0.0500	0.0250	0.0170	±% of applied load
Temperature effect on zero	(0.0010)	0.0070	0.0020	0.0023	±% of R.O./°C (°F)
Temperature effect on output	(0.0008)	0.0400	0.0014	0.0012	±% of applied load/°C (°F)
Temperature range, compensated	–10 to +40				°C
Temperature range, safe	–30 to +90				°C
Maximum safe static overload	150				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	400±20				Ω
Output impedance	350±3				Ω
Insulation resistance	>5000				MΩ
Construction	Stainless steel				
Environmental protection	IP68				

* 5000 kg capacity is not approved by NTEP

All specifications subject to change without notice.

Universal Load Cell

FEATURES

- Capacities: 50–5000 kg, 100–10k lbs
- Fully welded, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 3000d
- Integrated overload stop (50–500 kg)
- Current calibration output (SC version) ensures easy and accurate parallel connection of multiple load cells
- **Optional**
 - ATEX and FM certified versions are available for use in potentially explosive atmospheres



APPLICATIONS

- Hybrid scales
- Process weighing
- Belt checkweighers
- Dynamometers
- Material testing machines

This product is suitable for a wide range of hybrid scales, overhead track scales, belt scales, and process weighing applications.

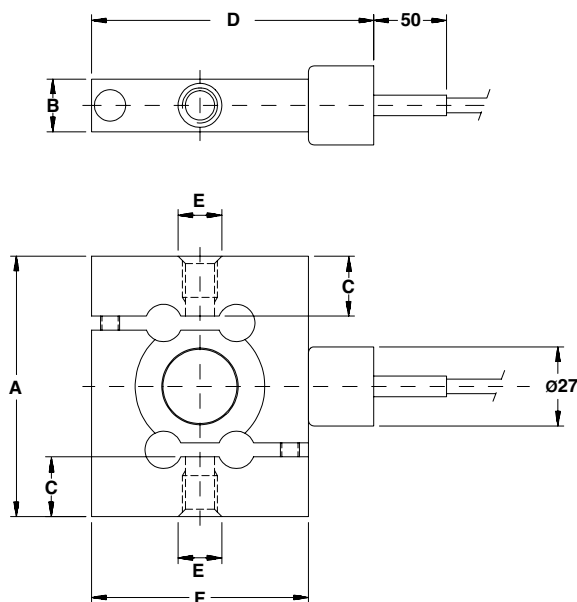
The fully welded construction and water block cable entry ensure that this product can be used successfully in the harsh environments found in the food, chemical, and allied process industries.

DESCRIPTION

The BSP is a stainless steel S-type load cell that can be used in either tension or compression.

This product fully meets the stringent Weights and Measures requirements throughout Europe.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length: 10m

- Excitation + Green
- Excitation - Black
- Output + White
- Output - Red
- Shield Transparent

Cable screen is not connected to the load cell body. Performance may be affected if load cell cables are shortened. Tension applications result in a negative output signal.

Capacity (kg)	50, 125	250	500	1250	2500, 5000
A	84.3	88.9	88.9	95.2	120.6
B	23.9	18.0	18.0	24.1	36.6
C thread	12.7	14.0	14.0	14.0	29.2
D	85.7	84.1	96.8	84.1	84.1
E	M8x1.25		M12x1		M24x2
F	63.5	61.9	74.6	61.9	61.9

Capacity (lb)	100, 250	500	1k	2.5k	5k, 10k
A	3.32	3.50	3.50	3.75	4.75
F	2.48	2.44	2.94	2.44	2.44
B	0.94	0.71	0.71	0.95	1.44
D	3.36	3.32	3.81	3.31	3.31
E threads	3/8-24UNF-3B		1/2-20 UNF-3B		1-14 UNS-3B

Universal Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	50, 125, 250, 500, 1250, 2500, 5000			kg
Standard capacities (E_{max})	100, 250, 500, 1000, 2500, 5000, 10000			lbs
Accuracy class according to OIML R-60 /NTEP	NTEP IIIIL	Non-Approved	C3	
Maximum number of verification intervals	10000		3000	
Minimum verification interval = $V_{min}/E_{max}/Y$			$E_{max}/10000$	
Rated output (=S)	3 (2 for 2500 and 5000 kg)			mV/V
Rated output tolerance	0.03 (0.02 for 2500 and 5000 kg)			± mV/V
Zero balance	1.0			±% FSO
Combined error	0.0200	0.0500	0.0200	±% FSO
Non-repeatability	0.0100	0.0200	0.0100	±% FSO
Minimum dead load output return		0.0500	0.0167	±% FSO
Creep error (30 minutes)		0.0600	0.0245	±% FSO
Creep error (20–30 minutes)	0.0300	0.0200		±% FSO
Temp. effect on minimum dead load output	(0.0008)	0.0250	0.0070	±% FSO/5°C (°F)
Temperature effect on sensitivity	(0.0010)	0.0250	0.0050	±% FSO/5°C (°F)
Minimum dead load	0			% E_{max}
Maximum safe overload	150			% E_{max}
Ultimate overload	300			% E_{max}
Maximum safe side load	100			% E_{max}
Deflection at E_{max}	0.28 max.			mm
Excitation voltage	5 to 15			V
Maximum excitation voltage	18			V
Input resistance	350±3.5			Ω
Output resistance	350±3.5			Ω
Insulation resistance	≥5000			MΩ
Compensated temperature range	–10 to +40			°C
Operating temperature range	–40 to +80			°C
Storage temperature range	–40 to +90			°C
Element material (DIN)	Stainless steel 1.4542			
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68			
SC-Version (current calibration)	Standard			

FSO—Full Scale Output

SC-version: The rated output and the output resistance are balanced in such a way that the output current is calibrated to within 0.05% of a reference value. This allows easy parallel connection of the load cells.

All specifications subject to change without notice.

S-Type Load Cell

FEATURES

- Capacities:
Aluminum construction—1, 2, 5, 10, 20 kg;
Alloy Steel construction— 25 to 5000 kg, 250 to 40k lbs
- Bi-direction (tension/compression)
- Rationalized output
- NTEP Class III 5000S, IIL10000 approval from 250 lbs to 20k lbs
- **Optional**
 - Stainless steel available
 - FM approval available



APPLICATIONS

- Electro-mechanical conversion scales
- Silo/hopper/tank weighing
- Crane scales
- Fork-lift scales
- Dosing/filling
- Universal material tester
- Tensile/pulling force measurement

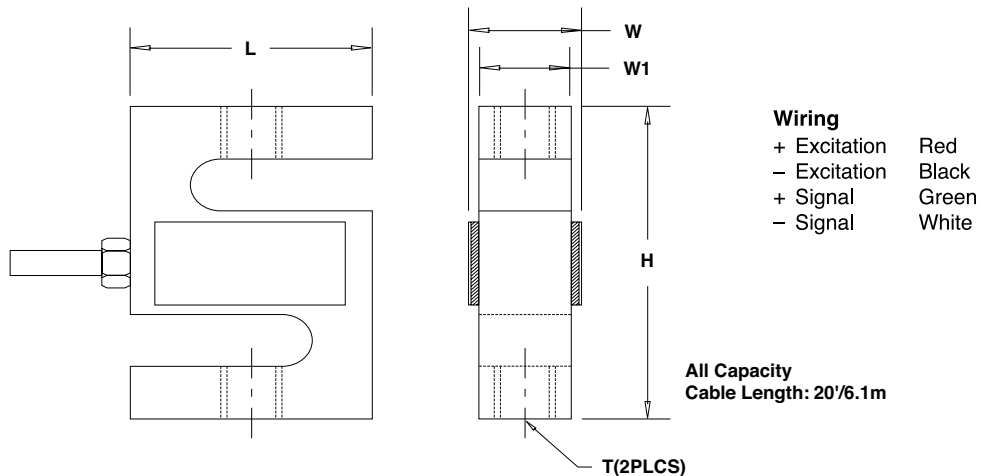


DESCRIPTION

The S-type load cell, as the name indicates, can be easily identified by S-shaped body. They can be loaded either in tension or compression, and used for single or multiple-cell application if the output is rationalized.

STC is made of Aluminum, Alloy Steel or Stainless Steel, sealed to IP67 providing excellent protection against moisture and humidity.

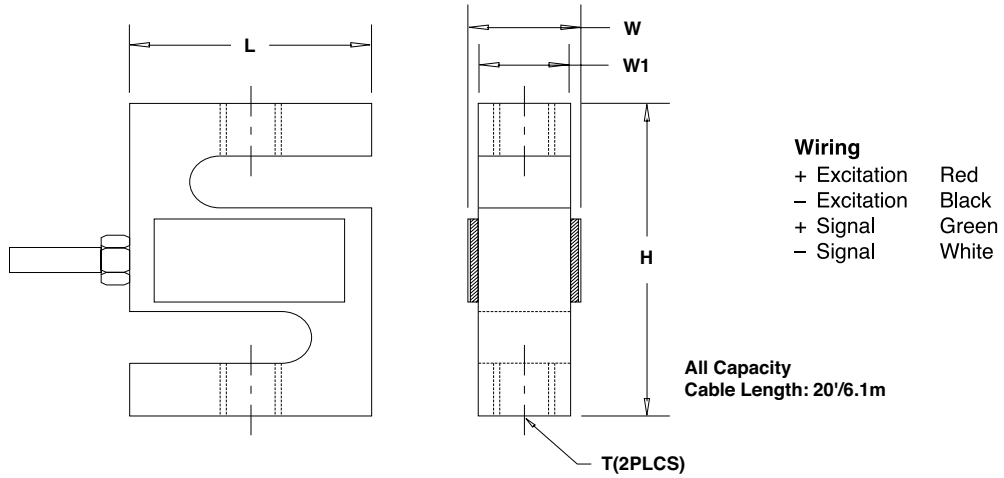
OUTLINE DIMENSIONS—ALUMINUM in inches [millimeters]



Outline dimension for Alloy Steel supplied on next page

S-Type Load Cell

OUTLINE DIMENSIONS—ALLOY STEEL in inches [millimeters]



CAPACITY		L	W	W ₁	H	T
25 / 50 / 75 kg	mm	50.8	26.7	12.7	63.5	M6 x 1.0
	(inch)	2.00	1.05	0.50	2.50	
100 / 150 kg	mm	50.8	22.92	19.1	76.2	M10 x 1.5
	(inch)	2.00	0.9	0.75	3.00	
250 / 300 lbs	mm	50.8	26.7	12.7	76.2	3/8-24UNF
	(inch)	2.00	1.05	0.50	3.00	
250 kg 500 / 750 lbs	mm	50.8	30.4	19.1	76.2	M12 x 1.75
	(inch)	2.00	1.2	0.75	3.00	
500 / 750 kg	mm	50.8	25.4	19.1	76.2	M12 x 1.75
	(inch)	2.00	1.00	0.75	3.00	
1k / 1.5k lbs	mm	50.8	26.1	19.1	76.2	1/2-20UNF
	(inch)	2.00	1.03	0.75	3.00	
1000 / 1500 kg 2k / 2.5k / 3k lbs	mm	50.8	31.8	25.4	76.2	M12 x 1.75
	(inch)	2.00	1.25	1.00	3.00	
5k / 7.5k lbs	mm	76.2	31.8	25.4	107.9	3/4-16UNF
	(inch)	3.00	1.25	1.00	4.25	
2000 / 2500 / 5000 kg	mm	76.2	38.1	31.8	100.4	M20 x 1.5
	(inch)	3.00	1.50	1.25	3.95	
10k lbs	mm	88.9	31.8	25.4	120.7	3/4-16UNF
	(inch)	3.50	1.25	1.00	4.75	
15k lbs	mm	101.6	38.1	31.8	139.7	1-14UNS
	(inch)	4	1.50	1.25	5.50	
20k lbs	mm	127	55.7	50.8	177.8	1 1/4-12UNF
	(inch)	5	2.19	2	7.00	
40k lbs	mm	152.4	69.9	63.5	254.0	1 1/2-12UNF
	(inch)	6.00	2.75	2.50	10.00	

S-Type Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	NTEP III & IIIL	Non-Approved	
Maximum no. of intervals (n)	III 5000 single* IIIL10000 single*	2000	
$Y = E_{max}/V_{min}$	10000	5000	Maximum available
Standard capacities (E_{max}) (Aluminum)	1, 2, 5, 10, 20		kg
Standard capacities (E_{max}) (Steel)	25, 50, 75, 100, 250, 500, 750, 1000, 1500, 2000, 2500, 5000		kg
	250, 300, 500, 750, 1k, 1.5k, 2k, 2.5k, 3k, 5k, 7.5k, 10k, 15k, 20k, 40k		lbs
Rated output – R.O. (Aluminum)	2.0		mV/V
Rated output – R.O. (Steel)	3.0		mV/V
Rated output tolerance	0.25		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.020	0.020 (SS: 0.05)	±% of rated output
Hysteresis	0.020	0.020 (SS: 0.05)	±% of rated output
Non-repeatability	0.020		±% of rated output
Creep error (20 minutes)	0.030		±% of rated output
Zero return (20 minutes)	0.030		±% of rated output
Temperature effect on min. dead load output	0.0015	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	200 (Aluminum) / 300 (Steel)		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	410±5 (Aluminum) / 385±5 (Steel)		Ω
Output impedance	350±3		Ω
Insulation resistance	>5000		MΩ
Construction	Aluminium or Nickel-plated alloy steel **		
Environmental protection	IP67		

* Capacities 250–20k lbs

** Stainless steel available

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Compact Tension/Compression Load Cell

FEATURES

- Capacity 550 lbs
- Anodized aluminum construction
- IP65 protection
- For use in tension or compression

APPLICATIONS

- Hanging scales
- General force measurement

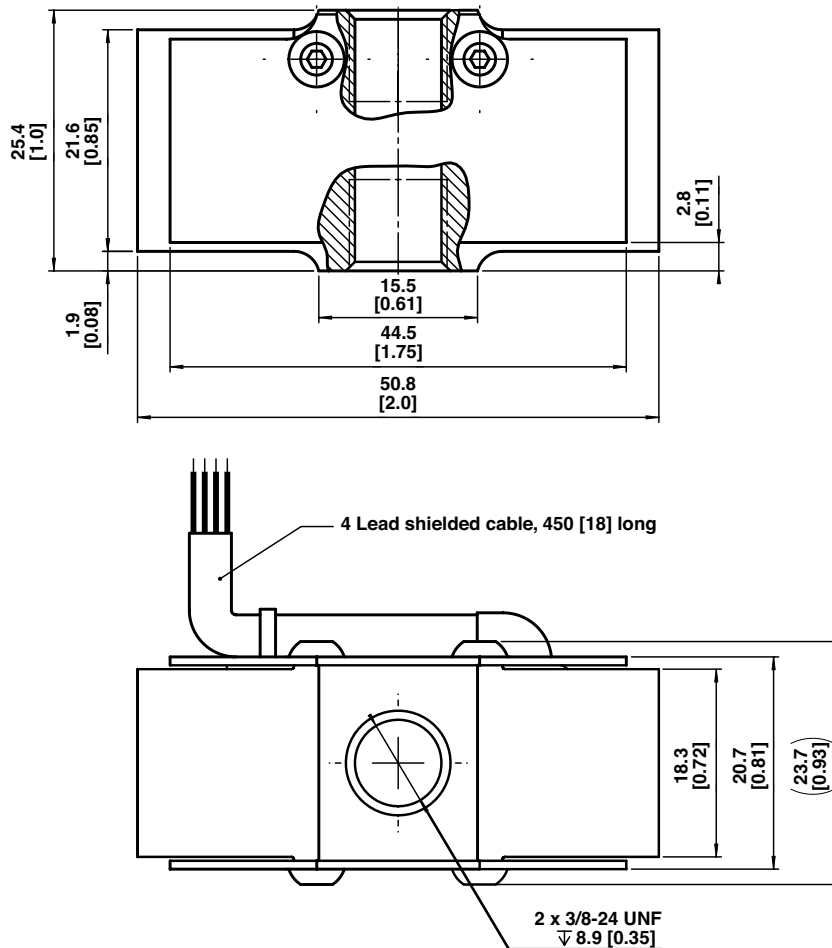
DESCRIPTION

Model 327 is a universal tension-compression load cell. Its compact envelope makes the 327 suitable for small size applications.

Its low profile makes the 327 ideal for applications requiring minimal installation height.



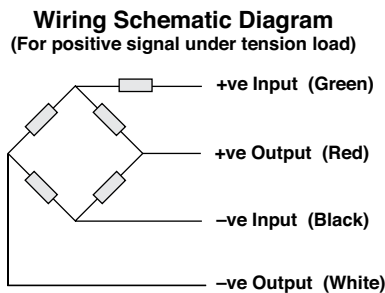
OUTLINE DIMENSIONS in millimeters [inches]



Compact Tension/Compression Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity – R.C.	550	lbs
Accuracy class	Non-Approved	
Rated output – R.O.	2.0	mV/V
Rated output tolerance	0.2	±mV/V
Zero balance	0.25	±mV/V
Total error	5	±% of R.O.
Creep and zero return	0.10	±% of load
Temperature effect on zero	0.025	±% of R.O./°C
Temperature effect on output	0.010	±% of load/°C
Operating temperature range	-10 to +40	°C
Safe temperature range	-30 to +70	°C
Maximum safe static overload	150	% of R.C.
Ultimate static overload	200	% of R.C.
Excitation, recommended	10	VDC or VAC
Excitation, maximum	15	VDC or VAC
Input impedance	450±40	Ω
Output impedance	350±5	Ω
Insulation resistance	>2000	MΩ
Cable length	45	cm
Construction	Anodized aluminum	

All specifications subject to change without notice.



Crane Scale Load Cell

FEATURES

- Capacity: 1.5T to 30T
- Alloy steel construction
- Integrated overload protection for both tension and compression loading
- Direct mounting of weight indicator
- IP67 protection

APPLICATIONS

- Crane scales
- Hanging scales

DESCRIPTION

Model 91002 is an alloy steel shear beam load cell designed for crane scale and hanging scale applications. The load cell design features integrated overload protection for both tension and compression loading with a rated output of 1.5 mV/V.

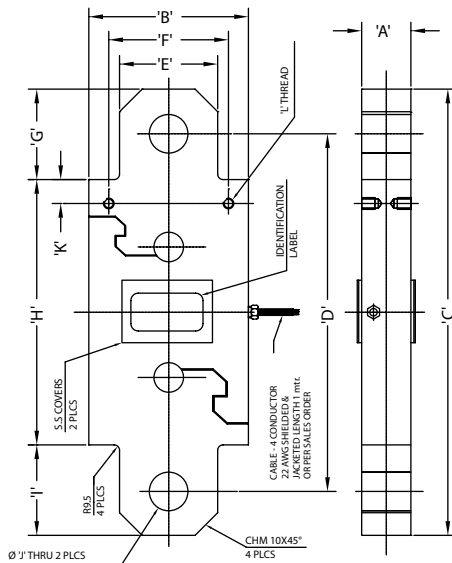


Model 91002 is supplied with a Teflon cable which makes the load cell ideal for harsh environments. The design also allows for direct mounting of the weight indicator which is typical for crane scale applications.

OUTLINE DIMENSIONS in millimeters

CAPACITY	A	B	C	D	E	F	G	H	I	J	K	L THREAD
1.5, 3.0, 5.0 tons	29.7	69.5	289.0	238.6	50.0	50.0	49.0	130.0	110.0	19.0	10.0	M6 x 1.0, DEEP 12.0, 4 PLCS
7.5, 15.0 tons	37.0	120.0	399.5	295.5	73.8	90.0	100.0	199.5	100.0	36.0	18.0	M12 x 1.75 DEEP 12.0, 4 PLCS

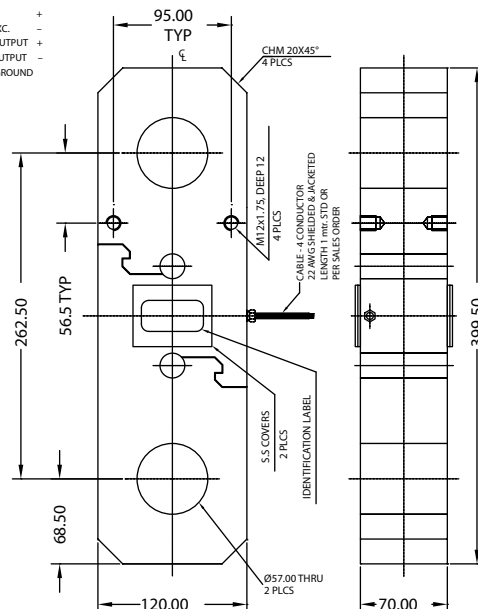
1.5-15.0 tons



WIRING

RED EXC. +
BLACK EXC. -
GREEN OUTPUT +
WHITE OUTPUT -
SHIELD GROUND

30.0 tons



Crane Scale Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated output—R.O.	1.5	mV/V
Rated output tolerance	5	±% FSO
Zero balance	1	±% FSO
Combined error	<0.050	±% FSO
Non-linearity	<0.030	±% FSO
Hysteresis	<0.020	±% FSO
Non-repeatability	<0.020	±% FSO
Creep error (30 minutes)	<0.020	±% FSO
Temperature effect on zero	<0.002	± %/°C
Temperature effect on output	0.001	± %/°C
Operating temperature range	-20 to +70	°C
Maximum safe central overload	150	% FSO
Ultimate central overload	300	% FSO
Excitation, recommended	10	VDC
Excitation, maximum	15	VDC
Input impedance	360-450	Ω
Output impedance	349-355	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Alloy steel with electroless nickel-plated	
Environmental protection	IP67	

All specifications subject to change without notice.



Single-Point Bending Beams— Aluminum

Model 1022	130
Model LPS.....	132
Model 1002	134
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Single-Point Aluminum Load Cell

FEATURES

- Capacities: 3–200 kg
- Only 22 mm high
- Aluminum construction
- Single-point 350 x 350 mm platform
- IP66 protection
- OIML R60 and NTEP approved
- **Optional**
 - EEx ia IIC T4 - ATEX hazardous area approval
 - FM approval
 - Symmetric configuration available



APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

DESCRIPTION

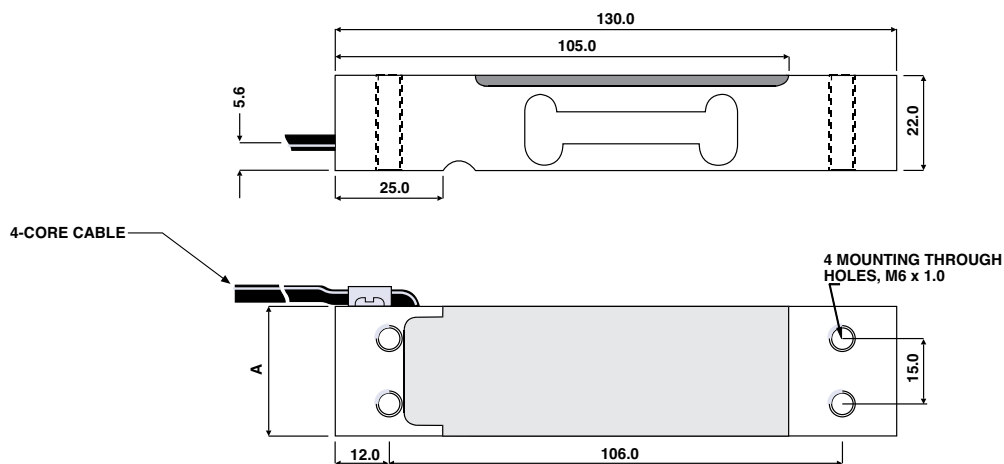
Model 1022 is a low profile single-point load cell designed for direct mounting in low cost weighing platforms.

Its small physical size, combined with high accuracy and aluminum construction, makes this low cost load cell ideally suited for retail, bench and counting scales.

Using 1022 load cells simplifies scale construction, which results in significant parts and labor savings.

Model 1022 is available in a range of capacities, from 3 to 200 kg and approved to OIML R60 (4000d) or NTEP (5000d, single). Environmental protection to IP66 is provided as standard. For hazardous environments, ATEX EEx ia IIC T4 approved versions are available.

OUTLINE DIMENSIONS in millimeters



CAPACITY	A
3, 5, 7 kg	25.4
10, 15, 20, 30 kg	30.0
35–200 kg	40.0

Single-Point Aluminum Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	3, 5, 7, 10, 15, 20, 30, 35, 50, 100, 150, 200***				kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3*	C4	
Maximum no. of intervals (n)	5000 single**	1000	3000	4000	
$Y = E_{max}/V_{min}$	10000	1400	6000	10000	Maximum available 12000
Rated output—R.O.	2.0				mV/V
Rated output tolerance	0.2				±mV/V
Zero balance	0.2				±mV/V
Zero return, 30 min.	0.0330	0.0300	0.0170	0.0125	±% of applied load
Total error (per OIML R60)	0.0200	0.0500	0.0200	0.0150	±% of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	0.0014	±% of rated output/°C
Temperature effect on output	0.0010	0.0030	0.0010	0.00075	±% of rated output/°C
Eccentric loading error	0.0057	0.0085	0.0057	0.0042	±% of rated load/cm
Temperature range, compensated	-10 to +40				°C
Temperature range, safe	-20 to +70				°C
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	415±15				Ω
Output impedance	350±3				Ω
Insulation resistance	>2000				MΩ
Cable length	0.5				m
Cable type	4 wire, PVC, single floating screen				Standard
Construction	Aluminum				
Environmental protection	IP66				
Platform size (max)	350 x 350				mm
Recommended torque	Up to 30 kg: 7.0 35 kg and up: 10.0				N*m

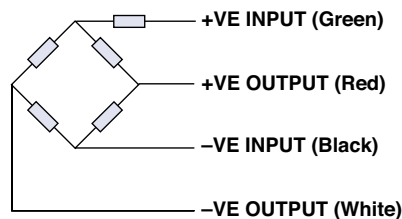
* 50% utilization

** Also available at 50% utilization

*** 150–200 kg are not approved by NTEP, 200 kg is not approved by OIML

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM
(Unbalanced bridge configuration)



Low Profile Single-Point

FEATURES

- Capacities: 0.6 to 200 kg
- Small size with low profile
- Anodized aluminum
- NTEP Class III 5000S approval from 3 kg to 30 kg
- OIML C3 approval from 6 kg to 35 kg
- Platform size: 16"x16"/ 40 cm x 40 cm
- **Optional**
 - FM approval available



APPLICATIONS

- Packaging machines
- Dosing/filling
- Belt scales/conveyor scales
- In-motion check weigher
- Retail scales/counting scales



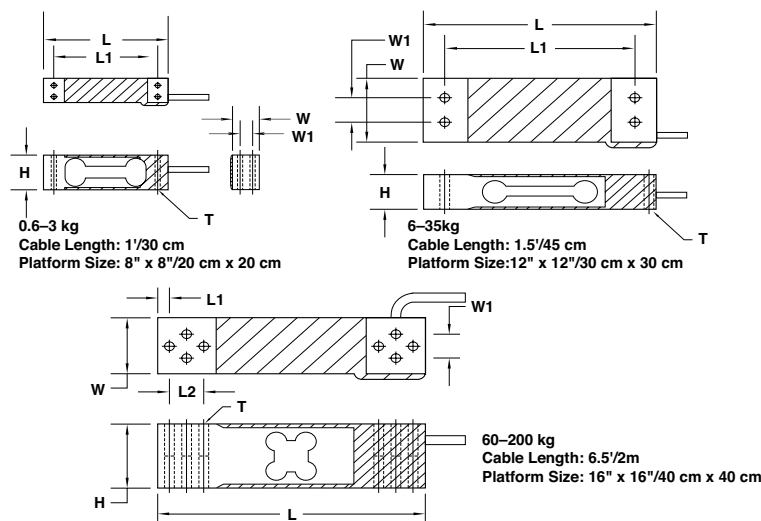
DESCRIPTION

LPS is designed for electronic scales and platform scales where only one load cell can be used and low profile is required. It is the lightest model of Celtron single-point

load cell family. The design is most suitable for mass production operations.

LPS is constructed of anodized aluminum and is fully potted IP66 levels, providing excellent protection against moisture ingress.

OUTLINE DIMENSIONS



Wiring diagram

- + Excitation Red
- Excitation Black
- + Signal Green
- Signal White

CAPACITY (kg)		L	L ₁	L ₂	W	W ₁	H	T
0.6/1/2/3	mm	70.0	58.0	-	15.0	7.0	22.0	M3 x 0.5
	(inch)	2.76	2.28	-	0.59	0.28	0.87	
6/10/15/20	mm	130.0	106.0	-	30.0	15.0	22.0	M6 x 1.0
	(inch)	5.12	4.17	-	1.18	0.59	0.87	
30/35	mm	130.0	106.0	-	40.0	15.0	22.0	M6 x 1.0
	(inch)	5.12	4.17	-	1.57	0.59	0.87	
60/100/200	mm	150.0	7.0	19.0	35.0	15.0	40.0	M6 x 1.0
	(inch)	5.91	0.28	0.75	1.38	0.59	1.57	

Low Profile Single-Point

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
NTEP/OIML accuracy class	NTEP III	Non-Approved	C3	
Maximum no. of intervals (n)	5000 single ⁽¹⁾	1000	3000 ⁽²⁾	
Y = E_{max}/V_{min}	8000	1400	6000	Maximum available 12000
Standard capacities (E_{max})	0.6, 1, 2, 3, 6, 10, 15, 20, 30, 35, 60, 100, 200			kg
Rated output—R.O.	2.0 ⁽³⁾			mV/V
Rated output tolerance	10			±% of rated output
Zero balance	3			±% of rated output
Non-linearity	0.025	0.030	0.020	±% of rated output
Hysteresis	0.025	0.030	0.020	±% of rated output
Non-repeatability	0.020			±% of rated output
Creep error (20 minutes)	0.030	0.030	0.017	±% of rated output
Zero return (20 minutes)	0.030	0.030	0.017	±% of rated output
Temperature effect on min. dead load output	0.0026	0.0026	0.014	±% of rated output/°C
Temperature effect on sensitivity	0.0015	0.0015	0.008	±% of applied load/°C
Compensated temperature range	-10 to +40			°C
Operating temperature range	-20 to +60			°C
Safe overload	150			% of R.C.
Ultimate overload	200			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	410±10			Ω
Output impedance	350±3			Ω
Insulation resistance	>5000			MΩ
Construction	Anodized aluminum			
Environmental protection	IP66			

Notes
⁽¹⁾ Capacities 3–30 kg

⁽²⁾ Capacities 6–35 kg

⁽³⁾ 1 mV/V for 1 kg and below

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Aluminum Single-Point Load Cell

FEATURES

- Capacities 0.5–5 kg for 350 ohm
- Capacities 5–20 kg for 1000 ohm
- Aluminum construction
- Single-point 200 x 200 mm platform
- IP66 protection

APPLICATIONS

- Small scales
- Grocery scales

DESCRIPTION

Model 1002 is a very small, low capacity, aluminum single-point load cell, equally suitable for simple weighing scales or for industrial measurement and medical applications.

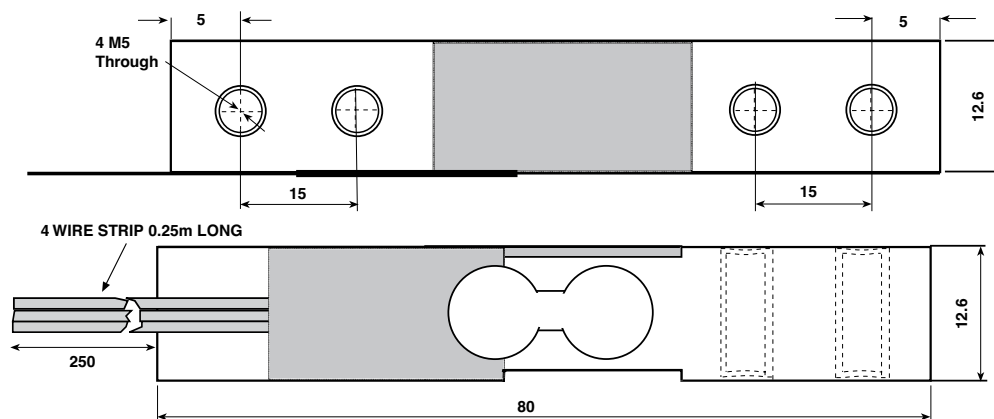
The Model 1002 has the advantage of very small size. It is, therefore, both versatile and easy to use in a wide variety of industrial measurement applications.



Optional 1000-ohm strain gages are particularly suitable for connection to battery-powered equipment (designated Model 1002-K).

Typical applications include packing machines, filling machines, weaving machines, industrial process control, and low-force medical applications, as well as small-platform weighing.

OUTLINE DIMENSIONS in millimeters

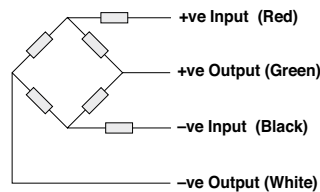


Aluminum Single-Point Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Model	1002	1002-K	
Accuracy class	Non-Approved		
Maximum no. of intervals (n)	1000		
Rated capacity—R.C. (E _{max})	0.5, 1, 2, 3, 5	5, 8, 15, 20	kg
Rated output—R.O.	0.5	1.5	mV/V
Rated output tolerance	10		±% mV/V
Zero balance	0.4	0.2	±mV/V
Zero return, 30 min.	0.050		±% of applied load
Total error	0.1		±% of rated output
Temperature effect on zero	N/A		±% of rated output/°C
Temperature effect on output	N/A		±% of load/°C
Eccentric loading error	0.16		±% of rated load/cm
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	5		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	350±50	1000±50	Ω
Output impedance	350±50	1000±50	Ω
Insulation resistance	>2000		MΩ
Cable length	0.25		m
Cable type	4 wire, PVC		Standard
Construction	Aluminum		
Environmental protection	IP66		
Platform size (max)	200 x 200		mm
Recommended torque	2		N*m

All specifications subject to change without notice.

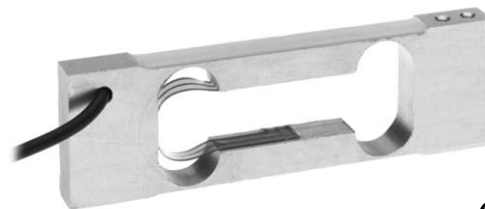
Wiring Schematic Diagram
(Balanced bridge configuration)



Aluminum Single-Point Load Cell

FEATURES

- Capacities 0.3–3 kg
- Aluminum construction
- Single-point 200 x 200 mm platform
- IP66 protection
- Total error better than 0.0067% of R.O.
- OIML approved
- **Optional**
 - Capacity 200g at 0.8 mV/V



APPLICATIONS

- Low capacity scales
- Precision scales
- Jewelry scales
- Pharmaceutical scales

This load cell is suitable for applications including jewelry scales, analytical balances, medical equipment, medical and pharmaceutical research and low-level force measurement.

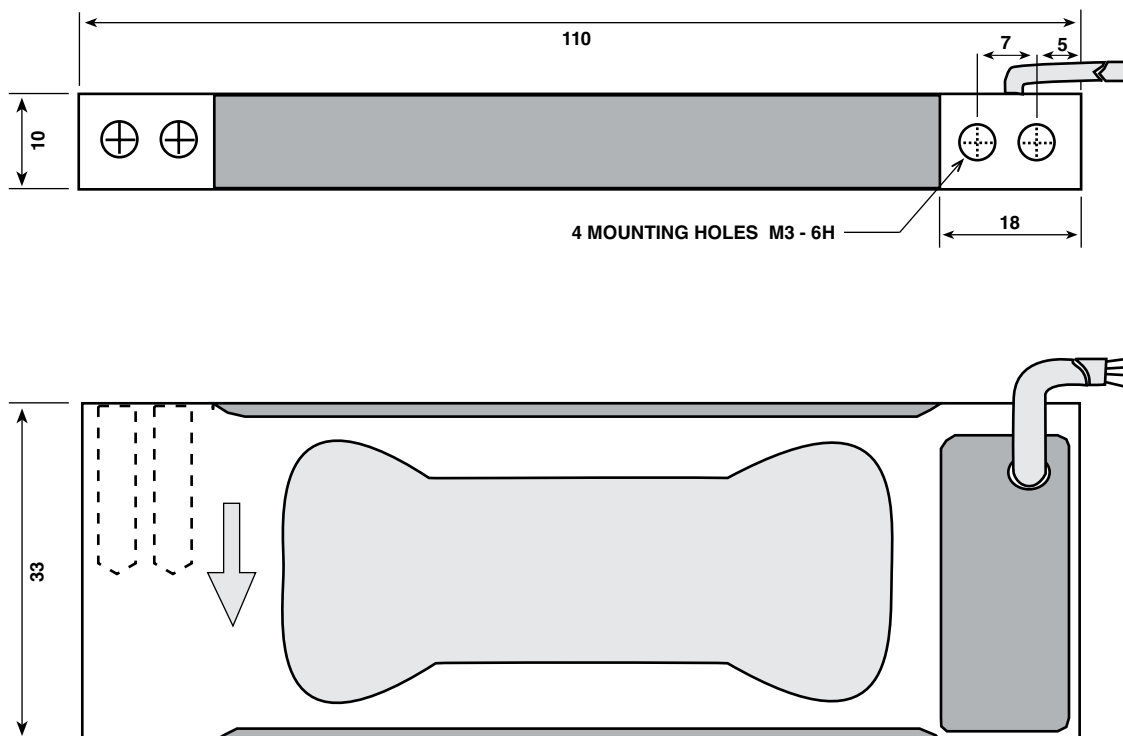
The Model 1004 offers up to 30000 divisions short-term precision at stable room temperature. A special two-stage humidity resistant protective coating assures long-term reliability.

DESCRIPTION

Model 1004 is a very low capacity, very high precision single-point load cell designed for direct mounting in low capacity scales and precision balances.

An overload protection device can be easily included in the application design. A threaded hole is provided in the loading end of the load cell for this purpose.

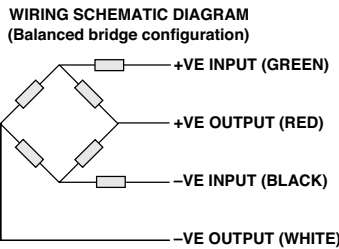
OUTLINE DIMENSIONS in millimeters



Aluminum Single-Point Load Cell

SPECIFICATIONS					
PARAMETER	VALUE			UNIT	
Accuracy class	C3	GW	HW	JW	
Rated capacity—R.C. (E _{max})	0.3, 0.4, 0.6, 1.2, 1.5, 3.0				kg
Rated output—R.O.	0.9				mV/V
Rated output tolerance	0.1				±mV/V
Zero balance	0.045				±mV/V
Zero return, 2 minutes		0.01	0.0055	0.0033	±% of applied load
Zero return, 30 minutes	0.017				±% of applied load
Total error (per OIML R60)	0.02	0.01	0.01	0.0067	±% of rated load
Temperature effect on zero	0.004	0.004			±% of rated output/°C
Temperature effect on output	0.001	0.002			±% of load/°C
Eccentric loading error		0.0033			±% of rated load/cm
Temperature range, compensated		+5 to +40			°C
Temperature range, safe		-30 to +70			°C
Maximum safe central overload		150			% of R.C.
Ultimate central overload		250			% of R.C.
Excitation, recommended		10			VDC or VAC RMS
Excitation, maximum		15			VDC or VAC RMS
Input impedance		415±20			Ω
Output impedance		350±3			Ω
Insulation resistance		>2000			MΩ
Cable length		0.4			m
Cable type		4 wire, PVC, spiral shield			
Construction		Aluminum			
Environmental protection		IP66			
Platform size (max)		200 x 200			mm
Recommended torque		2.0			N*m

All specifications subject to change without notice.



Aluminum Single-Point Load Cell

FEATURES

- Capacities 2–5 kg
- Aluminum construction
- Single-point 200 x 200 mm platform
- IP66 protection
- Total error better than 0.0067% of R.O.

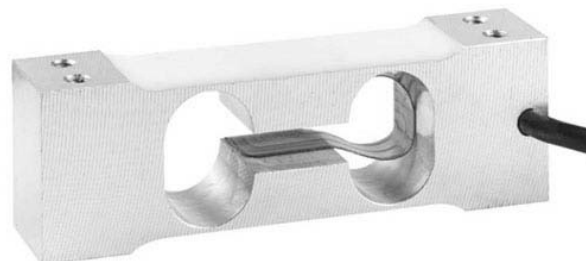
APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

DESCRIPTION

Model 1006 is a very low capacity, high precision single-point load cell designed for direct mounting in low capacity scales.

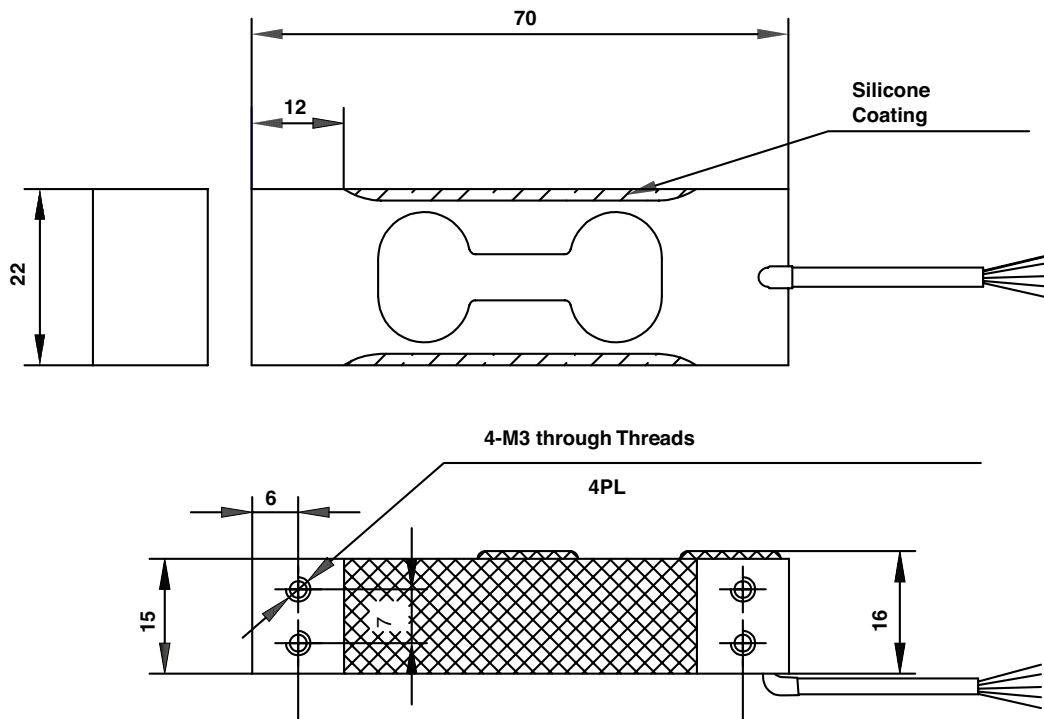
This load cell is suitable for applications including postal scales, counting scales, general-purpose weighing



scales and is also suitable for a wide variety of force measurement applications, such as industrial process control or specialist medical devices.

Model 1006 offers very high performance from a very small size. It is very easy to use, and easy to apply in a wide variety of applications, where the acting center of force application is within 100 mm of the load cell vertical axis.

OUTLINE DIMENSIONS in millimeters

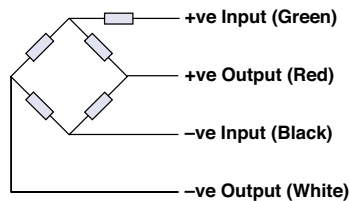


Aluminum Single-Point Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Accuracy class	Non-Approved	G	
Maximum no. of intervals (n)	1000	3000	
Rated capacity—R.C. (E _{max})	2, 3, 5		kg
Rated output—R.O.	2.0		mV/V
Rated output tolerance	0.2		±% mV/V
Zero balance	0.2		±% mV/V
Zero return, 30 min.	0.050	0.0170	±% of applied load
Total error	0.0300	0.0200	±% of rated output
Temperature effect on zero	0.0100	0.0040	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	±% of load/°C
Eccentric loading error	0.0074	0.0057	±% of rated load/cm
Temp. range, compensated	-10 to +40		°C
Temp. range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	415±20		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	0.4		m
Cable type	4 wire, PVC, single floating screen		Standard
Construction	Aluminum		
Environmental protection	IP66		
Platform size (max)	200 x 200		mm
Recommended torque	2 and 3 kg: 4.0 5 kg: 6.0		N*m

All specifications subject to change without notice.

Wiring Schematic Diagram
(Unbalanced bridge configuration)



Aluminum Single-Point Load Cell

FEATURES

- Capacities 3–90 kg
- Aluminum construction
- Single-point 400 x 400 mm platform
- NTEP approved
- IP65 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available
 - IP67 available



APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

DESCRIPTION

Model 1010 is a single-point load cell designed for direct mounting of low cost, low capacity weighing platforms.

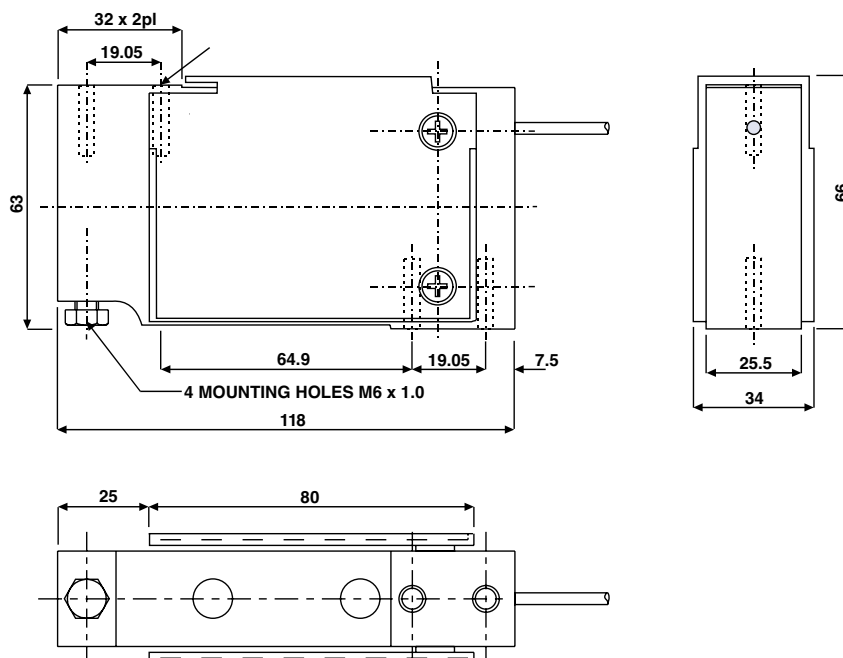
Its use in large platforms, combined with its high accuracy and low cost, makes this load cell ideally suited for a large range of weighing applications, including bench scales and counting scales.

A special humidity resistant protective coating is available which ensures long-term reliability. For hazardous environments this load cell has EEx ia IIC T4 level approved option.

Model 1010's built-in overload stop can provide mechanical protection against overloading.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Aluminum Single-Point Load Cell

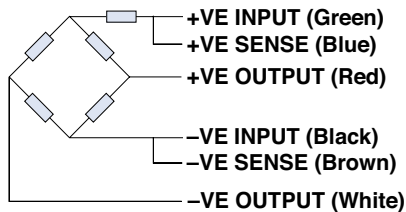
SPECIFICATIONS			
PARAMETER	VALUE*		UNIT
Rated capacity—R.C. (E_{max})	3, 5, 7, 10, 15, 20, 30, 50, 90		kg
NTEP/OIML accuracy class	NTEP	Non-Approved	
Maximum no. of intervals (n)	5000 single	3000	
$Y = E_{max}/V_{min}$	10000	10000	Maximum available
Rated output—R.O.	2.0		mV/V
Rated output tolerance	0.2		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.0330	0.0170	±% of applied load
Total error (per OIML R60)	0.0200	0.0200	±% of rated output
Temperature effect on zero	0.0023	0.004	±% of rated output/°C
Temperature effect on output	0.001	0.0010	±% of applied load/°C
Eccentric loading error	0.0057	0.0074	±% of rated load/cm
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	415±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	1.0		m
Cable type	6 wire, PVC, single floating screen		Standard
Construction	Plated (anodize) aluminum		
Environmental protection	IP65**		
Platform size (max)	400 x 400		mm
Recommended torque	Up to 30 kg: 7.0 50 kg and up: 10.0		N-m

* 1010 is non-balanced load cell (non-balanced bridge), 1015 is balanced

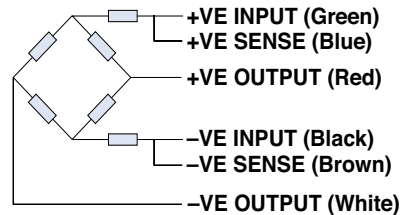
** IP67 available upon request

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM (1010)
(Unbalanced bridge configuration)



WIRING SCHEMATIC DIAGRAM (1015)
(Balanced temperature compensation)



Low Profile Single-Point Load Cell

FEATURES

- Capacities: 2–15 kg
- Aluminum construction
- Single-point 350 x 350 mm platform
- OIML R60
- IP65 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available
 - IP67 protection available



APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

DESCRIPTION

Model 1030 is a single-point load cell designed for direct mounting of low cost, low capacity weighing platforms.

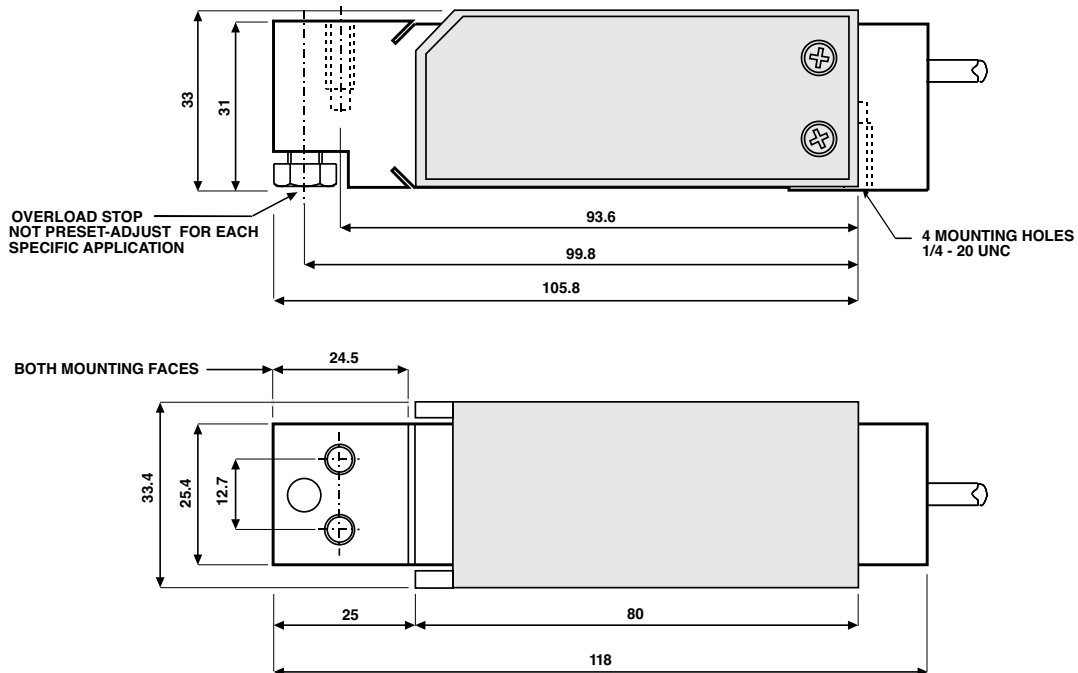
Its use in relatively large platforms, combined with high accuracy and low cost, makes this load cell ideally suited

for a wide range of weighing applications, including bench scales, laboratory, money counting and process weighing.

A special humidity resistant protective coating is available as an option which assures long-term reliability. Model 1030's built in overload stop can provide mechanical protection against overloading.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Low Profile Single-Point Load Cell

SPECIFICATIONS			
PARAMETER	VALUE⁽¹⁾		UNIT
OIML accuracy class	Non-Approved	C2.5	
Maximum no. of intervals (n)	1000	2500	
$Y = E_{max}/V_{min}$	3333	7000	
Rated output—R.C. (E_{max})	2 ⁽²⁾ , 3, 5, 7, 10, 15		kg
Rated output—R.O.	2.0		mV/V
Rated output tolerance	0.2		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.0300	0.0170	±% of applied load
Total error	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0100	0.0040	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0085	0.0057	±% of rated load/cm
Temp. range, compensated	-10 to +40		°C
Temp. range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	415±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>5000		MΩ
Cable length	1.0		m
Cable type	4 wire, PVC, single floating screen		Standard
Construction	Plated (anodized) aluminum		
Environmental protection	IP65 ⁽³⁾		
Platform size (max)	350 x 350		mm
Recommended torque	7.0		N*m

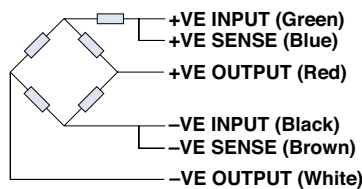
⁽¹⁾ 1030 is a non-balanced bridge load cell

⁽²⁾ 2 kg is not OIML approved

⁽³⁾ IP67 available upon request

All specifications subject to change without notice.

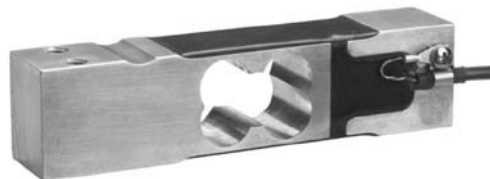
WIRING SCHEMATIC DIAGRAM
(Unbalanced bridge configuration)



Low Profile Single-Point Load Cell

FEATURES

- Capacities 10–30 kg
- Aluminum construction
- Single-point 400 x 400 mm platform
- OIML R60 approved
- IP66 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - High stiffness version available for dynamic weighing applications



APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

DESCRIPTION

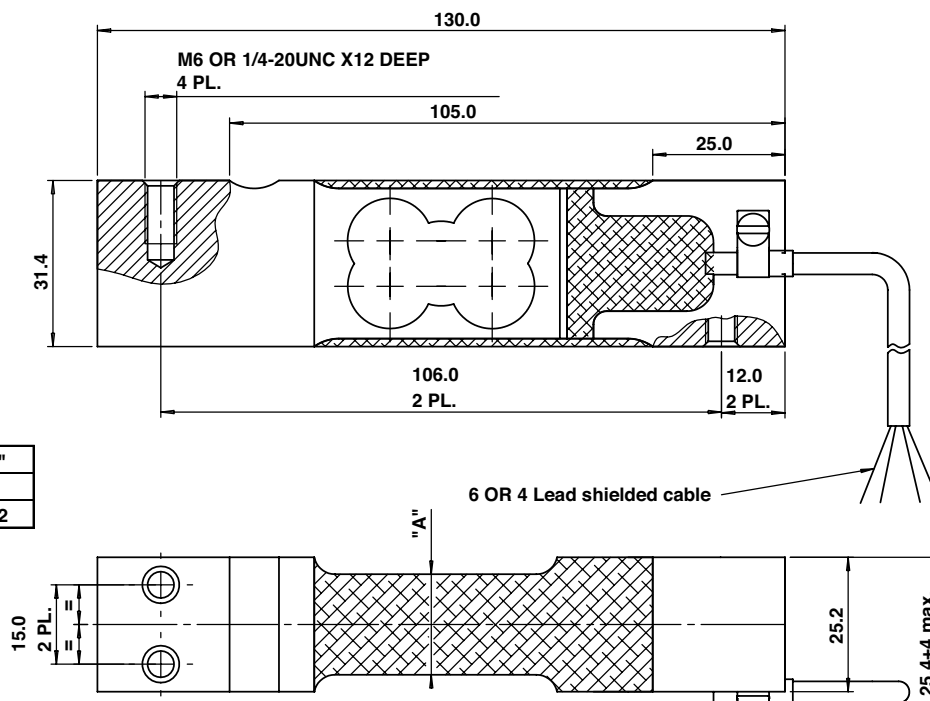
Model 1033 is a low profile single-point load cell designed for direct mounting of low cost weighing platforms.

Its small physical size, combined with high accuracy and low cost, makes this load cell ideally suited for retail, bench and counting scales.

A humidity resistant protective coating assures long term stability over the entire compensated temperature range.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Low Profile Single-Point Load Cell

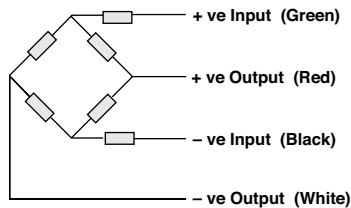
SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity – R.C. (E_{max})	10, 15, 30			kg
OIML accuracy class	Non-Approved	C3 ⁽¹⁾	C6 ⁽²⁾	
Maximum no. of intervals (n)	1000	3000	6000	
$Y = E_{max}/V_{min}$	2000	10000	15000	Maximum available
Rated output – R.O.	2.0			mV/V
Rated output tolerance	0.2			±mV/V
Zero balance	0.2			±mV/V
Zero return, 30 min.	0.0300	0.0170	0.0083	±% of applied load
Total error	0.0500	0.0200	0.0100	±% of rated output
Temperature effect on zero	0.0100	0.0023	0.0014	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	0.00058	±% of rated output/°C
Eccentric loading error	0.0057	0.0057	0.0024	±% of rated load/cm
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-20 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Cable length	0.5			m
Cable type	4-wire, PVC, single floating screen			Standard
Construction	Aluminum			
Environmental protection	IP66			
Platform size (max)	400 x 400			mm
Recommended torque	7.0			N*m

⁽¹⁾ 50% utilization

⁽²⁾ 60% utilization

All specifications subject to change without notice.

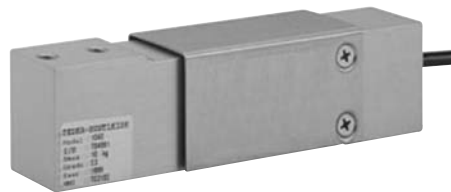
Wiring Schematic Diagram
(Balanced temperature compensation)



Low Capacity Single-Point Aluminum Load Cells

FEATURES

- Capacities 5–100 kg
- Aluminum construction
- Single-point 400 x 400 mm platform
- OIML R60 and NTEP approved
- IP65 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 - hazardous area approval
 - FM approval available
 - IP67 available



APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

DESCRIPTION

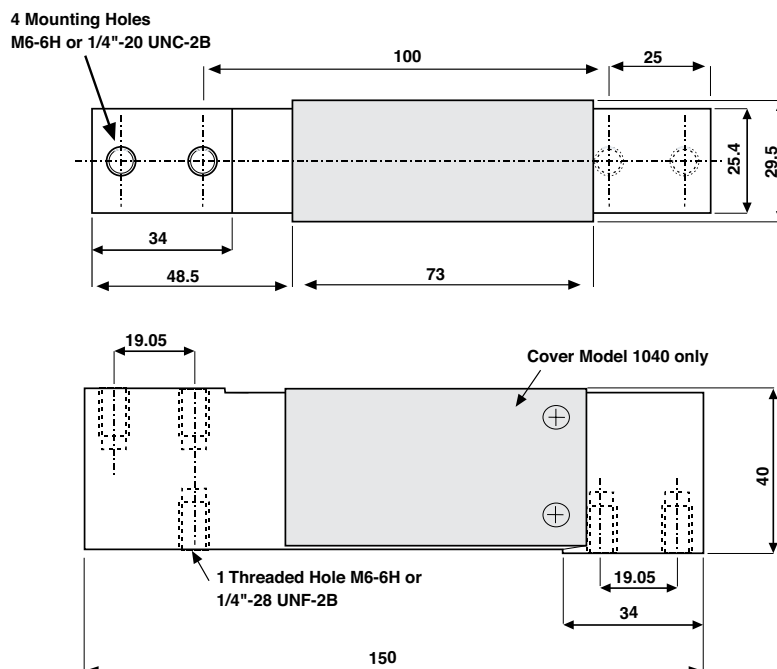
Models 1040 and 1041 are low profile single-point load cells designed for direct mounting of low cost weighing platforms.

Their small physical size, combined with high accuracy and low cost, makes these load cells ideally suited for retail, bench and counting scales.

Available in anodized aluminum these high accuracy load cells are approved to NTEP and other stringent approval standards, including OIML R60. For hazardous environments this load cell has EEx ia IIC T4 level of approved option. An optional special humidity resistant protective coating assures long-term stability over the entire compensated temperature range.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Low Capacity Single-Point Aluminum Load Cells

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
NTEP/OIML accuracy class	NTEP	Non-Approved	C3*	
Maximum no. of intervals (n)	5000 single	1000	3000	
Rated capacity—R.C. (E _{max})	5, 7, 10, 15, 20, 30, 50, 75, 100			kg
Rated output—R.O.	2.0			mV/V
Rated output tolerance	0.2			±mV/V
Zero balance	0.2			±mV/V
Zero return, 30 min.	0.0330	0.0300	0.0170	±% of applied load
Total error	0.0200	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	±% of rated output/°C
Y = E _{max} /V _{min}	6000	1400	6000	Maximum available 10000
Temperature effect on output	0.0010	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0049	0.0074	0.0049	±% of rated load/cm
Temp. range, compensated	-10 to +40			°C
Temp. range, safe	-20 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Cable length	1040: 1.0	1041: 0.5		m
Cable type	6 wire, PVC, single floating screen			Standard
Construction	Plated (anodized) aluminum 1040 aluminum—1041			
Environmental protection	IP65**			
Platform size (max)	400 x 400			mm
Recommended torque	Up to 30 kg: 7.0 50 kg and up: 10.0			N*m

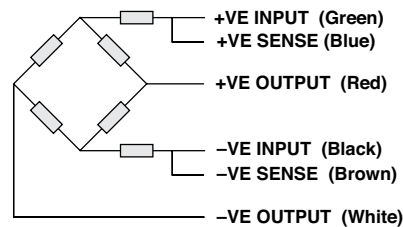
* 50% utilization. Other utilization factors available upon request.

** Available also in IP67

All specifications subject to change without notice.

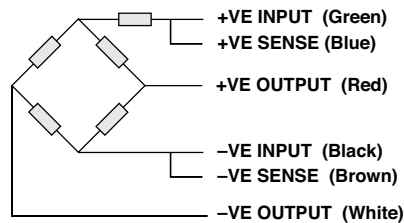
Wiring Schematic Diagram

(1040 Balanced bridge configuration)



Wiring Schematic Diagram

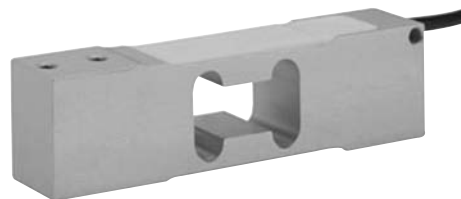
(1041 Unbalanced bridge configuration)



Low Profile Aluminum Load Cell

FEATURES

- Capacities 1–250 kg
- Aluminum construction
- Single-point 400 x 400 mm platform
- OIML R60 and NTEP approved
- IP66 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available
 - High stiffness version available for dynamic weighing applications



APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

Capacities of 5 kg and above are supplied as standard in anodized aluminum. This high accuracy load cell is approved to NTEP and other stringent approval standards, including OIML R60.

DESCRIPTION

Model 1042 is a low profile single-point load cell designed for direct mounting in weighing platforms.

Its small physical size, combined with high accuracy and low cost, makes this load cell ideally suited for retail, bench and counting scales.

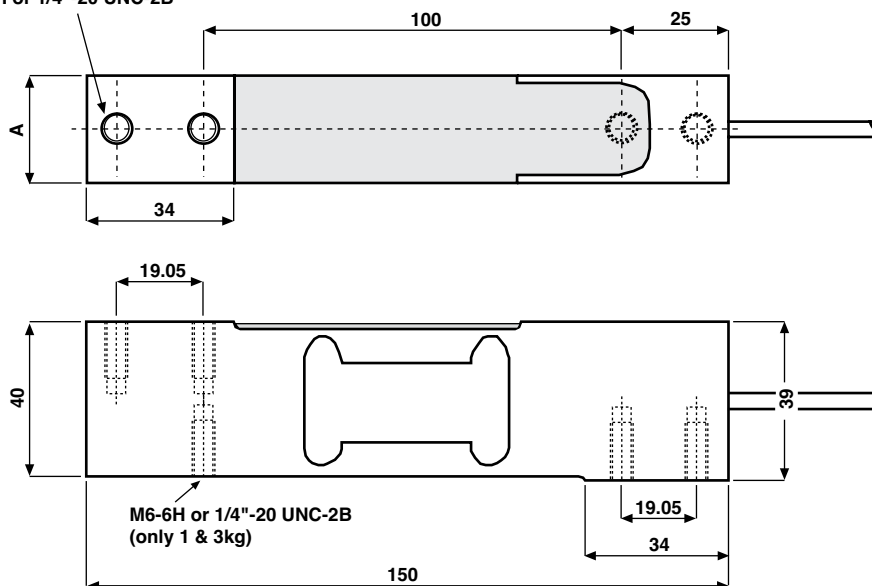
A humidity resistant protective coating assures long-term stability over the entire compensated temperature range.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters

Capacity, kg	A
1–30	20
50–250	25.4

4 Mounting holes
M6-6H or 1/4"-20 UNC-2B



Low Profile Aluminum Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E _{max})	1, 3, 5, 7, 10, 15, 20, 30, 50, 75, 100, 150, 250***				kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3*	C6**	
Maximum no. of intervals (n)	5000 single	1000	3000	6000*****	
Y = E _{max} /V _{min}	10000	1400	6000	10000	Maximum available 20000
Rated output—R.O.	2.0				mV/V
Rated output tolerance	0.2				±mV/V
Zero balance	0.2				±mV/V
Zero return, 30 min.	0.0330	0.0300	0.0170	0.0083	±% of applied load
Total error (per OIML R60)	0.0200	0.0500	0.0200	0.0100	±% of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	0.0014	±% of rated output/°C
Temperature effect on output	0.0010	0.0030	0.0010	0.00058	±% of applied load/°C
Eccentric loading error	0.0049	0.0074	0.0049	0.0024	±% of rated load/cm
Temp. range, compensated	-10 to +40				°C
Temp. range, safe	-20 to +70				°C
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	415±20				Ω
Output impedance	350±3				Ω
Insulation resistance	>2000				MΩ
Cable length	1****				m
Cable type	6 wire, PVC, single floating screen				Standard
Construction	Plated (anodize) aluminum				
Environmental protection	IP65				
Platform size (max)	400 x 400				mm
Recommended torque	Up to 30 kg: 7.0 35 kg and above: 10.0				N*m

* 50% utilization

** 60% utilization

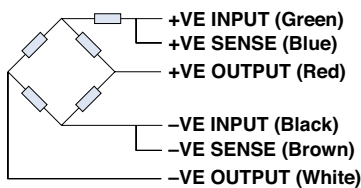
*** 1 kg is not approved by OIML, 150 and 250 kg are not approved by NTEP

**** 20–250 kg are of balanced bridge configuration, and have side cable entry

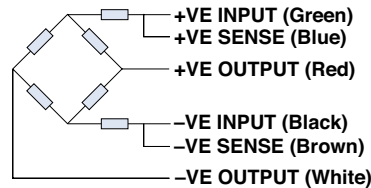
***** 6000 divisions from 20 kg to 100 kg

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM
(Unbalanced bridge configuration)



WIRING SCHEMATIC DIAGRAM
(Balanced bridge configuration)



Low Profile Off-Center Single-Point

FEATURES

- Capacities: 5 to 1000 kg
- Cost-effective load cell for scales of simple construction
- Anodized aluminum alloy
- NTEP Class III 5000S approval from 5 kg to 500 kg
- OIML C3 approval from 5 kg to 500 kg
- OIML C6 approval from 500 kg to 1000 kg
- Platform size: 16" x 24"/40 cm x 60 cm
- **Optional**
 - FM approval available



APPLICATIONS

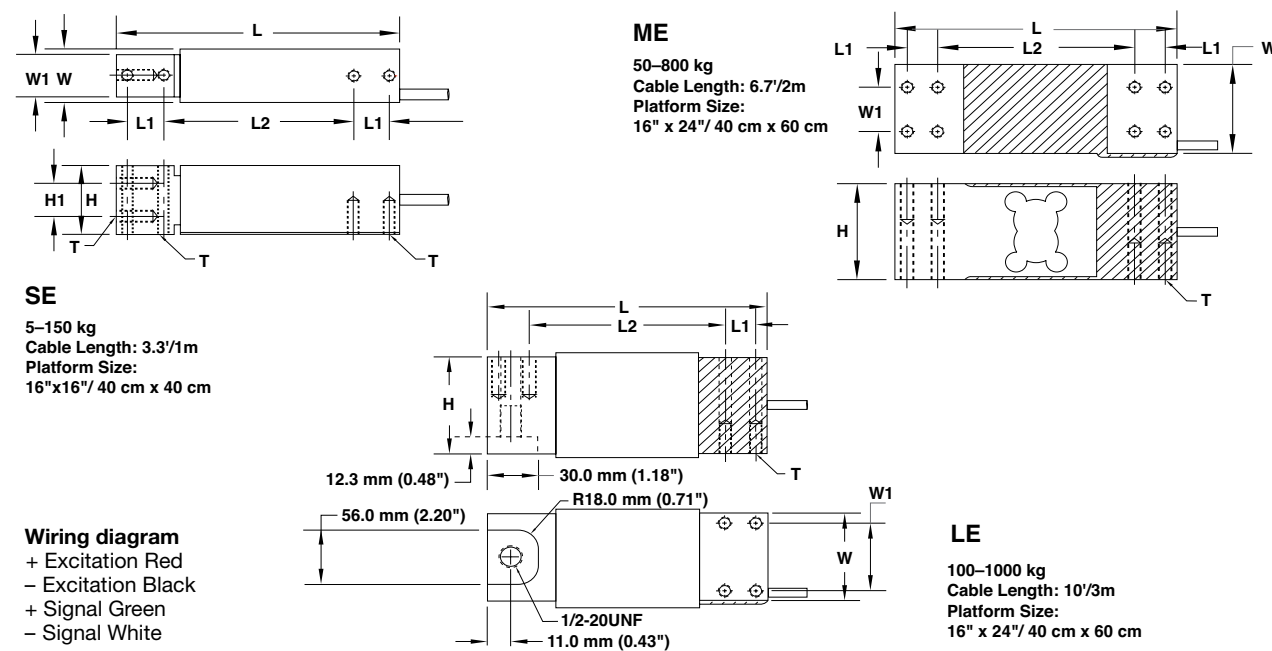
- Platform scales (single load cell)
- Packaging machines
- Dosing/filling
- Belt scales/conveyor scales
- In-motion check weigher

DESCRIPTION

LOC is a low profile single-point load cell designed for platform scales and hanging scales. It is a cost-effective load cell for scales of simple construction.

LOC is constructed of anodized aluminum, and is environmentally sealed up to IP66 levels providing excellent protection against moisture and humidity.

OUTLINE DIMENSIONS in inches [millimeters]



	CAPACITY (kg)		L	L ₁	L ₂	W	W ₁	H	H ₁	T
SE	5/7/10/15/20/30/50/60/75/100/150	mm	150.0	19.0	100.0	30.0	24.0	39.5	19.0	M6x1.0
		(inch)	5.91	0.75	3.94	1.18	0.94	1.56	0.75	1/4-20UNC
ME	50/100/150/250/300/500/635/800 45A/100A/150A/250A/300A/500A/635A	mm	174.0	19.0	122.0	60.0	30.0	65.0	–	M8 x 1.25
		(inch)	6.85	0.75	4.80	2.36	1.18	2.56	–	5/16-18UNC
LE	100/250/100A/150A/250A/300A/500A/ 635A/800A/1000A	mm	191.0	25.0	125.0	76.2	60.0	75.0	–	5/16-18UNC
		(inch)	7.52	0.98	4.92	3.00	2.36	2.95	–	

*A: American Standard Thread

Low Profile Off-Center Single-Point

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
NTEP/OIML accuracy class	NTEP III	Non-Approved	C3	C6	
Maximum no. of intervals (n)	5000 single*	1000	3000**	6000***	
$Y = E_{max}/V_{min}$	8000	1400	10000	12000	Maximum available
Standard capacities (E_{max})	5, 7, 10, 15, 20, 30, 50, 60, 75, 100, 150, 250, 300, 500, 635, 800, 1000				kg
Rated output—R.O.	2.0				mV/V
Rated output tolerance	10				±% of rated output
Zero balance	1				±% of rated output
Non-linearity	0.020	0.025	0.020	0.015	±% of rated output
Hysteresis	0.020	0.025	0.020	0.015	±% of rated output
Non-repeatability	0.020				±% of rated output
Creep error (20 minutes)	0.025	0.030	0.020	0.015	±% of rated output
Zero return (20 minutes)	0.025	0.030	0.020	0.015	±% of rated output
Temperature effect on min. dead load output	0.0022	0.0026	0.0014	0.0012	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	0.008	0.008	±% of applied output/°C
Compensated temperature range	-10 to +40				°C
Operating temperature range	-20 to +60				°C
Safe overload	150				% of R.C.
Ultimate overload	200				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	410±10				Ω
Output impedance	350±3				Ω
Insulation resistance	>5000				MΩ
Construction	Anodized aluminum				
Environmental protection	IP66				

* Capacities 5–500 kg

** Capacities 5–500 kg

*** Capacities 500–1000 kg

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Aluminum Medium Capacity Single-Point Load Cell

FEATURES

- Capacities 50–250 kg
- Aluminum construction
- Single-point 400 x 400 mm platform
- OIML R60 and NTEP approved
- IP66 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available



APPLICATIONS

- Small platforms
- Hanging scales
- Personal scales

DESCRIPTION

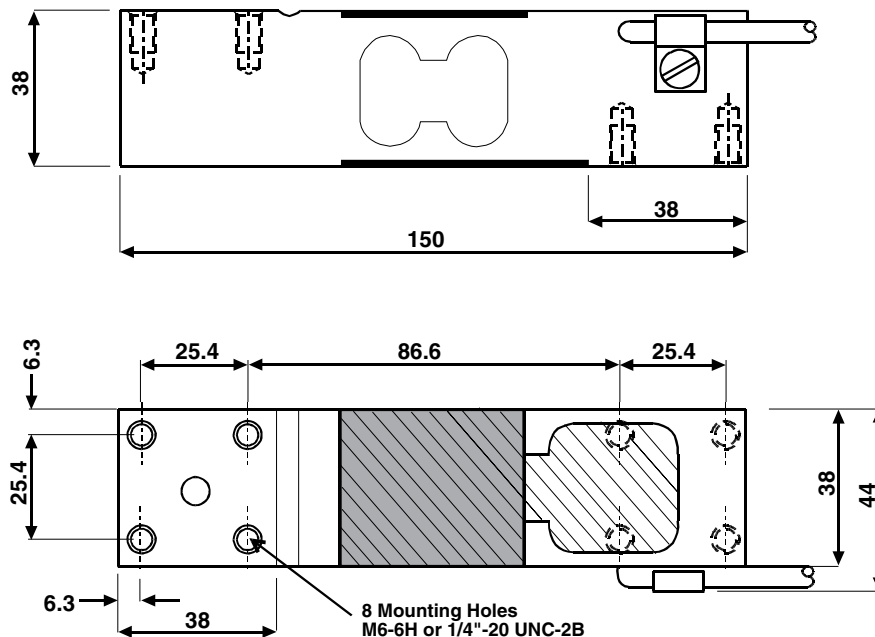
Model 1242 is a high accuracy, low profile, low cost, two-beam, single-point load cell ideally suited for industrial application where space is limited. Typical applications include platforms, hanging scales and personal weighers.

This high accuracy load cell is OIML R60 class C6 approved. For hazardous environments this load cell has EEx ia IIC T4 level of approval, as well as Factory Mutual approval.

A special humidity resistant protective coating assures long-term stability over the entire compensated temperature range.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension can be achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Aluminum Medium Capacity Single-Point Load Cell

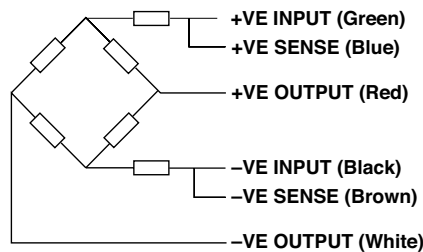
SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity – R.C. (E_{max})	50, 100, 150, 200, 250				kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3*	C6**	
Maximum no. of intervals (n)	5000 single	1000	3000	6000	
$Y = E_{max}/V_{min}$	10000	1400	6000	10000	Max. available
Rated output – R.O.	2.0				mV/V
Rated output tolerance	0.2				±mV/V
Zero balance	0.2				±mV/V
Zero return, 30 min.	0.0330	0.0300	0.0170	0.0083	±% of applied load
Total error	0.0200	0.0500	0.0200	0.0100	±% of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	0.0014	±% of rated output/°C
Temperature effect on output	0.0010	0.0030	0.0010	0.00058	±% of applied load/°C
Eccentric loading error	0.0049	0.0085	0.0049	0.0024	±% of rated load/cm
Temperature range, compensated	-10 to +40				°C
Temperature range, safe	-20 to +70				°C
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	415±20				Ω
Output impedance	351±5				Ω
Insulation resistance	>2000				MΩ
Cable length	1.5				m
Cable type	6-wire, PVC, single floating screen				Standard
Construction	Plated (anodize) aluminum				
Environmental protection	IP66				
Platform size (max)	400 x 400				mm
Recommended torque	10.0				N*m

* 50% utilization

** 60% utilization

All specifications subject to change without notice.

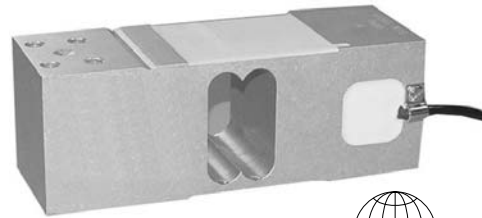
WIRING SCHEMATIC DIAGRAM
(Balanced temperature compensation)



Aluminum High Capacity Single-Point Load Cell

FEATURES

- Capacities 50–635 kg
- Aluminum construction
- Single-point 600 x 600 mm platform
- OIML R60 approved
- IP66 protection
- Available with metric threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval



APPLICATIONS

- Large platform scales
- Hanging scales
- Check weighing

The rugged construction offers high immunity to side forces making it suitable for a wide range of weighing applications, including bench scales, check weighing and process weighing.

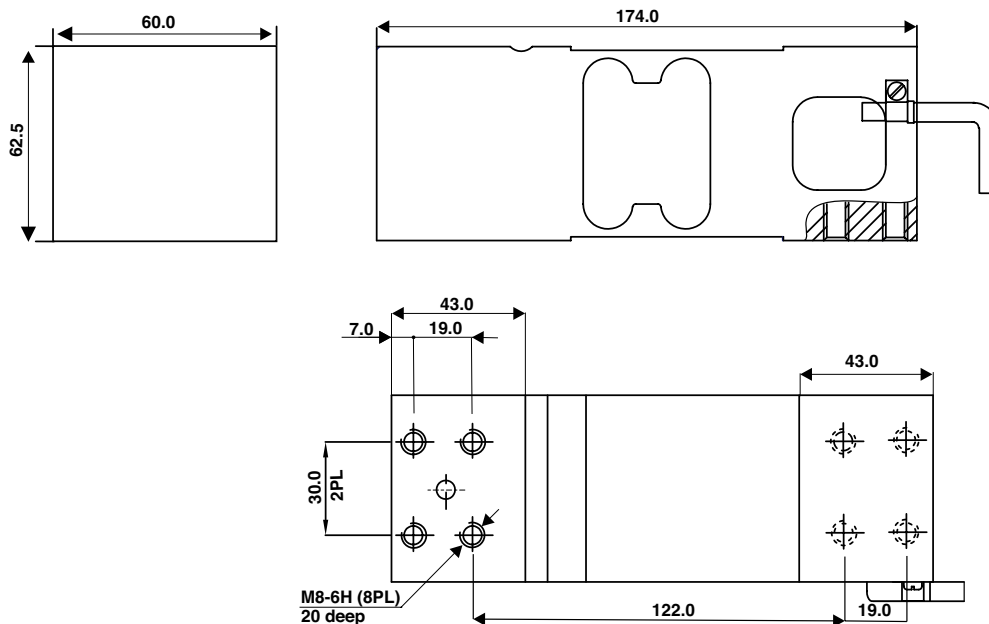
DESCRIPTION

Model 1263 is a high performance, high capacity single-point load cell designed for direct mounting of large weighing platforms.

A special humidity resistant protective coating assures long-term stability over the entire compensated temperature range.

The 1263 provides scale manufacturers with a high accuracy low cost sensor to meet today's needs.

OUTLINE DIMENSIONS in millimeters



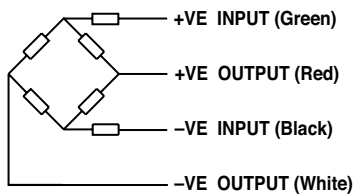
Aluminum High Capacity Single-Point Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity – R.C. (E _{max})	50, 100, 150, 200, 250, 300, 500, 635		kg
NTEP/OIML accuracy class	Non-Approved	C3*	
Maximum no. of intervals (n)	1000	3000	
Y = E _{max} /V _{min}	2000	15000	Maximum available
Rated output – R.O.	2.0		mV/V
Rated output tolerance	0.2		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.050	0.0170	±% of applied load
Total error	0.0300	0.0200	±% of rated output
Temperature effect on zero	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0050	0.0033	±% of rated load/cm
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	415±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	1.5		m
Cable type	4-wire, PVC, single floating screen		Standard
Construction	aluminum		
Environmental protection	IP66		
Platform size (max)	600 x 600 mm		mm
Recommended torque	Up to 300 kg: 25.0 Above 300 kg: 30.0		N*m

* 50% utilization

All specifications subject to change without notice.

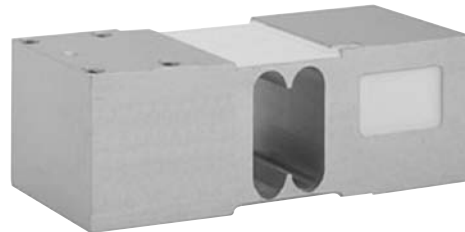
WIRING SCHEMATIC DIAGRAM



Aluminum High Capacity Single-Point Load Cell

FEATURES

- Capacities 50–660 kg
- Aluminum construction
- Single-point 600 x 600 mm platform
- OIML R60 and NTEP approved
- IP66 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available



APPLICATIONS

- Large platform scales
- Hanging scales
- Check weighing

DESCRIPTION

Model 1260 is a high performance, high capacity single-point load cell designed for direct mounting of large platforms.

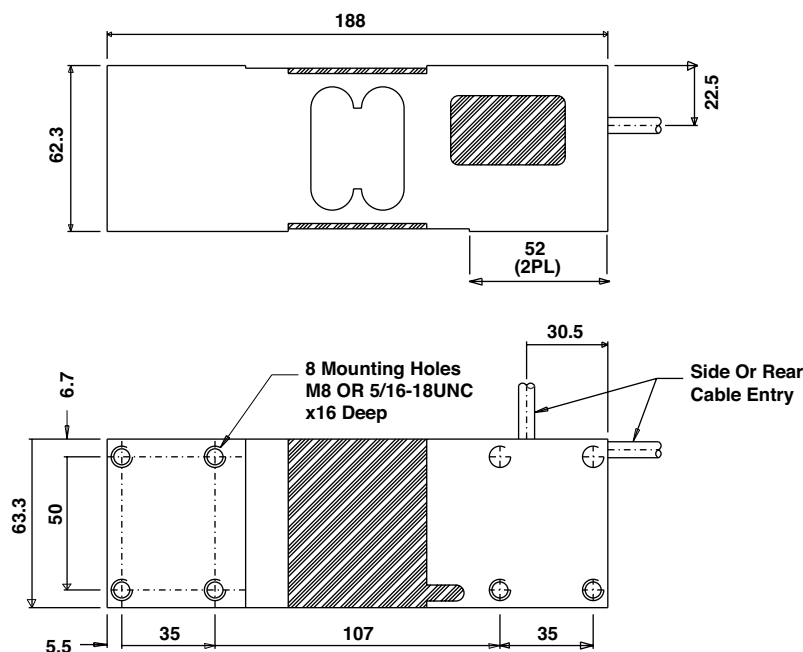
The rugged construction offers high immunity to side forces making it suitable for a wide range of weighing applications, including bench scales and check weighing.

A special humidity resistant protective coating assures long-term stability over the entire compensated temperature range.

For hazardous environments this load cell has an EEx ia IIC T4 level of approval.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Aluminum High Capacity Single-Point Load Cell

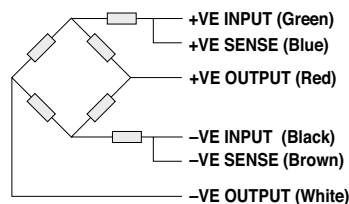
SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E _{max})	50, 75, 100, 150, 250, 300, 500, 635, 660			kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3*	
Maximum no. of intervals (n)	5000 single	1000	3000	
Y = E _{max} /V _{min}	1000	3333	15000	Maximum available
Rated output—R.O.	2.0			mV/V
Rated output tolerance	0.2			±mV/V
Zero balance	0.2			±mV/V
Zero return, 30 min.	0.0330	0.0300	0.0170	±% of applied load
Total error	0.0350	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0028	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0011	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0020	0.0050	0.0033	±% of rated load/cm
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-20 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Cable length	3			m
Cable type	6-wire, braided, polyurethane, dual floating screen			Standard
Construction	Plated (anodized) aluminum			
Environmental protection	IP66			
Platform size (max)	600 x 600			mm
Recommended torque	16.0			N*m

* 50% utilization

All specifications subject to change without notice.

Wiring Schematic Diagram

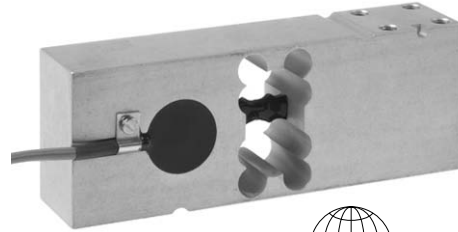
(Balanced temperature compensation)



Single-Point Load Cell

FEATURES

- Capacity range: 100–660 kg
- Rigid, anodized aluminum construction
- OIML approved to C6 (150–660 kg)
- Single-point 800 x 800 mm platform
- Minimal deflection and high natural frequency
- Sealed to IP66
- **Optional**
 - 2G EEx ia IIC T4 - ATEX hazardous area approval
 - UNC threads



APPLICATIONS

- Platform scales
- Bag fillers
- Check weighers
- Overhead track scales
- Process weighing

DESCRIPTION

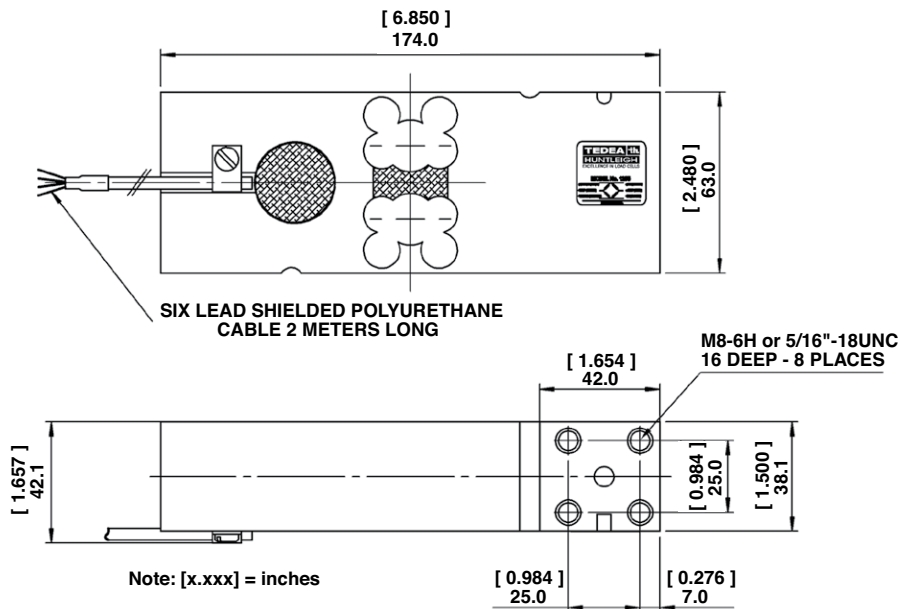
Model 1265 is an anodized aluminum single-point load cell suitable for direct mounting with large platforms, check weighers, and a wide range of other applications.

A unique rigid design allows for low deflection and high natural frequency, making the 1265 suitable for dynamic applications such as check weighers.

This load cell supports large platforms up to 800 x 800 mm. High accuracy (6000d) is maintained for overall characteristics (OIML R60) and for eccentric loading (OIML R76).

A humidity-resistant protective coating assures stable operation in damp environments over the entire compensated range and conforms to IP66 (IEC 60529). The six-wire cable includes two sense wires that compensate for changes in lead resistance due to temperature changes and cable extension.

OUTLINE DIMENSIONS in millimeters



Single-Point Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	100, 150, 200, 250, 300, 500, 600, 635, 660			kg
NTEP/OIML accuracy class	Non-Approved	C3*	C6**	
Maximum no. of intervals (n)	1000	3000	6000	
$Y = E_{max}/V_{min}$	2000	15000	15000	Maximum available
Rated output—R.O.	2.0			mV/V
Rated output tolerance	0.2			± mV/V
Zero balance	0.2			± mV/V
Zero return, 30 min.	0.0300	0.0170	0.0083	±% of applied load
Total error	0.0500	0.0200	0.0100	±% of rated output
Temperature effect on zero	0.0100	0.0023	0.0024	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	0.00058	±% of applied load/°C
Eccentric loading error	0.0070	0.0025	0.0012	±% of rated load/cm
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-30 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±5			Ω
Insulation resistance	>2000			MΩ
Cable length	2			m
Cable type	6-wire, PVC, single floating screen			Standard
Construction	Plated (anodized) aluminum			
Environmental protection	IP66			
Platform size (max)	800 x 800			mm
Recommended torque	Up to 300 kg: 25.0 Above 300 kg: 30.0			N*m

Notes

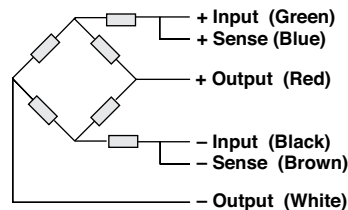
* 50% utilization

** 60% utilization, and for capacities 150 kg and up

All specifications subject to change without notice.

Wiring Schematic Diagram

(Balanced bridge temperature compensation)



Aluminum High Capacity Single-Point Load Cell

FEATURES

- Capacities 50–1500 kg
- Aluminum construction
- Single-point 800 x 800 mm platform
- OIML R60 and NTEP approved
- IP65 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available
 - IP67 option available



APPLICATIONS

- Large platform scales
- Hanging scales
- Check weighing

DESCRIPTION

Model 1250 is a single-point load cell designed for direct mounting of large platforms.

The product is a cost-effective load cell for use on counting, weighing, bench or floor scale products.

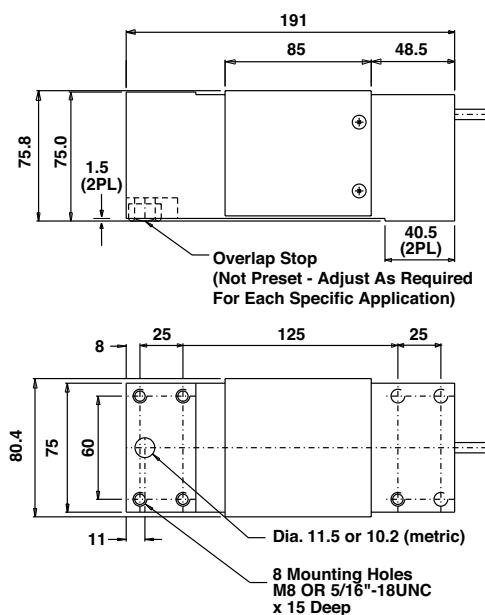
This high accuracy load cell is approved to OIML R60, NTEP and other stringent approval standards. Suitable for

use in hazardous environments, these load cells can be provided with European approval to EEx ia IIC T4 and are FM approved to class I, II, III, Division I.

A special humidity-resistant protective coating assures long-term stability over the entire compensated temperature range.

The two additional sense wires, sample the bridge supply voltage at the load cell. Complete compensation of change in the lead wires resistance, due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Aluminum High Capacity Single-Point Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity – R.C. (E_{max})	50, 75, 100, 150, 200, 250, 300, 500, 635, 750, 1000, 1500			kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3*	
Maximum no. of intervals (n)	5000 single	1000	3000	
$Y = E_{max}/V_{min}$	10000	1400	10000	Max. available
Rated output – R.O.	2.0			mV/V
Rated output tolerance	0.2			± mV/V
Zero balance	0.2			± mV/V
Zero return, 30 min.	0.0250	0.0300	0.0170	±% of applied load
Total error (per OIML R60)	0.0200	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0010	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0033	0.0050	0.0033	±% of rated load/cm
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-20 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Cable length	3.0			m
Cable type	6-wire, braided, Polyurethane, floating screen			Standard
Construction	Plated (anodized) aluminum			
Environmental protection	IP65**			
Platform size (max)	800 x 800***			mm
Recommended torque	Up to 1000 kg: 16.0 1500 kg: 32.0			N*m

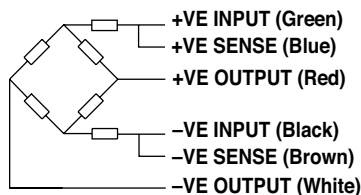
* 50% utilization
3500 divisions also available

** Available also in IP67

*** 635–1500 kg capacities: platform size 600 x 600 mm

All specifications subject to change without notice.

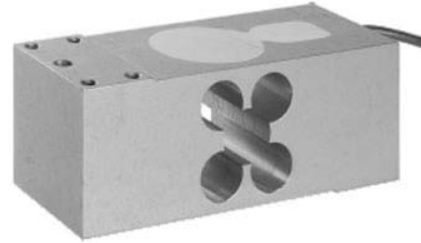
WIRING SCHEMATIC DIAGRAM
(Balanced temperature compensation)



Aluminum Single-Point Load Cell

FEATURES

- Capacity range: 75–635 kg
- Aluminum construction
- Single-point 600 x 600 mm platform
- OIML R60
- IP66 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available



APPLICATIONS

- Large platform scales
- Hanging scales
- Check weighing

DESCRIPTION

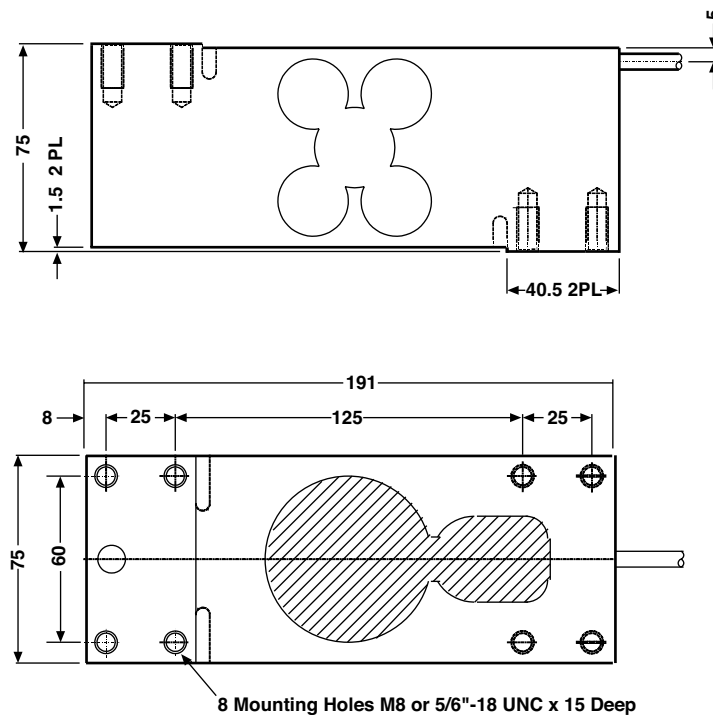
Model 1252 is a high capacity single-point load cell fully interchangeable with Model 1250, designed for direct mounting of the weighing platform or side cell applications.

Resulting from simpler scale construction Model 1252 is a cost-effective load cell for use in counting, weighing, bench or floor scale productions.

A special humidity-resistant protective coating assures long-term stability over the entire compensated temperature range. This load cell has Factory Mutual approval and IP66 protection.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of change in the lead wires resistance, due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics

OUTLINE DIMENSIONS in millimeters



Aluminum Single-Point Load Cell

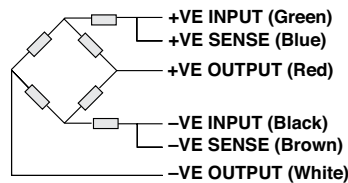
SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity – R.C. (E_{max})	75, 100, 150, 200, 250, 300, 500, 635**		kg
NTEP/OIML accuracy class	Non-Approved	C3*	
Maximum no. of intervals (n)	1000	3000	
$Y = E_{max}/V_{min}$	2000	10000	Max. available
Rated output – R.O.	2.0		mV/V
Rated output tolerance	0.2		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.0300	0.0170	±% of applied load
Total error (per OIML R60)	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0050	0.0033	±% of rated load/cm
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-30 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	415±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	3.0		m
Cable type	6-wire, braided, Polyurethane, floating screen		Standard
Construction	Plated (anodized) aluminum		
Environmental protection	IP66		
Platform size (max)	600 x 600		mm
Recommended torque	16.0		N*m

* 50% utilization

** Capacities 500 and 635 are not approved

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM
(Balanced bridge temperature compensation)



Low Profile Platform Load Cell

FEATURES

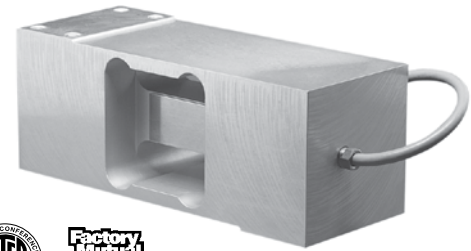
- Rated capacities of 100 to 2000 pounds
- Unique shear beam design—aluminum construction
- Moment-compensated design for minimal sensitivity to moments induced by off-center loading
- Ideal for situations exceeding the capabilities of similar “brick” design load cells
- Trade certified for NTEP Class III:5000 divisions; Class IIIIL:10000 divisions and OIML R60 3000 divisions
- *Sensorgage™* sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- Also available in stainless steel

APPLICATIONS

- Single-point platform scales
- Belt conveyor scales
- Bench and counting scales
- Checkweighing scales
- Hopper scales and netweighing

DESCRIPTION

Model 60060 is a single point load cell designed for direct mounting of large platforms.



The product is a cost-effective load cell for use on counting, weighing, bench or floor scale products.

This high accuracy load cell is approved to OIML R60, NTEP and other stringent approval standards. Suitable for use in hazardous environments, these load cells can be provided with European approval to EEx ia IIC T4 and are FM approved to Class I, II, III, Division I.

A special humidity-resistant protective coating assures long term stability over the entire compensated temperature range.

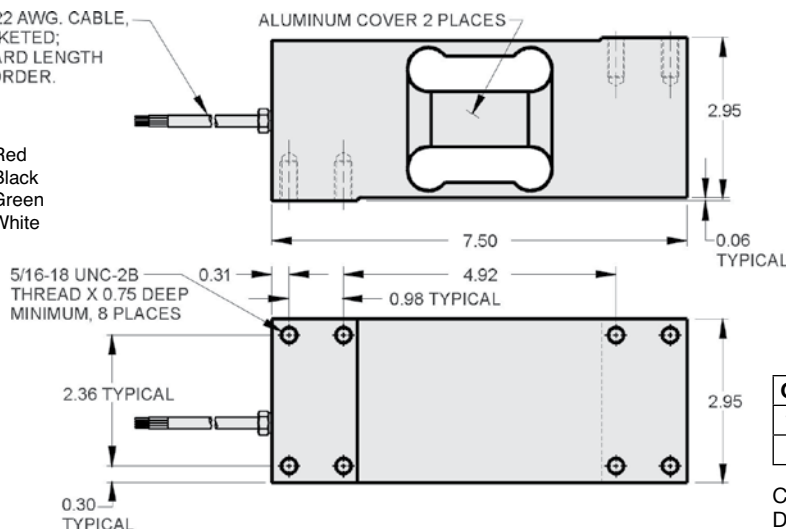
The two additional sense wires, sample the bridge supply voltage at the load cell. Complete compensation of change in the lead wires resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in inches

4 CONDUCTOR, 22 AWG. CABLE, SHIELDED & JACKETED; 10 FOOT STANDARD LENGTH OR PER SALES ORDER.

Wiring

+ Excitation Red
- Excitation Black
+ Output Green
- Output White



Capacity	Deflection	Weight
100-250	0.010	6.0
500-2k	0.006	6.0

Capacities are in pounds.
Deflection is ±10%.
Certified drawings are available.

Low Profile Platform Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity – R.C. (E_{max})	100, 250, 500, 750, 1K, 2K			lbs
NTEP/OIML accuracy class	NTEPIIIL	Standard	OIML R60*	
Maximum no. of intervals (n)	10,000 multiple	–	3000	
Y = E_{max}/V_{min}	See NTEP Cert. No. 98-038			Maximum available
Rated output – R.O.	2.0			mV/V
Rated output tolerance	±10			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.03	0.02	±% FSO
Non-repeatability	0.010	0.015	0.010	±% FSO
Creep error (30 minutes)	0.03	0.05	0.017	±% of applied load
Temperature effect on zero	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)			°F (°C)
Operating temperature range	0 to 150 (–18 to 65)			°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)			°F (°C)
Safe sideload	100			% of R.C.
Safe overload	300			% of R.C.
Sideload rejection ratio	500:1			
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	400 nominal			Ω
Output impedance	349–355			Ω
Sealing	IP67			
Material	Aluminum**			
Moment compensation	250–1k lbs	2k lbs		
Moment sensitivity	≤0.005	≤0.005		% of applied load/inch
Maximum moment	10 x capacity	10000		lbs-inches
Platform size	30 x 30	30 x 30		inches

* 100 lbs is not approved by OIML

** Stainless steel also available

FSO–Full Scale Output

All specifications subject to change without notice.

Aluminum Single-Point Load Cell

FEATURES

- Capacities 500–1000 kg
- Aluminum construction
- Single-point 800 x 800 mm platform
- Certified to OIML R60 3000d
- IP66 protection
- Available with metric threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval



APPLICATIONS

- Large platform scales
- Hanging scales
- Check weighing

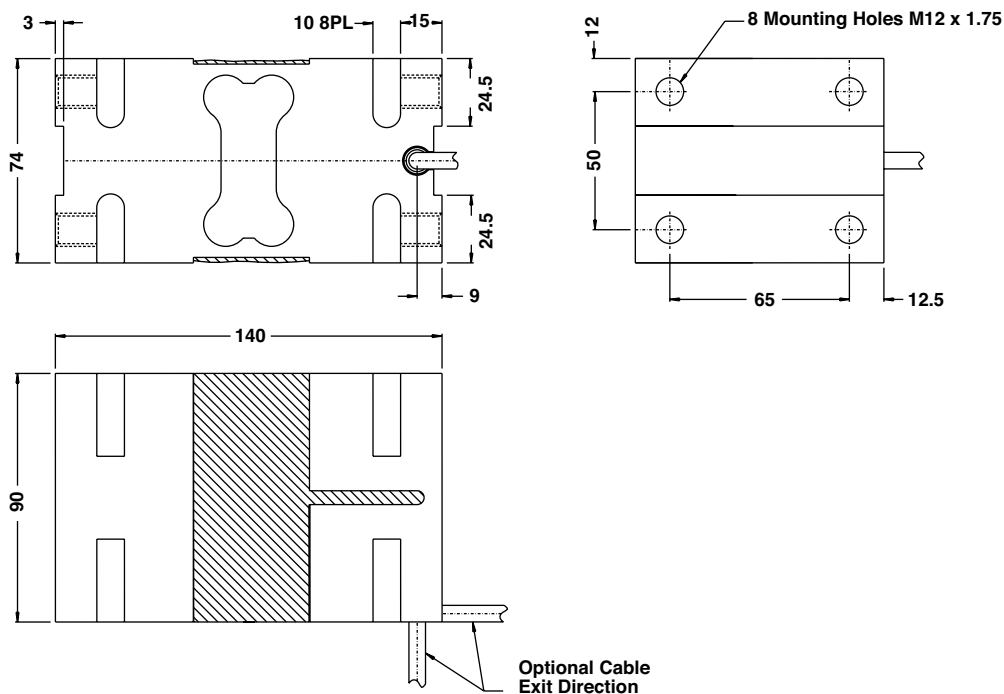
DESCRIPTION

Model 1330 is a high capacity single-point load cell designed for direct mounting of low profile high capacity weighing platforms up to 800 x 800 mm.

The large platform size simplifies the construction of floor scales, baggage scales, hanging scales and other types of weighing machines.

A special humidity resistant protective coating assures long-term reliability. The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



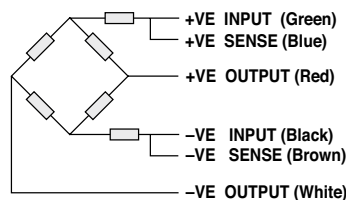
Aluminum Single-Point Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E_{max})	500, 750, 1000		kg
NTEP/OIML accuracy class	Non-Approved	C3*	
Maximum no. of intervals (n)	1000	3000	
$Y = E_{max}/V_{min}$	2000	15000	Maximum available
Rated output—R.O.	2.0		mV/V
Rated output tolerance	0.2		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.050	0.0170	±% of applied load
Total error	0.0300	0.0200	±% of rated output
Temperature effect on zero	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0037	0.0025	±% of rated load/cm
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	415±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	3		m
Cable type	6-wire, braided, polyurethane, floating screen		Standard
Construction	Plated (anodized) aluminum		
Environmental protection	IP66		
Platform size (max)	800 x 800		mm
Recommended torque	130		N*m

* 50% utilization

All specifications subject to change without notice.

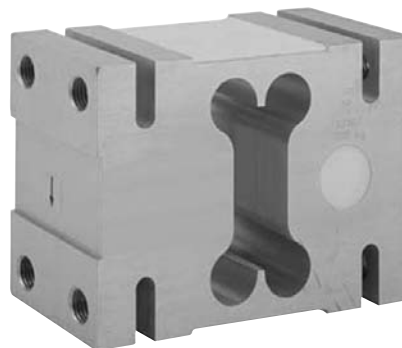
WIRING SCHEMATIC DIAGRAM
 (Balanced temperature compensation)



High Capacity Single-Point Load Cell

FEATURES

- Capacities 1000–2000 kg
- Aluminum construction
- Single-point 1200 x 1200 mm platform
- OIML R60 and NTEP approved
- IP66 protection
- Available with metric threads
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available



APPLICATIONS

- Very large platform scales
- Hanging scales
- Check weighing

DESCRIPTION

Model 1320 is a high capacity single-point load cell designed for direct mounting of low profile, high capacity weighing platforms up to 1200 x 1200 mm.

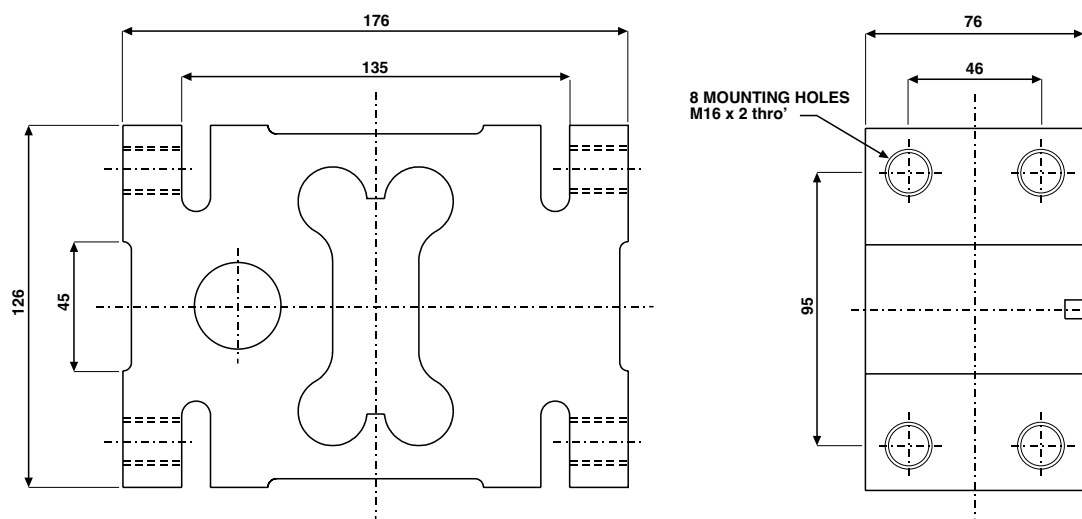
Its large platform size simplifies the construction of floor scales, weigh bars, hanging scales and other types of weighing machines with a capacity up to 2000 kg.

All load cells are individually adjusted to eliminate corner errors, tested and calibrated to meet OIML specifications.

A special humidity resistant coating assures long-term reliability.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



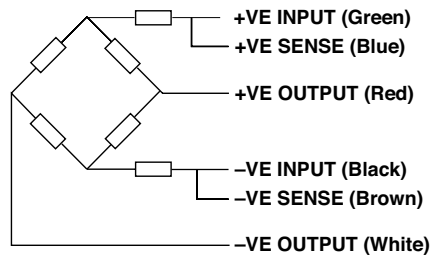
High Capacity Single-Point Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity – R.C. (E_{max})	1000, 1500, 2000			kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3	
Maximum no. of intervals (n)	3000 single	1000	3000*	
$Y = E_{max}/V_{min}$	1000	3333	10000	Maximum available
Rated output – R.O.	2.0			mV/V
Rated output tolerance	0.2			±mV/V
Zero balance	0.2			±mV/V
Zero return, 30 min.	0.0330	0.0300	0.0170	±% of applied load
Total error	0.0200	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0040	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0010	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0033	0.0025	0.0017	±% of rated load/cm
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-30 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Cable length	5			m
Cable type	6 wire, braided, polyurethane, dual floating screen			Standard
Construction	Plated (anodized) aluminum			
Environmental protection	IP66			
Recommended torque	165.0			N*m

* 50% utilization

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM



High Capacity Off-Center Single-Point Load Cell

FEATURES

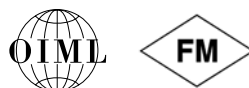
- Capacities: 750, 1000, and 2000 kg
- Fully sealed for water resistance
- Side mount construction
- Anodized aluminum alloy
- OIML C3 approval
- Platform size: 48" x 48"/120 cm x 120 cm
- **Optional**
 - FM approval available

APPLICATIONS

- Platform scales (single load cell)
- Packaging machines
- Dosing/filling
- Belt scales/conveyor scales

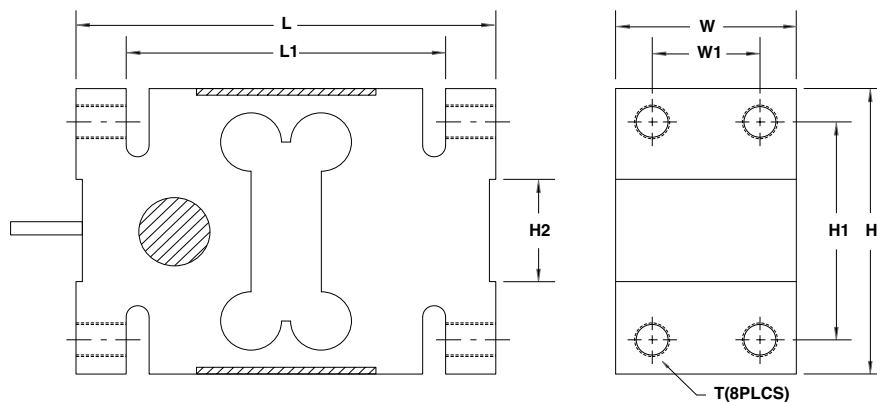
DESCRIPTION

HOC is a single-point load cell of side mount construction designed for platform scales, and hanging scales. It is a cost-effective load cell for scales of simple construction.



HOC is constructed of anodized aluminum, and is environmentally sealed up to IP66 providing excellent protection against moisture and humidity.

OUTLINE DIMENSIONS



All Capacity
Cable Length: 10/3.1m
Platform Size: 48" x 48"/120 cm x 120 cm

Wiring

+ Excitation	Red
- Excitation	Black
+ Signal	Green
- Signal	White

CAPACITY (kg)		L	L ₁	W	W ₁	H	H ₁	H ₂	T
	750/1000/2000	mm	176.0	134.5	76.0	46.0	125.0	95.0	
(inch)		6.93	5.30	2.99	1.81	4.92	3.74	1.77	

High Capacity Off-Center Single-Point Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	Non-Approved	C3	
Maximum no. of intervals (n)	1000	3000	
Y = E_{max}/V_{min}	5000	10000	Maximum available
Standard capacities (E_{max})	750, 1000, 2000		kg
Rated output—R.O.	2.0		mV/V
Rated output tolerance	10		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.020	0.015	±% of rated output
Hysteresis	0.020	0.015	±% of rated output
Non-repeatability	0.020		±% of rated output
Creep error (20 minutes)	0.030	0.020	±% of rated output
Zero return (20 minutes)	0.030	0.020	±% of rated output
Temperature effect effect on min. dead load output	0.0026	0.014	±% of rated output/°C
Temperature effect on sensitivity	0.0015	0.008	±% of applied load/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	200		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	410±10		Ω
Output impedance	350±3		Ω
Insulation resistance	>5000		MΩ
Construction	Anodized aluminum		
Environmental protection	IP66		

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

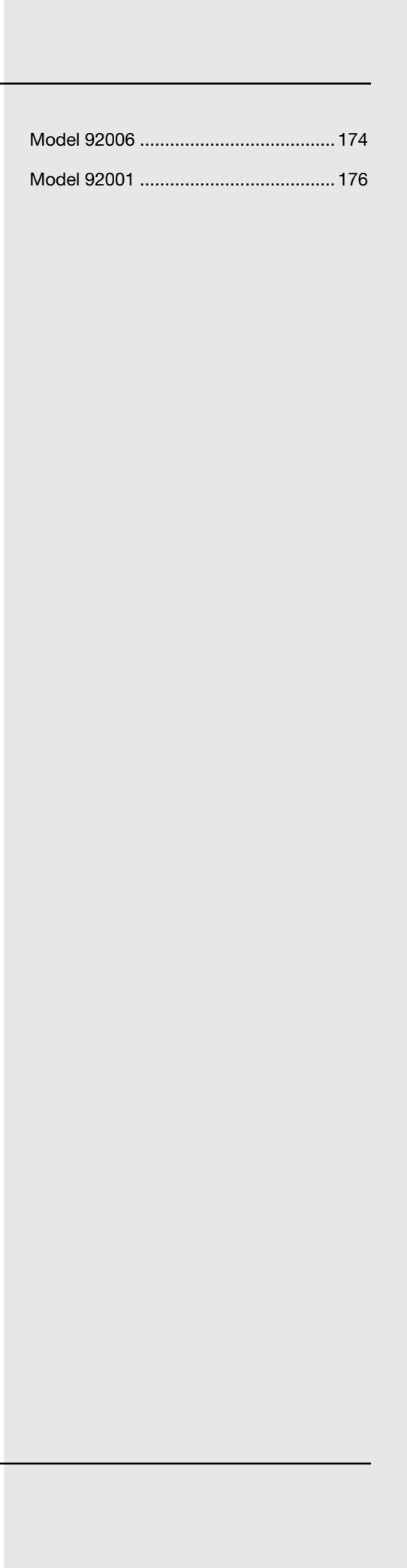
Non-Incendive: Class I; Div. 2 Groups A-D



Model 92006 174

Model 92001 176

Single-Point Bending Beams— Alloy Steel



Single-Point Alloy Steel Load Cell

FEATURES

- Capacity: 100 to 1500 kg
- Alloy steel construction
- Single-point 900 × 900mm platform
- IP66 protection
- **Optional**
 - Stainless steel construction

APPLICATIONS

- Large platform scales
- Bench scales
- Counting scales
- Check weighing scales

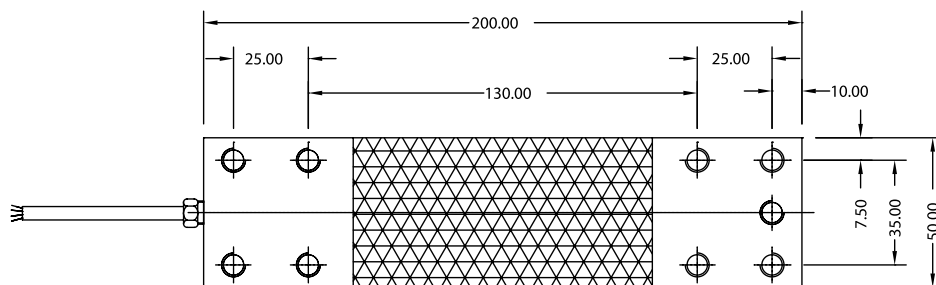


DESCRIPTION

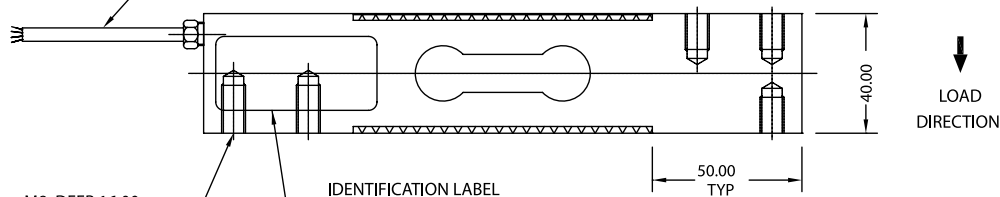
Model 92001 is an alloy steel single-point load cell designed for direct mounting in large platform scale applications. The cost effective load cell is ideal for use in counting, bench and floor scales.

This model provides scale manufacturers with a high-accuracy low-cost sensor for their most demanding technical requirements.

OUTLINE DIMENSIONS in millimeters



CABLE 4 CONDUCTOR
SHIELDED & JACKETED
LENGTH 3 mts. STD OR
AS PER SALES ORDER.



Wiring

- | | | |
|---|------------|--------|
| + | Excitation | Red |
| - | Excitation | Black |
| + | Output | Green |
| - | Output | White |
| | Ground | Shield |

M8, DEEP 16.00,
9 PLCS.

IDENTIFICATION LABEL

50.00
TYP

LOAD
DIRECTION

Single-Point Alloy Steel Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated output-R.O.	2.0	mV/V
Rated output tolerance	10	± % FSO
Zero balance	1	± % FSO
Combined error	<0.030	± % FSO
Non-Linearity	<0.025	± % FSO
Hysteresis	<0.020	± % FSO
Non-repeatability	<0.010	± % FSO
Creep error (30 minutes)	<0.025	± % FSO
Temperature effect on zero	<0.002	± %/°C
Temperature effect on output	0.001	± %/°C
Operating temperature range	-20 to +70	°C
Maximum safe central overload	150	% FSO
Ultimate central overload	300	% FSO
Excitation, recommended	10	VDC
Excitation, maximum	15	VDC
Input impedance	360–450	Ω
Output impedance	349–355	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Alloy steel with electroless nickel-plated	
Environmental protection	IP66	
Platform size	Up to 900 × 900	mm

All specifications subject to change without notice.

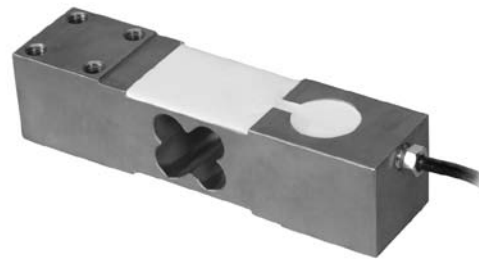
Single-Point Alloy Steel Load Cell

FEATURES

- Capacity range: 50–1500 kg
- Alloy steel construction
- Single-point for the following platform sizes:
 - 50–750 kg: 600 × 600 mm platform
 - 1000–1250 kg: 750 × 750 mm platform
 - 1500 kg: 900 × 900 mm platform
- **Optional**
 - Stainless steel construction

APPLICATIONS

- Large platform scales
- Bench and counting scales
- Check weighing scales

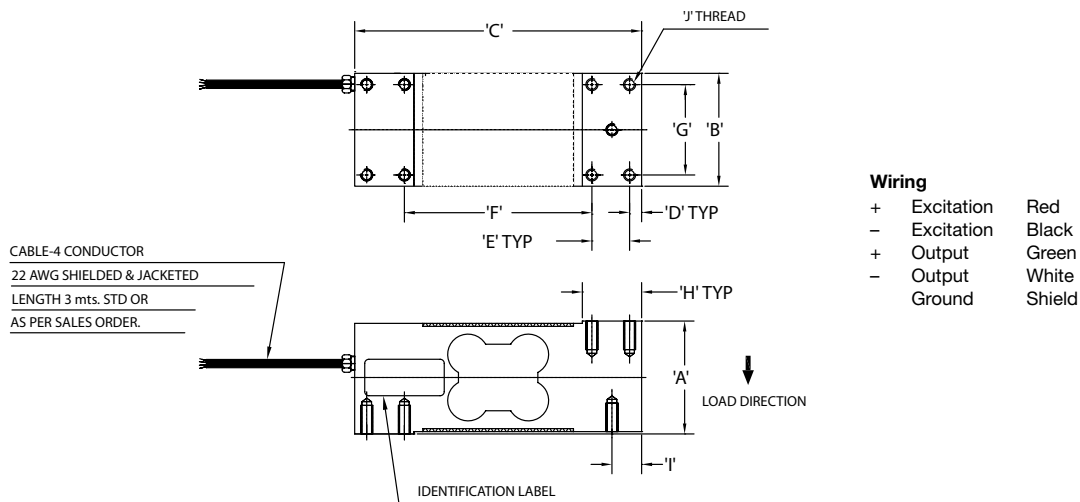


DESCRIPTION

Model 92001 is an alloy steel single-point load cell designed for direct mounting in large platform scale applications. The cost effective load cell is ideal for use in counting, bench and floor scales.

This model provides scale manufacturers with a high-accuracy low-cost sensor for their most demanding technical requirements.

OUTLINE DIMENSIONS in millimeters



CAPACITY	A	B	C	D	E	F	G	H	I	J THREAD
50,100,150,200,250,300, 350,500,600,750 kg	38.0	38.0	150.0	6.3	25.4	86.6	25.4	38.0	18.0	M8 x 1.25 DEEP 15.0, 9 PLCS
1000, 1250 kg	74.9	74.9	190.5	10.4	18.5	132.6	56.0	39.3	19.7	M8 x 1.25-6H x 19.0 DEEP 9 PLCS
1500 kg	74.9	74.9	190.5	10.4	18.5	132.6	56.0	39.3	19.7	M10 x 1.5-6H x 26.0 DEEP 9 PLCS

Single-Point Alloy Steel Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated output-R.O.	2.0	mV/V
Rated output tolerance	10	± % FSO
Zero balance	1	± % FSO
Combined error	<0.045	± % FSO
Non-linearity	<0.025	± % FSO
Hysteresis	<0.020	± % FSO
Non-repeatability	<0.010	± % FSO
Creep error (30 minutes)	<0.025	± % FSO
Temperature effect on zero	<0.002	± %/°C
Temperature effect on output	0.001	± %/°C
Operating temperature range	-20 to +70	°C
Maximum safe central overload	150	% FSO
Ultimate central overload	300	% FSO
Excitation, recommended	10	VDC
Excitation, maximum	15	VDC
Input impedance	380-400	Ω
Output impedance	349-355	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Alloy steel with electroless nickel-plated	
Environmental protection	IP66	
Platform size	50-750 kg: 600 × 600 1000-1250 kg: 750 × 750 1500 kg: 900 × 900	

All specifications subject to change without notice.



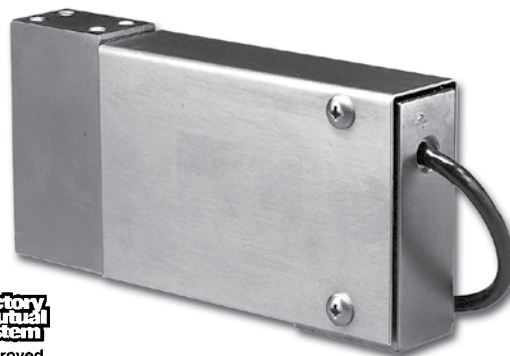
Model 60048	180
Model 60051	182
Model 1130	184
Model 1140	186
Model 1142	188
Model 93006	190

Single-Point Bending Beams— Stainless Steel

Low Profile Platform Cell

FEATURES

- Rated capacities of 25 to 1000 pounds
- Constructed of stainless steel
- Moment-compensated design for minimal sensitivity to moments induced by off-center loading
- Exceeds NIST H-44 requirements
- Provides optimum protection under adverse loading conditions
- *Sensorgage*™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)



Factory Mutual System Approved

APPLICATIONS

- Single-point platform scales
- Belt conveyor scales
- Bench and counting scales
- Checkweighing scales
- Hopper scales and netweighing

This product's availability in capacities ranging from 25 to 1000 lbs. makes it ideal for many low to mid range capacity weighing applications. This load cell is most commonly used in platform scales, but can be adapted for use in many process weighing applications.

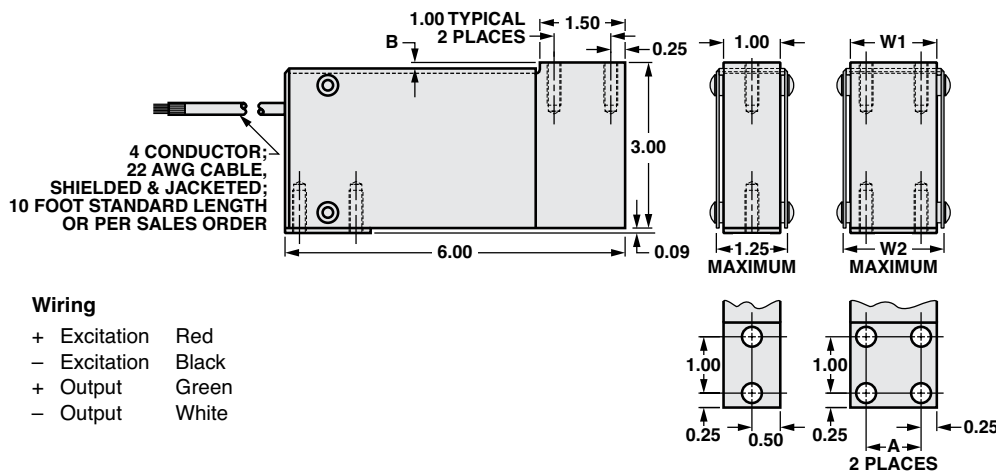
The stainless steel construction and IP67 sealing make this load cell ideal for harsh environment applications.

DESCRIPTION

The 60048 is a high precision, stainless steel, single point platform load cell.

This product is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments.

OUTLINE DIMENSIONS in inches



CAPACITY	W1	W2	A	B	THREAD
25	--	--	--	0.04	1/4-28 UNF-2B THREAD X 0.75 MIN., 4 PLACES
50-100	--	--	--	0.04	1/4-28 UNF-2B THREAD X 0.75 MIN., 4 PLACES
200	--	--	--	0.04	1/4-28 UNF-2B THREAD X 0.75 MIN., 4 PLACES
400-500	1.00	1.25	0.50	0.04	1/4-28 UNF-2B THREAD X 0.75 MIN., 4 PLACES
1k	1.50	1.75	1.00	0.18	5/16-24 UNF-2B THREAD X 0.75 MIN., 8 PLACES

Capacities are in pounds.

Low Profile Platform Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E_{max})	25, 50, 100, 200, 400, 500, 1000		lbs
NTEP/OIML accuracy class	Non-Approved		
Rated output-R.O.	2.0		mV/V
Rated output tolerance	+0.25 ... -10%		±% mV/V
Zero balance	1.0		±% FSO
Combined error	0.03		±% FSO
Non-repeatability	0.01		±% FSO
Creep error (20 minutes)	0.03		±% FSO
Temperature effect on zero	0.0015		±% FSO/°F
Temperature effect on output	0.0008		±% of load/°F
Compensated temperature range	14 to 104 (-10 to 40)		°F (°C)
Operating temperature range	0 to 150 (-18 to 65)		°F (°C)
Storage temperature range	-60 to 185 (-50 to 85)		°F (°C)
Sideload rejection ratio	500:1		
Safe sideload	30		% of R.C.
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	350-450		Ω
Output impedance	349-355		Ω
Insulation resistance at 50 VDC	>1000		MΩ
Material	Stainless steel		
Environmental protection	IP67		
Moment compensation	25-500 lbs	1000 lbs	
Moment sensitivity	0.005	0.007	±% of load/inch
Maximum moment	10 x capacity	15000	lbs-inches
Platform size	20 x 20	30 x 30	inches

FSO—Full Scale Output

All specifications subject to change without notice.

Low Profile Platform Cell

FEATURES

- Rated capacities of 10 to 200 pounds
- Stainless steel construction
- Moment-compensated design for minimal sensitivity to moments induced by off-center loading
- *Sensorgage™* sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)



APPLICATIONS

- Single-point platform scales
- Bench, counting and deli scales
- Checkweighing scales
- Hopper scales and netweighing

DESCRIPTION

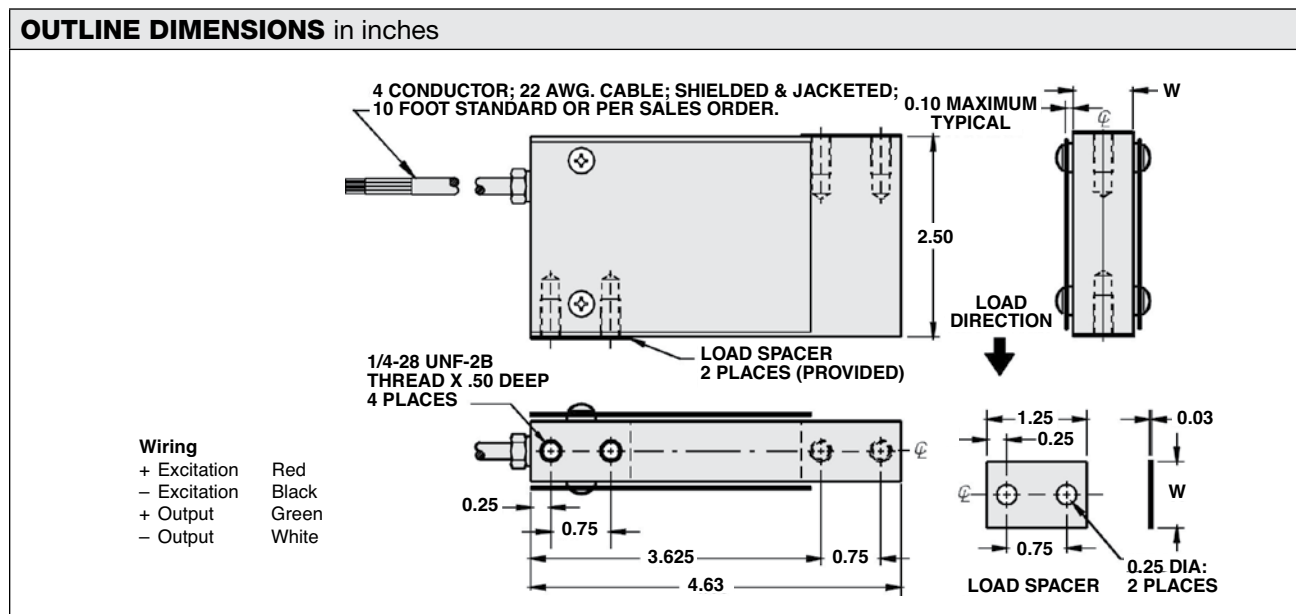
The 60051 is a low profile high precision, stainless steel, single point platform load cell.

This product's low profile makes it ideal for many low to mid range capacity weighing applications where space is at a premium. This load cell is most commonly used in platform scales, but can be adapted for use in many process weighing applications.

The stainless steel construction and IP67 sealing make this load cell ideal for very harsh environment applications. This load cell is specifically designed for use in corrosive and wet environments that are not appropriate for common aluminum load cells.

This product is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments.

OUTLINE DIMENSIONS in inches



Low Profile Platform Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E_{max})	10, 15, 25, 50, 100, 200		lbs
NTEP/OIML accuracy class	Standard		
Maximum no. of intervals (n)	—		
Rated output—R.O.	2.0		mV/V
Rated output tolerance	+0.25...-10		±% mV/V
Zero balance	1.0		±% FSO
Combined error	0.03		±% FSO
Non-repeatability	0.01		±% FSO
Creep error (20 minutes)	0.03		±% FSO
Temperature effect on zero	0.0015		±% FSO/°F
Temperature effect on output	0.0008		±% of load/°F
Compensated temperature range	14 to 104 (-10 to 40)		°F (°C)
Operating temperature range	0 to 150 (-18 to 65)		°F (°C)
Storage temperature range	-60 to 185 (-50 to 85)		°F (°C)
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	380–450		Ω
Output impedance	349–355		Ω
Insulation resistance at 50 VDC	>1000		MΩ
Material	Stainless steel		
Environmental protection	IP67		
Moment compensation	10–25 lbs	50–200 lbs	
Moment sensitivity	0.015	0.100	±% of load/inch
Maximum moment	5 x capacity	6 x capacity	lbs-inches
Platform size	8 x 10	12 x 12	inches

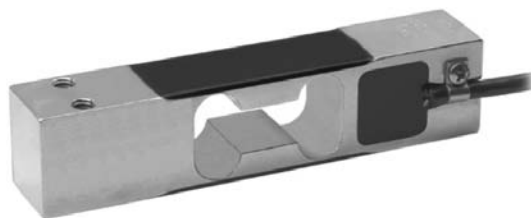
FSO—Full Scale Output

All specifications subject to change without notice.

Stainless Steel Single-Point Load Cell

FEATURES

- Capacities 7–100 kg
- Stainless steel construction
- Single-point 400 x 400 mm platform
- OIML R60 and NTEP approved
- IP66 protection
- Available with metric and UNC threads
- **Optional**
 - EEx ia IIC T4 - hazardous area approval
 - FM approval available



APPLICATIONS

- Harsh environment small platforms
- Harsh environment check weighing

DESCRIPTION

Model 1130 is a low profile stainless steel single-point load cell ideally designed for direct mounting in bench and platform scales, packaging and process weighing equipment, and is built to perform in harsh environments.

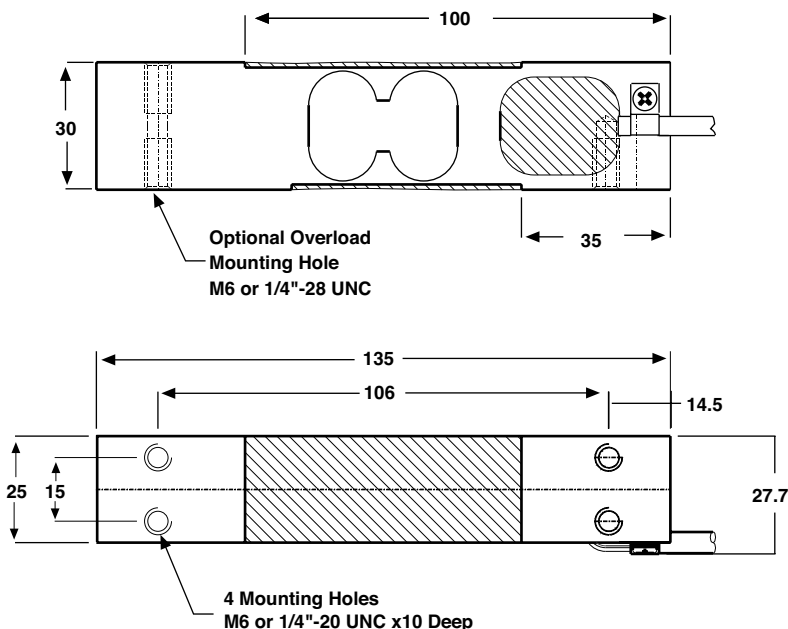
The small physical size, combined with high accuracy and low cost, makes this load cell ideally suited for low profile

bench and counting scales. A special humidity resistant protective coating assures long-term stability over the entire compensated temperature range.

Constructed in stainless steel this high accuracy load cell is approved to stringent approval standards, e.g., OIML and NTEP.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Stainless Steel Single-Point Load Cell

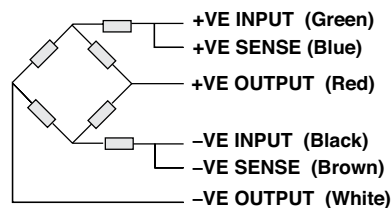
SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	7, 10, 15, 20, 30, 50, 75, 100			kg
NTEP/OIML accuracy class	NTEP	Non-Approved	C3 ⁽¹⁾	
Maximum no. of intervals (n)	4000 single	1000	3000 ⁽²⁾	
$Y = E_{max}/V_{min}$	15000	2000	15000	
Rated output—R.O.	2.0			mV/V
Rated output tolerance	0.2			±mV/V
Zero balance	0.2			±mV/V
Zero return, 30 min.	0.0250	0.0300	0.0170	±% of applied load
Total error (per OIML R60)	0.0015	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0030	0.0100	0.0023	±% of rated output/°C
Temperature effect on output	0.0008	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0035	0.0074	0.0049	±% of rated load/cm
Temp. range, compensated	-10 to +40			°C
Temp. range, safe	-20 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	385±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>2000			MΩ
Cable length	1.5			m
Cable type	6-wire, PVC, single floating screen			Standard
Construction	Stainless steel			
Environmental protection	IP66			
Platform size (max)	400 x 400			mm
Recommended torque	13.0			N*m

⁽¹⁾ 50% utilization

⁽²⁾ Capacities 50–75 kg

All specifications subject to change without notice.

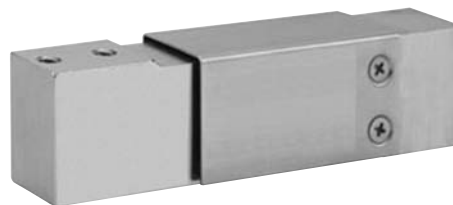
WIRING SCHEMATIC DIAGRAM
(Balanced Temperature Compensation)



Stainless Steel Single-Point Load Cell

FEATURES

- Capacities 15–150 kg
- Stainless steel construction
- Single-point 400 x 400 mm platform
- IP65 protection
- Available with UNC threads only
- **Optional**
 - EEx ia IIC T4 hazardous area approval
 - FM approval available



ATEX 



APPLICATIONS

- Harsh environment small platforms
- Harsh environment check weighing

DESCRIPTION

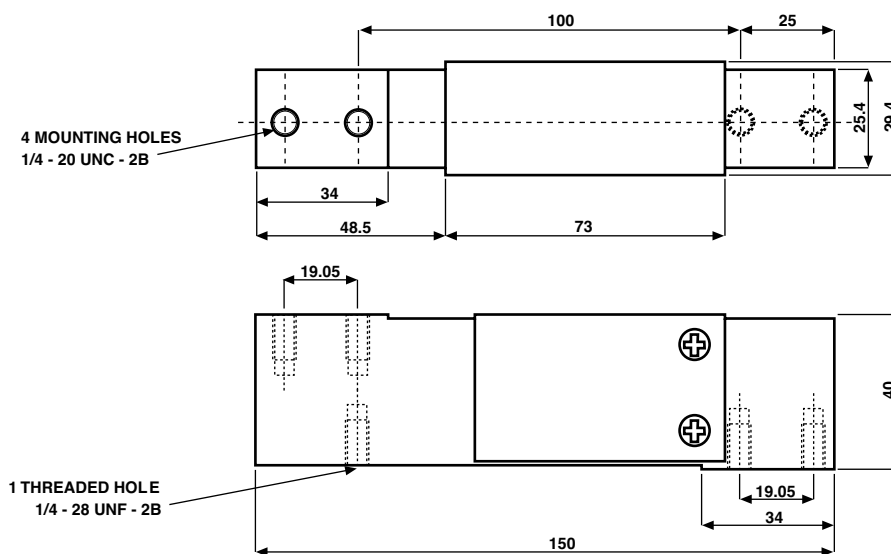
Model 1140 is a low profile single-point load cell designed for direct mounting of low cost weighing platforms.

The small physical size, combined with high accuracy and low cost, makes this load cell ideally suited for low profile

bench and counting scales. For wash-down protection an optional IP65 encapsulation protection is available. Constructed from stainless steel this high accuracy load cell is approved to Factory Mutual and other stringent approval standards.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



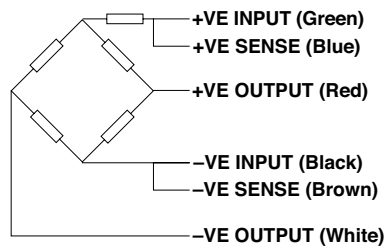
Stainless Steel Single-Point Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C. (E_{max})	15, 20, 30, 50, 75, 100, 150	kg
NTEP/OIML accuracy class	Non-Approved	
Maximum no. of intervals (n)	3000	
Rated output—R.O.	2.0	mV/V
Rated output tolerance	0.2	±mV/V
Zero balance	0.2	±mV/V
Zero return, 30 min.	0.0170	±% of applied load
Total error (per OIML R60)	0.0200	±% of rated output
Temperature effect on zero	0.004	±% of rated output/°C
Temperature effect on output	0.0010	±% of load/°C
Eccentric loading error	0.0074	±% of rated load/cm
Temp. range, compensated	-10 to +40	°C
Temp. range, safe	-20 to +70	°C
Maximum safe central overload	150	% of R.C.
Ultimate central overload	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	385±15	Ω
Output impedance	350±3	Ω
Insulation resistance	>2000	MΩ
Cable length	1.0	m
Cable type	6-wire, PVC, single floating screen	Standard
Construction	Stainless steel	
Environmental protection	IP65*	
Platform size (max)	400 x 400	mm
Recommended torque	Up to 30 kg: 7.0 50 kg and above: 10.0	N*m

* IP67 available on request

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM



Single-Point Stainless Steel Load Cell

FEATURES

- Capacity range: 10–150 kg
- Stainless steel construction
- Single-point 400 x 400 mm platform
- Sealed to IP66
- Compact size: only 40 mm high
- OIML approved to C3 (20–100 kg)
- Choice of mounting threads: 1/4-20 UNC or M6 x 12
- **Optional**
 - EEx ia IIC T4 - ATEX hazardous area approval
 - Grounded version includes shield wire in load cell cable



APPLICATIONS

- Platform scales
- Bench scales
- Counting scales
- Grocery scales

DESCRIPTION

Model 1142 is a stainless steel single-point load cell suitable for direct mounting with platform, bench, counting, and a wide range of other scale applications.

Small physical size, combined with high accuracy and low cost, makes 1142 load cells the perfect choice for new or retrofit scale construction.

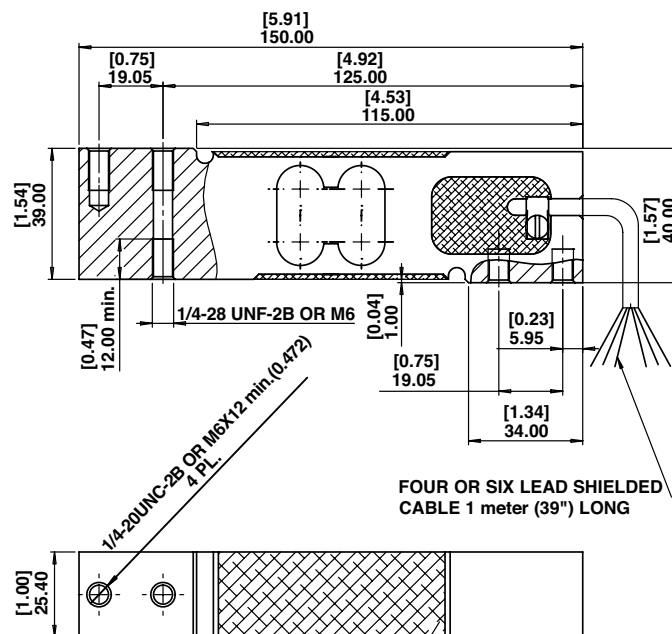
A humidity-resistant protective coating assures stable operation in damp environments over the entire compensated range and conforms to IP66 (IEC 60529).

Also available is an ATEX 2G EEx ia IIC T4 approved version for hazardous areas.

The six-wire cable includes two sense wires that compensate for changes in lead resistance due to temperature changes and cable extension.

Model 1142 options offer a choice of bolt threads, 1/4-20 UNC or M6 x 12, and a grounded version that includes a “shield” wire in the load cell cable.

OUTLINE DIMENSIONS in millimeters [inches]



Single-Point Stainless Steel Load Cell

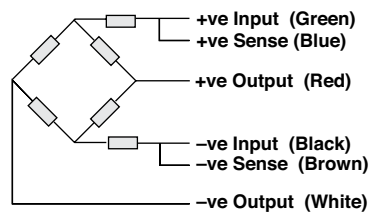
SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E _{max})	10, 15, 20, 30, 50, 75, 100, 150**		kg
OIML accuracy class	Non-Approved	C3*	
Maximum no. of intervals (n)	1000	3000	
Y = E _{max} /V _{min}	4000	15000	Maximum available
Rated output—R.O.	2.0		mV/V
Rated output tolerance	0.2		±mV/V
Zero balance	0.2		±mV/V
Zero return, 30 min.	0.0500	0.0167	±% of applied load
Total error	0.0300	0.0200	±% of rated output
Temperature effect on zero	0.0070	0.0023	±% of rated output/°C
Temperature effect on output	0.0030	0.0010	±% of applied load/°C
Eccentric loading error	0.0074	0.0049	±% of rated load/cm
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-20 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	385±10		Ω
Output impedance	351±5		Ω
Insulation resistance	>2000		MΩ
Cable length	1		m
Cable type	6-wire, PVC, single floating screen		Standard
Construction	Stainless steel		
Environmental protection	IP66		
Platform size (max)	400 x 400		mm
Recommended torque	Up to 30 kg: 7.0 50 kg and up: 10.0		N*m

* 50% utilization

** 10, 15, and 150 are not approved

All specifications subject to change without notice.

Wiring Schematic Diagram
(Balanced bridge temperature compensation)



Single-Point Stainless Steel Load Cell

FEATURES

- Capacity range: 10–60 kg
- Stainless steel construction
- Single-point 350 × 350 mm platform
- IP66 protection

APPLICATIONS

- Retail scales
- Counting scales
- Bench scales
- Harsh environments

DESCRIPTION

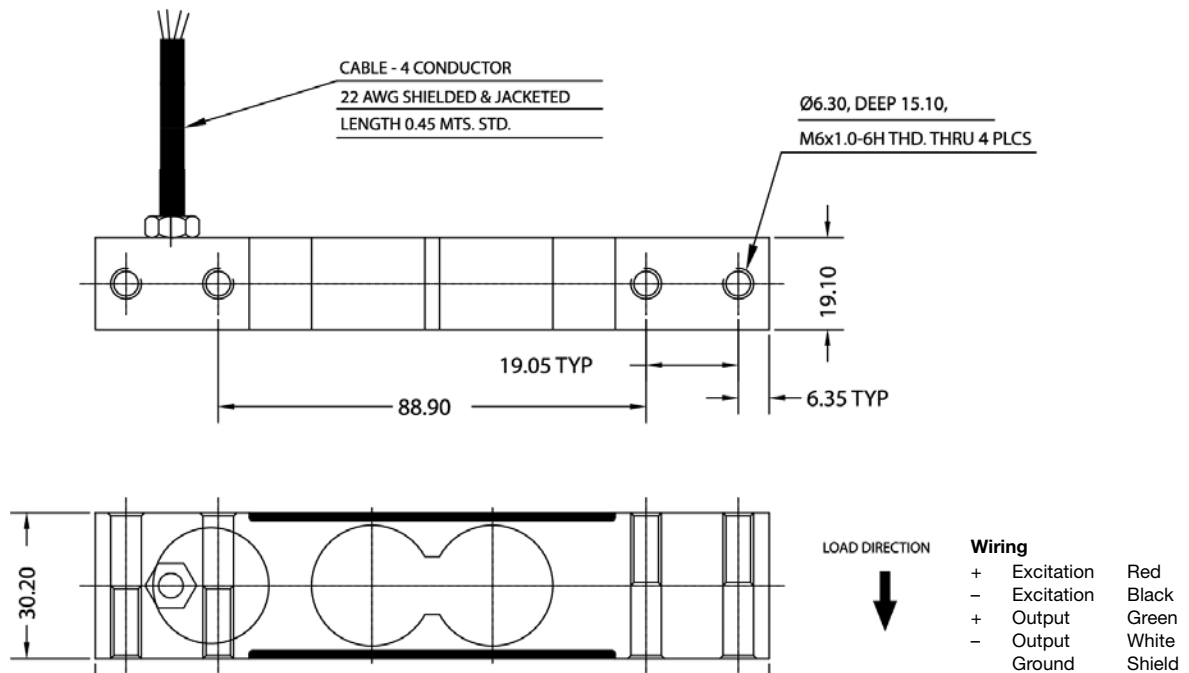
Model 93006 is a low profile single-point load cell designed for direct mounting in retail, bench, and counting scales and a wide range of other scale applications.



Small physical size combined with high accuracy and low cost makes this load cell ideally suited for new scale construction.

This load cell's stainless steel construction makes it ideal for use in corrosive and wet environments that are not appropriate for common aluminum load cells.

OUTLINE DIMENSIONS in millimeters



Single-Point Stainless Steel Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated output-R.O.	2.0	mV/V
Rated output tolerance	10	± %FSO
Zero balance	1	± %FSO
Combined error	<0.025	± %FSO
Non-repeatability	<0.010	± %FSO
Creep error (30 minutes)	<0.025	± %FSO
Temperature effect on zero	<0.002	± %/°C
Temperature effect on output	0.001	± %/°C
Operating temperature range	-20 to +70	°C
Maximum safe central overload	150	% FSO
Ultimate central overload	300	% FSO
Excitation, recommended	10	VDC
Excitation, maximum	15	VDC
Input impedance	430-525	Ω
Output impedance	349-355	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Stainless steel with electropolish	
Environmental protection	IP66	
Platform size	350 × 350	mm

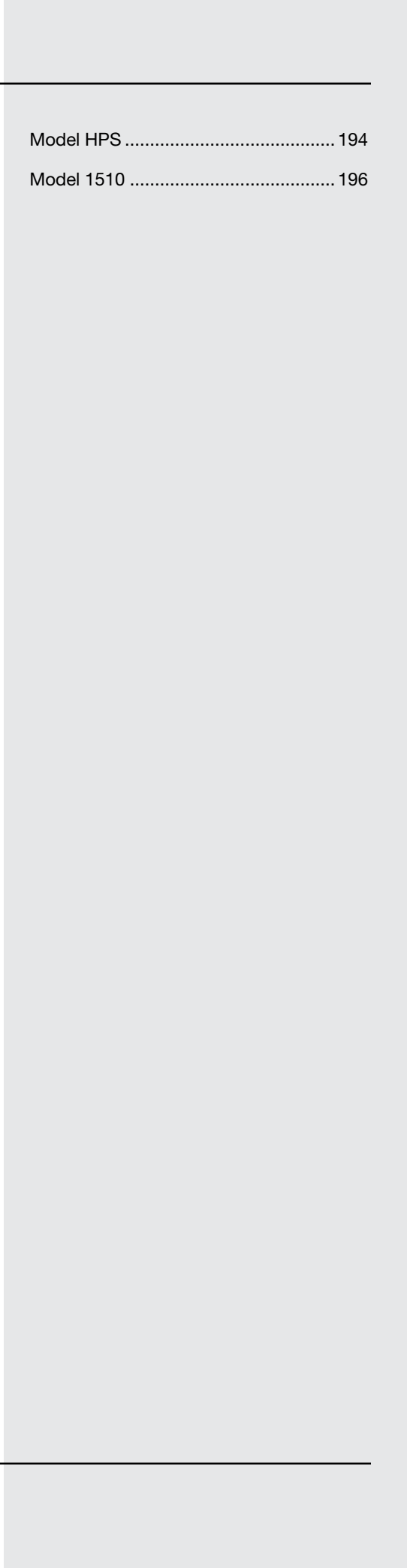
All specifications subject to change without notice.



Model HPS 194

Model 1510 196

Single-Point Hermetically Sealed Beams



Single-Point Load Cell

FEATURES

- Capacities: 6–60 kg
- Fully welded, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 3000d
- Comprehensive mounting hole facility
- Moment insensitive, platform size to 350 x 350 mm
- **Optional**
 - ATEX and FM certified versions are available for use in potentially explosive atmospheres
 - IP69K full hermetic construction with true glass to metal seal



APPLICATIONS

- Food platforms
- Process weighing
- Multi-head packaging machines
- Marine hybrid scales

This product is suitable for low capacity platform scales, multi-head packaging machines, check weighers, loss-in-weight feeders, belt scales, and general process weighing applications.

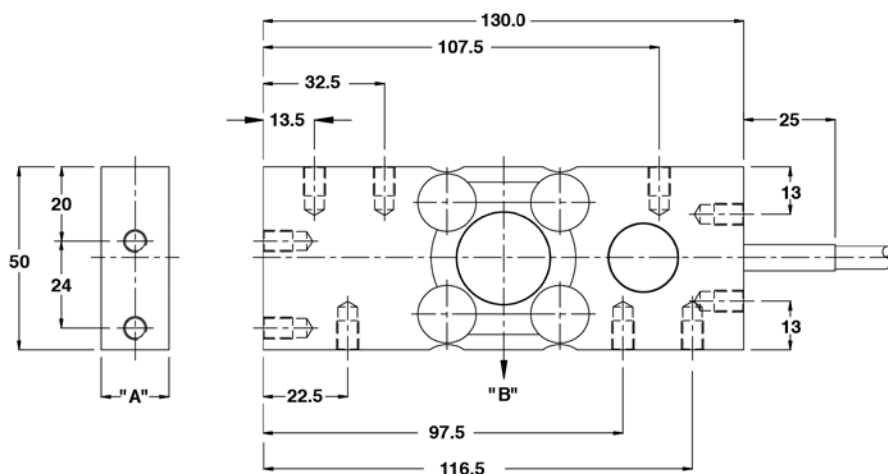
DESCRIPTION

The HPS is a unique fully welded all stainless steel single point (moment insensitive) load cell.

The unique construction ensures that this product can be used successfully in harsh environments found in the food, chemical, and allied industries.

This product meets the stringent Weights and Measures requirements throughout Europe.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length: 7m

- Excitation + Green
- Excitation - Black
- Output + White
- Output - Red
- Sense + Yellow
- Sense - Blue
- Shield Transparent

Cable screen is not connected to the load cell body.

Capacity (kg)	6, 12, 30	60
A	18.5	23.5
B	Central load axis	
Max. recommended platform size 350 mm		
All threads M6x1 (8 Deep)		

Single-Point Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	6, 12, 30, 60		kg
Accuracy class according to OIML R-60	Non-Approved	C3	
Max. no. of verification intervals	3000		
Min. verification interval (V_{min})	$E_{max}/12000$		
Rated output (=S)	2		mV/V
Rated output tolerance	0.2		±% mV/V
Zero balance	1.0		±% FSO
Combined error	0.0500	0.0200	±% FSO
Non-repeatability	0.0200	0.0100	±% FSO
Minimum dead load output return	0.0500	0.0167	±% applied load
Creep error (30 minutes)	0.0600	0.0245	±% applied load
Temperature effect on min. dead load output	0.0250	0.0058	±% FSO/5°C (°F)
Temperature effect on sensitivity	0.0250	0.0045	±% applied load/5°C (°F)
Eccentric load effect*	0.03		±% FSO
Minimum dead load	0		% E_{max}
Maximum safe overload	150		% E_{max}
Ultimate overload	300		% E_{max}
Maximum safe side load	100		% E_{max}
Deflection at E_{max}	0.24±0.02 / 0.19±0.01 / 0.15±0.01 / 0.22±0.03		mm
Excitation voltage	5 to 12		V
Maximum excitation voltage	15		V
Input resistance	400±6	400±6	Ω
Output resistance	350±7		Ω
Insulation resistance	≥5000		MΩ
Compensated temperature range	-10 to +40		°C
Operating temperature range	-40 to +80		°C
Storage temperature range	-40 to +90		°C
Element material (DIN)	Stainless steel 1.4542		
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68		
Recommended torque on fixation bolts	6		N*m

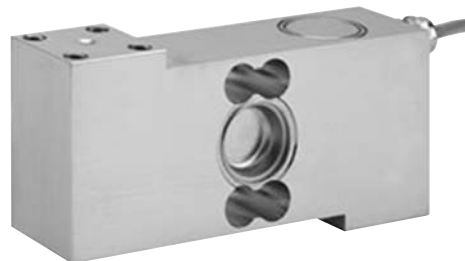
* Applies at 50% x Rated Load at 150 mm radius

All specifications subject to change without notice.

Hermetically Sealed Single-Point Load Cell

FEATURES

- Capacity range: 100–500 kg
- Stainless steel construction
- Single-point 600 x 600 mm platform
- OIML R60 and NTEP approved
- IP68 protection
- **Optional**
 - EEx ia IIC T6 hazardous area approval
 - FM approval available
 - Platform size 600 x 800 mm available



APPLICATIONS

- Food industry platforms
- Marine and hybrid scales
- Process weighing hoppers
- Harsh environment

Hermetically sealed against moisture, the all welded construction of the 1510 in combination with a polyurethane dual shielded cable, enables continuous operation in harsh environments while maintaining a high operating specification.

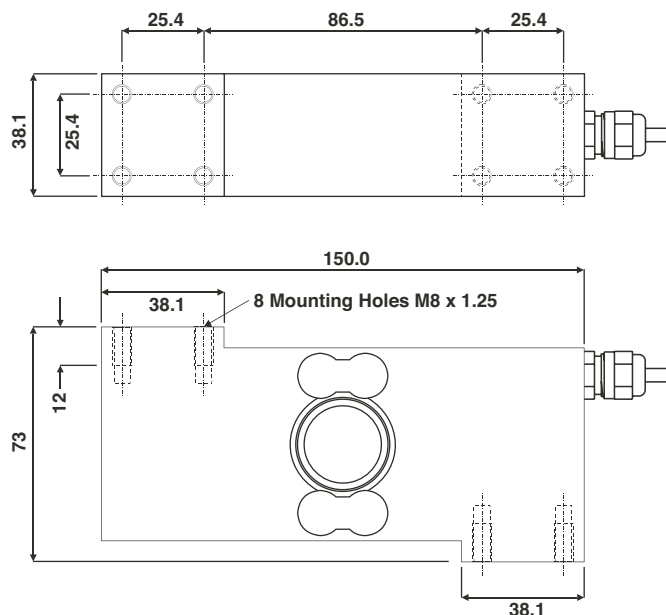
The two additional sense wires feed back the voltage reaching the load cell.

DESCRIPTION

Model 1510 is a high accuracy single-point load cell ideally suited to industrial applications which undergo regular washdown, typically platforms, wall scales and other process weighing applications in the food industry.

Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



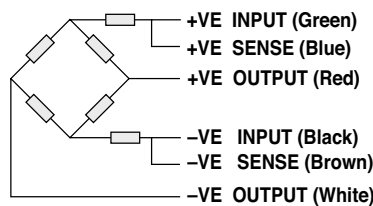
Hermetically Sealed Single-Point Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	100, 250, 500				kg
NTEP/OIML accuracy class	NTEP	Non-approved	C3*	C4*	
Maximum no. of intervals (n)	5000 single	1000	3000	4000	
$Y = E_{max}/V_{min}$	11425	1400	10000	12000	Maximum available 12500
Rated output—R.O.	2.0				mV/V
Rated output tolerance	0.2				±% mV/V
Zero balance	0.2				±% mV/V
Zero return, 30 min.	0.0170	0.0060	0.0170	0.0130	±% of applied load
Total Error	0.0200	0.0300	0.0200	0.0150	±% of rated output
Temperature effect on zero	0.0023	0.010	0.0014	0.0011	±% of rated output/°C
Temperature effect on output	0.001	0.0040	0.0010	0.0008	±% of applied load/°C
Eccentric loading error	0.0016	0.0035	0.0011	0.0008	±% of rated load/cm
Temperature range, compensated	-10 to +40				°C
Temperature range, safe	-20 to +70				°C
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	15				VDC or VAC RMS
Input impedance	380±10				Ω
Output impedance	350±2				Ω
Insulation resistance	>2000				MΩ
Cable length	3				m
Cable type	6-wire, braided, polyurethane, dual floating screen				Standard
Construction	Stainless steel				
Environmental protection	IP68				
Recommended torque	22.0				N*m

* 35% utilization

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM





Model RLC	200
Model 220	202
Model PSD	204
Model LCD	206
Model 250	208
Model 98001	210

Tension/ Compression Disks

Ring Torsion Load Cell

FEATURES

- Capacity range: 250 kg to 60 ton
- Low profile, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Meets OIML R-60 and NTEP 6000d
- Outputs are matched to ensure easy and accurate parallel connection of multiple load cells
- **Optional**
 - ATEX certified versions are available for use in potentially explosive atmospheres
 - Multi-interval and multiple-range versions are available



APPLICATIONS

- Platform scales
- Belt scales
- Silo hopper weighing

The fully welded construction and glass-to-metal cable-entry ensure that this product can be used successfully in harsh environments found in the food, chemical and allied process industries.

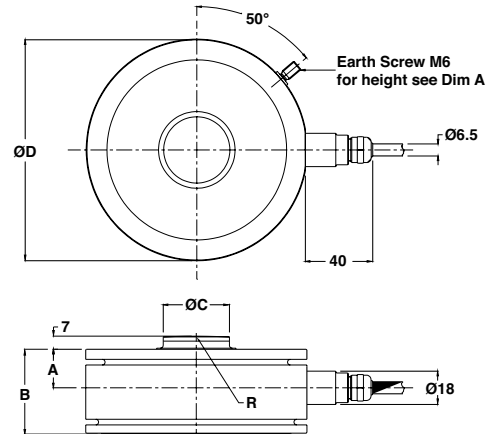
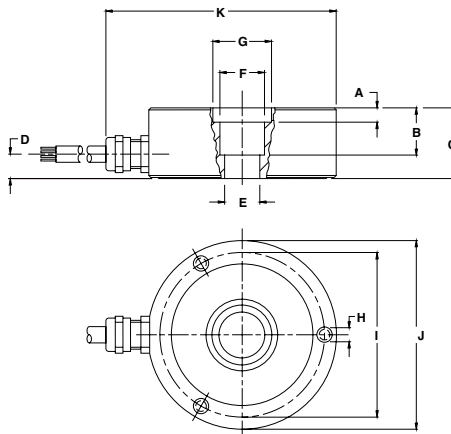
DESCRIPTION

The RLC is a low profile, high performance stainless steel ring torsion type load cell.

This product is suitable for small and medium platform scales, hoppers and process weighing.

This product meets the stringent Weights and Measures requirements throughout Europe and USA.

OUTLINE DIMENSIONS in millimeters



CAPACITY (T)	0.25, 0.5, 1	2, 3.5, 5	10		CAPACITY (T)	28	60
A	1.0	6.0	-	Cable specifications Cable length: 3m for 0.25–1T, 5m for 3–10T, 10m for 28T, 15m for 60T Excitation + Pink Excitation – Grey Output + Brown Output – White Cable screen is connected to load cell body. For capacities 28 and 60 ton cable screen is not connected to body.	A	21	28
B	15.0	20.0	14.8		B	46	62
C	25.0	30.0	35.0		C	35.9	47.9
D	9.5	8.5	10.0		D	120	140
E	M10	15 H7	Ø24.9		R	400	600
F	Ø19	Ø19	Ø29.1				
G	Ø25	Ø25					
H	M6 (3X120°) 8 Deep						
I	Ø70	Ø70	Ø83				
J	Ø80	Ø80	Ø95				
K	97.5	97.5	112.5				

Ring Torsion Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Standard capacities (E_{max})	0.25, 0.5, 1, 2, 3.5, 5, 10, 28, 60				ton
Accuracy class according to OIML	NTEP III L	D3	C3 ⁽³⁾	C6 ⁽²⁾	
Maximum no. of verification intervals (nlc)	10000		3000	6000	
Minimum verification interval			$E_{max}/10000$	$E_{max}/15000$	
Minimum verification interval type MR			$E_{max}/20000^{(1)}$	$E_{max}/28000$	
Rated output (=S)	2 (1.75 for 0.25T, 2.05 for 10T)				mV/V
Output accuracy for multiple LC systems	0.01				±% mV/V
Zero balance	1.0				±% FSO
Combined error	0.0200	0.0300	0.0230	0.0115	±% FSO
Creep error (30 minutes)			0.0245	0.0123	±% FSO
Temperature effect on zero	(0.0010)	(0.0010)	0.0070	0.0045	±% FSO/5°C (°F)
Temperature effect on sensitivity (output)	(0.0008)	(0.0008)	0.0050	0.0025	±% FSO/5°C (°F)
Minimum dead load	0				% E_{max}
Maximum safe overload	150				% E_{max}
Ultimate overload	300				% E_{max}
Maximum safe side load	100% up to 10 ton 50% for 28 & 60 ton				% E_{max}
Deflection at E_{max}	0.12–0.20				mm
Excitation voltage	5 to 15				V
Maximum excitation voltage	30				V
Input resistance	1110±50 (1100±50 for 0.25T and 10T) 1075±100 for 28T 1350±100 for 60T				Ω
Output resistance	1025±25 (1025±50 for 0.25T and 10T) 930±0.5 for 28T 1175±0.5 for 60T				Ω
Insulation resistance	≥5000 (20 for 28 and 60T)				MΩ
Compensated temperature range	-10 to +40				°C
Operating temperature range	-30 to +70				°C
Storage temperature range	-50 to +80				°C
Element material (DIN)	Stainless steel 1.4542				
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68				
Recommended torque on fixation bolts	12 to 14				N*m
ATEX opt. for potent. explosive atmospheres	II2G EEx ib IIC T4/T6, II2D, IIID T70 II3G nA II T4/T6				

⁽¹⁾ Capacities of 28 and 60 ton $E_{max}/15,000$ approved to OIML C3 only

⁽²⁾ 250 kg and 10 ton capacities are approved to OIML C3 only. Maximum application range for 0.5T is $0.75 \cdot E_{max}$.

⁽³⁾ The following accuracy classes are available (from 0.5T to 10T): C3MI6 and C3MI7.5. Minimum dead load output return is $\frac{1}{2} E_{max}/6000$ and $\frac{1}{2} E_{max}/7500$ respectively

FSO—Full Scale Output

All specifications subject to change without notice.

High Accuracy Compression Load Cell

FEATURES

- Capacities 5–50 ton
- Stainless steel construction
- OIML R60 and NTEP approved
- IP68 protection
- **Optional**
 - EEx ia IIC T6 hazardous area approval
 - FM approval available



APPLICATIONS

- Truck scales
- Hopper for process weighing
- Tank and silo weighing
- Harsh environment



DESCRIPTION

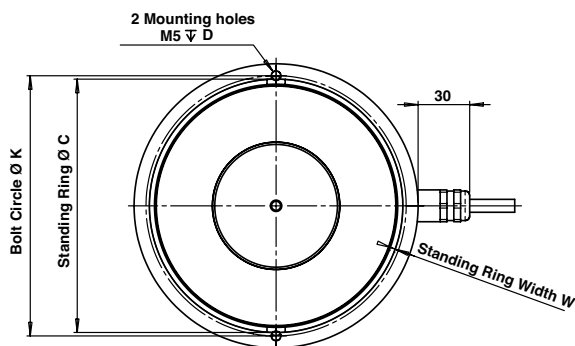
Model 220 is a low profile bending ring load cell designed for high capacity weighing applications, including weighbridges, tanks, silos and high capacity platform scales as well as force measurement.

It's small physical size, combined with high accuracy and low cost, makes this load cell ideally suited for modern

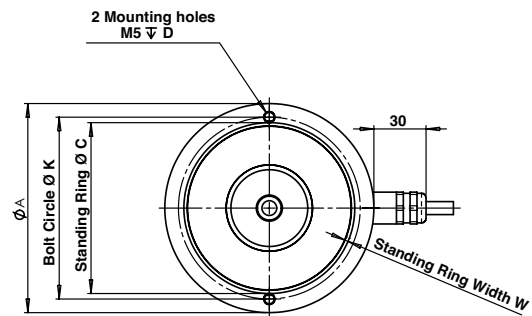
low profile designs in both approved applications and process weighing.

This high accuracy load cell has factory Mutual approval and is OIML R60 approved to 6000 divisions. For hazardous environments, this load cell has an EEx ia IIC T6 approved option. When combined with Tedea-Huntleigh mounting accessories, this load cell will provide a simple, accurate and reliable weighing system.

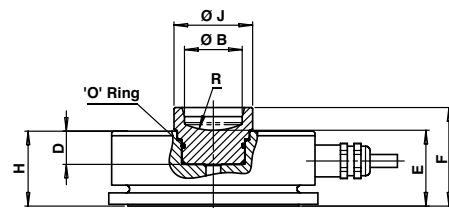
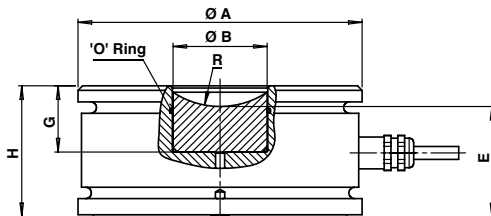
OUTLINE DIMENSIONS in millimeters



20T, 30T, 50T



5T, 10T



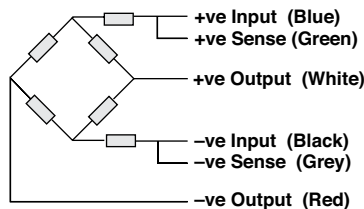
	A	B	C	D	E	F	G	H	J	K	W	R
5T	80.0	25.4	71.0	7.0	33.4	43.4	20.0	30.0	34.6	70.0	1.0	31.0
10T	92.0	25.4	75.2	6.0	33.4	43.4	14.6	33.0	34.6	80.0	1.5	31.0
20T, 30T	110.0	28.4	101.0	7.5	39.1		26.3	50.1		102.0	1.5	31.0
50T	125.0	41.4	111.5	8.0	48.5		29.2	57.7		114.5	2.3	37.3

High Accuracy Compression Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity – R.C. (E_{max})	5000, 10000, 20000, 30000, 50000***				kg
NTEP/OIML accuracy class	NTEP	C1	C3*	C4**	
Maximum no. of intervals (n)	10000 IILL multiple	1000	3000	4000	
$Y = E_{max}/V_{min}$	11000	5000	14000	14000	
Rated output – R.O.	2.0				mV/V
Rated output tolerance	0.1				±% of rated output
Zero balance	2				±% of rated output
Zero return, 30 min.	0.0330	0.0500	0.0170	0.0125	±% of applied load
Total error (per OIMP R60)	0.0200	0.0500	0.0200	0.0150	±% of rated output
Temperature effect on zero	0.0023	0.0028	0.0010	0.0010	±% of rated output/°C
Temperature effect on output	0.001	0.0020	0.0010	0.0008	±% of applied load/°C
Temperature range, compensated	-10 to +40				°C
Temperature range, safe	-30 to +70				°C
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	20				VDC or VAC RMS
Input impedance	1065±60				Ω
Output impedance	1025±20				Ω
Insulation resistance	>2000				MΩ
Cable length	5m (5T), 10m (10 and 20T), 20m (30 and 50T)				m
Cable type	6-wire, braided, polyurethane, double floating screen				Standard
Construction	Stainless Steel				
Environmental protection	IP68				

* 20% utilization
 ** 40% utilization
 *** Capacities 5–20 ton available in C6 45% utilization
 All specifications subject to change without notice.

Wiring Schematic Diagram



Precision Shear Web Disk

FEATURES

- Capacities: 0.2, 0.5, 1, 1.5, 2.5, 5, 10, and 25 tons
- Compact size with low profile
- Low deflection for high output
- Electroless nickel-plated alloy tool steel construction
- Off center load compensated
- OIML C3 available for whole series
- **Optional**
 - PSD-SJTT and PSD-SJTH with different loading holes



APPLICATIONS

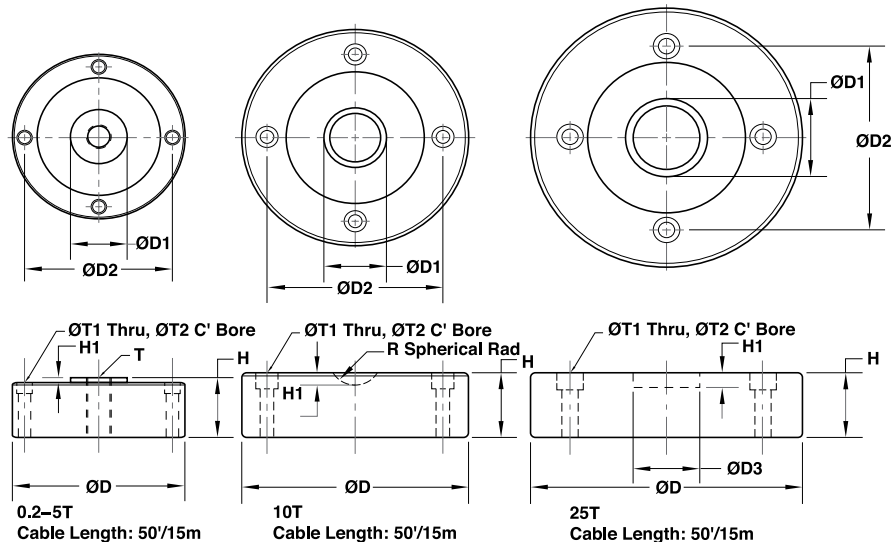
- Testing machines
- Platform scales
- Hopper and vessel weighing
- Truck scales

DESCRIPTION

A low profile design that makes PSD the most suitable application concerning critical height for safety reasons. The shear web design provides excellent performance

even when side forces are inevitable in normal operations. The typical example for side force resistance is the application in motor truck scales. PSD is constructed of alloy steel and is fully potted with special chemical compounds to IP67 to protect the cell from water and moisture attack.

OUTLINE DIMENSIONS



Wiring

+ Excitation	Red
- Excitation	Black
+ Signal	Green
- Signal	White

CAPACITY		D	D ₁	D ₂	D ₃	H	H ₁	R	T	T ₁	T ₂
0.2T/5T	mm	104.7	32.0	88.9	----	34.8	3.05	----	M16 x 1.5	7.2	10.5 x 7.2DP
	(inch)	4.12	1.26	3.50	----	1.37	0.12	----		0.28	0.41 x 0.28DP
10T	mm	138.0	38.9	106.4	----	41.1	7.62	22.2	----	8.7	13.5 x 9.7DP
	(inch)	5.43	1.53	4.19	----	1.62	0.30	0.87	----	0.34	10.5 x 7.2DP
25T	mm	165.0	50.4	116.8	42.0	41.1	8.0	----	----	10.3	15.9 x 10.2DP
	(inch)	6.50	1.98	4.60	1.65	1.62	0.31	----	----	0.41	0.63 x 0.40DP

Precision Shear Web Disk

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
NTEP/OIML accuracy class	C3	Non-Approved	
Maximum no. of intervals (n)	3000	1000	
Y = E_{max}/V_{min}	8000	5000	Maximum available
Standard capacities (E_{max})	200, 500, 1000, 1500, 2500, 5000, 10000, 25000		kg
Rated output—R.O.	3.0**		mV/V
Rated output tolerance	0.25		±% of rated output
Zero balance	1		±% of rated output
Non-linearity	0.025		±% of rated output
Hysteresis	0.025		±% of rated output
Non-repeatability	0.020		±% of rated output
Creep error (20 minutes)	0.030		±% of rated output
Zero return (20 minutes)	0.030		±% of rated output
Temperature effect on min. dead load output	0.0017	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0010	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40		°C
Operating temperature range	-20 to +60		°C
Safe overload	150		% of R.C.
Ultimate overload	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	385±5		Ω
Output impedance	350±3		Ω
Insulation resistance	>5000		MΩ
Construction	Nickel-plated alloy steel*		
Environmental protection	IP67		

* 200 kg is made of aluminum.

** 200 kg is 2 mV/V.

All specifications subject to change without notice.

Low Profile Compression Disk

FEATURES

- Capacities: 5k, 10k, 25k, 50k, 100k lbs
- Electroless nickel-plated alloy tool steel
- Compact size with low profile
- Surge protection optional for 5k–100k lbs
- **Optional**
 - Stainless steel available
 - FM approval available
 - LCD-TT/M/MH with different loading holes

APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing
- Universal material tester
- Tensile/pulling force measurement

DESCRIPTION

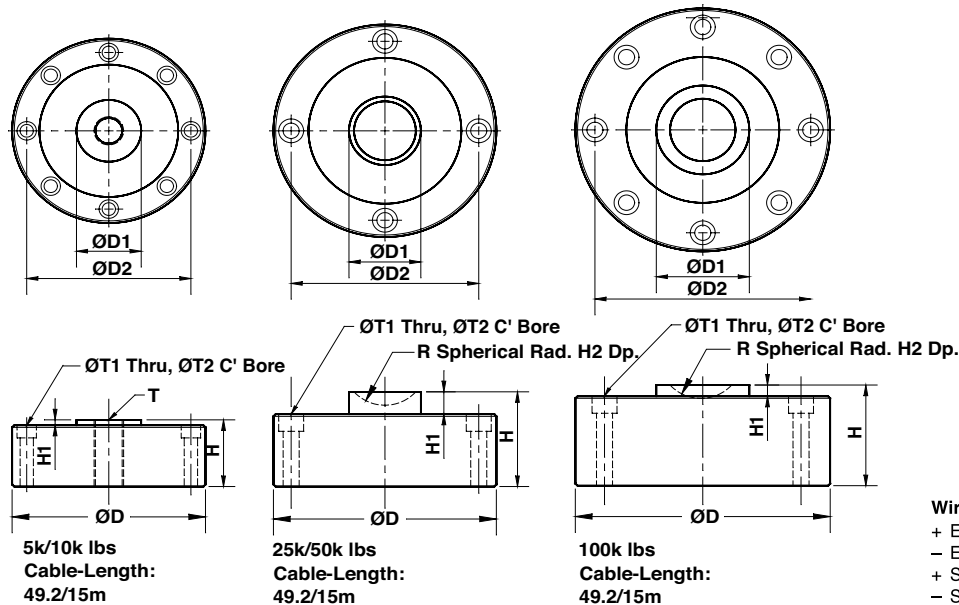
The low profile compression disk is designed as the ultimate solution for some difficult applications with critical height for safety reasons. The shear web design



provides excellent performance even when the side force inevitably exists in normal operations. The typical example for side force resistance is the applications in motor truck scales.

LCD is constructed of alloy steel and fully potted with special chemical compounds to IP67 providing excellent protection against moisture and humidity.

OUTLINE DIMENSIONS



CAPACITY		D	D ₁	D ₂	H	H ₁	H ₂	R	T	T ₁	T ₂
5k/10k lbs	mm	104.7	32.0	88.9	34.8	3.05	---	---	5/8-18UNF	7.2	10.5 x 7.2DP
	(inch)	4.12	1.26	3.50	1.37	0.12	---	---	---	0.28	0.41 x 0.28DP
25k/50k lbs	mm	120.7	38.9	101.6	53.8	12.7	7.6	22.2	---	8.7	13.5 x 9.7DP
	(inch)	4.75	1.53	4.00	2.12	0.50	0.30	0.87	---	0.34	0.53 x 0.38DP
100k lbs	mm	138	50.4	116.8	57.2	6.4	7.6	2.2	---	10.13	16.5 x 11.0DP
	(inch)	5.43	1.98	4.60	2.25	0.25	0.30	0.87	---	0.41	0.65 x 0.43DP

Low Profile Compression Disk

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
NTEP/OIML accuracy class	Non-Approved	
Maximum no. of intervals (n)	2000	
Y = E_{max}/V_{min}	5000	Maximum available
Standard capacities (E_{max})	5k, 10k, 25k, 50k, 100k	lbs
Rated output—R.O.	4.0	mV/V
Rated output tolerance	0.25	±% of rated output
Zero balance	1	±% of rated output
Non-linearity	0.050	±% of rated output
Hysteresis	0.050	±% of rated output
Non-repeatability	0.020	±% of rated output
Creep error (20 minutes)	0.030	±% of rated output
Zero return (20 minutes)	0.030	±% of rated output
Temperature effect on min. dead load output	0.0026	±% of rated output/°C
Temperature effect on sensitivity	0.0015	±% of applied load/°C
Compensated temperature range	-10 to +40	°C
Operating temperature range	-20 to +60	°C
Safe sideload	150	% of R.C.
Ultimate overload	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	385±5*	Ω
Output impedance	350±3**	Ω
Insulation resistance	>5000	MΩ
Construction	Nickel-plated alloy steel	
Environmental protection	IP67	

* 770±10 Ohms for 100k lbs

** 700±5 Ohms for 100k lbs

All specifications subject to change without notice.

FM Approval

Intrinsically Safe: Class I, II, III; Div. 1 Groups A-G

Non-Incendive: Class I; Div. 2 Groups A-D

Load Cell for Elevators

FEATURES

- Used in elevators for safety, traffic control and energy control
- Low profile
- Amplified output (0.4–12.4 VDC)
- Located under the inner cage

DESCRIPTION

The Model 250 is a low-profile, pancake-type load cell, especially designed for use in elevators. Model 250 is equipped with a built-in amplifier and is commonly placed between the inner and outer cages of the elevators cabin. The number of load cells required depends upon the cabin size and ranges from two to eight load cells (some may be dummies).

Model 250 is used for 3 reasons:

1. **Safety**—The load cell is an overload sensor, that indicates when the weight in the elevator passes a certain value that was set by the elevator designers. It also can be used to prevent a child from using the elevator; for example, the elevator control system can prevent movement if a demand from a low-weight user (a child) is made.
2. **Traffic Control**—The load cell is a sensor that transmits load information to the elevator control system, used in buildings with more than one elevator.

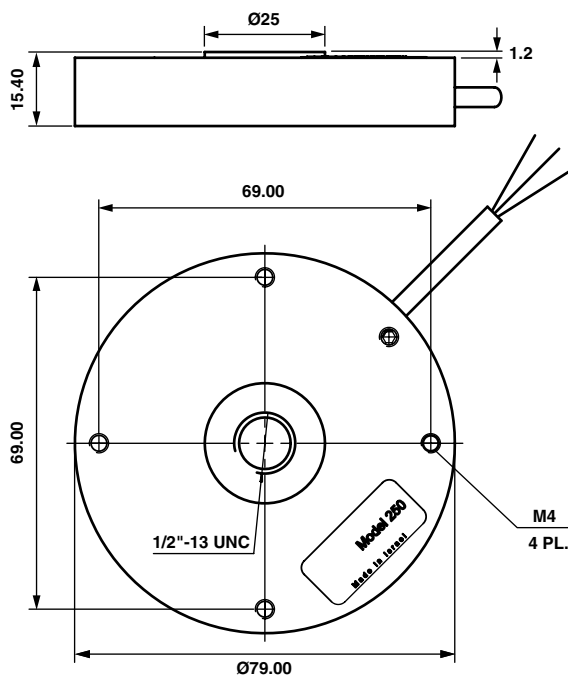


This information can be used to decide which elevator to send to a user, taking into account the load in the elevator, in order to shorten waiting time or prevent full/semi full elevators from stopping.

3. **Energy Saving**—The load cell is a sensor that transmits load information to the elevator control system, used in buildings with more than one elevator. This information is used in energy saving algorithms of the control system.

A common elevator is constructed from an external cage with an internal cabin. The cabin is positioned on several rubber dampers, according to its size. Load cells (or dummies) are located between these dampers and the cabin (under the cabin). The number of load cells depends on the design.

OUTLINE DIMENSIONS in millimeters



Load Cell for Elevators

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C.	500	kg
Rated output—R.O.	24	mV/kg
Rated output tolerance	0.24	±mV/kg
Zero balance	0–0.5	V
Total error	5	±% of R.O.
Temperature range, safe	–30 to +70	°C
Maximum safe static overload	200*	% of R.C.
Ultimate static overload	300	% of R.C.
Excitation, recommended	24	VDC regulated
Excitation, minimum	8	VDC
Excitation, maximum	28	VDC
Current consumption	30	mA
Insulation resistance	>2000	MΩ
Construction	Alloy steel yellow zinc plated	
Environmental protection	IP65	
Color code	Red: +Exc, Black: Com, White: Out	
Cable length	5	m

* Amplifier is saturated at 500 kg

All specifications subject to change without notice.

Low Profile Universal Load Cell

FEATURES

- Capacity: 0.5–100T
- Alloy steel construction
- Universal load cell
- Integrated overload protection (in compression)
- Tension and compression loading
- **Optional**
 - Model 98005 without base mounting plate (for compression applications only)
 - Metric and imperial threads



APPLICATIONS

- Universal testing machines

DESCRIPTION

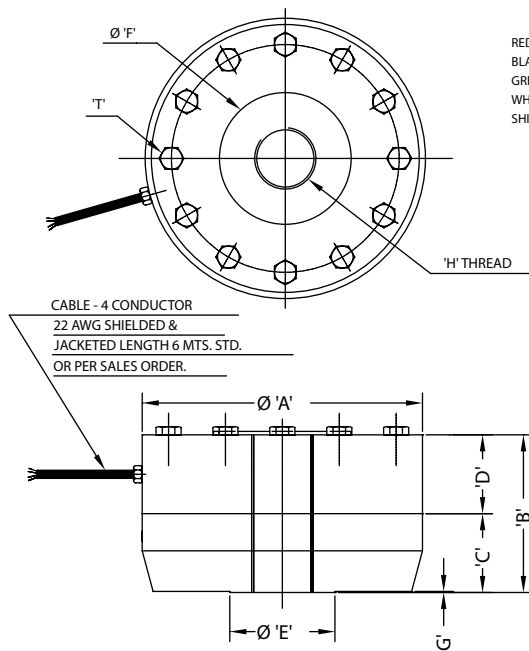
Model 98001 is a universal alloy steel shear beam load cell ideal for testing machine applications employing both tension and compression loading. This shear beam design

load cell provides excellent immunity to impact and side forces. This load cell includes integrated overload protection for compression loading applications.

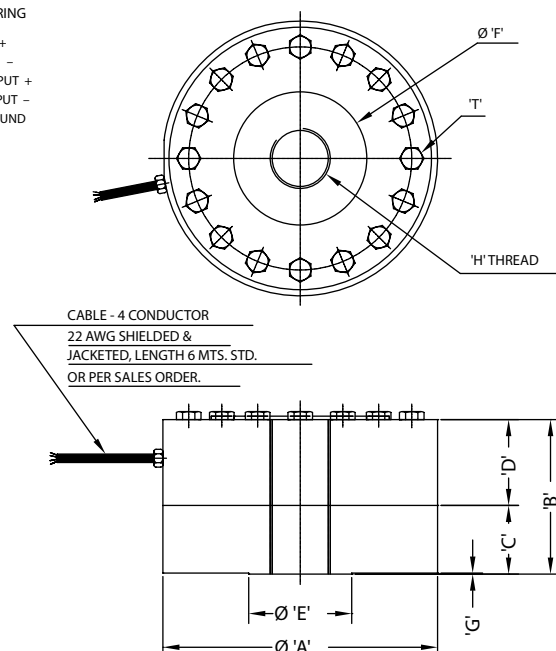
OUTLINE DIMENSIONS in millimeters

CAPACITY	Ø A	B	C	D	Ø E	Ø F	G	H THREAD	T
500kg, 1.0, 2.0, 3.0, 5.0 tons	105.0	66.40	35.00	31.4	34.0	34.0	7.80	M16 x 1.5	M8, 12 PLCS ON PCD 90.0
10, 15, 20, 25, 30 tons	154.0	89.00	44.50	44.5	57.0	63.0	0.76	M30 x 2.0	M10, 12 PLCS ON PCD 130.0
40, 50, 60 tons	203.0	115.06	51.56	63.5	76.0	95.5	0.76	1 3/4"-12 UNF-2B	M12, 16 PLCS ON PCD 165.0
100 tons	279.0	166.10	77.20	88.9	114.0	122.0	0.80	M72 x 2.0	M16, 16 PLCS ON PCD 221.4

500 kg–30.0 tons



40.0–100.0 tons



Low Profile Universal Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated output—R.O.	2.0	mV/V
Rated output tolerance	10	±% FSO
Zero balance	1	±% FSO
Combined error	<0.10	±% FSO
Non-linearity	<0.050	±% FSO
Hysteresis	<0.050	±% FSO
Non-repeatability	<0.020	±% FSO
Creep error (30 minutes)	<0.002	±% FSO
Temperature effect on zero	<0.001	± %/°C
Temperature effect on output	0.001	± %/°C
Operating temperature range	-20 TO +70	°C
Maximum safe central overload	150	% FSO
Ultimate central overload	300	% FSO
Excitation, recommended	10	VDC
Excitation, maximum	15	VDC
Input impedance	699–750	Ω
Output impedance	699–750	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material	Alloy steel with electroless nickel-plated	
Environmental protection	IP67	

Specifications also apply for optional Model 98005 (for compression only)

All specifications subject to change without notice.



Canister Load Cells

Model ASC	214
Model 65114	216
Model 116	218
Model 120	220
Model 122	222
Model CSP-M.....	224
Model 65088	226
Model 92/93	228
Model 792	230
Model KSR	232

Compression Load Cell

FEATURES

- Capacities: 30, 40, 50, and 60T
- Self-aligning, stainless steel single column
- Hermetically sealed, IP66 and IP68
- Certified to OIML R60, 6000d and NTEP class IIII, 10000 divisions
- Built-in surge protection tubes (GDTs)
- Current calibration output (SC) ensures easy and accurate parallel connection of multiple load cells
- **Optional**
 - Digital version available (model DSC)



APPLICATIONS

- Weighbridges
- Silo hopper weighing

DESCRIPTION

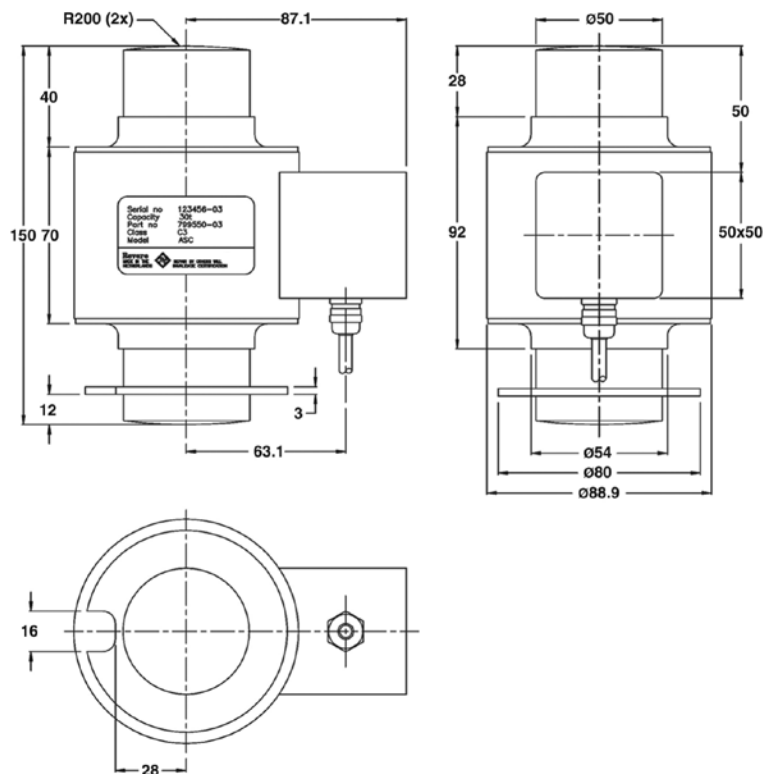
The ASC is a single column, stainless steel compression load cell.

This product is suitable for use in road and rail weigh bridges and process weighing applications.

The welded construction and built-in surge protection ensure that this product can be used successfully in harsh environments.

This load cell meets the stringent Weights and Measures requirements throughout Europe and the USA.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length:	15m
Excitation +	Green
Excitation -	Black
Output +	White
Output -	Red
Shield	Transparent / Yellow

Shield is not connected to the load cell body.

Compression Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Standard capacities (E_{max})	30, 40, 50, 60				ton
Accuracy class according to OIML R-60	NTEP IIII	Non-Approved	C3	C6	
Max. no. of verification intervals	10000		3000	6000	
Min. verification interval ($V_{min}=E_{max}/Y$)			$E_{max}/6,000$	$E_{max}/12,000$	
Min. verification interval, type MR			$E_{max}/15,000$	$E_{max}/30,000$	
Rated output (=S)	2				mV/V
Rated output tolerance	0.02				±mV/V
Zero balance	1.0				±% FSO
Combined error	0.0200	0.05000	0.0230	0.0120	±% FSO
Non-repeatability	0.0100	0.0200	0.0100	0.018	±% FSO
Minimum dead load output return	0.0250	0.0500	0.0167	0.008	±% FSO
Creep error (30 minutes)		0.0600	0.0245	0.0120	±% FSO
Creep error (20–30 minutes)	0.030	0.0200	0.0053	0.0026	±% FSO
Temperature effect on min. dead load output	(0.001)	0.0250	0.0117	0.0058	±% FSO/5°C (°F)
Temp. effect on min. dead load output, type MR			0.0047	0.0023	±% FSO/5°C
Temperature effect on sensitivity	(0.0008)	0.0250	0.0088	0.0045	±% FSO/5°C (°F)
Minimum dead load	0				% E_{max}
Maximum safe overload	150				% E_{max}
Ultimate overload	300				% E_{max}
Deflection at E_{max}	0.5 max.				mm
Excitation voltage	5 to 20				V
Maximum excitation voltage	25				V
Input resistance	700±35				Ω
Output resistance	700±35				Ω
Insulation resistance	≥5000				MΩ
Compensated temperature range	–10 to +40				°C
Operating temperature range	–40 to +80				°C
Storage temperature range	–40 to +90				°C
Element material	Stainless steel 1.4542				
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68				
SC-Version (current calibration)	Standard				

FSO—Full Scale Output

SC-version: The rated output and the output resistance are balanced in such a way, that the output current is calibrated to within 0.05% of a reference value. This allows easy parallel connection of the load cells.

All specifications subject to change without notice.

Stainless Steel, Single-Column Compression Load Cell

FEATURES

- Rated capacities of 50,000 to 100,000 pounds; 25 to 50 metric tons
- Stainless steel, welded seal construction
- 30 feet standard cable length
- Trade certified for NTEP Class III: 10000 divisions and OIML R60 3000 divisions
- Welded *Sensorgage*™ sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Fully hermetically sealed available to IP66/68 standards



APPLICATIONS

- Truck scales
- Tank, bin, and hopper weighing

IP67 welded seal comes standard with optional true hermetic IP68 sealing available upon request. This load cell is used primarily in truck and train scales, but can just as easily be used to weigh tanks and silos.

DESCRIPTION

The 65114 is a high capacity, stainless steel single-column compression load cell.

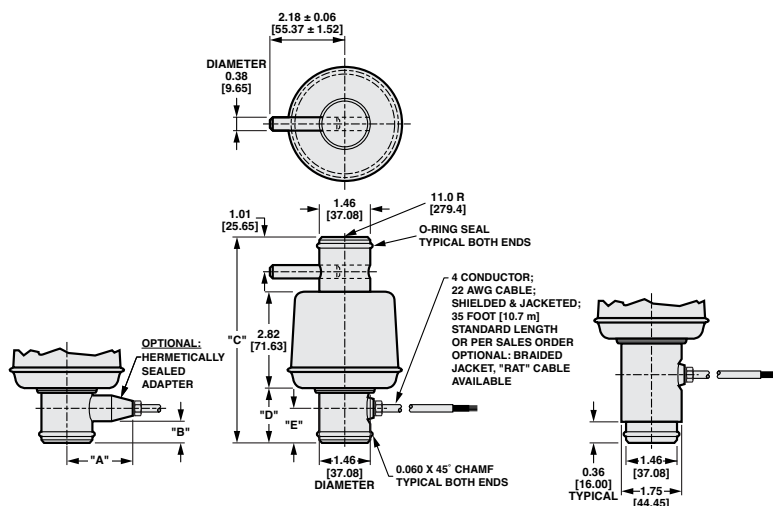
This product is specifically designed for use in rugged outdoor environments. Stainless steel construction with

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This load cell is certified for Legal-for-Trade applications by both American NTEP and International OIML standards.

OUTLINE DIMENSIONS in inches [millimeters]

Wiring

- + Excitation Red
- Excitation Black
- + Output Green
- Output White



CAPACITY	A	B	C	D	E
50k	1.91	0.62	6.00	1.59	1.00
100k	2.08	2.01	8.86	3.04	2.01
25T	[48.51]	[15.75]	[152.40]	[40.39]	[25.40]
35T-50T	[52.83]	[51.05]	[225.04]	[77.22]	[51.05]

Capacities are in pounds [kg/T].

Stainless Steel, Single-Column Compression Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E_{max})	50k, 100k 25, 35, 50			lbs tons
NTEP/OIML accuracy class	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	10000 multiple		3000	
$Y = E_{max}/V_{min}$	NTEP cert. 97-081		8333	Maximum available
Rated output—R.O.	2.0			mV/V
Rated output tolerance	0.25			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.03	0.02	±% FSO
Non-repeatability	0.010	0.015	0.010	±% FSO
Creep error (30 minutes)	0.03	0.05	0.017	±% FSO
Temperature effect on zero	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)			°F (°C)
Operating temperature range	0 to 150 (–18 to 65)			°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)			°F (°C)
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	5–20			VDC or VAC RMS
Excitation, maximum	25			VDC or VAC RMS
Input impedance	1000 nominal			Ω
Output impedance	990–1010			Ω
Insulation resistance at 50 VDC	>1000			MΩ
Material	Stainless steel			
Environmental protection	IP67*			

* Hermetically sealed to IP68 upon request

FSO—Full Scale Output

All specifications subject to change without notice.

Rocker Column Load Cell

FEATURES

- Capacities: 30T and 40T
- Self-restoring rocker column
- High performance compact design
- Environmentally sealed, IP66/IP68—5 bar
- Certificate—OIML R60 (NTEP Class IIIIL: 10,000d Pending)
- Current calibration output ensures easy and accurate parallel connection of multiple load cells
- Anti-rotation pin

APPLICATIONS

- Weighbridges
- Silo and hopper weighing
- Process weighing

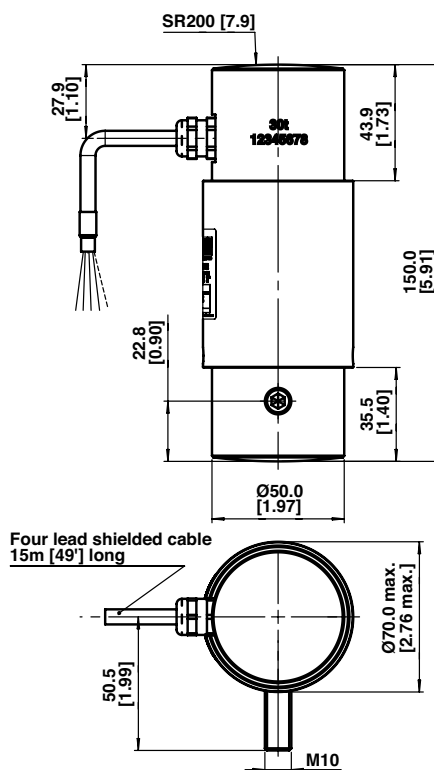
DESCRIPTION

The 116 is a high-capacity single-column load cell, designed around a nickel-plated, alloy steel element. It is environmentally sealed and the use of redundant O-rings and high-grade potting material provide excellent ingress protection.



The 116 is suitable for all heavy weighing applications and provides the user an excellent overall value.

OUTLINE DIMENSIONS in millimeters [inches]



Rocker Column Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	30, 40				T
Accuracy class designation	Non-Approved	NTEP IIIIL	OIML C3	OIML C3MR	
TH Accuracy class	E	I3	G5	G3	
Minimum utilization	NA	33	50	30	% of R.C.
Maximum no. of intervals (n)	NA	10000 Mult	3000		
Rated output—R.O.	2.0				mV/V
Rated output tolerance	0.02				±mV/V
Zero balance	0.02				±mV/V
Creep, 30 min.	0.074	0.050	0.025		±% of load
Zero return, 30 min.	0.050	0.015	0.017		±% of load
Total error	0.060	0.03	0.020		±% of R.O.
Temperature effect on output	0.0023	0.0012	0.0012		±% of load/°C
Temperature effect on zero	0.0046	0.0014	0.0023	0.0014	±% of R.O./°C
$Y = E_{max}/V_{min}$	NA	30000	6000	10000	
Temperature range, compensated	-10 to +40				°C
Temperature range, safe	-30 to +70				°C
Temperature range, storage	-40 to +90				°C
Maximum safe static overload	150				% of R.C.
Ultimate static overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, range	5 to 20				VDC or VAC RMS
Input impedance	1160±60				Ω
Output impedance	1000±10				Ω
Insulation resistance	>2000				MΩ
Cable length	15				m
Cable type	4 conductors, AWG 24, PU jacket				
Color code	+Exc: Green, +Sig: White, -Exc: Black, -Sig: Red Shield: Bare, twisted braid				
Construction	Coated alloy steel, coated aluminum housing, environmental potting, quadruple o-ring seal				
Environmental protection	IP66/IP68—5 bar				

All specifications are subject to change without notice.

High Capacity Compression Load Cell

FEATURES

- Capacities 3–50 ton
- Stainless steel housing
- Surge arrestors fitted
- Simple to install
- 0.02% total error
- 6 wire sense circuit
- Output tolerance 0.1%
- **Optional**
 - EEx ia IIC T4 - hazardous area approval

APPLICATIONS

- Truck weighbridges
- Silo and hopper weighing
- Train “rail” scales
- Process weighing

DESCRIPTION

Model 120 is a high capacity truck scale and silo load cell which is supplied complete with its own unique rocker mounting components.

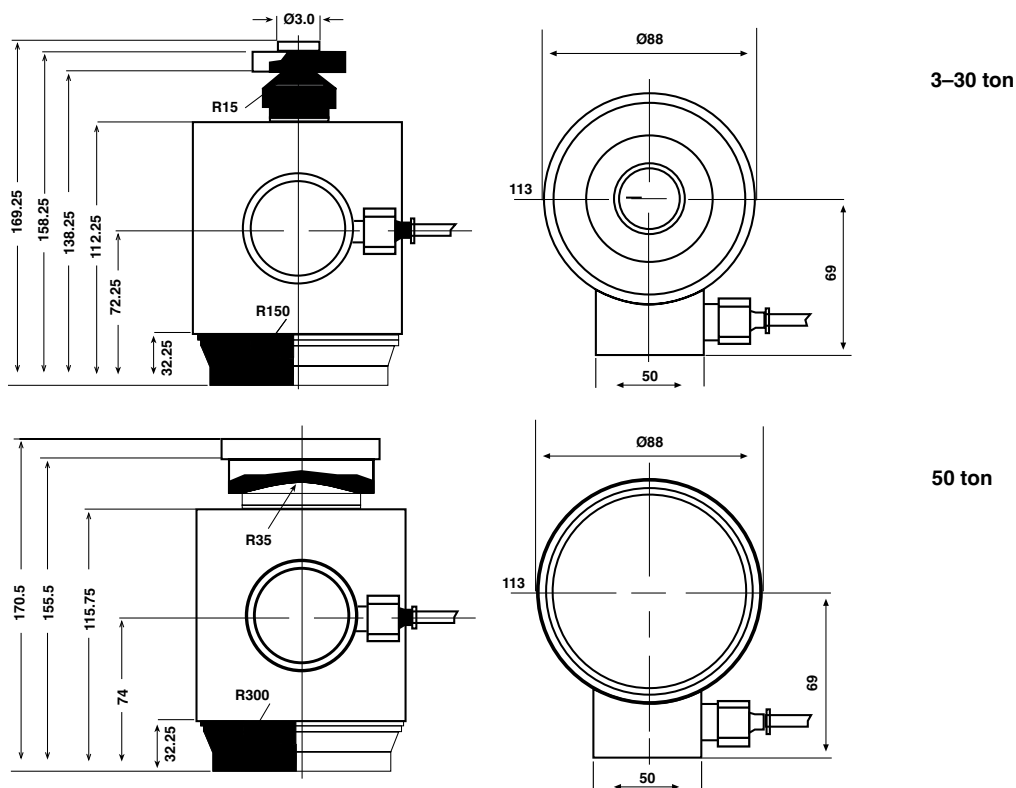


Suitable for all heavy duty weighing applications the Model 120 gives the user high accuracy and low installation cost.

The Model 120 has a stainless steel housing to protect against corrosion. The alloy steel compression element is nickel-plated, and the rocker mounting accessories are zinc-plated alloy steel.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of change in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



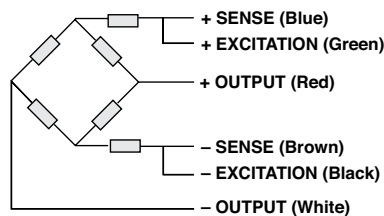
High Capacity Compression Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity—R.C. (E_{max})	3, 5, 10, 20, 30, 50		ton
NTEP/OIML accuracy class	Non-Approved*		
Maximum no. of intervals (n)	1000	3000	
$Y = E_{max}/V_{min}$	2000	6000	
Rated output—R.O.	1.5		mV/V
Rated output tolerance	0.0015		±mV/V
Zero balance	0.15		±mV/V
Zero return, 30 min.	0.0500	0.0200	±% of applied load
Total error (per OIML R60)	0.0500	0.0200	±% of rated output
Temperature effect on zero	0.0100	0.0040	±% of rated output/°C
Temperature range, compensated	-10 to +40		°C
Temperature range, safe	-30 to +70		°C
Maximum safe central overload	150		% of R.C.
Ultimate central overload	200		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	24		VDC or VAC RMS
Input impedance	670±15		Ω
Output impedance	605±5		Ω
Insulation resistance	>2000		MΩ
Cable length	15		m
Cable type	6-wire, braided, polyurethane, dual floating screen		Standard
Construction	Stainless steel housing, plated alloy steel element		
Environmental protection	IP68		

* Typical 80% utilization

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM



Heavy Duty Compression Load Cell

FEATURES

- Capacities 50–150 ton
- Ideal for multi-cell applications
- Compact, economical, column design
- Hermetically sealed to IP68
- 6-Wire (sense) circuit
- Stainless steel housing as standard

APPLICATIONS

- Hopper and tank weighing
- Truck weighbridges

DESCRIPTION

Model 122 is a heavy duty general purpose compression load cell particularly well suited for hopper and tank weighing and many other large scale industrial applications, including weighbridges for truck weighing.

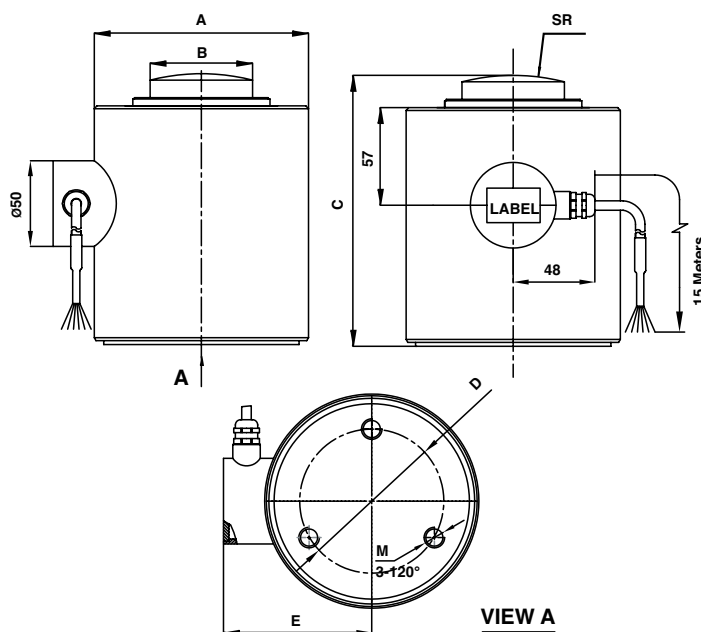
The simple, compact column design and rugged hermetically sealed construction of the Model 122 load cell assures its long-term life in all types of field installations.

The Model 122 load cell is often used in multi-cell installations, therefore its standard output tolerance is within 0.1%.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.



OUTLINE DIMENSIONS in millimeters



CAPACITY	A	B	C	D	E	M	SR
50T	Ø88	Ø45	122	Ø50	69	M10	SR35
100T, 150T	Ø125	Ø59.8	158	Ø84	86.5	M12	SR120

Heavy Duty Compression Load Cell

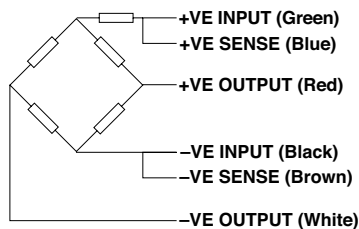
SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity – R.C. (E_{max})	50	100	150	ton
NTEP/OIML accuracy class	Non-Approved ⁽¹⁾			
Maximum no. of intervals (n)	2000			
$Y = E_{max}/V_{min}$	2000			
Rated output – R.O.	1.5		2	mV/V
Rated output tolerance	0.0015			±mV/V
Zero balance	0.015		0.02	±mV/V
Zero return, 30 min.	0.030			±% of applied load
Total error (per OIML R60)	0.030			±% of rated output
Temperature effect on zero	0.03			±% of rated output/°C
Temperature effect on output, unbalanced	0.0080 ⁽²⁾			±% of load/°C
Temperature range, compensated	5 to +45			°C
Temperature range, safe	-20 to +60			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	200			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	670±15	1270±20	1350±30	Ω
Output impedance	600±5	1205±5	1205±5	Ω
Insulation resistance	>2000			MΩ
Cable length	15			m
Cable type	6 wire, braided, PVC, single floating screen			Standard
Construction	Stainless steel housing, plated alloy steel sensor			
Environmental protection	IP68			

⁽¹⁾ Typical 80% utilization

⁽²⁾ Balanced span compensation is available upon request

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM
(Unbalanced bridge configuration)



Compression Load Cell

FEATURES

- Capacities: 10–100T
- Low profile, multi-column stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 4000d and NTEP class III L 10000 divisions
- Built-in surge protection tubes (GDTs)
- Current calibration output (SC version) ensures easy and accurate parallel connection of multiple load cells
- **Optional**
 - ATEX and FM certified versions are available for use in potentially explosive atmospheres
 - Digital version available (Model SCC)
 - Multi-interval and multiple range versions available
 - Imperial capacities (25k, 50k, 100k, 200k lbs) not OIML approved



APPLICATIONS

- Truck and rail weighbridges
- Silo and hopper weighing
- Process weighing

DESCRIPTION

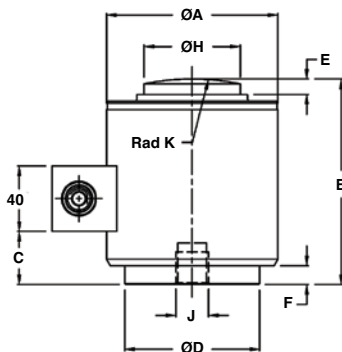
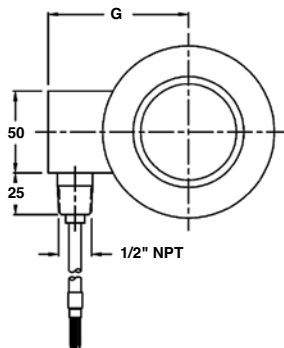
The CSP-M is a multi-column, low profile, stainless steel compression load cell. The unique four column design offers excellent insensitivity to eccentric loads while maintaining accuracy.

This product is, without doubt, one of the most successful compression cells ever produced and is suitable for use in road and rail weighbridges and process weighing applications.

The fully leak-tested welded construction, advanced cable entry, and built-in surge protection tubes ensure that this product can be used successfully in harsh environments.

This product meets the stringent Weights and Measures requirements throughout Europe.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length	20m (10m for 10T version)
Excitation +	Green
Excitation -	Black
Output +	White
Output -	Red
Shield	Transparent

Cable screen is not connected to load cell body. Performance may be affected if load cell cables are shortened.

Capacity	10, 25	40, 60	100
A	72.0	105.0	150.0
B	83.0	127.0	185.0
C	13.0	35.0	70.0
D	58.0	82.5	123.8
E	6.5	8.0	23.6
F	1.8	11.0	21.8
G	63.0	83.0	107.0
H	32.0	59.0	80.0
J	M12x1.75 (8 Deep)	M20 x 2.5 (20 Deep)	
K Rad	150.0	150.0	430.0

Compression Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Standard capacities (E_{max})	10, 25, 40, 60, 100 ⁽¹⁾				ton
Accuracy class according to OIML R-60/NTEP	NTEP IIIIL	Non-Approved	C3	C4	
Maximum no. of verification intervals	10000		3000	4000	
Minimum verification interval ($V_{min}=E_{max}/Y$)			$E_{max}/12,500$	$E_{max}/12,500$	
Minimum verification interval, type MR			$E_{max}/17,500$	$E_{max}/17,500$	
Rated output (=S)	2				±mV/V
Rated output tolerance	0.02				±mV/V
Zero balance	1.0				±% FSO
Combined error	0.0200	0.050	0.0200	0.0170	±% FSO
Non-repeatability	0.0100	0.020	0.0100	0.0090	±% FSO
Minimum dead load output return	0.0250	0.050	0.0167	0.0125	±% applied load
Creep error (30 minutes)		0.060	0.0245	0.0184	±% applied load
Creep error (20–30 minutes)	0.0300	0.0200	0.0053	0.0039	±% applied load
Temp. effect on min. dead load output	(0.0008)	0.0250	0.0056	0.0056	±% FSO/5°C (°F)
Temp. effect on min. dead load output, type MR			0.0040	0.0040	±% FSO/5°C
Temperature effect on sensitivity	(0.0010)	0.0250	0.0050	0.0035	±% applied load/5
Minimum dead load	0				% E_{max}
Maximum safe overload	150				% E_{max}
Ultimate overload	400				% E_{max}
Maximum safe side load	10				% E_{max}
Deflection at E_{max}	0.36 max				mm
Excitation voltage	5 to 20				V
Maximum excitation voltage	25				V
Input resistance	450±4.5				Ω
Output resistance	480±4.8				Ω
Insulation resistance	>5000				MΩ
Compensated temperature range	–10 to +40				°C
Operating temperature range	–40 to +80				°C
Storage temperature range	–50 to +90				°C
Element material	Stainless steel 1.4542				
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68				

⁽¹⁾ 100T only has C1 grade of OIML

FSO—Full Scale Output

SC-version: The rated output and the output resistance are balanced in such a way, that the output current is calibrated to within 0.05% of a reference value. This allows easy parallel connection of the load cells.

All specifications subject to change without notice.

Stainless Steel, Multi-Column Compression Load Cell

FEATURES

- Capacity ranges of 25,000 to 200,000 pounds, 10 to 100 metric tons
- Stainless steel, welded seal construction
- Single piece multi-column design
- 3 times more side load capacity than other designs
- Integral conduit adaptor
- 35 feet [10.7m] standard cable length
- Trade certified for NTEP Class III:5000d, IIIL:10000d and OIML R-60 3000d
- Welded *Sensorgage™* sealed to IP67 standards



APPLICATIONS

- Truck scales
- Railroad track scales
- Tank, bin and hopper weighing

is suitable for use in truck scales, rail scales and high capacity silo weighing applications.

DESCRIPTION

The 65088 is a high capacity, low profile, stainless steel compression load cell.

This product's stainless steel construction, welded seals and IP67 rating ensures ultimate survivability under harsh conditions.

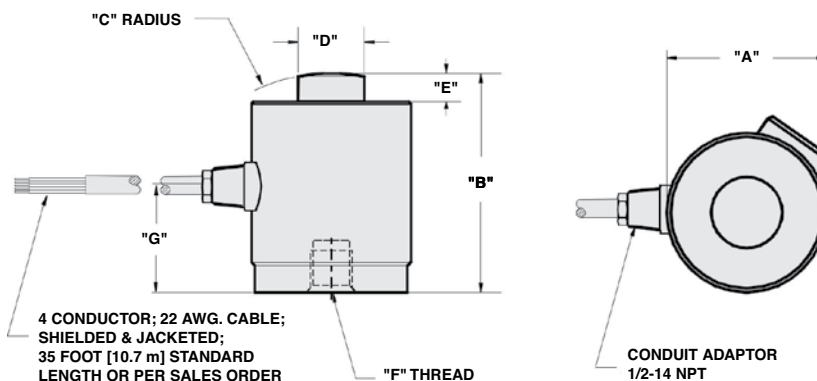
The unique four column design offers excellent insensitivity to eccentric loads. This design is one of the most successful compression cells ever produced and

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This load cell is certified for Legal For Trade applications by both American NTEP and International OIML standards.

OUTLINE DIMENSIONS in inches [millimeters]

Wiring

- + Excitation Green
- Excitation Black
- + Output White
- Output Red



CAPACITY	A	B	C	D	E	F	G
25k, 50k	3.00	3.25	6.00	1.25	0.40	1/2-20 UNF - 2B x .31 Deep	1.68
100k	4.00	5.00	6.00	2.31	0.51	3/4-16 UNF - 2B x .56 Deep	2.49
200k	6.00	7.25	17.00	3.13	1.04	3/4-16 UNF - 2B x .75 Deep	3.28
[10T, 25T]	[76.2]	[82.6]	[152.4]	[31.7]	[10.2]	[M12 x 1.75 - 6H x 8 Deep]	[42.7]
[40T, 50T]	[101.6]	[127.0]	[152.4]	[58.7]	[13.0]	[M20 x 2.5 - 6H x 14 Deep]	[63.2]
[100T]	[152.4]	[184.2]	[431.8]	[79.5]	[26.4]	[M20 x 2.5 - 6H x 19 Deep]	[83.3]

Capacities are in pounds [kg/T].

Stainless Steel, Multi-Column Compression Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	25k, 50k, 100k, 200k 10T, 25T, 40T, 50T, 100T				lbs metric tons
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	5000 multiple	10000 multiple		3000	
$Y = E_{max}/V_{min}$	NTEP Cert. No. 95-134			8333	Maximum available
Rated output—R.O.	2				mV/V
Rated output tolerance	0.25				±% mV/V
Zero balance	≤1.0				±% FSO
Combined error	0.02	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01				±% FSO
Creep error (20 minutes)	0.025	0.03	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	0.0010	±% FSO
Temperature effect on output	0.0008	0.0008	0.0008	0.0007	±% FSO/°F
Compensated temperature range	14 to 104 (–10 to 40)				°F (°C)
Operating temperature range	0 to 150 (–18 to 65)				°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)				°F (°C)
Safe sideload	30				% of R.C.
Maximum safe central overload	150				% of R.C.
Ultimate central overload	400				% of R.C.
Excitation, recommended	5–20				VDC or VAC RMS
Excitation, maximum	25				VDC or VAC RMS
Input impedance	445.5–454.5				Ω
Output impedance	475.2–484.8				Ω
Insulation resistance at 50 VDC	>1000				MΩ
Material	Stainless steel				
Environmental protection	IP67				

FSO—Full Scale Output

R.C.—Rated Capacity

All specifications subject to change without notice.

Compression Load Cell

FEATURES

- Capacities: 50k lbs and 100k lbs
- Environmental protection: IP68 (DIN 40.050)
- Material: Stainless steel
- Hermetically sealed
- **Optional**
 - FM approved for use in potentially explosive atmospheres

APPLICATIONS

- Silo, tanks and hoppers
- Suspended silos, tanks and hoppers
- Railroad scales
- Weighbridges

DESCRIPTION

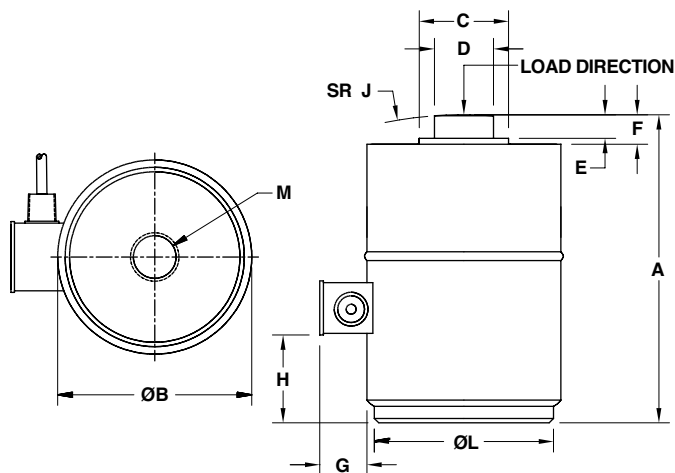
The 92 canister is designed for compression applications. Its stainless steel construction combined with hermetically sealing allows the 92 to be used in harsh environments.



A large range of capacities is available.

Hermetic sealing offers excellent protection from moisture and provides long-term stability and reliability.

OUTLINE DIMENSIONS in inches



Cable specifications

Cable length:	12.2m (40 ft)
Excitation +	Red
Excitation -	Black
Output +	Green
Output -	White
Shield	Transparent

Cable screen is not connected to the load cell body.

Capacity	50k	100k
A	6.00	8.50
B	4.25	5.03
C	1.63	2.45
D	1.50	1.75
E	0.10	0.10
F	0.50	0.63
G	1.18	1.25
H	1.49	2.90
M UNF deep	3/4-16 0.56	3/4-16 0.56
J	6.00	12.00

Compression Load Cell

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
	Imperial	
Capacities	50k, 100k	lbs
Accuracy class	Non-Approved	
Rated output (=S)	Model 92: 2±0.002 Model 93: 3±0.003	mV/V
Zero balance	1.0	±% FSO
Combined error	0.0500	±% FSO
Creep error (20 minutes)	0.0300	±% applied load
Temperature effect on zero	0.0090 (0.0010)	±% FSO/5°C (1°F)
Temperature effect on output	0.0135 (0.0015)	±% applied load/5°C (1°F)
Compensated temperature range	-10 to +40 (+14 to +104)	°C (°F)
Operating temperature range	-53 to +93 (-65 to +200)	°C (°F)
Safe load limit	150	% E _{max}
Ultimate load	200	% E _{max}
Safe side load limit	10	% E _{max}
Excitation voltage recommended	10	V
Excitation voltage maximum	15	V
Input resistance	350±3.5	Ω
Output resistance	350±3.5	Ω
Insulation resistance at 50VDC	≥5000	MΩ
Environmental protection	IP68	
Element material	Stainless steel	

FSO—Full Scale Output

Mounting:

Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request.

All specifications subject to change without notice.

Compression Load Cell

FEATURES

- Capacities: 50k to 200k lbs
- Certified to NTEP class III L, 10000 divisions
- Environmental protection: IP68 (DIN 40.050)
- Material: Stainless Steel
- Hermetically sealed—IP68
- **Optional**
 - FM approved for use in potentially explosive atmospheres

APPLICATIONS

- Silo, tanks and hoppers
- Suspended silos, tank and hoppers
- Railroad scales
- Weighbridges

DESCRIPTION

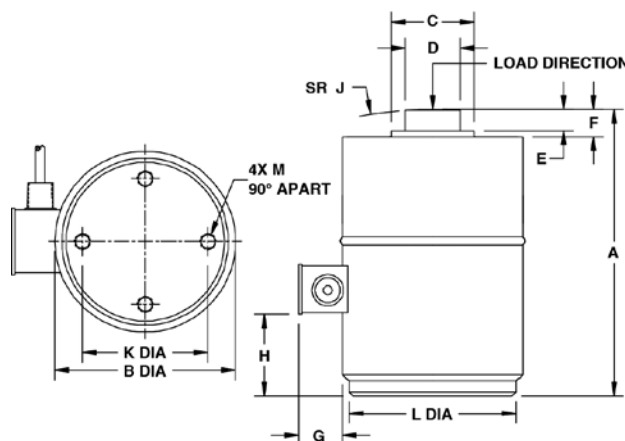
The 792 canister is designed for compression applications. Its stainless steel construction combined with hermetic sealing allows the 792 to be used in harsh environments.



Built for heavy capacity weighing applications where accuracy and reliability are required over long periods of time.

Hermetic sealing offers excellent protection from moisture and provides long-term stability and reliability.

OUTLINE DIMENSIONS in inches



Cable specifications

- Cable length: 10.7m (35ft)
- Excitation + Green
- Excitation - Black
- Output + White
- Output - Red
- Shield Transparent

Cable screen is not connected to the load cell body.

Capacity	50k	100k	200k
A	7.50	9.13	11.63
B	4.50	5.75	7.50
C	1.77	2.65	3.15
D	1.25	1.75	2.50
E	0.58	0.88	0.80
F	0.75	1.05	0.97
G	1.25	1.40	1.34
H	1.12	1.33	2.53
J	6.00	12.00	12.00
ØK	2.38	4.00	5.50
L	4.18	5.31	6.81
ØM	3/8-24 UNF-2B	1/2-20 UNF-2B	5/8-18 UNF-2B

Compression Load Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	50k, 100k, 200k		lbs
Metric equivalents	22.7, 45.4, 91		T
Accuracy class according to NTEP	NTEP IIIIL	Non-Approved	
Maximum no. of verification intervals (n)	10000		
Rated output (=S)	2		mV/V
Rated output tolerance	0.002		±mV/V
Zero balance	10.0		±% FSO
Combined error	0.0200	0.1000	±% FSO
Non-repeatability	0.0100	0.0200	±% FSO
Creep error (20 minutes)	0.0300	0.0500	±% applied load
Temperature effect on minimum dead load output	0.0009 (0.0010)	0.0140	±% FSO/5°C (1°F)
Temperature effect on sensitivity	0.0072 (0.008)	0.0070	±% applied load/5°C (1°F)
Maximum safe overload	150		% E _{max}
Ultimate overload	300		% E _{max}
Maximum safe side load	10		% E _{max}
Minimum dead load	1000		lbs
Excitation voltage	10		V
Maximum excitation voltage	15		V
Input resistance	350±3.5		Ω
Output resistance	350±3.5		Ω
Insulation resistance	≥5000		MΩ
Compensated temperature range	-10 to +40 (+14 to +104)		°C (°F)
Operating temperature range	-40 to +80 (-65 to +200)		°C (°F)
Element material (DIN)	Stainless steel		
Sealing (DIN 40.050 / EN60.529)	IP68		

FSO—Full Scale Output

Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request.

All specifications subject to change without notice.

Single-Column Compression Cell

FEATURES

- Capacities: 6 to 280 ton
- Low profile design
- Sealing: IP66 (EN 60.529)
- Trimmed output ensures easy and accurate parallel connection of multiple load cells
- Specially designed mounting arrangements are available for vessel weighing

APPLICATIONS

- Vessels weighing
- High capacity platforms
- Tank and silo
- Process weighing

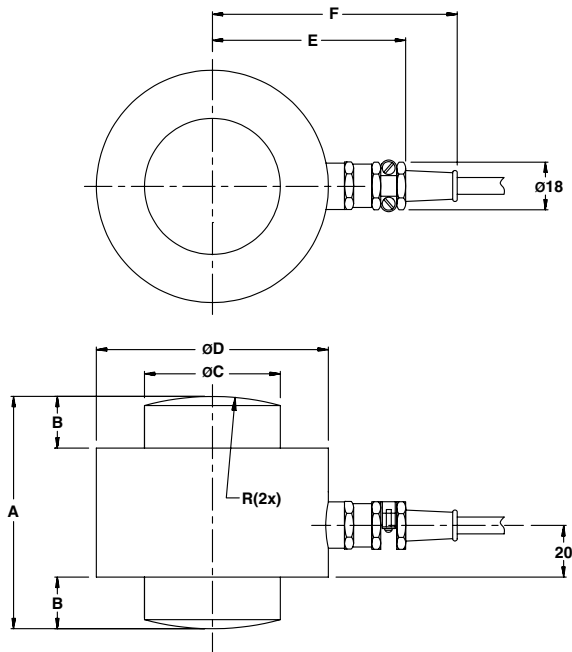
DESCRIPTION

The KSR is a sealed, single column, compression load cell. This product is suitable for high capacity platform scales and level control or process weighing in general.



A reliable sealing and mechanical protection of the strain gage area is ensured by the use of stainless steel diaphragms and a housing which are cemented to the measuring element.

OUTLINE DIMENSIONS in millimeters



E _{max}	6	13	28	60	130	280
A	56	68	74	90	116	170
B	8	12	14	20	26	45
C	16.7	24.5	36.0	52.7	77.5	114
D	45	55	64	90	121	165
E	52.5	57.5	62.0	75.0	90.5	112.5
F	71.5	76.5	81	94	109.5	131.5
R	50	66	72	100	125	183

Cable specifications

Cable length: 10 m (6T version: 5m)
 Excitation + Red
 Excitation - White
 Output + Black
 Output - Blue
 Shield Transparent / Yellow
 Cable screen is not connected to the load cell body.

Single-Column Compression Cell

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Standard capacities (E_{max})	6, 13, 28, 60, 130, 280		ton
Accuracy class according to type designation	Non-Approved – R2	Non-Approved – R1	
Rated output (FSO)	1.5		mV/V
Rated output tolerance	0.008		±mV/V
Zero balance	1.5		±% FSO
Combined error	0.200	0.1000	±% FSO
Minimum dead load output return	0.0700	0.0500	±% FSO
Creep error (30 minutes)	0.0800	0.0600	±% FSO
Creep error (20 - 30 minutes)	0.0200	0.0150	±% FSO
Temperature effect on minimum dead load output	0.025	0.025	±% FSO/5°C
Temperature effect on sensitivity	0.2500	0.2500	±% FSO/5°C
Minimum dead load	0		% E _{max}
Maximum safe overload	120		% E _{max}
Ultimate overload	300		% E _{max}
Maximum safe side load	10		% E _{max}
Deflection at E_{max}	0.35 / 0.53 / 0.80 / 1.22 / 1.85 / 2.67		mm
Excitation voltage	5 to 12		V
Maximum excitation voltage	15		V
Input resistance	275±30		Ω
Output resistance	245±0.2		Ω
Insulation resistance	≥50		MΩ
Compensated temperature range	–10 to +40		°C
Operating temperature range	–20 to +70		°C
Storage temperature range	–30 to +80		°C
Element material (DIN)	Tool steel		
Finish	Epoxy painting		
Sealing (DIN 40.050 / EN60.529)	IP66		

FSO—Full Scale Output

Mounting:

Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request.

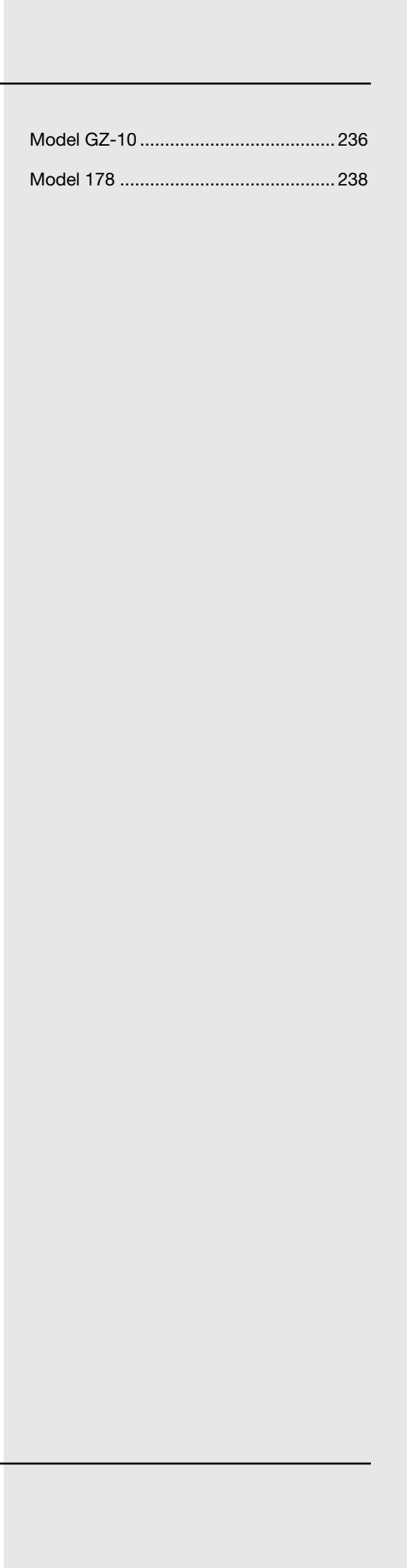
All specifications subject to change without notice.



Model GZ-10 236

Model 178 238

Tank Weighing Sensors



Gozinta® Force Transducer

FEATURES

- Simple press fit mounting
- Stainless steel construction
- Hermetically sealed
- Corrosion resistant
- Low temperature sensitivity
- Field installable into existing structures
- Measures tension, compression, shear, bending, torsion
- Full double bridge configuration
- Single capacity for all applications

APPLICATIONS

- Agricultural equipment
- Rolling mill sensing
- Stamping press control
- Lift trucks
- Machine tool wear sensing
- Intrusion alarms
- Structural load measuring
- Moment sensing
- Tank weighing systems
- In-rail weighing systems

DESCRIPTION

An innovative approach to sensor design combined with proven strain gage technology has resulted in a small, accurate stainless steel sensor with wide-ranging application possibilities. The Gozinta® overcomes a



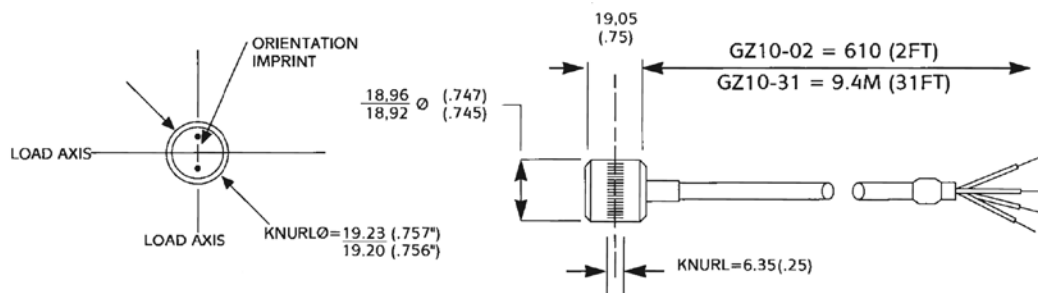
number of current sensor problems and limitations such as installation ease, size, load limit, location and operating temperature conditions. In addition, the Gozinta® has unchallenged application versatility and a wide range of machines, devices or structures can use Gozinta® sensors as a cost-effective, accurate solution to sensing needs.

The Gozinta® sensor is mounted into the machine or structure and the sensor's output can be calibrated to meet the system needs.

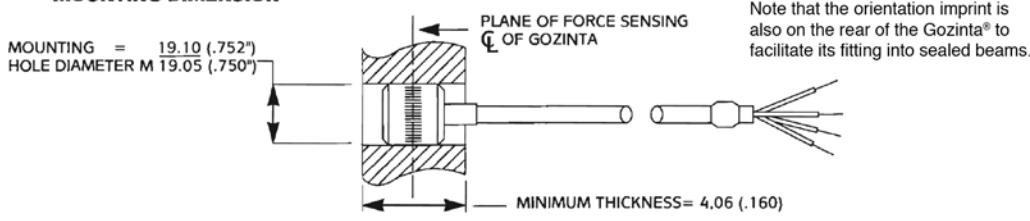
As a result, the maximum load of the system is determined by the structure, rather than by the sensor. Sensitivity to thermal effects is minimal due to the Gozinta®'s unique patented design.

The Gozinta® is configured with a full bridge circuit for low non-linearity, hysteresis and non-repeatability. A certain degree of care should be taken when positioning or locating the sensor in a structure. In addition, the number of sensors used in a structure, the amount of strain an individual Gozinta® senses, and the material of the structure will affect the overall accuracy. Installation is optimized through the use of specific installation tools, supported by extensive application notes.

OUTLINE DIMENSIONS in millimeters



MOUNTING DIMENSION



Gozinta® Force Transducer

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Excitation voltage	up to 15	VAC/VDC
Zero balance	0.00±0.05 (Prior to installation)	mV/V
Bridge configuration	Full/Double bridge	
Input resistance	700±20	Ω
Output resistance	700±20	Ω
Insulation resistance	≥5000	MΩ
Nonlinearity	±1.0	% FS ¹
Hysteresis	±0.05	% FS ¹
Non-repeatability	±0.1	% FS ¹
Temperature coefficient: Output	0.036	% of reading/°C
Zero	0.35 (-1° to +45°C)	% FS/°C
Temperature range: Storage	-50 to +90	°C
Temperature range: Operating	-40 to +80	°C
Maximum safe output ⁽²⁾		
Tension	2.5	mV/V
Compression	2.5	mV/V
Shear	4.0	mV/V

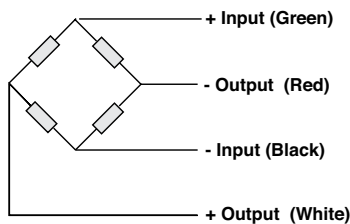
⁽¹⁾ Specifications for the Gozinta® GZ-10 installed into a mild steel test block (90 x 38 x 305) and subjected to a tensile force of 24000N. Nominal output is 1mV/V. Other specifications are given for uninstalled GZ-10.

⁽²⁾ The maximum safe output for the Gozinta® based on 10⁴ full negative to full positive operating cycles (zero to minus to plus to zero).

Caution: The endurance limits of the beam must be determined separately.

All specifications subject to change without notice.

Wiring Schematic Diagram



Extensometer

FEATURES

- Strain gage based sensor
- Alloy steel construction
- 2 Bolt holes
- IP66 Hermetically sealed protection
- **Optional**
 - EEx ia IIC T4 Hazardous area approval

APPLICATIONS

- Tank weighing or level systems
- Agricultural equipment
- Rolling mill sensing
- Moment sensing
- Structural loading measurements
- Bridge structures

DESCRIPTION

The Model 178 extensometer is a load sensor designed for force measurement on any load-bearing structure. This extensometer provides the total solution for weighing, level control, stress and fatigue monitoring. The design

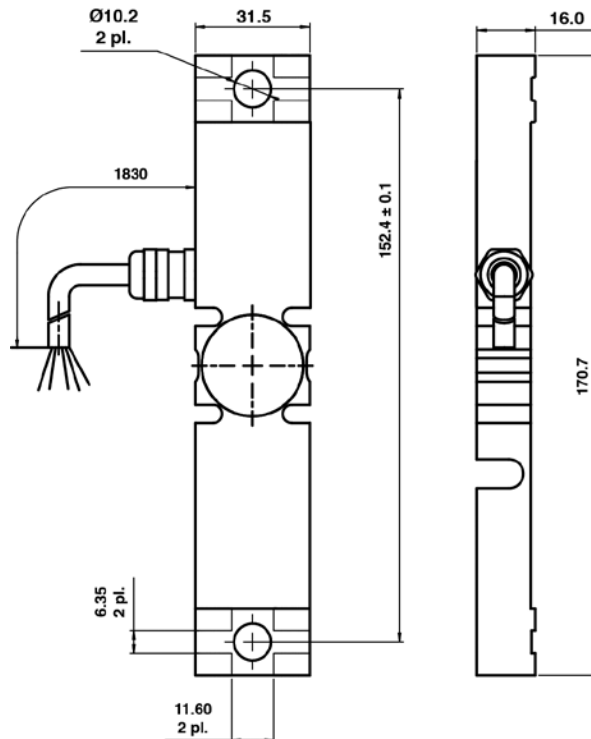


also allows multiple sensors to be permanently mounted for more complex stress profiling and analysis.

The Model 178 extensometer provides an ideal solution for non-intrusive level measurements for materials that are subject to uneven buildup, bridging, or sidewall collection. Also, liquids or wetted materials that are not suited for direct contact level measurement are an ideal application for the Model 178 extensometer.

The design of the Model 178 makes it an excellent solution for retrofitting existing structures without compromise of the integrity of the vessel or structure.

OUTLINE DIMENSIONS in millimeters



Extensometer

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Calibrated output	1.7	mV/V at 500 $\mu\epsilon$
Overload capability (zero)	300	% of rated output
Overload capability (max)	500	% of rated output
Input resistance	350 \pm 10	Ω
Output resistance	350 \pm 10	Ω
Insulation resistance	>2000	M Ω
Excitation, recommended	10	VDC
Excitations, range	5–20	VDC
Thermal effect on zero	0.025	\pm % of FSO/ $^{\circ}$ C
Compensated temperature range	-30 to +80	$^{\circ}$ C
Construction	Painted steel	
Environmental protection	IP66	

All specifications subject to change without notice.



Special Sensors

Co-Planar Beam Load Cell

FEATURES

- Capacity range: 7.5–250 kg
- Only 2.5–8 mm high
- Very low profile
- Aluminum construction
- IP65 protection
- 1000Ω input impedance
- Provides freedom in rectangular scale size design
- Matched output and current calibration circuitry
- Eliminates need for spyder in typical bench top scales



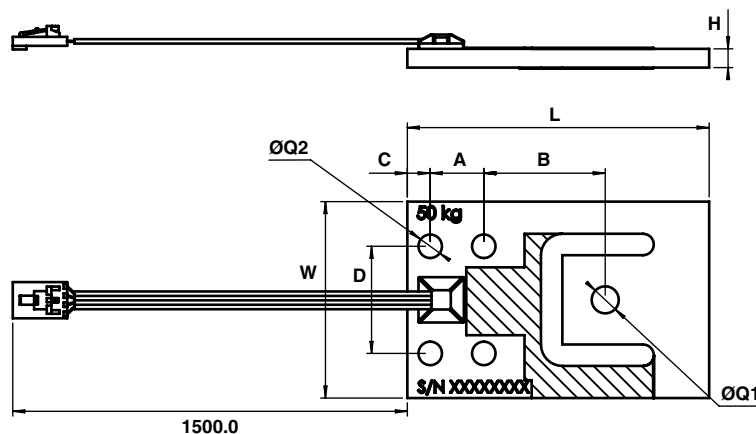
APPLICATIONS

- Personal scales
- Commonly used in low profile infant and adult medical scales
- Large and medium low profile platform scales
- Airport baggage scales
- Postal scales

DESCRIPTION

Model 380 is a very low profile planar beam design, allowing direct mounting in low profile platform scales. The range of capacities and low profile make Model 380 most suitable for use in a wide range of applications.

OUTLINE DIMENSIONS in millimeters



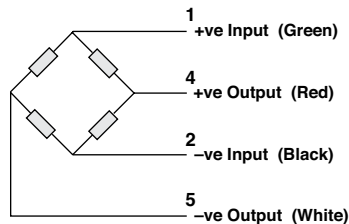
Type	L	A	B	C	D	W	H	Q1	Q2
PB-7.5 kg	70	14	28	4.9	27.8	39	2.5	5.1	5.1
PB-15 kg	70	14	28	4.9	27.8	39	4.1	6.2	5.1
PB-37.5 kg	76.2	15	29.3	6	30	44.5	4.8	6.2	6.6
PB-50 kg	84.5	15	34	6.4	30	55	5.3	7.6	6.6
PB-75 kg	84.5	15	34	6.4	30	55	6.4	7.6	6.6
PB-150 kg	107.5	22.8	45.9	7.8	44.5	70	8	5/16UNC	8.1
PB-250 kg	107.3	22.9	45.8	7.9	44.5	70	10.0	9.1	8.1

Co-Planar Beam Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity – R.C. (E _{max})	7.5, 37.5, 50, 75, 150, 250			kg
TH accuracy class	E	G4	H5	
OIML Accuracy class	NA	C3	C4	
Maximum no. of intervals (n)	NA	3000	4000	
Y = E _{max} /V _{min} *	NA	7500*	7500*	
Rated output – R.O.	1.0			mV/V
Rated output tolerance	0.10	0.001		±mV/V
Zero balance	0.10			±mV/V
Creep, 30 min.	0.074	0.024	0.018	±% of load
Zero return, 30 min.	0.05	0.0167	0.0125	±% of load
Temperature effect on output	0.002	0.001	0.00075	±% of load/°C
Temperature effect on zero	0.007	0.00186	0.00186	±% of R.O./°C
Input impedance	1160±15			Ω
Output impedance	1000±10			Ω
Insulation resistance	5000			MΩ
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-30 to +70			°C
Maximum safe central overload	300			% of R.C.
Ultimate static overload	400			% of R.C.
Safe side load	200			% of R.C.
Cable type	4 conductors, 26AWG, flat, PVC			
Cable length	1.5			m
Color code	+Exc: Green, +Sig: Red, -Exc: blk, -Sig: wht			
Construction	Aluminum, RTV potting			
Environmental protection	IP65			
Outline dimensions drawing	378.000.003			

* Consult factory for higher Y values availability
All specifications subject to change without notice.

Wiring Schematic Diagram



The load cell is provided with a 4 conductor ribbon cable and with optional AMP#103957-4 connector



Model DLC08	246
Model DLC09	248
Model SBC	250

Digital Load Cells

High-Performance Digital Load Cell Interface

FEATURES

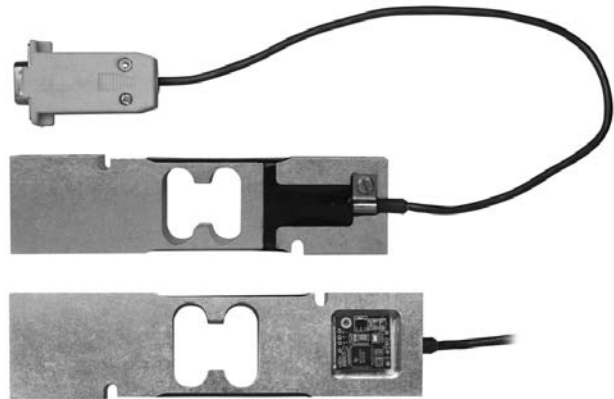
- Serial interface (RS-485)
- All settings made through the serial interface
- Simple calibration, test and setting via HyperTerminal programming, or via Revere's software
- Automatic unit conversion, zero tracking
- Gravity factor compensation
- Tare function
- Suitable for PC-base, μ C, PLC application
- Weight result format: six digits, eight annunciators
- Up to 64 nodes
- ESD protection up to 15 kV
- **Optional**
 - USB interface
 - Tilt sensor

APPLICATIONS

- OEM machinery
- Load cell digitizers
- Inventory and level control

DESCRIPTION

The Model DLC08 is a high-performance, digital load cell interface for precision measurement of strain gage transducers. With DLC08 technology, any analog load cell can be converted to a full-function digital load cell. The



interface circuit board can either be embedded in the load cell (space permitting), or installed in a 9 pin "D" type connector at the load cell cable end.

Simple RS-485 wiring connects the DLC08 to any PC, PLC, or DCS device. All calibration and operating procedures are fully documented on the accompanying installation CD ROM. Open architecture DLC08 software provides instant access to all configuration and calibration parameters.

DLC08-enabled summing junction boxes offer digital interfacing for multiple load cell scales via an RS-485 bus.

High-Performance Digital Load Cell Interface

SPECIFICATIONS					
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Bridge input					
Bridge excitation	V_{exc}	4.8	5.0	5.2	V
Bridge resistance	R_{LC}	315	350		Ω
Full scale input sensitive	F_S				
PGA = 1				3.50	mV/V
PGA = 2				1.85	mV/V
PGA = 4				0.90	mV/V
PGA = 8				0.45	mV/V
Common mode voltage		1.50	2.50	3.50	V
Input impedance		10^9			Ω
Digital Bus - RS-485 protocol defined by Revere					
Baud rate			19,200		Bit/sec
Communication mode		Point-to-point or RS-485 multi-drop communication			
Built-in termination resistor			8,870		Ω
Cable length (with suitable Rt)				1,000	m
Performance					
Internal resolution			24		Bits
Noise (Ref to input, filter 4/4/4)				0.30	$\pm\mu\text{V RMS}$
Digital filters		3 filters, software selectable			
Nonlinearity (in T_S)			0.008	0.011	% F_S
Sample rate	C_S		15		Hz
Zero stability (in T_S)			10	15	$\pm\text{ppm}F_S/^\circ\text{C}$
Span stability (in T_S)			1.6	2.3	$\pm\text{ppm}F_S/^\circ\text{C}$
Environmental conditions					
Specification temperature (Full performance)	T_S	-10	+20	+40	$^\circ\text{C}$
Operating temperature		-40		+85	$^\circ\text{C}$
Storage temperature		-40		+85	$^\circ\text{C}$
Power supply - DC only					
Supply voltage	V_p	7.5	12	15	V
Supply current			32	45	mA
Maximum rating power supply ($T \leq 500$ ms)				30	V
Reverse power protection				-60	V

All specifications subject to change without notice.

High-Performance Digital Load Cell Interface

FEATURES

- USB (Universal Serial Bus) 2.0 interface
- Weighing functionality: zero, tare, initial zero setting, automatic zero tracking, unit conversion, and more
- Full setup and calibration through the USB interface
- Simple calibration, test and setting via Revere's software, or HyperTerminal program
- Suitable for PC-based, or PLC-based applications
- Gravity factor compensation
- CE Compliance

APPLICATIONS

- PC-based systems
- Inventory control
- Load/force monitoring
- Load cell digitizers
- OEM machinery

DESCRIPTION

The Model DLC09 is a high performance digital load cell with USB interface to a PC. Just connect and start measuring, no need for power supply, or special software.

With DLC09 technology, most analog load cells can be converted to a full-function digital load cell. The interface circuit board can be embedded in the load cell (space



permitting), or installed in a sealed connector housing attached to the USB cable.

Calibration, setup and operating functions are available through the USB port. DLC09 Open Protocol allows easy access to all configuration and calibration parameters.

DLC09-enabled summing junction boxes offer digital interface for multiple load cell scales.

High-Performance Digital Load Cell Interface

SPECIFICATIONS					
PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Bridge input					
Bridge excitation	V_{exc}	4.8	5.0	5.2	V
Bridge resistance	R_{LC}	79	350	10k	Ω
Full scale input signal	F_S	2.50	10.00	19.50	$\pm mV$
Common mode voltage		1.50	2.50	3.50	V
USB Bus – 2.0 Full speed compatible					
Supply voltage	V_p	4.75	5.00	5.25	V
Max. supply current (with four 350 Ω load cells)			41	62	mA
Over voltage protect				6	V
ESD capability (D+, D-)				2000	V
Reverse power protection		yes			
Output type		USB with virtual com port, protocol defined by Revere			
Virtual com port					
Baud rate		115200			Bit/sec
Data bits		8			Bits
Start bits		1			Bits
Stop bits		1			Bits
Maximum cable length		5			m
Performance					
Input impedance		10 ⁷			Ω
Internal resolution		24			Bits
Noise (ref to input, filter 1/1/2, warm up 2 hours, catch 2 minutes)			0.2	0.3	μV p-p
Digital filters		3 stage filters, software selectable			
Measurement rate		10 or 80			Hz
Zero stability (-10 ~40°C)			3.2	6.5	$\pm ppm F_S/^\circ C$
Gain stability (-10 ~40°C)			2.3	3.7	$\pm ppm F_S/^\circ C$
Typical OIML V_{min} value (2 mV/V)			10000		
Software upgrade		Download new software via USB without hardware setting			
Environmental conditions					
Specification temperature (full performance)	T_S	-10	+20	+40	$^\circ C$
Operating temperature		-40		+85	$^\circ C$
Storage temperature		-40		+85	$^\circ C$
Drop test (concrete surface)				1.5	m
Power supply		Power from USB			

All specifications subject to change without notice.

Digital Shear Beam Load Cell

FEATURES

- Capacities: 0.5, 1, 2, 5, and 10 ton
- Digital output via RS-485 or RS-422 interface
- Stainless steel construction with water block cable-entry
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 6000d
- Internal diagnostics
- 240000 counts resolution
- Maximum transmission distance 1200m
- **Optional**
 - Multi-interval and multiple-range versions available



APPLICATIONS

- Platform scales
- Belt scales
- Overhead track scales
- Silo hopper weighing

DESCRIPTION

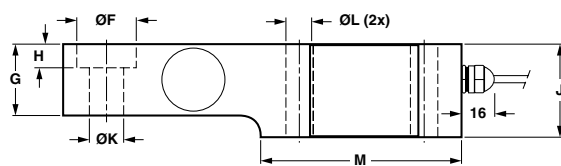
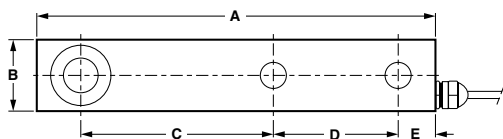
The SBC is a stainless steel, single-ended, shear beam load cell with a digital output signal.

This digital output enables the user to communicate with each SBC independently of the others in the system, thus offering advantages in system setup, system control, corner correction, fault finding and load cell replacement.

The fully welded construction and water block cable-entry ensure successful use in harsh environments. Applications of the SBC include medium capacity platform scales, pallet scales, overhead track scales, and process weighing applications.

This product meets the stringent Weights and Measures requirements throughout Europe.

OUTLINE DIMENSIONS in millimeters



Cable specifications

- Cable length: 5 meters
- Excitation + Green
- Excitation - Black
- Rx + Yellow
- Rx - Blue
- Tx - White
- Tx + Red
- Shield Transparent

Capacity (T)	0.5-2	5	10
A	203.2	235.0	235.0
B	36.5	47.5	55.0
C	98.4	123.8	123.8
D	63.5	66.7	66.7
E	19.1	20.6	20.6
ØF	30.2 ^{+0.20}	41.3 ^{+0.20}	41.3 ^{+0.20}
G	36.5	47.6	56.0
H	11.9	15.8	15.8
J	47.6	69.9	69.9
ØK	17.5 H11	25.5 H11	25.5 H11
ØL	14.0	22.0	25.0
M	101.6	111.2	111.2

Digital Shear Beam Load Cell

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Standard capacities (E_{max})	0.5, 1, 2, 5, 10				ton
Accuracy class according to OIML R-60	C1	C3	C5	C6	
Maximum no. of verification intervals (n)	1000	3000	5000	6000	
Minimum verification interval ($V_{min}=E_{max}/Y$)	$E_{max}/7000$	$E_{max}/15000$	$E_{max}/15000$	$E_{max}/15000$	
Minimum utilization	14.3	30	33.3	40	%
Minimum verification interval, type MR		$E_{max}/25000$	$E_{max}/25000$	$E_{max}/25000$	
Rated output (=S)	240000				counts
Tolerance on rated output	200				±counts
Zero balance	200				±counts
Combined error	0.0300	0.0200	0.0140	0.0115	±% FSO
Non-repeatability	0.0200	0.0100	0.0080	0.0060	±% FSO
Minimum dead load output return	0.0500	0.0167	0.0100	0.0083	±% applied load
Creep error (30 minutes)	0.0490	0.0245	0.0147	0.0123	±% applied load
Temp. effect on min. dead load output	0.0100	0.0070	0.0045	0.0045	±% FSO/5°C
Temperature effect on sensitivity	0.0085	0.0050	0.0030	0.0025	±% applied load/5°C
Compensated temperature range	-10 to +40				°C
Operating temperature range	-40 to +80				°C
Storage temperature range	-40 to +90				°C
Maximum safe overload	150				% E_{max}
Ultimate overload	300				% E_{max}
Maximum safe side load	100				% E_{max}
Deflection at E_{max}	0.5 max				mm
Excitation voltage	12.5 to 18				VDC
Maximum excitation voltage	15				V
Maximum current consumption	80				mA
Maximum current (internal short circuit)	150				mA
Insulation resistance	>5000				MΩ
Element material (DIN)	Stainless steel 1.4542				
Sealing (DIN 40.050 / EN60.529)	IP66 and IP68				
Signal update per second	25				
Baudrate	9600				Bits/s
Start bits	1				
Data bits	7				
Stop bits	1				
Parity	Odd				
Maximum transmission cable length	1200				m
Data transmission interface	RS485/422-full duplex				
Standard capacities (E_{max})	0.5, 1, 2, 5				ton
Accuracy class according to OIML R-60	C3MI10	C4MI10	C5MI10		
Maximum no. of verification intervals (n)	3000	4000	5000		
Minimum verification interval ($V_{min}=E_{max}/Yz$)	$E_{max}/15000$	$E_{max}/15000$	$E_{max}/25000$		
Minimum utilization	20	26.7	20		%
Minimum dead load output return DR	0.0050	0.0050	0.0050		±% applied load
Temp. effect on min. dead load output	0.0045	0.0045	0.0032		±% FSO/5°C

All specifications subject to change without notice.



Model SCC 254
Model DSC 256

Digital Canister Load Cells

Digital Compression Load Cell

FEATURES

- Capacities: 10–100 ton
- Digital output via RS-485 or RS-422 interface
- Low profile, multi-column, stainless steel construction
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 4000d
- Multiple-range versions available
- Internal diagnostics and lightning protection
- 240,000 counts resolution
- Maximum transmission distance 1200m

APPLICATIONS

- Weighbridges
- Silo hopper weighing

DESCRIPTION

The SCC is a multi-column, low profile, stainless steel, compression load cell with a digital output signal.

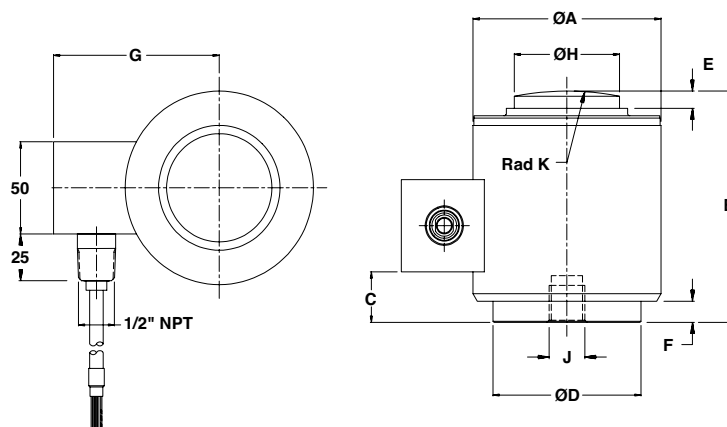
This digital output enables the user to communicate with each SCC independently of the others in the system, thus offering advantages in system setup, system control, corner correction, fault finding and load cell replacement.



Suitable applications for this product include various types of road and rail weighbridges, and process weighing.

This product meets the stringent Weights and Measures requirements throughout Europe.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length:	10 meters for 10T 20 meters all others
Excitation +	Green
Excitation -	Black
Rx +	Yellow
Rx -	Blue
Tx +	Red
Tx -	White
Shield	Clear

Capacity (T)	10, 25	40, 60	100
A	73.0	105.0	152.4
B	82.5	127.0	184.2
C	7.0	29.0	67.5
D	58.0	82.5	123.8
E	6.5	8.0	23.6
F	1.8	11.0	21.8
G	79.5	99.0	124.8
H	31.8	58.7	79.2
J	M12x1.75 (11 Deep)	M20 x 2.5 (20 Deep)	
K Rad	152.0	152.0	432.0

Digital Compression Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	10, 25, 40, 60, 100			ton
Accuracy class according to OIML R-60	CC	C3	C4	
Maximum no. of verification intervals (n)	3000		4000	
Minimum verification interval ($V_{min}=E_{max}/Y$)	$E_{max}/10000$		$E_{max}/10000$	
Minimum verification interval, type MR	$E_{max}/20000$		$E_{max}/20000$	
Rated output (FSO)	240,000			counts
Tolerance on rated output	200			± counts
Zero balance	200			± counts
Combined error	0.0500	0.0200	0.0173	±% FSO
Non-repeatability	0.0200	0.0100	0.0090	±% FSO
Minimum dead load output return	0.0500	0.0167	0.0125	±% FSO
Creep error (30 minutes)	0.0600	0.0245	0.0184	±% FSO
Temp. effect on min. dead load output	0.0250	0.0070	0.0070	±% FSO/5°C
Temp. effect on min. dead load output MR	0.0035		0.0035	±% FSO/5°C
Temperature effect on sensitivity	0.0250	0.0050	0.0040	±% FSO/5°C
Compensated temperature range	-10 to +40			°C
Operating temperature range	-40 to +80			°C
Storage temperature range	-40 to +90			°C
Maximum safe overload	150			% E_{max}
Ultimate overload	400			% E_{max}
Maximum safe side load	10			% E_{max}
Deflection at E_{max}	0.36 max			mm
Excitation voltage	12.5 to 18.0			VDC
Maximum excitation voltage	15			VDC
Maximum current consumption	80			mA
Start up current	150			mA
Insulation resistance	>5000			MΩ
Element material (DIN)	Stainless steel 1.4542			
Sealing (DIN 40.050 / EN60.529 / IEC 529)	IP66 and IP68			
Signal update per second	25			
Baudrate	9600			Bits/s
Transmission type	Asynchronous serial transmission			
Start bits	1			
Data bits	7			
Stop bits	1			
Parity	Odd			
Maximum transmission cable length	1200			m
Data transmission interface	RS422 (4 communication wires) RS485 (2 communication wires)			

FSO—Full Scale Output

All specifications subject to change without notice.

Digital Compression Load Cell

FEATURES

- Capacities: 30, 40 and 50 ton
- Digital output via RS-485 or RS-422 interface
- Self-aligning, stainless steel single column
- Hermetically sealed, IP66 and IP68
- Certified to OIML R-60, 4000d
- Internal diagnostics
- Internal lightning protection
- Maximum transmission distance 1200m
- **Optional**
 - Self-aligning mount available
 - Operation manual - SLC

APPLICATIONS

- Weighbridges
- Silo hopper weighing

DESCRIPTION

The DSC, Digital Single Column, is a stainless steel compression load cell with a digital output.

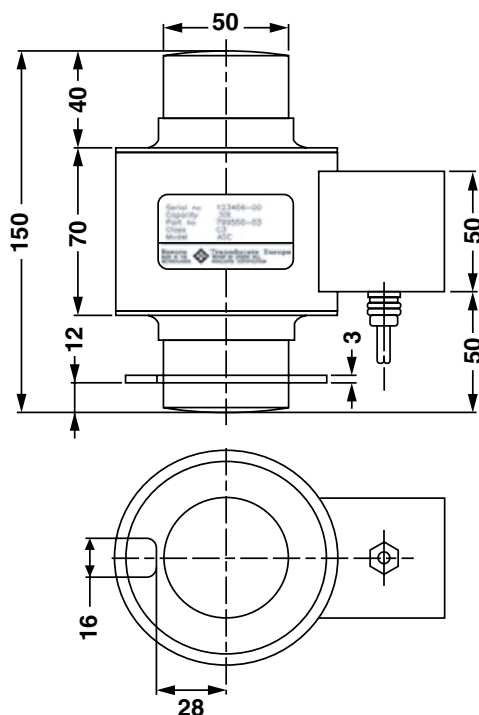


This digital output enables the user to communicate with each DSC independent of the others in the system, thus offering advantages in system setup, system control, corner correction, fault finding and load cell replacement.

This product is suitable for use in road and rail weighbridges and process weighing applications.

The welded construction and built-in surge protection ensure that this product can be used successfully in harsh environments.

OUTLINE DIMENSIONS in millimeters



Cable specifications

Cable length:	15m
Excitation +	Green
Excitation -	Black
Rx +	Yellow
Rx -	Blue
Tx +	Red
Tx -	White
Shield	Transparent

Digital Compression Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Standard capacities (E_{max})	30, 40, 50			ton
Accuracy class according to OIML R-60	Non-approved	C3	C4	
Maximum no. of verification intervals (n)		3000	4000	
Minimum verification interval ($V_{min}=E_{max}/Y$)		$E_{max}/6,000$	$E_{max}/8,000$	
Minimum verification interval, type MR		$E_{max}/15,000$	$E_{max}/20,000$	
Rated output (FSO)	240,000			counts
Tolerance on rated output	200			±counts
Zero balance	200			±counts
Combined error	0.0500	0.023	0.018	±% FSO
Non-repeatability	0.070	0.035	0.026	±% FSO
Minimum dead load output return	0.0500	0.017	0.013	±% FSO
Minimum dead load output return, type MI7.5	-	0.0067	0.0067	±% FSO
Creep error (30 minutes)	0.0600	0.025	0.0184	±% FSO
Creep error (20–30 minutes)	0.0200	0.0053	0.0039	±% FSO
Temp. effect on min. dead load output	0.0250	0.0117	0.0088	±% FSO/5°C
Temp. effect on min. dead load output MR		0.0047	0.0035	±% FSO/5°C
Temperature effect on sensitivity	0.0250	0.0088	0.0065	±% FSO/5°C
Compensated temperature range	–10 to +40			°C
Operating temperature range	–40 to +80			°C
Storage temperature range	–40 to +90			°C
Minimum dead load	0			% E_{max}
Safe dead load	150			% E_{max}
Ultimate load	300			% E_{max}
Deflection at E_{max}	0.50			mm
Excitation voltage	12.5 to 18.0			VDC
Recommended excitation voltage	15			VDC
Maximum current consumption	80			mA
Start up current	150			mA
Insulation resistance	>5000			MΩ
Element material (DIN)	Stainless steel 1.4542			
Sealing (DIN 40.050 / EN60.529 / IEC 529)	IP66 and IP68			
Signal update per second	25			
Baudrate	9600			Bits/s
Transmission type	Asynchronous serial transmission			
Start bits	1			
Data bits	7			
Stop bits	1			
Parity	Odd			
Maximum transmission cable length	1200			m
Data transmission interface	RS422 (4 communication wires) RS485 (2 communication wires)			

FSO—Full Scale Output

Correct mounting of the load cells is essential to ensure optimum accuracy and performance. Further information is available upon request.

All specifications subject to change without notice.



Digital Double-Ended Shear Beams

Digital Miniature Double-Ended Beam

FEATURES

- Easy corner compensation of the weighbridge
- Capacities: 10–30T
- Digital output via RS485 or RS422 interface
- High side load tolerance
- Electroless nickel-plated alloy tool steel
- Surge protection optional
- Extensive internal diagnostics
- External resolution 240,000 counts
- Internal resolution 1,000,000 counts
- Maximum transmission distance 1200m

APPLICATIONS

- Truck/rail scales
- Silo/hopper/tank weighing

DESCRIPTION

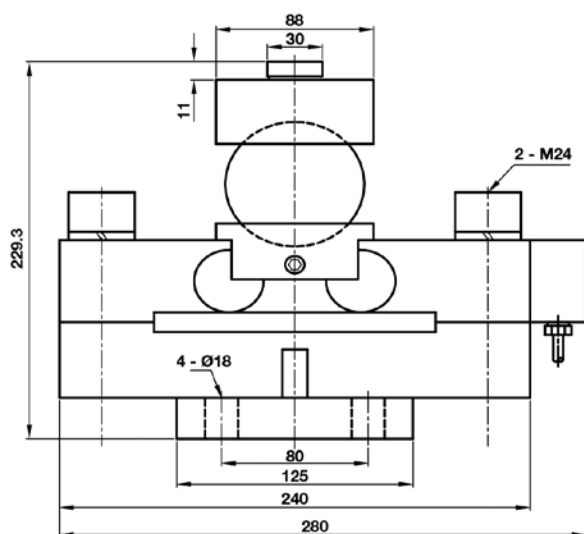
The MDBD is designed for truck and rail scales in high capacities with low profile. The design of loading through a ball is insensitive to side load.

The MDBD is constructed of alloy steel and is fully potted and sealed with special chemical compounds to IP67 providing excellent protection against water and moisture attack.



The digital output enables the user to communicate with each MDBD independently of the others in the system, thus offering advantages in system setup, system control, corner correction, fault finding and load cell replacement.

OUTLINE DIMENSIONS in millimeters



Cable specifications:

Cable length: 13.5m

Excitation +	Green
Excitation -	Black
Rx +	Yellow
Rx -	Blue
Tx +	Red
Tx -	White
Shield	Transparent

Digital Miniature Double-Ended Beam

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Standard capacities (E _{max})	10, 20, 25, 30	ton
Rated output – R.O.	240,000	counts
Rated output tolerance	200	±counts
Zero balance	200	±counts
Combined error	0.0200	±% of rated output
Non-repeatability	0.0200	±% of rated output
Creep error (30 minutes)	0.03	±% of rated output
Creep error (20–30 minutes)	0.01	±% of rated output
Zero return (30 minutes)	0.03	±% of rated output
Temperature effect on span	0.015	±% of rated output/10°C
Temperature effect on zero	0.026	±% of rated output/10°C
Compensated temperature range	–10 to +40	°C
Operating temperature range	–40 to +80	°C
Storage temperature range	–40 to +90	°C
Minimum dead load	0	% of E _{max}
Safe dead load	150	% of E _{max}
Ultimate load	300	% of E _{max}
Excitation voltage	12.5 to 18	VDC
Recommended excitation voltage	15	VDC
Maximum current consumption	80	mA
Start up current	150	mA
Insulation resistance	>5000	MW
Element material	Alloy steel	
Sealing (DIN 40.050/EN60.529/IEC 529)	IP67	
Signal update per second	25	
Baudrate	9600	Bits/s
Transmission type	Asynchronous serial transmission	
Start bits	1	
Data bits	7	
Stop bits	1	
Parity	Odd	
Maximum transmission cable length	1200	m
Data transmission interface	RS422 (4 communication wires)/ RS485 (2 communication wires)	

All specifications subject to change without notice.



Model 240	264
Model 9010	266
Model 1410	270
Model 1430	272

Damped Load Cells

Fluid-Damped Single-Point Load Cell

FEATURES

- Capacities 2–50 kg
- Painted steel construction
- OIML R60 and NTEP approved
- IP66 protection
- Available with metric and UNC threads
- **Optional**
 - Stainless steel construction



APPLICATIONS

- Multi-head filling machines
- Check weighing
- Grading machines
- Liquid filling
- Dynamic weighing

The Model 240 brings load cell adaptability into check weighing and grading applications.

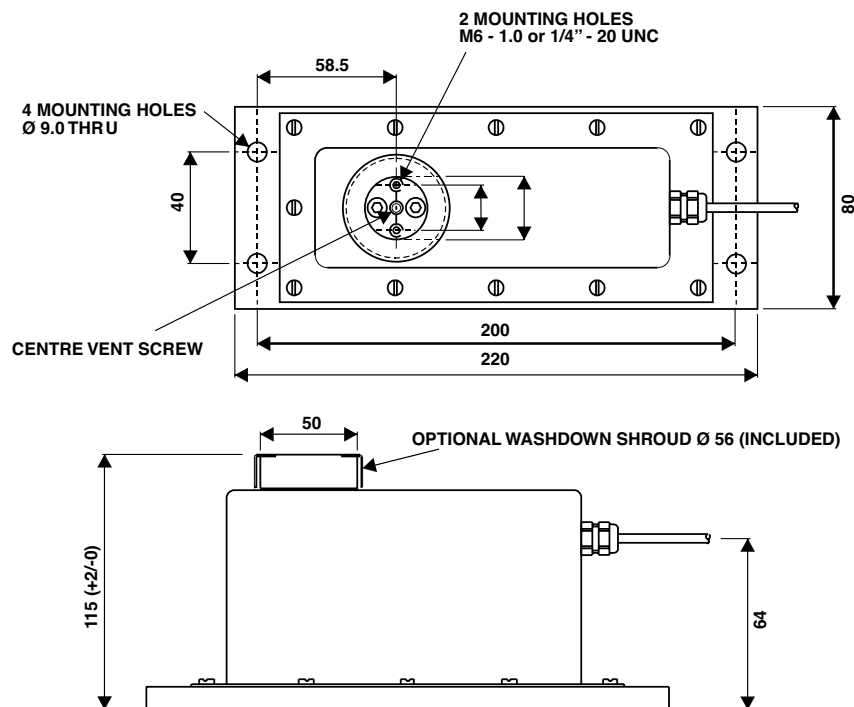
Approved to OIML R60 and NTEP standards, sealed to IP66 level and available in coated steel or stainless steel, the Model 240 is suitable for most wash-down applications.

DESCRIPTION

Model 240 is specifically designed to be used where fast acquisition of a stable load signal is paramount. The Model 240's unique fluid damping system allows the load cell to be used in applications that previously required the use of LVDT's or similar types of measuring devices.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Fluid-Damped Single-Point Load Cell

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity—R.C. (E _{max})	2, 3, 5, 7, 10, 15, 20, 30, 50**			kg
OIML accuracy class	NTEP	Non-Approved	C3*	
Maximum no. of intervals (n)	5000	1000	3000	
Y = E _{max} /V _{min}	12000	1750	9000	Maximum available
Rated output—R.O.	2.0			mV/V
Rated output tolerance	0.2			±mV/V
Zero balance	0.1			±mV/V
Zero return, 30 min.	0.033	0.050	0.015	±% of applied load
Total error	0.050	0.025	0.015	±% of rated output
Temperature effect on zero	0.0026	NA	0.0026	±% of rated output/°C
Temperature effect on output	0.0010	NA	0.0010	±% of rated output/°C
Temperature range, compensated	-10 to +40			°C
Temperature range, safe	-30 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	415±15			Ω
Output impedance	350±3			Ω
Insulation resistance	>1000			MΩ
Cable length	To suit			m
Cable type	6-wire, braided, polyurethane, silicone gel impregnation			Standard
Construction	Painted mild steel***			
Environmental protection	IP66			

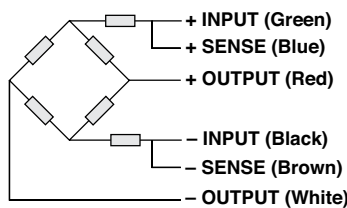
* 50% utilization

** 2 and 3 kg are not approved by NTEP or OIML

*** Stainless steel available

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM



Self-Contained Weighing Module

FEATURES

- Capacities 3–90 kg
- Unique adjustable tare load cancelling mechanism
- Highly effective viscous damping
- 6 Built-in overload limit stops in three directions
- Weighing speed is much faster than standard load cell
- IP65 protection
- **Optional**
 - Stainless steel version
 - IP66 with additional breather tube



DESCRIPTION

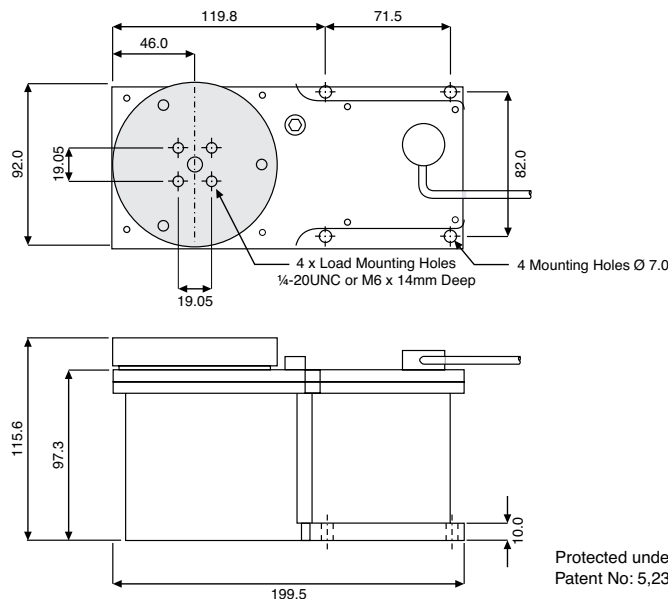
Model 9010 is a self-contained weighing module for use in repeated shock-loading applications or where fast weighing and settling times are required such as multihead weighers, check weighers and other static and dynamic weighing applications characterized by sudden or impact loading.

Model 9010's unique fluid damping system allows the load cell to be used in applications that previously required the use of LVDT's or similar types of measuring devices.

The Model 9010 has a unique adjustable tare load cancellation feature which brings load cell adaptability into check weighing and grading applications.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

OUTLINE DIMENSIONS in millimeters



Protected under U.S.
Patent No: 5,232,062

Self-Contained Weighing Module

HIGH PERFORMANCE DYNAMIC WEIGHING

Weigh Module 9010 consists of a Tedeo-Huntleigh single-point load cell enclosed in an environmentally protected, electroless nickel-plated aluminum housing. The Module integrates load cell performance, viscous damping, adjustable tare offset mechanism and overload protection.

LOAD CELL

Tedeo-Huntleigh's Model 1010, 1040 or 1140 single-point load cells can be used in the Model 9010. Standard capacities 3 kg to 90 kg; for higher capacities, consult Tedeo-Huntleigh.

OVERLOAD PROTECTION

Model 9010 is equipped with built-in overload stops for positive (push), negative (pull) and twisting loads. These stops are factory adjusted for each specific application.

DAMPING

Model 9010 features a unique viscous damping technique developed and patented by Tedeo-Huntleigh, which provides:

- Faster settling time
- Higher weighing speeds
- Load cell protection (extended working life)

Damping parameters are factory set for each specific application.

TARE LOAD CANCELLING

Model 9010 features an adjustable tare load cancelling mechanism which provides a tare offset of up to 35 kg (in several ranges). The tare offset is factory set but may be adjusted by the user. This feature enables the use of a lower capacity load cell, resulting in electronic circuits with lower gains, lower noise, higher stability and lower temperature drifts.

An example for the power of tare cancelling:

Assume an application with 5 kg dead load and 2 kg (useful) load.

1. Without tare cancelling: Total load of 5+2 is 7 kg, therefore, a load cell with capacity of at least 10 kg has to be selected.
2. With tare cancelling: The 5 kg dead load can be opposed and effectively cancelled by the Tare Cancellation Mechanism, leaving a load of 2 kg only, hence a capacity of 3 kg can be selected.
3. Results: A capacity of 3 kg rather than of 10 kg is enabled by the Tare Cancellation feature for a gain of over 3 times in resolution and noise.

LOAD CELL LIFE

Because of the design and unique features of Model 9010, the life of the load cell is increased substantially. For example, in one typical set of life tests, the undamped load cell failed after approximately 300,000 cycles. The damped load cell held without any significant deterioration for more than 300 million cycles. In this test a Model 1010 10-kg load cell was used. A dead load of 2.5 kg was mounted 150 mm from the mounting center. A 4.5 kg impact was applied at that point at a rate of 8 times/sec.

ENVIRONMENTAL PROTECTION

The load cell in the Model 9010 is completely enclosed in a rugged, electroless nickel-plated aluminium or stainless steel housing to withstand splashing. It is environmentally protected to IP65, a special "breather valve" allows atmospheric pressure equalization while excluding splashing liquids.

With an optional addition of a breather tube the protection is rendered IP66. A built-in shut-off valve is used for shipping.

SETTLING TIME

Settling time is the elapsed time from the instant of loading to the time the load cell's signal remains within the user specified accuracy. Settling time is affected by the following parameters.

1. Total mass on the module and it's distance from the mounting center
2. Impact loading characteristics
3. Environmental temperature change

For optimum performance, the above parameters must be specified by the user for each order.

Self-Contained Weighing Module

APPLICATION AND ORDER DATA

TO BE COMPLETED BY THE CUSTOMER

CUSTOMER'S NAME ORDER No.

CONTACT PERSON DATE

APPLICATION No. of UNITS

TOTAL TARE WEIGHT (DEAD LOAD)..... kg; FOR EACH UNIT..... kg

TOTAL USEFUL WEIGHT (LIVE LOAD)..... kg; FOR EACH UNIT..... kg

DESCRIBE LIVE LOAD (POWDER, FRUIT, SCREWS ETC)

REQUIRED SETTLING TIMEmsec; ACCURACY.....

OPERATING TEMPERATURE RANGE °C:

MOUNTING THREADS mm (6x1) inch (1/4 UNC)

PREFERRED LOAD CELL, IF ANY

1. CHECK WEIGHER (SEE SKETCH BELOW):

SIZE OF CONVEYOR PLATFORM:

WIDTH..... cm; A cm; B cm; C cm

SPEED OF BELT cm/sec; SIZE OF WEIGHED PRODUCT IN MOVEMENT DIRECTION..... cm

TARE WEIGHT DISTRIBUTION: CONVEYOR: kg; MOTOR:..... kg

2. HOPPER OR OTHER APPLICATION (SEE SKETCH BELOW):

CENTER OF GRAVITY (CofG) OF DEAD LO AD, (ESTIMATE IF NECESSARY): D..... cm; F cm

LOADING POSITION: D cm; F cm; DROP HEIGHT:..... cm

IF LOAD CofG VARIES, MAX DIST. BETWEEN EXTREMES

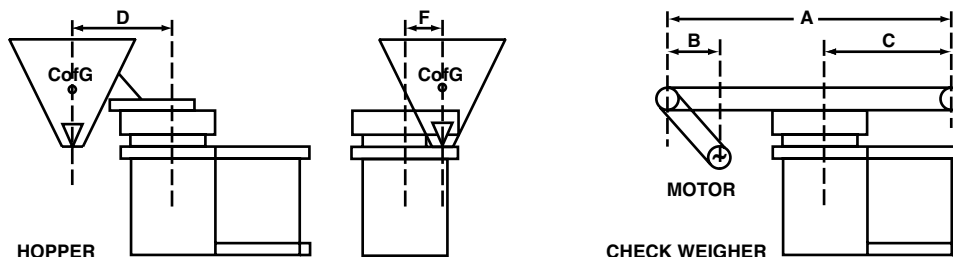
SPECIAL REQUIREMENTS

CABLE LENGTH IF NOT STANDARD (1 m) ; DELIVERY REQUESTED

CORNERS ACCURACY: TEST WIGHT (MAX. ALLOWED 1/3 OF LOAD CELL CAPACITY) kg

DISTANCE FROM CENTER cm VARIATION ALLOWED

DEFINITION OF LOADING POSITION RELATIVE TO 9010



Self-Contained Weighing Module

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C.	3, 5, 7, 10, 15, 20, 30, 50, 90	kg
TH accuracy class	G	
Maximum no. of intervals (n)	3000	
Rated output—R.O.	2.0	mV/V
Rated output tolerance	0.2	± mV/V
Total error*	0.030	±% of R.O.
Temperature effect on span*	0.002	±% of R.O./°C
Temperature effect on zero: load cell	0.004	±% of load/°C
Temperature effect on zero: buoyancy	0.15	+gr/°C rise
Temperature effect on zero: tare offset	0.25 x tare offset (kg)	+gr/°C rise
Temperature range - standard*	10 to 30	°C
Tare offset ranges	0 to 35	kg
Safe static overload downward at mounting center	800	% of R.C.
upward at mounting center	400	% of R.C.
200 mm in front or side of mounting center	200	% of R.C.
Settling time—typical	40–300	millisecond
Temperature effect on settling time	2	%/°C
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	415±15	Ω
Output impedance	350±5	Ω
Insulation resistance	>5000	MΩ
Weight	3	kg
Construction	Anodized body, electroless nickel plating**	
Environmental protection	IP65***	

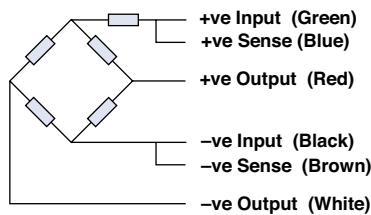
* Extended temperature ranges and smaller temperature effects are available upon request.

** Optional stainless steel coating available upon request.

*** IP66 available with additional breather tube.

All specifications subject to change without notice.

Wiring Schematic Diagram



Load Cell for Rotary Filling Machines

FEATURES

- The first and only load cell specifically designed for use in rotary filling machines
- Short settling times
- High resistance to side loads
- Effective isolation of base vibrations
- Centrifugal forces do not affect accuracy
- Two mounting options

APPLICATIONS

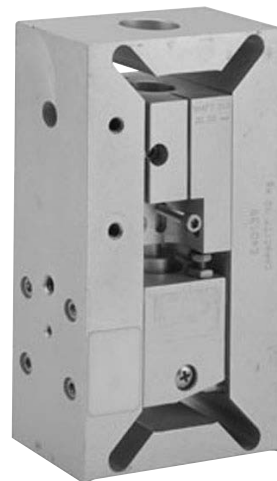
- Rotary filling machines

DESCRIPTION

Model 1410 represents a radical new concept in load cell design, which alleviates many of the problems encountered when conventional load cells are used in rotary weighing machines.

Due to a patented damping system, typical settling times of 700 ms are dramatically reduced to less than 300 ms (depending upon conditions), significantly reducing cycle times and increasing throughput capabilities.

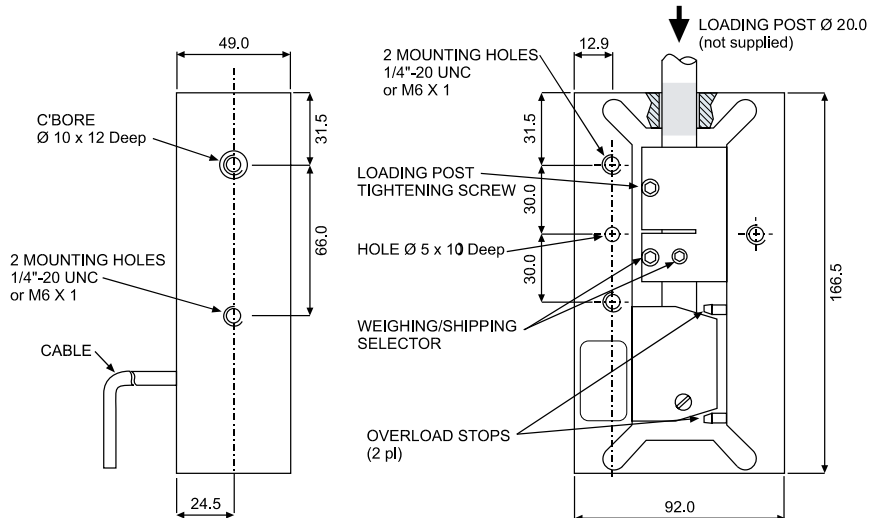
Centrifugal forces are handled in such away that their effect on output is very small. For example, tested up to 20 rpm, total dynamic error amounted to less than



0.2 gram per kg. Also the Model 1410 provides excellent isolation of base vibrations. Both features enable use of higher machine speeds without loss of accuracy.

The uniquely rugged construction of the Model 1410 is very resistant to side loads and can therefore withstand bottle jams and other mishaps.

OUTLINE DIMENSIONS in millimeters



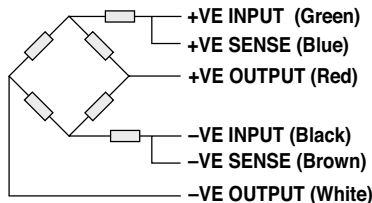
For different mounting configuration consult factory.

Load Cell for Rotary Filling Machines

SPECIFICATIONS			
PARAMETER	VALUE		UNIT
Rated capacity – R.C. (E _{max})	10, 20, 30		kg
T-H accuracy class	E	G	
Rated output – R.O.	2		mV/V
Rated output tolerance	0.3		±% mV/V
Zero balance	-0.0 / +0.2		±% mV/V
Total static error at room temperature per OIML	0.05	0.02	±% of R.O.
Dynamic error: speed range of 0 to 15 rpm, rotational radius of 1m, load placed on platform located 14 cm above top surface of load cell and connected by 3/4" or 20 mm dia. steel shaft	0.04		±% of the static reading at same load
Creep and zero return (30 min.)	0.05	0.025	±% of load
Temperature effect on zero	0.010	0.004	±% of R.O./°C
Temperature effect on output	0.003	0.001	±% of load/°C
Temperature range, compensated	+5 to +40		°C
Temperature range, safe	-30 to +70		°C
Maximum safe static overload, positive	160 Factory adjusted to 120 ... 160% of R.C.		% of R.C.
Maximum safe static overload, negative	-120 Factory adjusted to -30 ... -120% of R.C.		% of R.C.
Ultimate static overload (central loading)	300		% of R.C.
Excitation, recommended	10		VDC or VAC RMS
Excitation, maximum	15		VDC or VAC RMS
Input impedance	415±15		Ω
Output impedance	350±3		Ω
Insulation resistance	>2000		MΩ
Cable length	0.6		m
Construction	Anodized aluminum		
Damping	Internal silicone fluid damping. Piston has two positions: working and shipping. In shipping position the cylinder is sealed.		

All specifications subject to change without notice.

WIRING SCHEMATIC DIAGRAM
(Unbalanced bridge configuration)



Damped Load Cells for Rotary Filling Machines

FEATURES

- Capacities: 3 kg, 17 lbs, 23 lbs
- Stainless steel construction
- Insensitive to rotary dynamic forces
- Single-point performance
- Rotary speed to 13 rpm at 1m radius
- Sealed wash down configuration

APPLICATIONS

- Rotary filling machines

DESCRIPTION

The 1430 is uniquely designed to reduce weighing errors resulting from dynamic forces occurring on rotary liquid filling machines. The 1430 will provide high weighing accuracies when operated over a range of 0 to 13 rpm at a mounting location up to 1 meter radius.

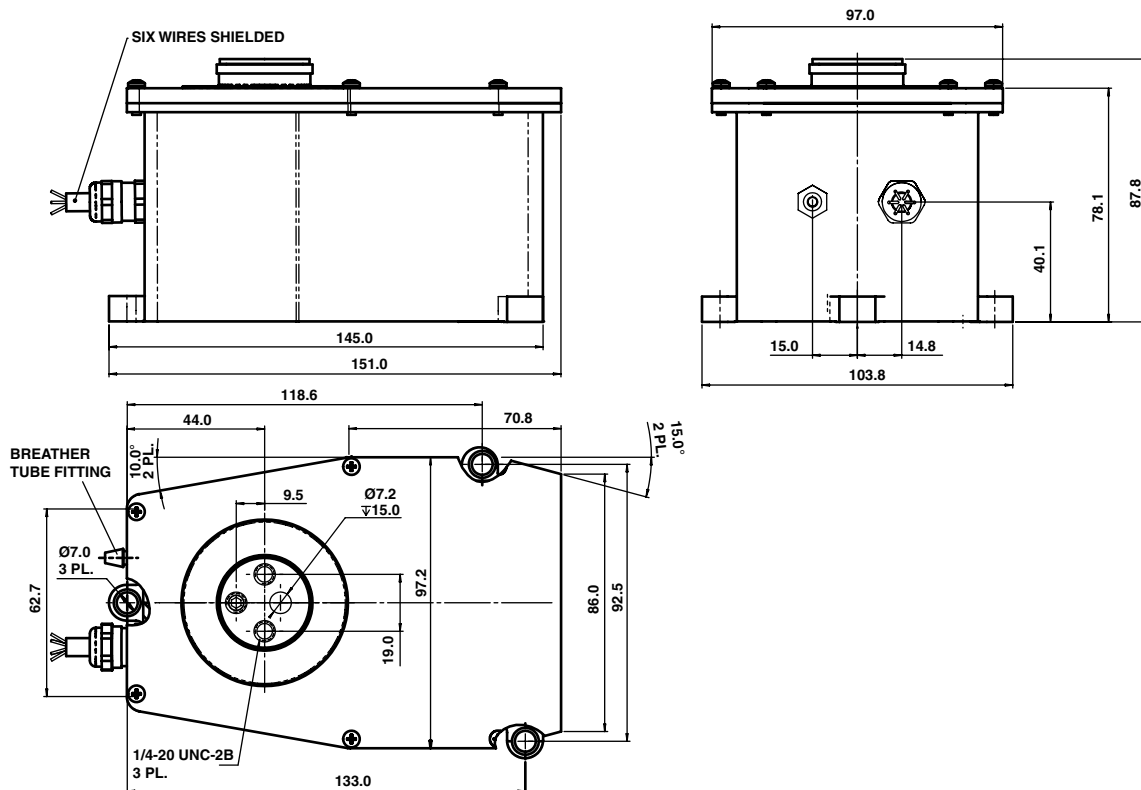
The sealed stainless steel construction of the Model 1430 provides safe operation in applications subjected to



caustic or heavy wash down environments. The rugged construction provides significant overload protection both in the weighing axis as well as against side loading. Side loads, such as occurring in bottle jams of up to 300 kg, have been applied to units with no significant zero change.

The 1430 features adjustable viscous damping for shorter settling times and for faster machine cycles.

OUTLINE DIMENSIONS in millimeters



Damped Load Cells for Rotary Filling Machines

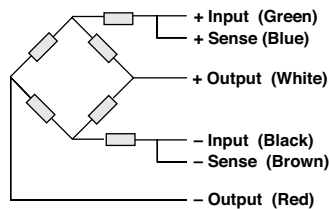
SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C.	3	kg
Rated capacity—R.C.	17, 23	lb
TH Accuracy class	C1	
Maximum no. of intervals (n)	1000	
Rated output—R.O.	2	mV/V
Rated output tolerance	0.3	±mV/V
Zero balance—3 kg: (3 kg std.), 17 lb, 23 lb:	-0.6000±0.0500 ±0.2000	mV/V
Total static error at room temperature per OIML	0.03	±% of R.O.
Dynamic error: speed range of 0 to 15 rpm, rotational radius of 1m, load placed on platform located 14 cm above top surface of load-cell & connected by 3/4" or 20 mm dia. steel shaft	0.04	±% of the static reading at same load
Creep and zero return (30 min.)	0.05	±% of load
Temperature effect on zero	0.010	±% of R.O./°C
Temperature effect on output	0.003	±% of load/°C
Temperature range, compensated	+5 to +40	°C
Temperature range, safe	-30 to +70	°C
Maximum safe static overload, positive	160 ⁽²⁾	% of R.C.
Maximum safe static overload, negative	-120	% of R.C.
Ultimate static overload (central loading)	300	% of R.C.
Excitation, recommended	10	VDC or VAC RMS
Excitation, maximum	15	VDC or VAC RMS
Input impedance	415±15	Ω
Output impedance	350±3	Ω
Insulation resistance	>2000	MΩ
Cable type	6-wire, 26 AWG, shielded, PVC jacket	
Cable length	6	m
Construction	Aluminum sensor enclosed in stainless steel box	
Damping	Internal silicone fluid damping ⁽¹⁾	

⁽¹⁾ Silicone fluid is shipped separately from load cell, dosed in syringe. Silicone fluid is filled in cylinder before installation of load cell.

⁽²⁾ Factory adjusted to 170% of R.C.

All specifications subject to change without notice.

Wiring Schematic Diagram





Load Cell Mounts

Model SSB Mount	276
Model 9102 Mount	278
Model ACB Mount	280
Model CSP-M Mount	282
Model RLC Mount	284
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Model 9123/5123 Mount	288
Model ASC/DSC Self-Aligning Set	290
Model 220-30-50T Weighbridge Mount	291
Model 220-10T Weighbridge Mount	292
Model 220-5T Weighbridge Mount	293
Model 220 Rocker Pin Mount	294
Model 220 Silo Mount	295
Model 4158 Silo Mount	296
Model T-End Foot	297
Model CellMate	298
Model 65016-TWA	300
Model 65059-TWA	302
Model 65058-TSA	305

SSB Self-Aligning Accessories

FEATURES

- Capacities: 500–5000 kg
- Hardened components at all bearing surfaces
- Rocker pin load introduction
- Stainless steel or nickel plated steel versions available
- Built-in horizontal movement control and lift-off protection
- Load cell (re)placement after installation of the mount
- **Optional**
 - Stay rod assembly
 - Suitable also for SBC load cells

APPLICATIONS

- Process control
- Batch weighing
- Silo/hopper weighing
- Belt scale weighing



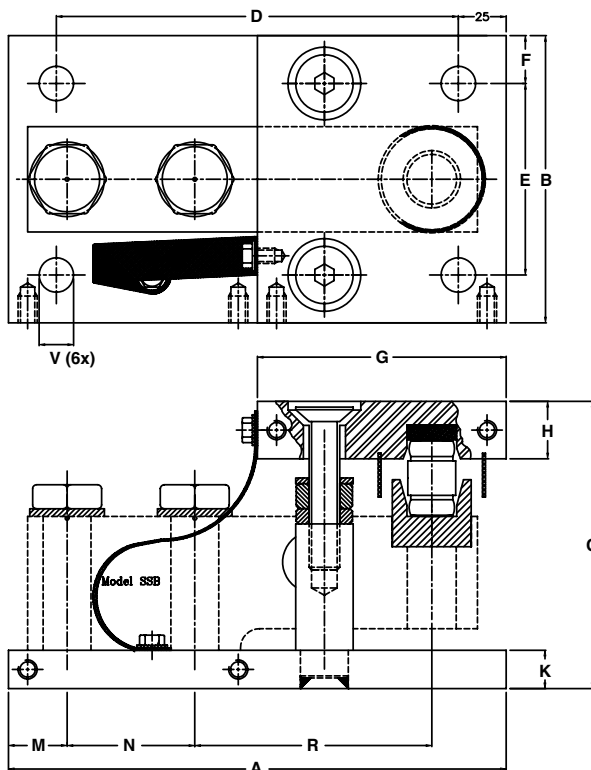
DESCRIPTION

The SSB self aligning silo mount, combined with the SSB load cell family, provides weighing assemblies suitable for process control, batch weighing, silo/hopper, and belt scale applications.

The SSB foot assembly is an ideal solution for medium capacity belt, pallet and platform scales.

The SSB mount and foot are based on a rocker pin design, combining excellent load introduction to the transducer with an overall low profile. Hardened components are used at all load bearing surfaces. The stainless steel construction guarantees long-term reliability, even in the harshest environments.

OUTLINE DIMENSIONS in mm



CAPACITY	0.5-2T	5T
A	210	250
B	120	150
C	95	135
D	160	200
E	80	100
F	20	25
G	100	120
H	20	20
K	15	20
M	21.9	30.6
N	63.5	66.7
R	98.4	123.8
V	Ø14	Ø18

SSB Self-Aligning Accessories

ACCESSORIES

Self-Aligning Mount

The SSB mount permits controlled horizontal movement in all directions. The design allows the load cell to be (re)placed after installation of the mount. The critical load introduction area is mechanically protected.



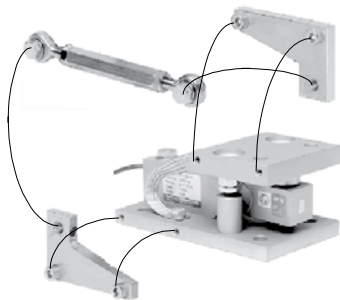
Non-Adjustable Foot

The non-adjustable foot carries the same specification and features as the height adjustable version, while providing an even lower overall profile.



Stay Rod Assembly

If major load movement is anticipated stay rods should be used to restrain a platform or vessel. The SSB stay rod assembly can be bolted to the mount prior to, or after its installation.



Height Adjustable Foot

The stainless steel foot, which has 5 mm of height adjustment, provides excellent load introduction to the load cell. The foot allows flexibility in platform design without compromising overall system performance.



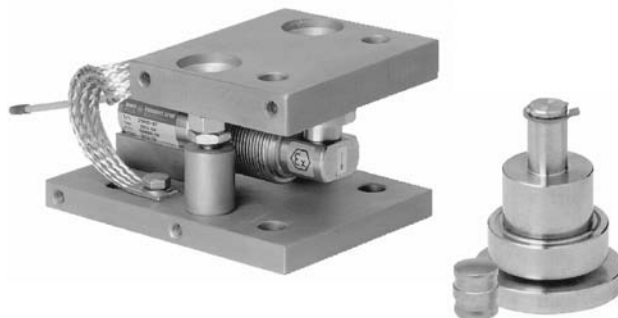
ADDITIONAL INFORMATION

MOUNT	0.5/2T	5T
Self-aligning mount		
Assembly + SSB (mm)	95	135
Assembly guideline	AG 10/06-108/2	
Outline drawing – stainless steel	499046-10	499047-10
Outline drawing – nickel-plated	499046-00	499047-00
Stay rod assembly		
Outline drawing – stainless steel	499063-10	499064-10
Outline drawing – nickel-plated	499063-00	499064-00
Assembly guideline	AG 09/06-201/02	
Height Adjustable Foot		
Assembly + CSP-M	80+5	141+7
Assembly guideline	AG 12/06-102/02	
Outline drawing – stainless steel	499079	499080
Non-Adjustable Foot		
Assembly + CSP-M	75	117
Outline drawing – stainless steel	499077	499078

9102 Self-Aligning Mounts

FEATURES

- Capacities: 50–2500 lbs
- Hardened components at all bearing surfaces
- Rocker pin load introduction
- Built-in horizontal movement control and lift-off protection
- Load cell (re)placement after installation of the mount
- **Optional**
 - Stainless steel or nickel-plated steel versions available
 - Stay rod assembly



APPLICATIONS

- Process control
- Batch weighing
- Silo/hopper weighing
- Belt scale weighing

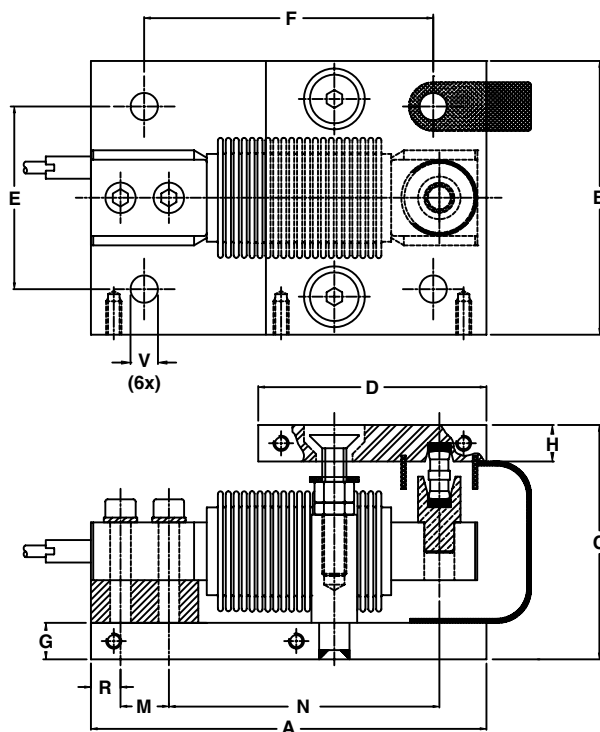
DESCRIPTION

The 9102 self-aligning silo mount, combined with the 9102 load cell family, provides high accuracy weighing assemblies suitable for process control, batch weighing, silo/hopper, and belt scale applications.

The 9102 foot assembly is an ideal solution for medium capacity belt, pallet, and platform scales.

The 9102 mount and foot are based on a rocker pin design, combining excellent load introduction to the transducer with an overall low profile. Hardened components are used at all load bearing surfaces. The stainless steel construction guarantees long-term reliability, even in the harshest environments.

OUTLINE DIMENSIONS in millimeters



CAPACITY	50–200 lbs	500–2500 lbs
A	130	160
B	90	120
C	77	90
D	75	100
E	60	80
F	95	100
G	12	15
H	12	20
R	9.7	25.8
M	15.9	25.4
N	88.9	82.6
V	Ø9	Ø14

9102 Self-Aligning Mounts

ACCESSORIES

Self-Aligning Mount

The 9102 mount permits controlled horizontal movement in all directions. The design allows the load cell to be (re)placed after installation of the mount. The critical load introduction area is mechanically protected.



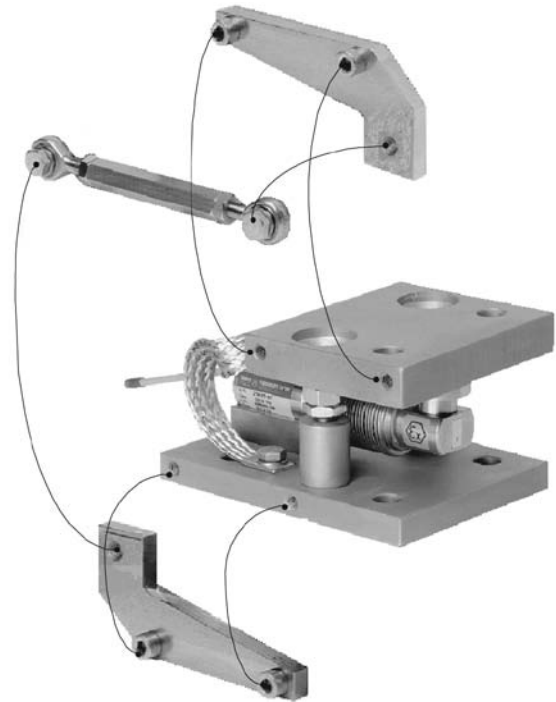
Height Adjustable Foot

The stainless steel foot, which has 5 mm of height adjustment, provides excellent load introduction to the load cell. The foot allows flexibility in platform design without compromising overall system performance.



Stay Rod Assembly

If major load movement is anticipated, stay rods should be used to restrain a platform or vessel. The 9102 stay rod assembly can be bolted to the mount prior to, or after its installation.



ADDITIONAL INFORMATION			
MOUNT/FOOT	50/200 lbs	500-1000 lbs	2500 lbs
Self-aligning mount			
Height, LC + assembly (mm)	77	90	90
Outline drawing – stainless steel	499049-10	499052-10	499053-10
Outline drawing – nickel-plated	499049-00	499052-00	499053-00
Assembly guidelines	AG 10/06-106/02	AG 10/06-107/02	
Height adjustable foot			
Height, LC + assembly (mm)	64+5	74+5	74+5
Outline drawing – stainless steel	499071	499072	499073
Stay rod assembly			
Outline drawing – stainless steel	499061-10	499068-10	499068-10
Outline drawing – nickel-plated	499061-00	499068-00	499068-00
Assembly guidelines	AG 09/06-202/02	AG 10/06-200/02	

ACB Self-Aligning Mount

FEATURES

- Capacities: 250–2000 kg
- Hardened components at all bearing surfaces
- Rocker pin load introduction
- Mechanical protection of the critical load introduction area
- Built-in horizontal movement control and lift-off protection
- Load cell (re)placement after installation of the mount
- **Optional**
 - Stainless steel or nickel-plated steel versions available
 - Stay rod assembly
 - Can be used also for ACB 0.5–2 ton

APPLICATIONS

- Process control
- Batch weighing
- Silo/hopper weighing
- Belt scale weighing

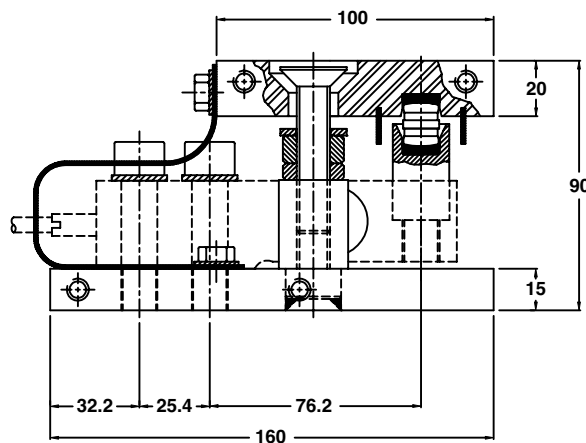
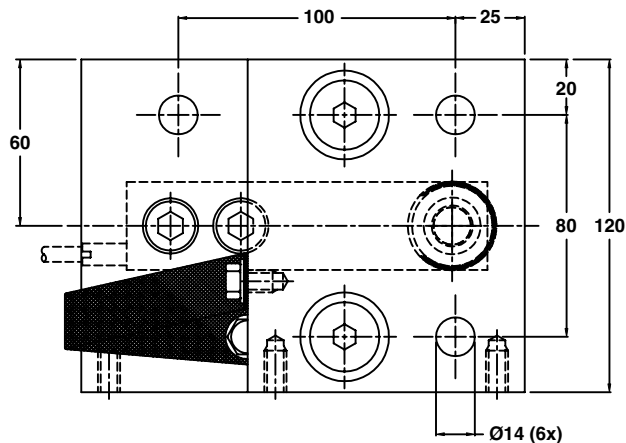


DESCRIPTION

The ACB self-aligning silo mount, combined with the ACB load cell family, provides an ideal solution for process control, batch weighing, silo/hoppers, and belt scale applications.

The ACB mount permits controlled movement in all directions. The design allows the cell to be fitted after installation of the mount.

OUTLINE DIMENSIONS in millimeters



ACB Self-Aligning Mount

ACCESSORIES

ACB Foot Assemblies

- Capacities: 250–2000 kg
- Hardened components at all bearing surfaces
- Self-aligning, rocker pin load introduction
- Stainless steel construction, suitable for harsh environments

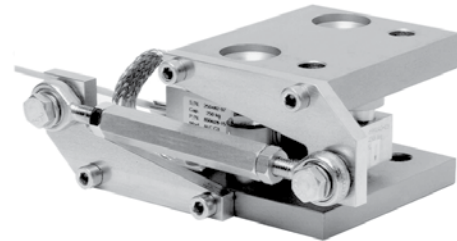
The ACB foot assemblies, together with the ACB load cell family, are an ideal solution for medium capacity belt, pallet and platform scales.

The stainless steel height adjustable and non-adjustable foot assemblies provide excellent load introduction to the load cell while maintaining an overall low profile. The rocker pin based design allows flexibility in platform design without compromising overall system performance.

The rubber foot assembly provides a high performance, shock absorbing, load introduction. The foot is made of yellow passivated ST37 and uses hardened components at all bearing surfaces.

Stay Rod Assemblies

Unless major load movement is anticipated, the ACB mount eliminates the need for stay rods. An optional stay rod assembly, which can be bolted to the mount when required, is available.



ADDITIONAL INFORMATION	
MOUNT/FOOT	250–2000 kg
Height Adjustable Foot	
Height, ACB + assembly (mm)	63+3/67+3 (2T)
Outline drawing – stainless steel	499134
Rubber Foot	
Height, ACB + assembly (mm)	60/64 (2T)
Outline drawing – nickel-plated	499133-00
Self-Aligning Mount	
Height, ACB + assembly (mm)	90
Outline drawing – stainless steel	499085-10
Outline drawing – nickel-plated	499085-00
Assembly guidelines	AG 10/06-109/02
Stay Rod Assembly	
Height, ACB + assembly (mm)	90
Outline drawing – stainless steel	499068-10
Outline drawing – nickel-plated	499068-00
Assembly guidelines	AG 10/06-200/02

CSP-M Self-Aligning Accessories

FEATURES

- Capacities: 10–60T
- Hardened components at all bearing surfaces
- Self-aligning construction
- Built-in horizontal movement control and lift-off protection
- Load cell (re)placement after installation of the mount
- **Optional**
 - Stainless steel or nickel-plated steel versions available
 - Versions with stay rod assemblies available
 - Suitable also for SCC load cells



APPLICATIONS

- Process control
- Silo and weighbridge applications
- Truck and rail scale applications

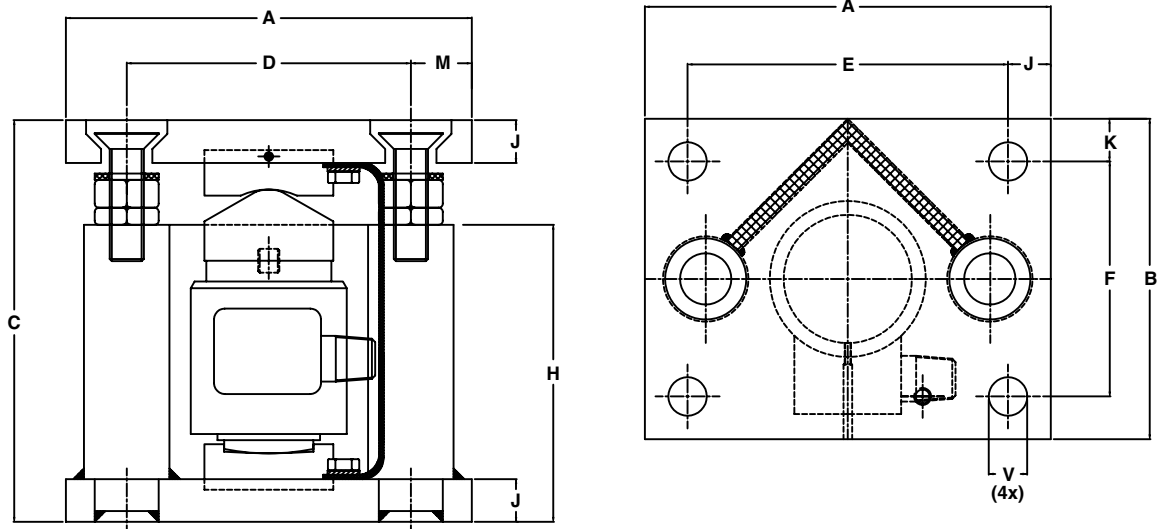
DESCRIPTION

The CSP-M self-aligning mounts, combined with the CSP-M load cell family, provides weighing assemblies suitable for process control, silo, and weighbridge applications.

The CSP-M weighbridge mount is designed to be used in truck scale and rail scale applications. The mount ensures excellent signal stability and optimum performance. It can be used without stay or check rods.

The self-aligning silo mount provides excellent load introduction to the transducer while maintaining an overall low profile. Hardened components are used at all load bearing surfaces.

OUTLINE DIMENSIONS in mm



CAPACITY	A	B	C	D	E	F	H	J	K	M	V
10/25 ton	190	150	188	133	150	110	139	20	20	28.5	Ø18
40/60 ton	250	200	273	182	190	150	209	30	25	35	Ø22

CSP-M Self-Aligning Accessories

ACCESSORIES

Self-Aligning Weighbridge Mount

The CSP-M SA weighbridge mount allows a safe horizontal movement of 8 mm, while ultimate movement of up to 16 mm is accepted. Special care has been given to load safety margins and ease of installation.

Combined with the CSP-M load cell family, the assembly provides excellent signal stability and measurement performance under off-center loading conditions. The mount is made of corrosion resistive steel (DIN 1.2083) to guarantee long-term reliability.



Self-Aligning Silo Mount

The CSP-M self-aligning silo mount is suitable for batch weighing, process control, and silo/hopper applications. The mount tolerates controlled movement in all directions. The top plate is held captive eliminating, in most cases, the need for additional stay or check rods. Where major load movement is anticipated, a version with a built-in stay rod is available. The silo mount allows the load cell to be fitted or removed after installation of the mount. All load bearing surfaces are made of hardened corrosion resistive steel (DIN 1.2083).



ADDITIONAL INFORMATION		
MOUNT	10/25T	40/60T
Weighbridge mount		
Assembly + CSP-M	216 mm	260 mm
Assembly guidelines	AG 09/06-101/02	
Outline drawing – stainless steel*	899953-41	899953-40
Outline drawing – nickel-plated	-	-
Silo mount		
Assembly + CSP-M	188	273
Assembly guidelines	AG 12/06-102/02	
Outline drawing – stainless steel*	499050-10	499051-10
Outline drawing – nickel-plated	499050-00	499051-00
Silo mount with stay rod		
Assembly + CSP-M	190 mm	274 mm
Outline drawing – stainless steel*	499059-10	499060-10
Outline drawing – nickel-plated	499059-00	499060-00

* Load bearings are made of hardened steel, material DIN number: 1.2083

RLC Self-Aligning Accessories

FEATURES

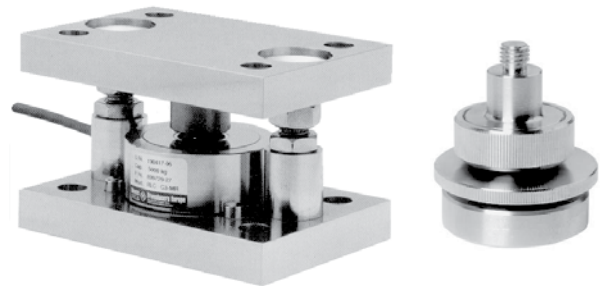
- Capacities: 0.25–10T
- Hardened components at all load bearing surfaces
- Rocker pin load introduction
- Stainless steel construction
- Built-in horizontal movement control and lift-off protection
- Load cell (re)placement after installation of the mount

APPLICATIONS

- Process control
- Batch weighing
- Silo/hopper weighing
- Belt scale weighing

DESCRIPTION

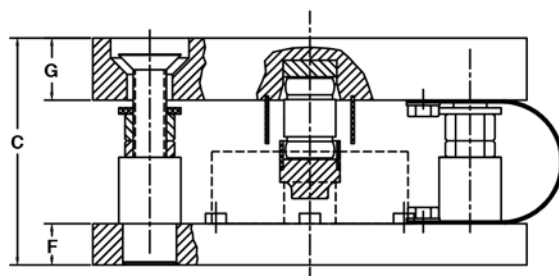
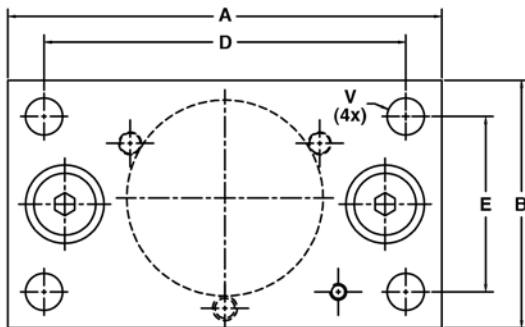
The RLC self-aligning silo mount, combined with the RLC load cell family, provides weighing assemblies suitable for process control, batch weighing, silo/hoppers, and belt scale applications.



The RLC self-aligning foot assembly is an ideal solution for medium capacity platform scales and belt scale applications.

The RLC mount and foot are based on a rocker pin design, combining excellent load introduction to the transducer with an overall low profile. Hardened stainless steel components are used at all bearing surfaces. The fully stainless steel construction guarantees long term reliability, even in the harshest environments.

OUTLINE DIMENSIONS in millimeters



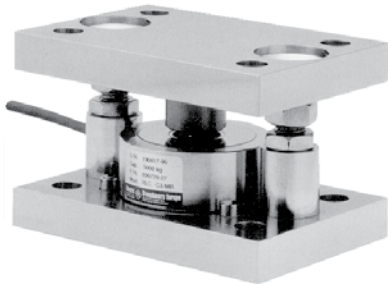
CAPACITY	0.5T, 1T	2T, 3.5T, 5T	10T
A	150	160	210
B	100	110	120
C	75	100	110
D	120	120	175
E	70	70	85
F	15	20	20
G	20	20	30
V	Ø13	Ø16	Ø18

RLC Self-Aligning Accessories

ACCESSORIES

Self-Aligning Mount

The stainless steel RLC mount tolerates controlled movement in all directions. The silo or hopper is held captive, eliminating the need, unless major load movement is anticipated, for additional check rods. The unique design allows the load cell to be placed or replaced after installation of the mount.



Height-Adjustable Foot

This stainless steel foot, which has 5 mm of height adjustment, provides excellent load introduction to the load cell. The foot allows flexibility in platform design without compromising overall system performance.



Non-Adjustable Foot

The non-adjustable, stainless steel foot carries the same specifications as the height adjustable version, while providing an even lower profile.

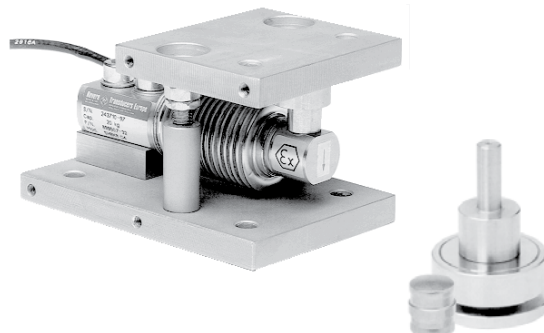


ADDITIONAL INFORMATION			
MOUNT/FOOT	0.25-1T	2-5T	10T
Self-aligning mount			
Height, mount assembly + RLC (mm)	75	100	110
Outline drawing	899043-00	899045-00	499094-10
Mount assembly guideline	AG 05/7-100/01	AG 05/7-100/01	-
Non-adjustable foot			
Height of non-adjustable foot + RLC (mm)	50	85.2	-
Outline drawing non-adjustable foot	899041-00	899042-00	-
Height-adjustable foot			
Height of adjustable foot + RLC (mm)	60+5	92.6+5	120.2+5
Outline drawing adjustable foot	499083-00	499084-00	499093-00

SHBxR Self-Aligning Accessories

FEATURES

- Capacities: 5–500 kg
- Hardened components at all load bearing surfaces
- Rocker pin load introduction
- Built-in horizontal movement control and lift-off protection
- Load cell (re)placement after installation of the mount
- **Optional**
 - Stainless steel or nickel-plated steel versions available
 - Stay rod assembly



APPLICATIONS

- Process control
- Batch weighing
- Silo/hopper weighing
- Belt scale weighing

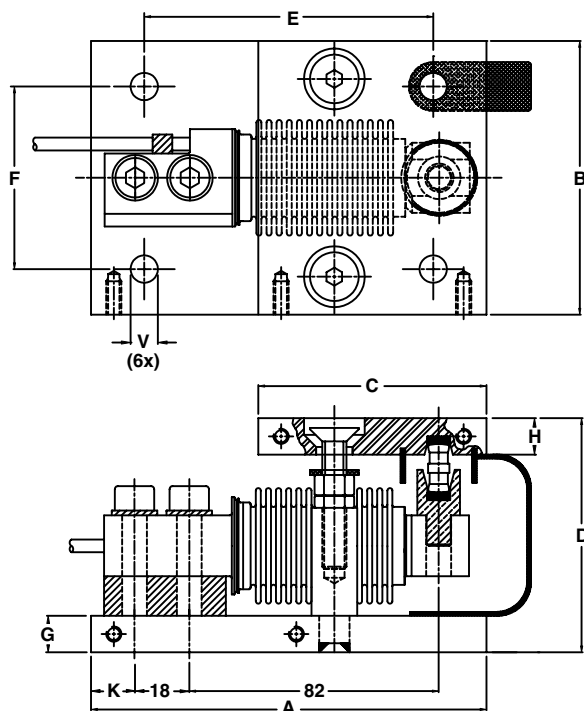
DESCRIPTION

The SHBxR self-aligning silo mount, combined with the SHBxR load cell family, provides weighing assemblies suitable for process control, batch weighing, silo/hopper, and belt scale applications.

The SHBxR foot assembly is an ideal solution for low and medium capacity platform scales. The SHBxR mount and foot are based on a rocker pin design, combining excellent load introduction to the transducer with an overall low profile.

Hardened components are used at all load bearing surfaces. The stainless steel construction guarantees long-term reliability, even in the harshest environments.

OUTLINE DIMENSIONS in millimeters



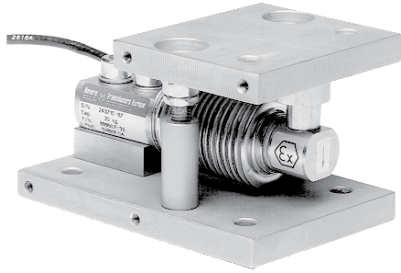
CAPACITY	5–200 kg	350–500 kg
A	130	160
B	90	120
C	75	100
D	77	90
E	95	100
F	60	80
G	12	15
K	14.5	33.8
H	12	20
V	∅9	∅14

SHBxR Self-Aligning Accessories

ACCESSORIES

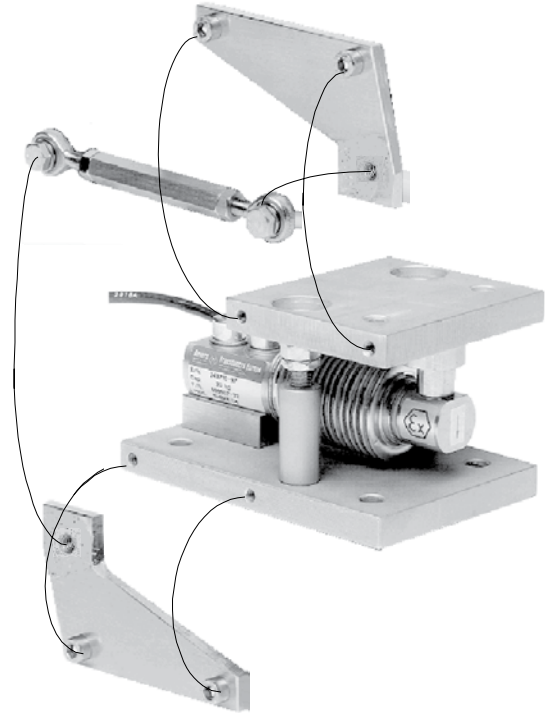
Self-Aligning Mount

The SHBxR mount permits controlled horizontal movement in all directions. The design allows the load cell to be (re)placed after installation of the mount. The critical load introduction area is mechanically protected.



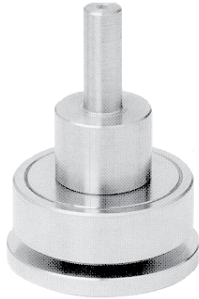
Stay Rod Assembly

If major load movement is anticipated stay rods should be used to restrain a vessel or platform. The SHBxR stay rod assembly can be bolted to the mount prior to or after its installation.



Height Adjustable Foot

The stainless steel foot, which has 5 mm of adjustment, provides excellent load introduction to the transducer. The foot allows flexibility in platform design without compromising overall system performance.



ADDITIONAL INFORMATION		
MOUNT	5/200 kg	350/500 kg
Self-aligning mount		
Height, assembly + SHBxR (mm)	77	90
Outline drawing – stainless steel	499048-10	499095-10
Outline drawing – nickel-plated	499048-00	499095-00
Assembly guideline	AG 10/06-104/02	
Height adjustable foot		
Height, assembly + SHBxR (mm)	65+5	
Outline drawing – stainless steel	499070	
Stay rod assembly		
Outline drawing – stainless steel	499061-10	499068-10
Outline drawing – nickel-plated	499061-00	499068-00
Assembly guidelines	AG 09/06-202/02 and AG 01/07-200/03	

9123/5123 Self-Aligning Accessories

FEATURES

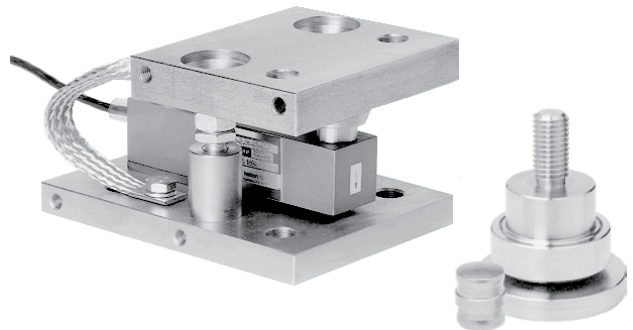
- Capacities: 0.5–5T
- Hardened components at all load bearing surfaces
- Rocker pin load introduction
- Built-in horizontal movement control and lift-off protection
- Load cell (re)placement after installation of the mount
- **Optional**
 - Stainless steel or nickel-plated steel versions available
 - Stay rod assembly

APPLICATIONS

- Process control
- Batch weighing
- Silo/hopper weighing

DESCRIPTION

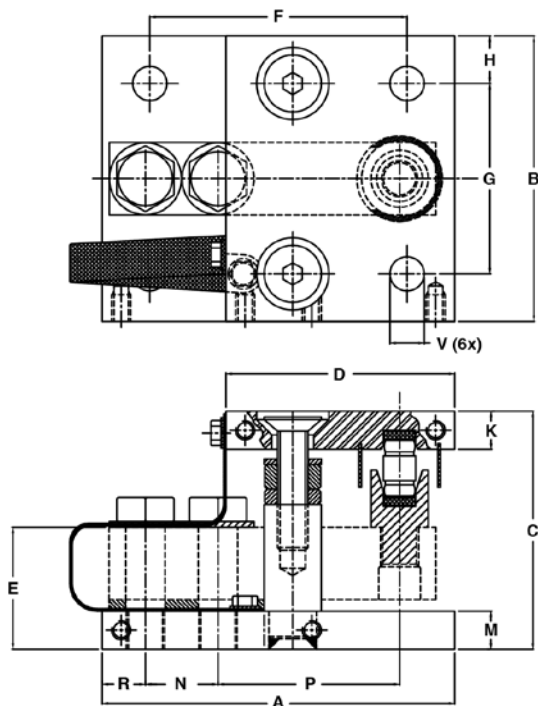
The 9123/5123 self-aligning silo mount, combined with the 9123/5123 load cell family, provides weighing assemblies suitable for process control, batch weighing, silo/hopper, and belt scale applications.



The 9123/5123 foot assembly is an ideal solution for medium and high capacity platform scales.

The 9123/5123 mount and foot are based on a rocker pin design, combining excellent load introduction to the transducer with an overall low profile. Hardened components are used at all load bearing surfaces. The stainless steel construction guarantees long-term reliability, even in the harshest environments.

OUTLINE DIMENSIONS in millimeters



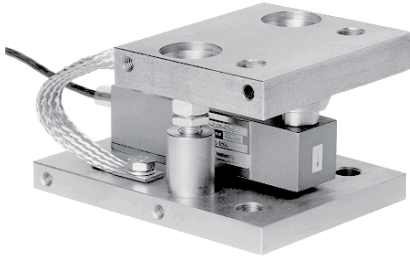
CAPACITY	0.5–2T	5T
A	160	185
B	120	150
C	90	125
D	100	120
E	50.8	64
F	100	135
G	80	100
H	20	25
K	20	20
M	15	20
N	25.4	38.1
P	76.2	95.3
R	32.2	22.7
V	∅14	∅18

9123/5123 Self-Aligning Accessories

ACCESSORIES

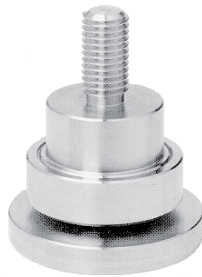
Self-Aligning Mount

The 9123/5123 mount permits controlled horizontal movement in all directions. The design allows the load cell to be (re)placed after installation of the mount. The critical load introduction area is mechanically protected.



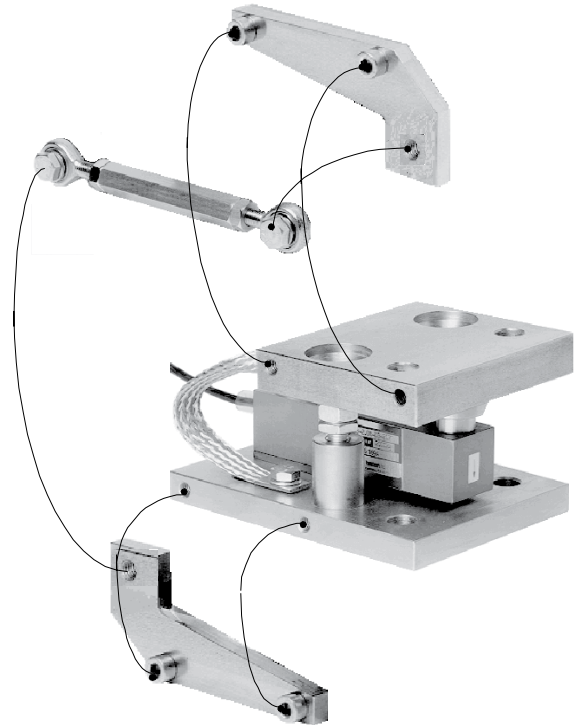
Height Adjustable Foot

The stainless steel foot, which has approximately 10 mm height adjustment, provides excellent load introduction to the load cell. The foot allows flexibility in platform design without compromising overall system performance.



Stay Rod Assembly

If major load movement is anticipated stay rods should be used to restrain a vessel or platform. The 9123/5123 stay rod assembly can be bolted to the mount prior to or after its installation.



ADDITIONAL INFORMATION

MOUNT/FOOT	0.5-2T	5T
Self-aligning mount		
Height, assembly + 9123/5123 (mm)	90	125
Assembly guidelines	AG 10/06-103/02	
Outline drawing—stainless steel	499057-10	499058-10
Outline drawing—nickel-plated	499057-00	499058-00
Height adjustable foot		
Height, assembly + 9123/5123 (mm)	71+10	101+10
Outline drawing—stainless steel	499081	499082
Stay rod assembly		
Assembly guidelines	AG 09/06-200/02	
Outline drawing—stainless steel	499068-10	499069-10
Outline drawing—nickel-plated	499068-00	499069-00

ASC/DSC Self-Aligning Accessories

FEATURES

- Capacities: 30–50T
- Hardened components at all bearing surfaces
- Self-aligning construction
- Stainless steel

APPLICATIONS

- Truck and rail scale applications
- Silo and weighbridge applications

DESCRIPTION

The ASC and DSC self-aligning set provides weighing assemblies suitable for truck scale, rail scale and process weighing applications.

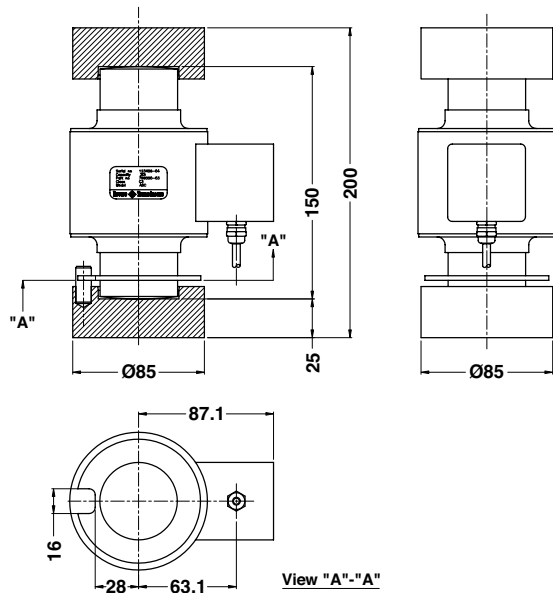
The self-aligning set is specially designed to be used in weighbridges without stay or check rods. Eccentric washers are used to ensure that the load cell is placed



in a vertical position, and perpendicular to its mounting surfaces.

Long-term reliability is assured through the use of hardened corrosion resistive steel on all mount parts.

OUTLINE DIMENSIONS in millimeters



MOUNT	ASSEMBLY GUIDELINES	P/N
Self-aligning set	02/03-110/01	799863-00
Set of 3 eccentric washers		499125-00

Mount for Weighbridge Mount/Truck Scales

FEATURES

- For use on steel or concrete weighbridges
- Above ground or pit mounted
- Composite rubber and plated steel construction
- Low profile
- Simple installation
- Shock resistance

DESCRIPTION

Model 220 is ideally suited for use in steel or concrete weighbridge applications. When used in conjunction with the composite mount it forms a compact assembly which is rugged and tolerant of heavy treatment.

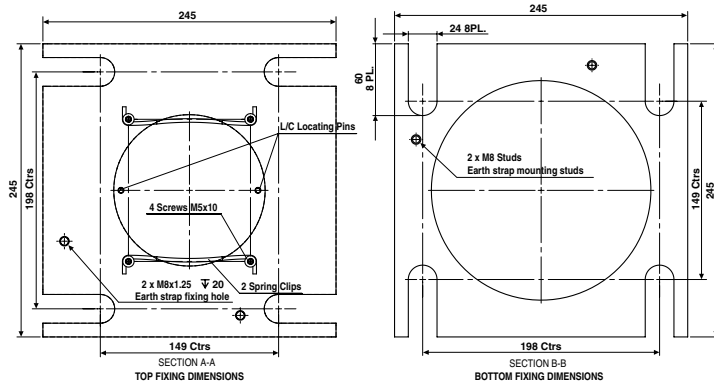
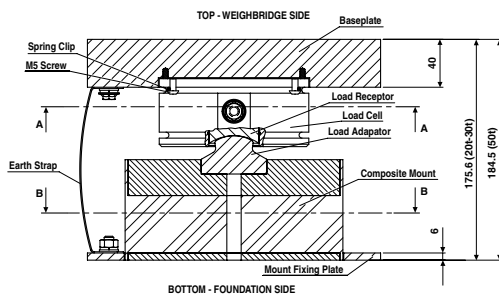
The mount assembly allows free motion in any direction in the horizontal plane at the same time as supplying restoring moment (return to centre motion) and retaining low vertical deflection. It supplies the required rigidity while retaining shock absorption capability. It exhibits low



effects to changes of temperature and allows for thermal expansion of the bridge structure.

The complicated arrangements that often accompany conventional installations of load cell mountings are avoided. Tedea-Huntleigh's system for truck scales can be installed in a matter of a few hours instead of more than one day.

OUTLINE DIMENSIONS in millimeters



The two mounting kits are:

MTS-COMP-30T

MTS-COMP-50T

Comprising composite mount, load adaptor, mount fixing plate, earth strap, nut, and washers. Packed weight: 12.5 kg

MTS-BASEKIT-50T-CS

MTS-BASEKIT-30T

Comprising baseplate, location pins x 2, spring clips x 2, M5 screws x 4, screw and washers for earth strap. Packed weight: 18 kg

1. To ensure safe use of the weighbridge mount, restraints should be fitted between the weighbridge deck and foundation.
2. Tedea-Huntleigh cannot accept responsibility for the improper installation of the weighbridge mount.
3. Because of the weight of the base plate and consequent freight costs, customers might wish to machine it locally. Manufacturing details of this simple plate are available free of charge on request.
4. A separate kit of spring clips, location pins, and screw is available (MTS-CLIPKIT-50T).
5. An alternative weighbridge mount is available for use with the 220 load cell. Details of the Rocker Pin (MTS-ROCKER-50T) are available upon request.

Tedea-Huntleigh provides installation details separately, please refer to Technical Support Document, TSD.0007

5 Ton Weighbridge Mount

FEATURES

- For use on steel or concrete weighbridges
- Above ground or pit mounted
- Composite rubber and plated steel construction
- Low profile
- Simple installation

DESCRIPTION

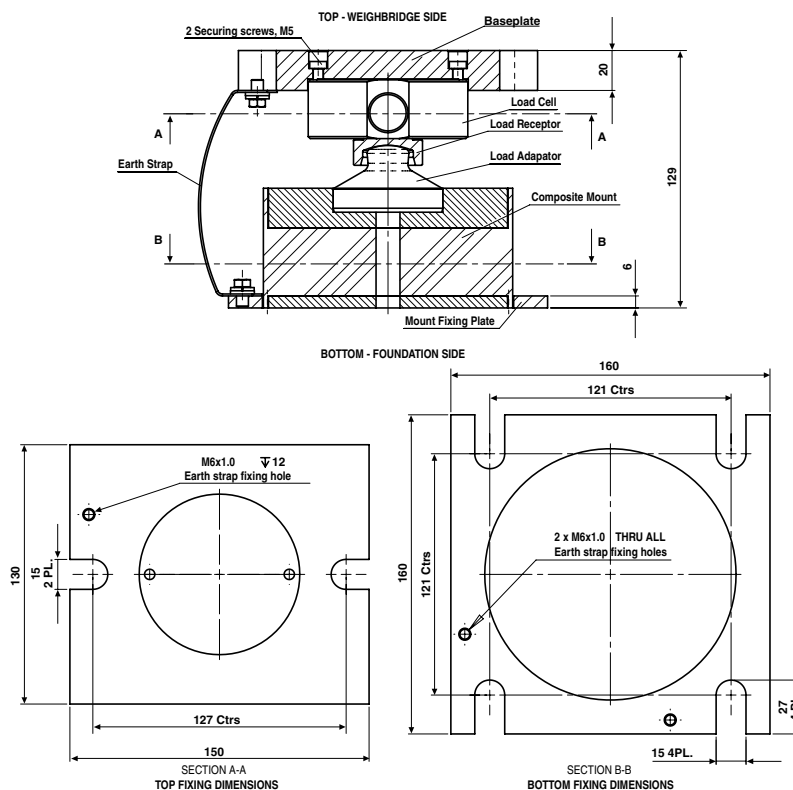
Model 220 is ideally suited for use in steel or concrete weighbridge applications. When used in conjunction with the composite mount it forms a compact assembly which is rugged and tolerant of heavy treatment.

The mount assembly allows free motion in any direction in the horizontal plane at the same time as supplying restoring moment (return to center motion) and retaining low vertical deflection. It supplies the required rigidity while retaining shock absorption capability. It exhibits low effects to changes of temperature and allows for thermal expansion of the bridge structure.



The complicated arrangements that often accompany conventional installations of load cell mountings are avoided. Tedea-Huntleigh's system for truck scales can be installed in a matter of a few hours instead of more than one day.

OUTLINE DIMENSIONS in millimeters



MTS-COMP-5T

Comprising composite mount, load adaptor, mount fixing plate, earth strap, nut, and washers.
Packed weight: 5 kg

MTS-BKIT-5T-CS

Comprising baseplate, location pins x 2, spring clips x 2, M5 screws x 4, screw, and washers for earth strap.
Packed weight: 5 kg

1. To ensure safe use of the weighbridge mount, restraints should be fitted between the weighbridge deck and foundation.
2. Tedea-Huntleigh cannot accept responsibility for the improper installation of the weighbridge mount.
3. Because of the weight of the base plate and consequent freight costs, customers might wish to machine it locally. Manufacturing details of this simple plate are available free of charge on request.

Tedea-Huntleigh provides installation details separately, please refer to Technical Support Document, TSD.0007

Model 220 Rocker Pin Mount

Tedea-Huntleigh



Rocker Pin for Weighbridge Truck Scale

FEATURES

- For use on steel or concrete weighbridges
- Above ground or pit mounted
- Stainless steel pin
- Plated steel base
- Simple installation
- Low profile

DESCRIPTION

The 220 Rocker Pin Mount is ideal for use in steel or concrete weighbridge/truckscale applications when used in conjunction with the Model 220 load cell.

It forms a compact assembly which is rugged and tolerant of heavy treatment.

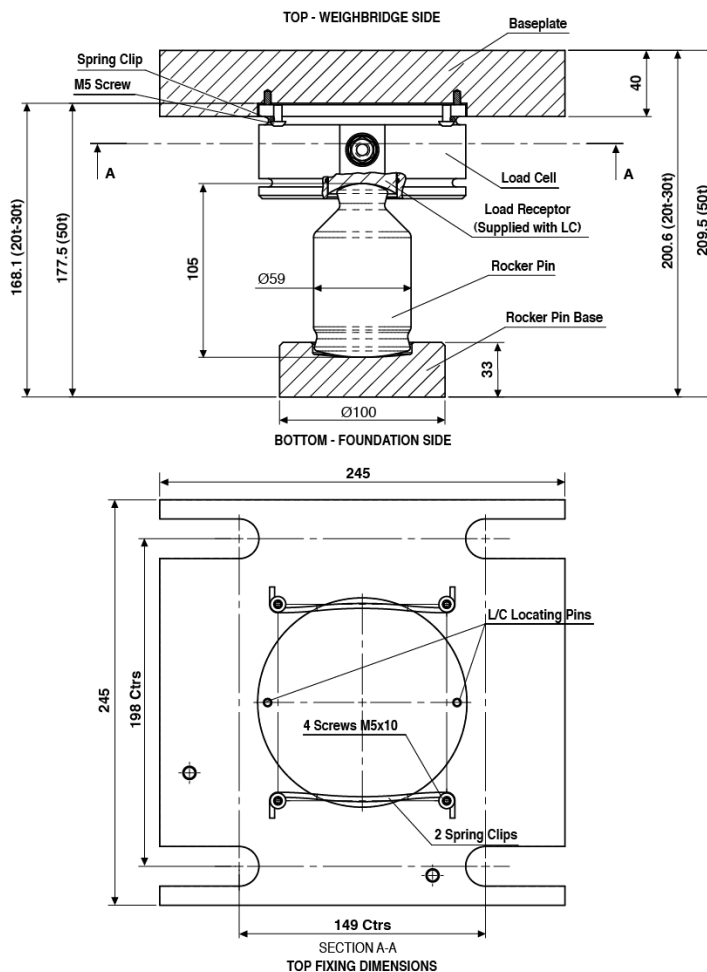
The Rocker Pin Mount assembly allows free motion in any direction in the horizontal plane up to $\pm 6^\circ$.



The self-centering design is tolerant of misalignment and can therefore be used in silo weighing applications.

Complicated arrangements that often accompany conventional installation of load cell mountings are avoided.

OUTLINE DIMENSIONS in millimeters



The mounting kit is designated:

MTS-ROCKER-30T

Comprising rocker pin, rocker pin base. Packed weight: 3.5 kg

The baseplate kit is designated:

MTS-BASEKIT-30T

Comprising baseplate, location pins x 2, spring clips x 2, M5 screws x 4. Packed weight: 18 kg

1. To ensure safe use of the rocker pin mount; restraints must be fitted between the weighbridge deck and foundation.
2. Tedea-Huntleigh cannot accept responsibility for the improper installation of the rocker pin mount.
3. Because of the weight of the base plate and consequent freight costs, customers might wish to machine it locally. Manufacturing details of this simple plate are available free of charge on request.
4. A separate kit of spring clips, location pins, and screws is available (MTS-CLIPKIT-30T). Tedea-Huntleigh provide installation details separately, please refer to Technical Support Document.

Heavy Duty Silo Mount for the 220 Load Cell

FEATURES

- 5, 10, 20 and 30T capacity
- Low profile
- Tolerant of angular misalignment
- Stainless steel mounting option
- Jacking support system
- Lift-off protection
- Allowance for thermal expansion

APPLICATIONS

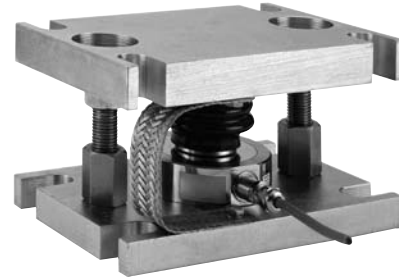
- Silo mount
- Tank weighing
- Hopper weighing

DESCRIPTION

The 220 Silo Mount is specifically designed for the support of tanks, silos, and hoppers, making it ideal for indoor or outdoor process control applications when high accuracy weighing is demanded.

The Silo Mount is designed to support a uniformly distributed load and is capable of tilting through a maximum of $\pm 3^\circ$ from vertical.

The Silo Mount forms a compact assembly offering simple installation which is rugged and tolerant of heavy



industrial environments. Heavy gauge steel construction provides a rigid, robust load cell mount for high accuracy and prolonged life. An earth strap with fixing bolts is provided.

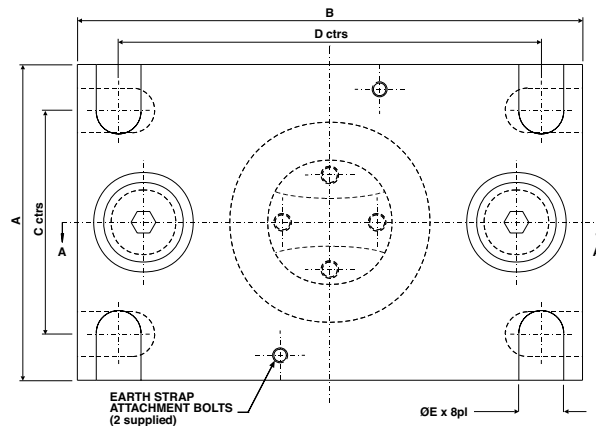
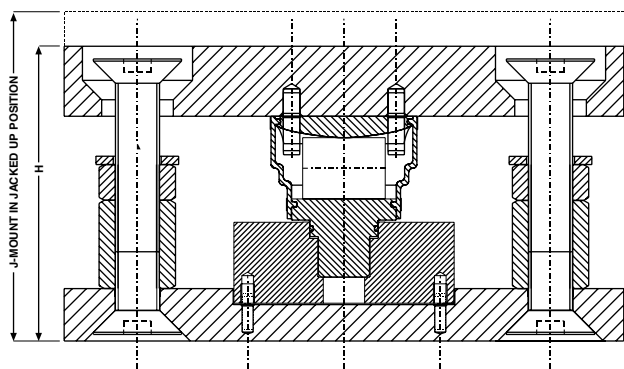
The Silo mount provides a unique jacking support system which allows the mounts to be installed in the raised position without the load cells, this aids the installation, and preventing accidental damage of the load cells.

Lift-off protection and an allowance for thermal expansion of the weighing vessel is also incorporated into the mount design.

For specifications refer to Model 220.

OUTLINE DIMENSIONS in millimeters

This mount is designed for a uniformly distributed load on the top and bottom surfaces



CAPACITY	A	B	C	D	ØE	H	J
5 and 10T	127	203	90	170	18	107	118
20 and 30T	152	245	115	208	24	148	156

Heavy Duty Silo Mount for Use with 4158 Load Cell

FEATURES

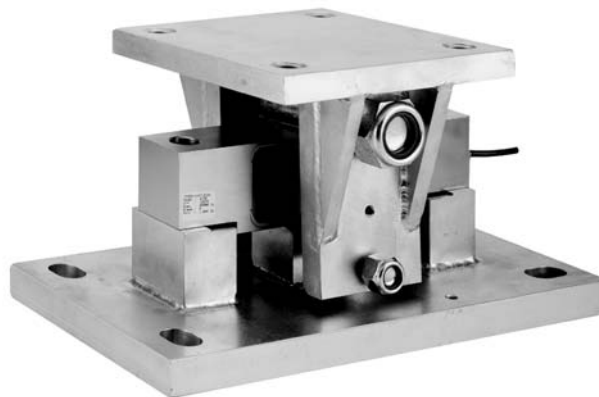
- Capacities up to 75k lbs
- Use on tanks or silos
- All steel construction
- Low profile
- Simple installation

DESCRIPTION

The 4158 silo mount is suitable for the support of tanks and silos, making it ideal for indoor or outdoor process control applications.

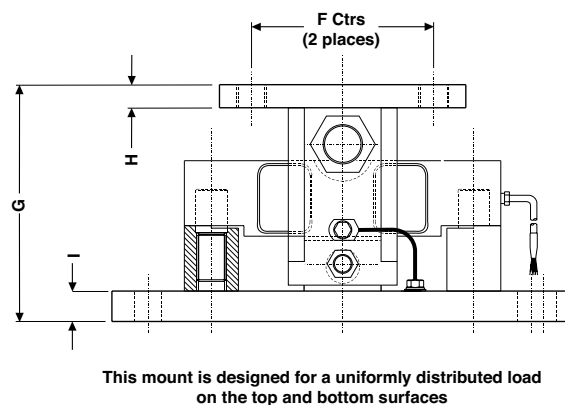
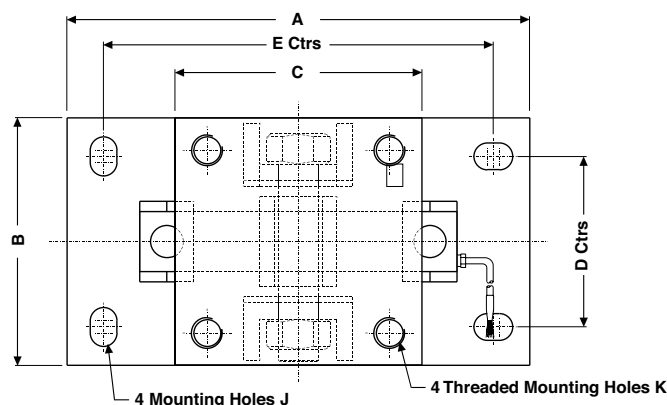
It is designed to support a uniformly distributed load and will allow tilt in any direction up to a maximum of $\pm 3^\circ$.

It forms a compact assembly which is rugged and tolerant of heavy industrial environments. Heavy gauge steel plate provides a rigid, robust load cell mount for high accuracy and prolonged life.



It incorporates lift-off protection and allows for thermal expansion of the weighing vessel.

OUTLINE DIMENSIONS in millimeters



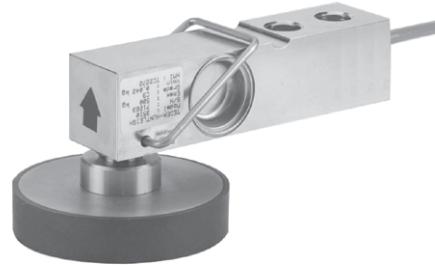
Each comprises base plate assembly, top plate assembly, loading pin and support, bottom pin, mounting posts, retaining clips, earth strap with bolts and washers.

CAPACITY	A	B	C	D	E	F	G	H	I	J	K
10k-25k lbs	240	180	180	130	190	130	142	12.7	19	Ø18x28	M20
40k lbs	380	203	203	140	320	150	195	19	25	Ø22x32	M24
50k-75k lbs	380	203	203	140	320	150	210	19	25	Ø22x32	M24

Load Cell Mounting Feet

FEATURES

- Adjustable height or fixed height version
- Designed to work with T-end version shear beams
- Low profile
- Stainless steel
- Anti-vibration
- Easy installation

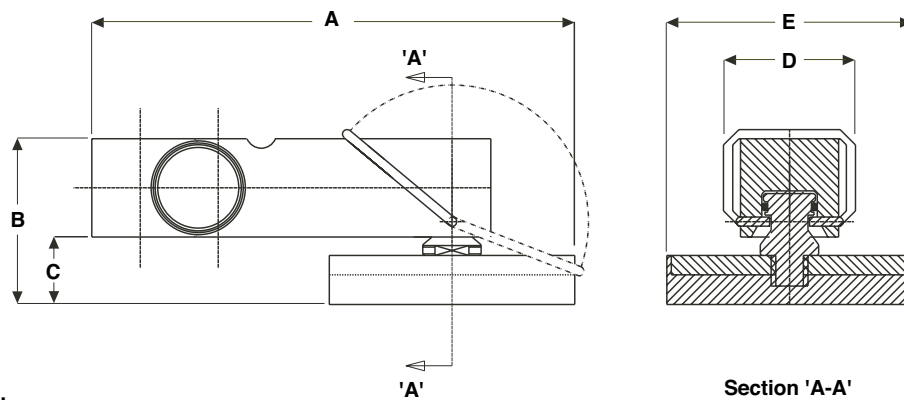


DESCRIPTION

T-End mounting feet are ideal for platform use where a number of load cells are used together. The stainless steel construction with the inert rubber foot makes the assembly impervious to most industrial chemicals and ideal for harsh environments. A food grade rubber option is also available.

They must be used with the appropriate load cells, which are current matched and specially machined to accept T-End accessories. It is recommended to order load cells and T-End mounting feet together.

OUTLINE DIMENSIONS in millimeters



Note:

1. All dimensions in mm
2. A mounting foot adapter is available which increases the heights 'B' & 'C' by 7mm (for standard shear beams)

Load Cell Type		3410			3510	
Capacity		250–4000 lbs	500–1000 kg	2000 kg	300–2000 kg	5000 kg
Both T-foot versions	A	157.4	157.4	157.4	157.4	202.4
	D	43	43	43	43	57
	∅E	80	80	80	80	100
Fixed height foot	B	52	52	58	54	77.5
	C	22	22	22	22	29.5
Adjustable height foot	B low	58	58	64	60	-
	B high	70	70	76	72	-
	C low	28	28	28	28	-
	C high	40	40	40	40	-

Load Cell Mounting Assembly for Models 355, 3410, 3420 and 3510

FEATURES

- Simplifies load cell installation on tanks, silos, and other weighing vessels
- 3 models suitable for load cell Models 3510, 3410, 3420, and 355
- Accepts load cells ranging in capacity from 5 to 5,000 kg
- Permanent protection against load cell damage
- Grounding strap provides low resistance path to minimize electrical potentials
- Provision for thermal expansion, contraction and lift-off due to winds or collision
- Cable gland protector prevents cable damage
- Stainless steel construction
- Internal jack for load cell easy installation and replacing
- Ball and cup version also available

APPLICATIONS

- Hostile environments applications
- Process control
- Batch weighing
- Silo/hopper weighing
- Belt scale weighing

DESCRIPTION

The CellMate™ is a superior load cell mounting assembly that dramatically simplifies load cell installation.

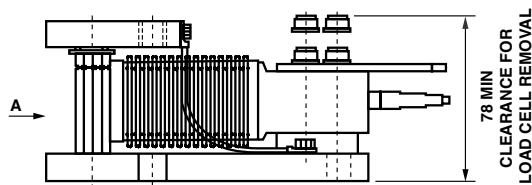
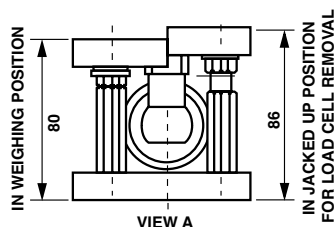


A perfect solution to vessel weighing in dairies, chemical, bottling, and food processing plants, stainless steel CellMate™ mounts can be used on tanks, silos, and many other weighing vessels and applications.

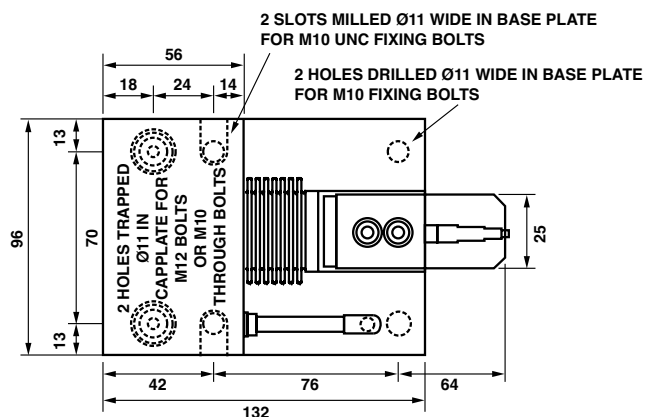
The CellMate™ family of mountings also provides an unparalleled degree of protection for load cells and maintains a permanent load cell safety system, reducing load cell damage and plant down-time.

CellMate™ assemblies are available in three models with weighing capacities from 5 to 5000 kg in stainless steel. Standard dimensions and hole sizes provide for fast and easy placement of load cells. Ideal for use with Tedea-Huntleigh's line of hermetically sealed shear and bending beam load cells. CellMate™ includes an internal jack which enables users to install the fittings on silos or tanks with or without load cells.

OUTLINE DIMENSIONS in millimeters

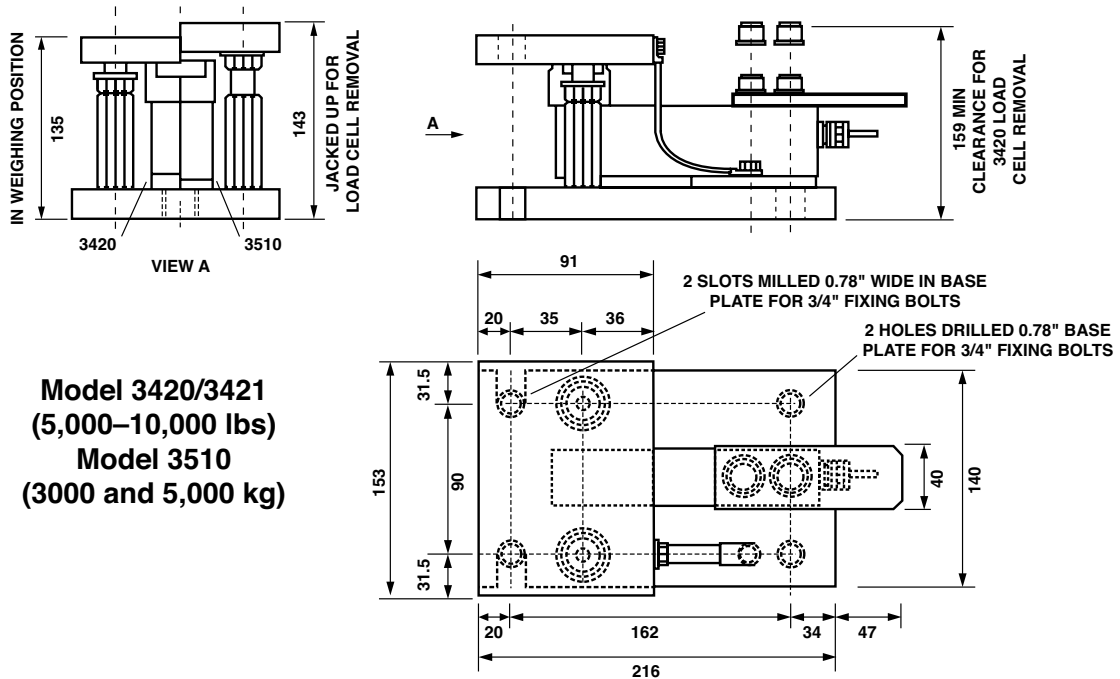
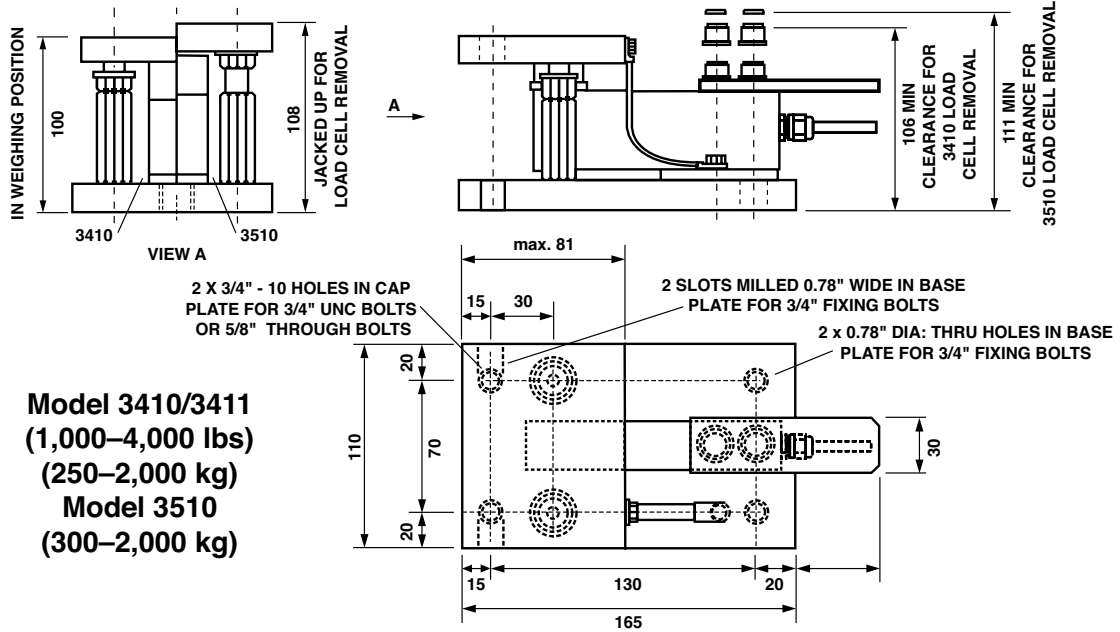


Model 355
(5–500 kg)



Load Cell Mounting Assembly for Models 355, 3410, 3420 and 3510

OUTLINE DIMENSIONS in millimeters



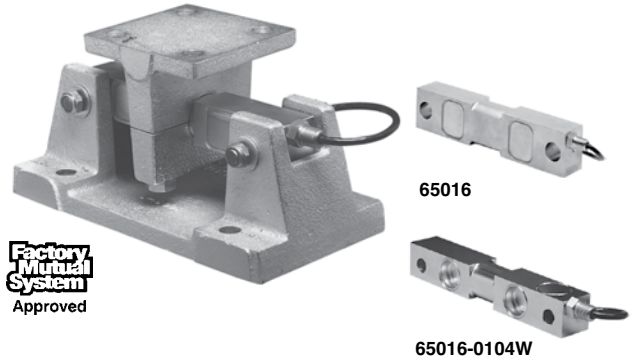
Tank Weighing Assembly

FEATURES

- Capacity ranges of 1000 to 75,000 pounds
- Mounts directly to the floor or structural support
- Self-checking with provisions for thermal expansion and contraction
- Insensitive to side loads and bending moments
- High output—well suited to high deadload/low liveload applications
- Load cells have matched outputs for multi-cell systems
- Excellent combined error and repeatability
- Accuracies exceed 0.1% with agitated loads
- Integral conduit adaptor
- Certified for uniform building code seismic zones 1 thru 4
- *Sensorgage™* sealed to IP67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Stainless steel, welded seal assemblies available

APPLICATIONS

- Tank, bin and hopper weighing
- Silo weighing
- Batching, blending, mixing, level and inventory monitoring



Factory Mutual System Approved

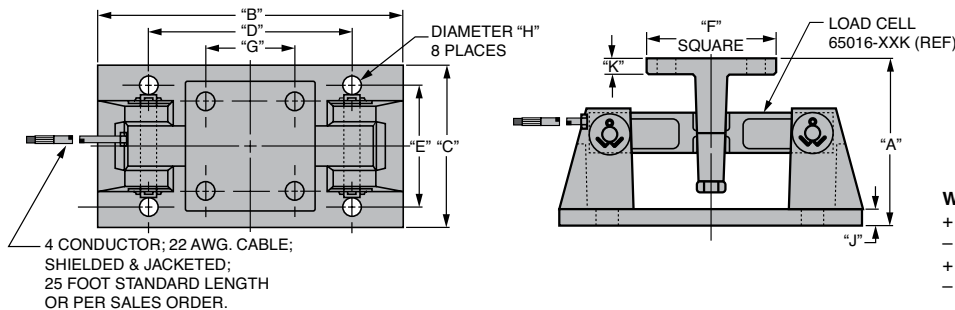
DESCRIPTION

The 65016-TWA is a mid to high capacity nickel-plated alloy steel weighing assembly.

It has high side load rejection, and is able to withstand loads in all directions up to and exceeding its rated capacity without permanent damage or the threat of structural failure. This weighing assembly is also designed to move in the direction of thermal expansion, guaranteeing accurate measurements regardless of conditions. Nickel plating and IP67 rated sealing make this load cell suitable for use in outdoor applications as well as applications that are subject to high pressure wash down. For a higher degree of corrosion and water resistance please see 65016-0104W, the stainless steel and welded seal version of 65016.

This load cell is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments.

OUTLINE DIMENSIONS in inches



CAPACITY	A	B	C	D	E	F	G	H	J	K	WEIGHT
1k-5k	5.13	9.35	5.00	6.25	3.75	4.00	2.75	0.56	0.90	0.50	22.0
10k-35k	7.90	12.00	8.00	7.50	6.00	8.00	6.00	0.78	0.75	0.75	73.0
50k-75k	9.30	16.25	12.00	11.50	9.50	9.00	6.50	0.78	1.00	1.00	172.0

Capacities are in pounds.

Tank Weighing Assembly

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Rated capacity—R.C. (E_{max})	1k, 1.5k, 2.5k, 5k, 10k, 15k, 25k, 35k, 50k, 75k	lbs
NTEP/OIML accuracy class	Standard	
Maximum no. of intervals (n)	—	
Rated output—R.O.	3.0	mV/V
Rated output tolerance	0.25	±% mV/V
Zero balance	1.0	±% FSO
Combined error	0.03	±% FSO
Non-repeatability	0.01	±% FSO
Creep error (20 minutes)	0.03	±% FSO
Temperature effect on zero	0.0015	±% FSO/°F
Temperature effect on output	0.0008	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)	°F (°C)
Operating temperature range	0 to 150 (–18 to 65)	°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)	°F (°C)
Sideload rejection ratio	500:1	
Safe sideload	100	% of R.C.
Maximum safe central overload	150	% of R.C.
Ultimate central overload	300	% of R.C.
Excitation, recommended	15	VDC or VAC RMS
Excitation, maximum	25	VDC or VAC RMS
Input impedance	686–714	Ω
Output impedance	699–707	Ω
Insulation resistance at 50 VDC	>1000	MΩ
Material load cell	Nickel-plated alloy tool steel or stainless steel	
Material assembly	Zinc-plated cast steel	
Environmental protection	IP67	

FSO—Full Scale Output

All specifications subject to change without notice.

Tank Weighing Assembly

FEATURES

- Rated capacities of 50 to 2500 pounds
- Steel or stainless steel construction
- Low profile design
- Trade certified for NTEP Class III: 10000 divisions and Class III: 5000 divisions available in 1000 to 2500 pounds
- Mounts directly to floor or structural support
- Unique neoprene isolation mount accommodates shock/vibration, thermal expansion and load misalignment
- *Sensorgage*™ sealed to IP65/67 standards
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)

APPLICATIONS

- Tank, bin, and hopper weighing
- Batching, blending, and mixing
- Low capacity weighing

DESCRIPTION

The 65059-TWA is low to mid capacity alloy steel weighing assembly.

This product simply and easily converts any industrial tank, table, or platform into a high accuracy scale. The 65059 weighing assembly is shipped pre-assembled and ready to bolt between the support legs of a platform,

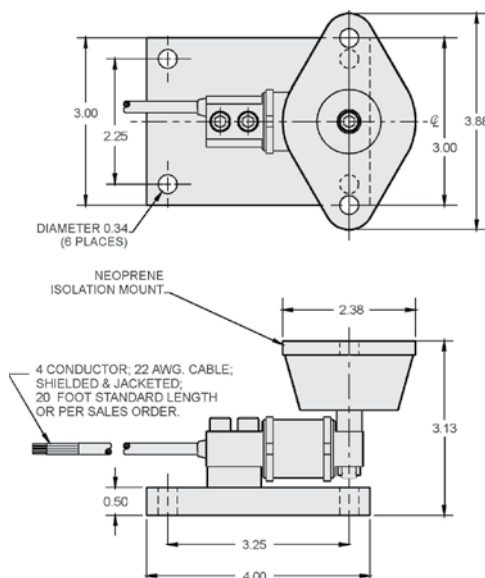


tank, or container and the concrete floor. The top pad of this assembly is constructed from a special stiff neoprene rubber. This pad further simplifies installation by creating a self-leveling system that eliminates the shimming process of the installation. This neoprene pad further benefits the user by creating a vibration dampening effect that helps protect and isolate the load cell. The load cell is available in both nickel-plated and stainless steel construction and sealed to IP67 standards, assuring reliability in industrial and wash down applications. The assembly is available only with zinc plating for corrosion resistance.

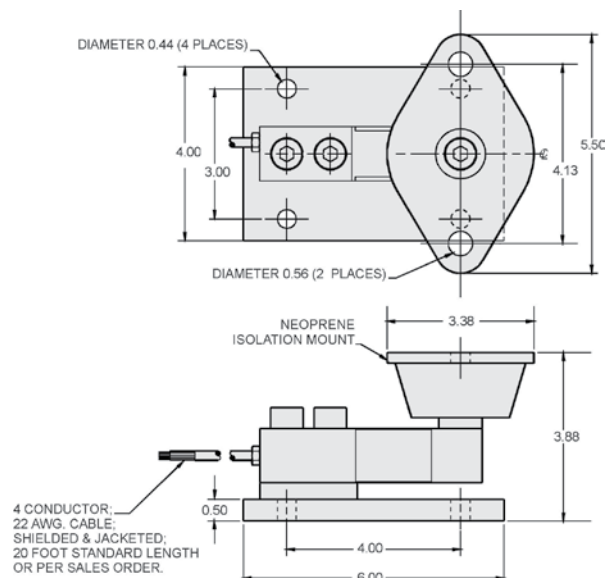
This weighing assembly is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This weighing assembly is certified for Legal-for-Trade applications by both American NTEP and International OIML standards.

OUTLINE DIMENSIONS in inches

50–250 lbs



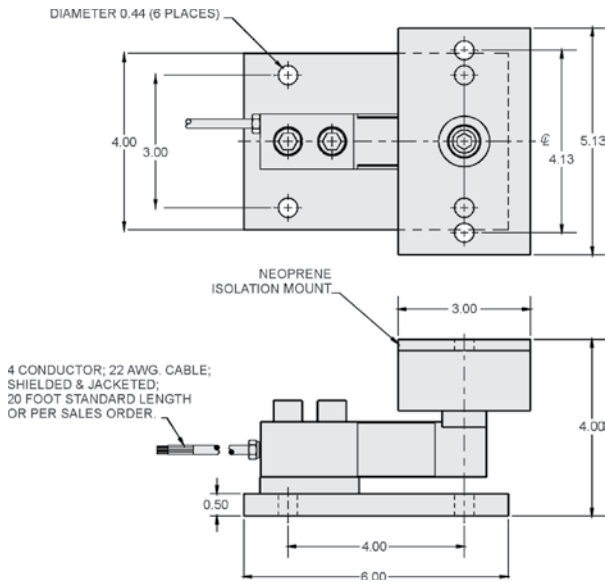
500 lbs



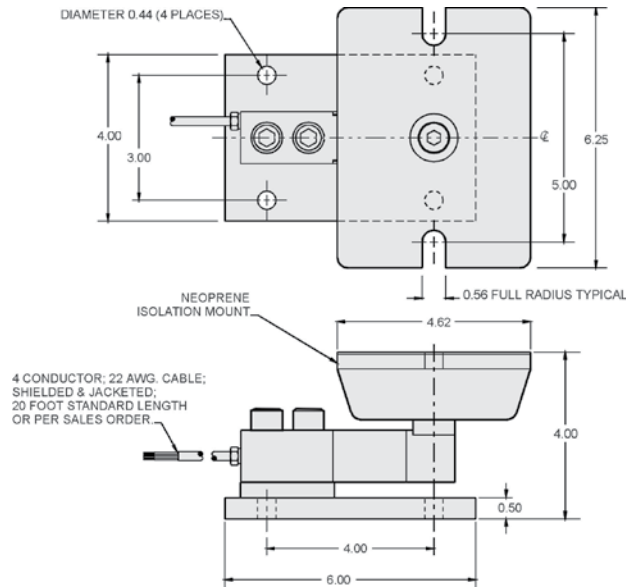
Tank Weighing Assembly

OUTLINE DIMENSIONS in inches

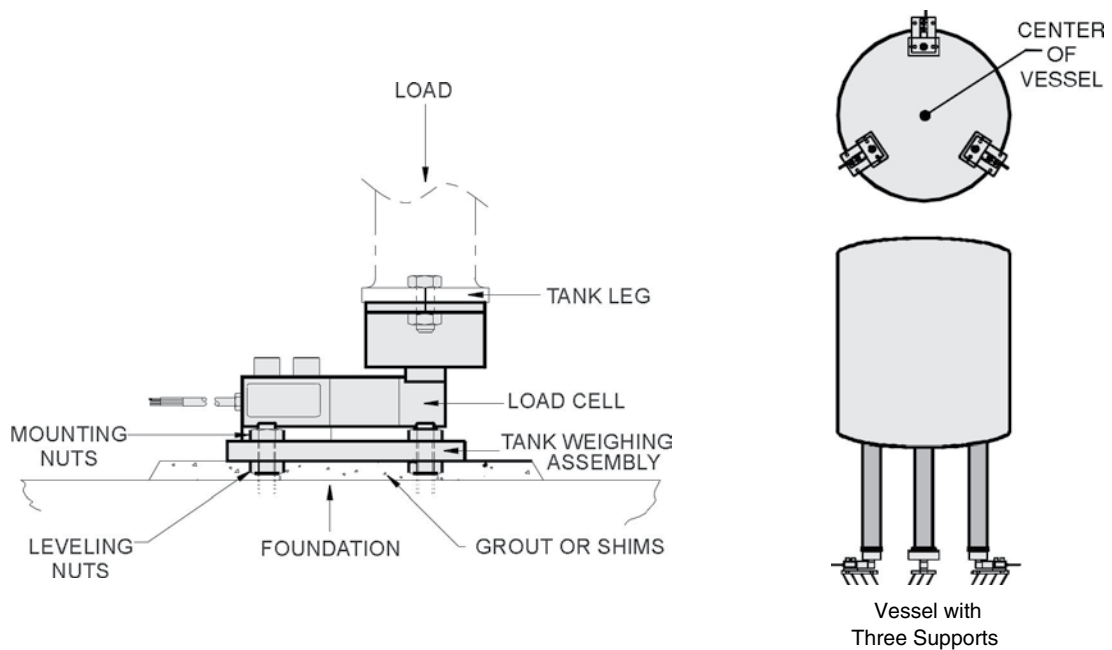
1k lbs



1.5k, 2k, 2.5k



TYPICAL INSTALLATION



Tank Weighing Assembly

SPECIFICATIONS				
PARAMETER	VALUE			UNIT
Rated capacity – R.C. (E_{max})	50, 75, 100, 150, 250, 500, 1k, 1.5k, 2.5k			lbs
NTEP/OIML accuracy class	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	10000		3000*	
$Y = E_{max}/V_{min}$	NTEP cert. 86-044A2		6250	Maximum available
Rated output – R.O.	3.0			mV/V
Rated output tolerance	0.25			±% mV/V
Zero balance	1.0			±% FSO
Combined error	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01	0.01	0.01	±% FSO
Creep error (30 minutes)	0.03	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0015	0.0010	±% of load/°F
Temperature effect on output	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)			°F (°C)
Operating temperature range	0 to 150 (–18 to 65)			°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)			°F (°C)
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			VDC or VAC RMS
Excitation, maximum	15			VDC or VAC RMS
Input impedance	Capacities 50–250 lbs: 380-450	Cap. 500–2500 lbs: 343-357		Ω
Output impedance	Capacities 50–250 lbs: 349-355	Cap. 500–2500 lbs: 349-355		Ω
Insulation resistance at 50 VDC	>1000			MΩ
Material load cell	Nickel-plated alloy tool steel**			
Material assembly	Zinc-plated steel			
Environmental protection	IP67			
Recommended torque	All capacities up to 2500 lbs: 136			N*m

* OIML approval 1k–2.5k lbs only

** Stainless steel available

FSO—Full Scale Output

All specifications subject to change without notice.

Truck Scale Assembly

FEATURES

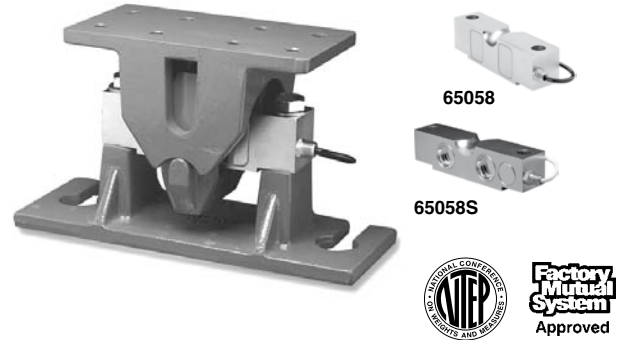
- Rated capacities of 10,000 to 75,000 pounds
- High quality cast components
- *Unilink*™ “floating” suspension system allows controlled floating of the scale deck
- Incorporates model 65058 double-ended shear beam load cells
- *Sensorgage*™ sealed to IP67 standards
- Trade certified load cells for NTEP Class III: 10000 divisions; Class III: 5000 divisions available
- Factory Mutual System Approved for Classes I, II, III; Divisions 1 and 2; Groups A through G. Also, non-incendive ratings (No barriers!)
- **Optional**
 - Optional load equalizer pads available
 - Stainless steel version available

APPLICATIONS

- Truck scales
- Railroad track scales
- “Legal-for-Trade” tank, bin, and hopper weighing

DESCRIPTION

The 65058-TSA is a high capacity truck scale weighing assembly.

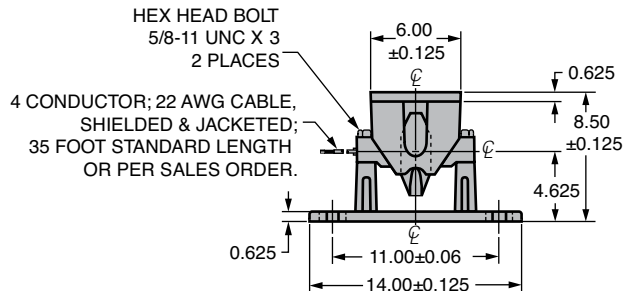
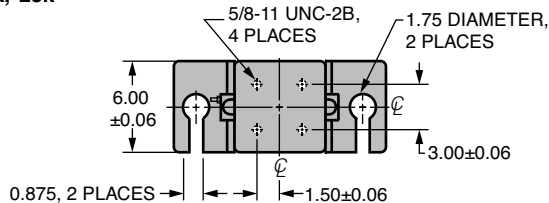


This product is designed to simplify the installation of the 65058 load cell into a certified Legal-for-Trade high capacity weigh bridge. *Unilink*™ floating suspension allows controlled floating of the scale deck, providing a reliable and accurate weighing system. The load cell is nickel plated or stainless steel and sealed to IP67 standards, assuring reliability. The mount assembly is provided with a primer coat finish to simplify the manufacture of the scale.

This weighing assembly is rated intrinsically safe by the Factory Mutual System (FM); making it suitable for use in potentially explosive environments. This weighing assembly is certified for Legal-for-Trade applications by both American NTEP and International OIML standards.

OUTLINE DIMENSIONS in inches

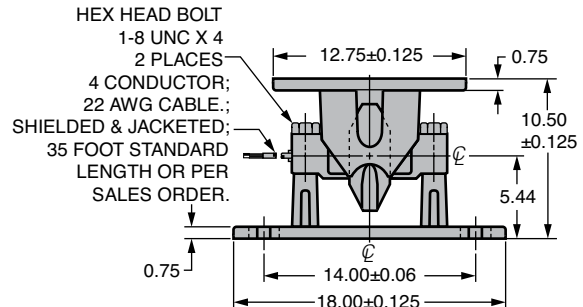
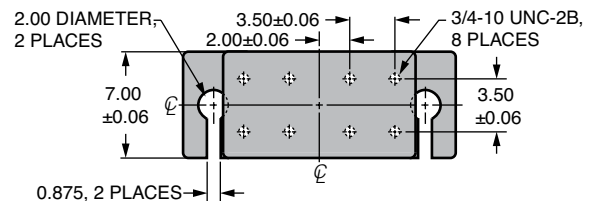
10k, 20k, 25k



Wiring

- + Excitation Red + Output Green
- Excitation Black - Output White

50k, 60k, 75k



Truck Scale Assembly

SPECIFICATIONS					
PARAMETER	VALUE				UNIT
Rated capacity—R.C. (E_{max})	10k, 25k, 40k, 50k, 60k, 75k				lbs
NTEP/OIML accuracy class	NTEP III	NTEP IIIIL	Standard	OIML R60	
Maximum no. of intervals (n)	5000 multiple	10000 multiple		3000	
$Y = E_{max}/V_{min}$	See NTEP cert. 86-046A3			6667	Maximum available
Rated output—R.O.	3.0				mV/V
Rated output tolerance	0.25				±% mV/V
Zero balance	1.0				±% FSO
Combined error	0.02	0.02	0.03	0.02	±% FSO
Non-repeatability	0.01	0.01	0.015	0.01	±% FSO
Creep error (30 minutes)	0.025	0.030	0.03	0.017	±% FSO
Temperature effect on zero	0.0010	0.0010	0.0015	0.0010	±% FSO/°F
Temperature effect on output	0.0008	0.0008	0.0008	0.0007	±% of load/°F
Compensated temperature range	14 to 104 (–10 to 40)				°F (°C)
Operating temperature range	0 to 150 (–18 to 65)				°F (°C)
Storage temperature range	–60 to 185 (–50 to 85)				°F (°C)
Sideload rejection ratio	500:1				
Safe sideload	100				% of R.C.
Maximum safe central overload	150				% of R.C.
Ultimate central overload	300				% of R.C.
Excitation, recommended	10				VDC or VAC RMS
Excitation, maximum	25				VDC or VAC RMS
Input impedance	686–714				Ω
Output impedance	699–707				Ω
Insulation resistance at 50 VDC	>1000				MΩ
Material	Nickel-plated alloy tool steel*				
Environmental protection	IP67				

* Stainless steel available

FSO—Full Scale Output

All specifications subject to change without notice.



Weighing Indicators and Accessories

Model VT 100	308
Model VT 200/220	310
Model VT 300	313
Model VT 300D.....	316
Model VT 400	319
Model VTRD10	322
Model VTAJB-4/6/8/10.....	324
Model VTSJB-4/8	325
Model LC30.....	327
Model LCT-01	329
Model LC-II.....	330

Weight Indicator

FEATURES

- Economical general-purpose weighing indicator
- Large 6 digit LED display
- Two serial ports for simultaneous printer and PC connection
- Heavy duty ABS enclosure
- Sample rate up to 30 conversions per second
- OIML R-76 and NTEP approved to 10000d
- 3 level digital filtering
- Programmable ticket format up to 185 characters
- Consecutive transaction numbering
- **Optional**
 - UL power adaptor
 - TUV power adapter
 - UK power adapter
 - High tilt stand
 - Low tilt stand

APPLICATIONS

- Shipping and receiving scales
- Floor scales
- Bench scales

NOT AVAILABLE IN THE FOLLOWING REGIONS:

- North America, Central America, South America



DESCRIPTION

The VT 100 is an economical general purpose weighing indicator for platform scales and other industrial applications.

Two serial ports, RS-232 and current loop, provide simultaneously PC and printer interface capability. Ticket formats may be edited and downloaded with programmable ticket numbering, date, and time.

Load cells are connected using a quick disconnect plug, allowing simple installation and maintenance.

The heavy duty ABS enclosure easily adjusts for desktop, wall (tilt), or post mounting.

CONFIGURATION



Weight Indicator

SPECIFICATIONS

PERFORMANCE

Resolution

10000 or 100000 dd (selectable)

Conversion Speed

3, 7, 15, or 30 samples (selectable)

Sensitivity

1.0 $\mu\text{V}/\text{Vsi}$ for approved scales,
0.5 $\mu\text{V}/\text{Vsi}$ for non-approved scales

Full Scale Range

3 mV/V

Linearity

0.01% of full scale

Long-Term Stability

0.005% of full scale per year

Excitation

+5 VDC with sense (6 wires)

Number of Cells

Up to 8, 350 Ω load cells

Filter

Digital filter - 3 stages

Offset Drift

3.5 ppm/ $^{\circ}\text{C}$

Span Drift

3.5 ppm/ $^{\circ}\text{C}$

A/D Converter Type

Sigma-Delta, ratiometric

Count By

x1, x2, x5, x10, x50

Decimal Point

Between any digits of the weight display

Calibration Methods

Dead load and span, store in EEPROM

Weighing Functions

Automatic zero tracking, motion detection, auto-zero on power-up, zero, tare, gross/net, print, units conversion

ENVIRONMENTAL

Operating Temperature

-10 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$ [14 $^{\circ}\text{F}$ to 104 $^{\circ}\text{F}$]

Storage Temperature

-10 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ [-4 $^{\circ}\text{F}$ to 158 $^{\circ}\text{F}$]

Relative Humidity

40–90% RH, non-condensing

DISPLAY AND KEYBOARD

Display

6 digit, 7-segment, LED, 20.3 mm

Status Enunciators

No motion, zero, net, units (kg, g)

Weight Digits

4, 5 or 6 (setup selectable)

Keyboard

5 key membrane keyboard, with tactile feedback

ELECTRICAL

Voltage

9 VDC or 115 or 230 VAC using power adapter

Power

8W

SERIAL COMMUNICATION

Serial Output #1

RS-232

Baud Rate

1200–38400 baud, full duplex

Applications

Continuous or printer output, PC interface

Serial Output #2

20 mA current loop–output only

Baud Rate

1200–9600 baud

Applications

Printer port

ENCLOSURE—HEAVY GAGE ABS

Dimensions

186.3 x 103 x 95 mm L x H x D
[7.32 x 4.05 x 3.74 in. L x H x D]

Mounting

Desktop, wall and tilt mount

APPROVALS (ACCURACY CLASS III)

OIML R-76

10000d EU-type approval no. T6877

NTEP

10000d single interval

VPG Transducers is continually seeking to improve product quality and performance. Specifications may change accordingly.

Weight Indicator

FEATURES

- Large 6 digit LED (VT 200) or LCD (VT 220) display
- Built-in weighing and counting modes
- Two opto-isolated setpoints
- Alibi (Flash) memory retains last 10,000 transactions
- Two serial ports for printing and networking (one standard)
- Stainless steel enclosure (IP65), aluminum enclosure (IP40)
- Programmable ticket format
- High sample rate—up to 70 conversions per second
- OIML R-76 and NTEP approved to 10000d
- Battery operation (optional with aluminum enclosure)
- **Optional**
 - Aluminum enclosure
 - Stainless steel enclosure
 - Dual scale operation
 - UL/TUV/UK power adapter
 - LED/LCD display
 - Analog input
 - Analog output
 - Second RS-232 port
 - RS-485 port
 - Real-time clock
 - Battery (for aluminum only)



APPLICATIONS

- Bench and floor scales
- Counting scales
- Inventory control
- Various industrial weighing systems

DESCRIPTION

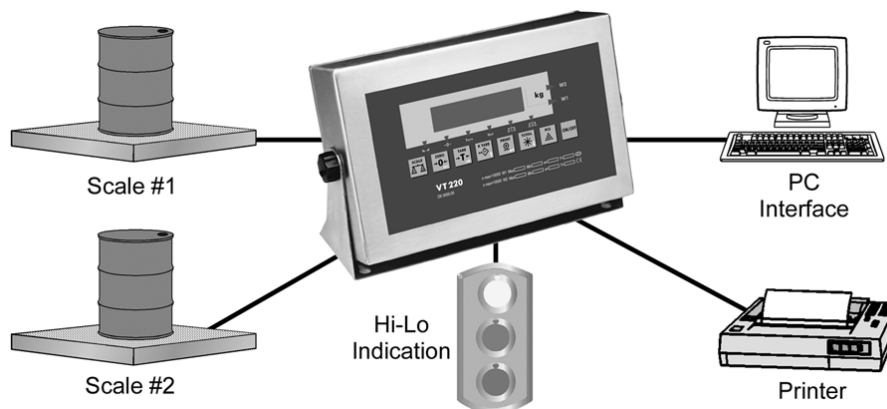
VT 200 / VT 220 units are versatile, general purpose weight indicators, with a wide range of industrial and commercial applications.

The eight key panel enables easy operation, calibration, and setup of the instrument. An integral printer interface allows easy, programmable, ticket formatting. Automatic date and time storage with the real-time clock option clearly documents all printout records.

The VT 220 with the LCD display includes internal rechargeable battery option for stand-alone autonomous operation.

Enclosure selections include tilted, wall mount, and desktop arrangements.

CONFIGURATION



Weight Indicator

SPECIFICATIONS

PERFORMANCE

Resolution

Selectable up to 990000 dd

Conversion Speed

3–70 samples per second (selectable)

Sensitivity

0.4 $\mu\text{V}/\text{Vsi}$ for approved scales,
0.1 $\mu\text{V}/\text{Vsi}$ for non-approved scales

Full Scale Range

–0.25 to 1.75 mV/V [–1.25 mV to 8.75 mV] or
–0.25 to 3.75 mV/V [–1.25 mV to 18.75 mV]

Linearity

0.002% of full scale

Long-Term Stability

0.005% of full scale per year

Excitation

+5V alternating polarity or +5 VDC (selectable),
with sense (6 wires)

Number of Cells

Up to 10; 350 Ω load cells

Filter

FIR automatically adjusted to conversion speed,
rolling average

Offset Drift

≤ 2 ppm/ $^{\circ}\text{C}$

Span Drift

≤ 2 ppm/ $^{\circ}\text{C}$

A/D Converter Type

Sigma-Delta, ratiometric

Count By

x1, x2, x5, x10, x50

Decimal Point

Between any digits of the weight display

Calibration Methods

Dead load and span, or data sheets calibration, via
the mV/V output values of the load cell. Calibration
of two analog inputs (optional) with individual
coefficients.

Weighing Functions

Automatic zero tracking, motion detection, auto-
zero on power-up, zero tare, preset tare, net mode,
multiple test functions

Memory Allocation

Calibration data EEPROM, Flash tally-roll (Alibi)
memory capable of 10,000 weight registrations

Piece Counting Mode

Real-Time Clock (Optional)

ENVIRONMENTAL

Operating Temperature

–10 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$ [14 $^{\circ}\text{F}$ to 104 $^{\circ}\text{F}$]

Storage Temperature

–10 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ [– 4 $^{\circ}\text{F}$ to 158 $^{\circ}\text{F}$]

Relative Humidity

40–90% RH, non-condensing

DISPLAY AND KEYBOARD

Display

6 digit, 7 segment, LED or LCD

Digit Height

20 mm (VT 200), 16 mm (VT 220)

Status Enunciators

No motion, zero, tare in use, net, scale in operation
(#1 or #2 or sum #1+2, if second scale connected),
piece counting mode

Weight Digits

4, 5 or 6 (setup selectable)

Keyboard

8 key membrane keyboard, with tactile feedback

ELECTRICAL

Voltage

85–265 VAC

Current

500 mA

Battery Operation (Optional)

Internal rechargeable battery (VT 220)
Aluminum version only

ISOLATED ANALOG OUTPUT (OPTIONAL)

Resolution

16 bit DAC

Voltage Output

0.02–10V

Current

0–20 mA or 4–20 mA

Linearity

0.002% of full scale

Offset Drift

≤ 2 ppm/ $^{\circ}\text{C}$

INPUT AND OUTPUTS

(x1) Logic Input

9–24 VDC, negative common, opto-isolated to 2.5 kV

(x2) Logic Output

24 VDC $\pm 10\%$, positive common, max current
100 mA, opto-isolated to 2.5 kV

SERIAL COMMUNICATION

Serial Output #1

RS-232, non-programmable

Baud Rate

2400 baud, full duplex

Applications

Continuous, print (on demand), alibi print

Weight Indicator

Serial Output #2 (Optional)

RS-232 or RS-485 setup programmable

Baud Rate

2400–57800 baud, half duplex

Applications

EDP output, master-slave protocols, continuous output, remote printer

ENCLOSURES

Stainless Steel Enclosure

Dimensions

252 x 152 x 62 mm L x H x D
[10 x 6 x 2.5 in. L x H x D]

Mounting

Wall and tilt mount

Protection

IP65

Wiring Connections

Cable glands

Aluminium Enclosure

Dimensions

194 x 100 x 107 mm L x H x D
[7.64 x 3.94 x 4.21 in. L x H x D]

Mounting

Desktop

Protection

IP40

Wiring Connections

D-sub connectors

APPROVALS (ACCURACY CLASS III / IIIL)

OIML R-76

10000d single or dual interval
EU-type approval no. DK0199.62

NTEP

10000d single or dual interval
NTEP CC#.....

VPG Transducers is continually seeking to improve product quality and performance. Specifications may change accordingly.

Weighbridge Weigh Indicator

FEATURES

- Specially designed as a weighbridge terminal
- Large, 16-character LCD display
- 27 key alphanumeric and functions keyboard
- Up to two serial ports with printing and networking (one standard)
- Two opto-isolated weight setpoints
- Alibi (Flash) memory and programmable database of transaction records
- Real-time clock
- Stainless steel enclosure (IP65), aluminum enclosure (IP40)
- Weighing and counting operating modes
- OIML R-76 and NTEP approved to 10000d
- 4 programmable ticket formats
- **Optional**
 - Aluminum enclosure
 - Stainless steel enclosure
 - Dual scale operation (optional)
 - UL/TUV/UK/China/Japan plug
 - Second RS-232 port
 - RS-485 port
 - Analog input
 - Analog output for PLC interface
 - Battery (for aluminum only)

APPLICATIONS

- Weighbridges
- Inventory control
- Industrial weighing systems
- Bench, floor, and counting scales



DESCRIPTION

The VT 300 is a powerful alphanumeric terminal, designed for weighbridges, inventory control, and other demanding weighing applications.

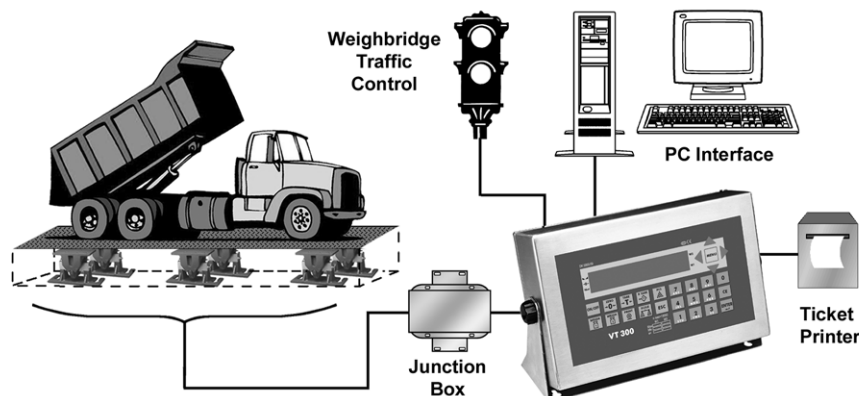
The extended keyboard includes alphanumeric and functional keys for easy data entry and setup.

A 16-character dot-matrix LCD display supports the required user interface in complex industrial applications.

VT 300 software manages various transactions allowing choices of customer, material type, or truck identification. Documented records of all daily activities are maintained in memory and made available for computer reporting. Printable tickets and reports are easily formatted and edited.

Enclosure selections include tilted, wall-mount, and desktop.

CONFIGURATION



Weighbridge Weigh Indicator

SPECIFICATIONS

PERFORMANCE

Resolution

Selectable up to 990000 dd

Conversion Speed

3–70 samples per second (selectable)

Sensitivity

0.4 $\mu\text{V}/\text{Vsi}$ for approved scales,
0.1 $\mu\text{V}/\text{Vsi}$ for non-approved scales

Full Scale Range

–0.25 to 1.75 mV/V [–1.25 mV to 8.75 mV] or
–0.25 to 3.75 mV/V [–1.25 mV to 18.75 mV]

Linearity

0.002% of full scale

Long-Term Stability

0.005% of full scale per year

Excitation

+5V alternating polarity or +5 VDC (selectable),
with sense (6 wires)

Number of Cells

Up to 10; 350 Ω load cells

Filter

FIR automatically adjusted to conversion speed,
rolling average.

Offset Drift

≤ 2 ppm/ $^{\circ}\text{C}$

Span Drift

≤ 2 ppm/ $^{\circ}\text{C}$

A/D Converter Type

Sigma-Delta, ratiometric, 550,000 internal counts

Count By

x1, x2, x5, x10, x50

Decimal Point

Between any digits of the weight display

Calibration Methods

Dead load and span, or data sheets calibration, via
the mV/V output values of the load cell. Calibration
of two analog inputs (optional) with individual
coefficients

Weighing Functions

Automatic zero tracking, no motion detection, auto-
zero on power-up, zero tare, preset tare, net mode,
multiple test functions.

Memory Allocation

Calibration data EEPROM, flash tally-roll (Alibi)
memory capable of 10,000 weight registrations,
250 records database (trucks)

Piece Counting Mode**Real-Time Clock**

ENVIRONMENTAL

Operating Temperature

–10 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$ [14 $^{\circ}\text{F}$ to 104 $^{\circ}\text{F}$]

Storage Temperature

–10 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ [–4 $^{\circ}\text{F}$ to 158 $^{\circ}\text{F}$]

Relative Humidity

40–90% RH, non-condensing

DISPLAY AND KEYBOARD

Display

16 character, LCD, backlit

Digital Height

14.5 mm [0.57 in.]

Status Enunciators

No motion, zero, tare in use, net, scale in operation
(#1 or #2 or sum # 1+2, if second scale connected),
piece counting mode

Weight Digits

4, 5 or 6 (setup selectable)

Keyboard

Pseudo-alphanumeric, 27 keys, with tactile feedback

ELECTRICAL

Voltage

85–265 VAC

Current

500 mA

Battery Operation (Optional)

Internal rechargeable battery, 6V/3Ah (aluminum
version only)

ISOLATED ANALOG OUTPUT (OPTIONAL)

Resolution

16 bit DAC

Voltage Output

0.02–10V

Current

0–20 mA or 4–20 mA

Linearity

0.01% of full scale

Thermal Stability

50 ppm/ $^{\circ}\text{C}$ typical

INPUTS and OUTPUTS

(x1) Logic Input

9–24 VDC, negative common, opto-isolated to 2.5 kV

(x2) Logic Output

24 VDC $\pm 10\%$, positive common, max current
100 mA, opto-isolated to 2.5 kV

Weighbridge Weigh Indicator

SERIAL COMMUNICATION

Serial Output #1

RS-232, non-programmable

Baud Rate

2400 baud, full duplex

Applications

Printer output, Weight output

Serial Output #2 (optional)

RS-232 or RS-485 setup programmable

Baud Rate

2400–57800 baud, half duplex

Applications

EDP output, master-slave protocols, continuous output, remote printer

ENCLOSURES

Stainless Steel Enclosure

Dimensions

252 x 152 x 62 mm L x H x D
[10 x 6 x 2.5 in. L x H x D]

Mounting

Wall and tilt mount

Protection

IP65

Wiring Connections

Cable glands

Aluminum Enclosure

Dimensions

194 x 100 x 107 mm L x H x D
[7.64 x 3.94 x 4.21 in. L x H x D]

Mounting

Desktop

Protection

IP40

Wiring Connections

D-sub connectors

APPROVALS (ACCURACY CLASS III)

OIML R-76

10000d single or dual interval
EU-type approval no. DK0199.62

NTEP

10000d single or dual interval
NTEP CC#

VPG Transducers is continually seeking to improve product quality and performance. Specifications may change accordingly.

Weighbridge Indicator for Digital and Analog Load Cells

FEATURES

- Supports digital and analog load cells
- Easy calibration using the digital load cells
- Easy digital corner compensation
- Elaborated diagnostics of digital weighbridge load cells
- Easy service and maintenance
- Large, 16-character LCD display
- 27-key alphanumeric and functions keyboard
- Two serial ports with printing and networking
- Analog output for PLC interface (optional)
- Two opto-isolated weight setpoints
- Alibi (Flash) memory for transaction records
- Real-time clock
- Stainless steel enclosure (IP65), aluminum enclosure (IP40)
- Weighing and counting operating modes
- OIML R-76 approved to 10,000d
- Dual scale operation (one digital, one analog)
- 4 programmable ticket formats

APPLICATIONS

- Weighbridges
- Inventory control
- Industrial weighing systems
- Bench, floor, and counting scales

DESCRIPTION

The VT300D is a powerful alphanumeric terminal, designed for digital and analog weighbridges, inventory control, and other demanding weighing applications.



The extended keyboard includes alphanumeric and functional keys for easy data entry and setup.

A 16-character dot-matrix LCD display supports the required user interface in complex industrial applications.

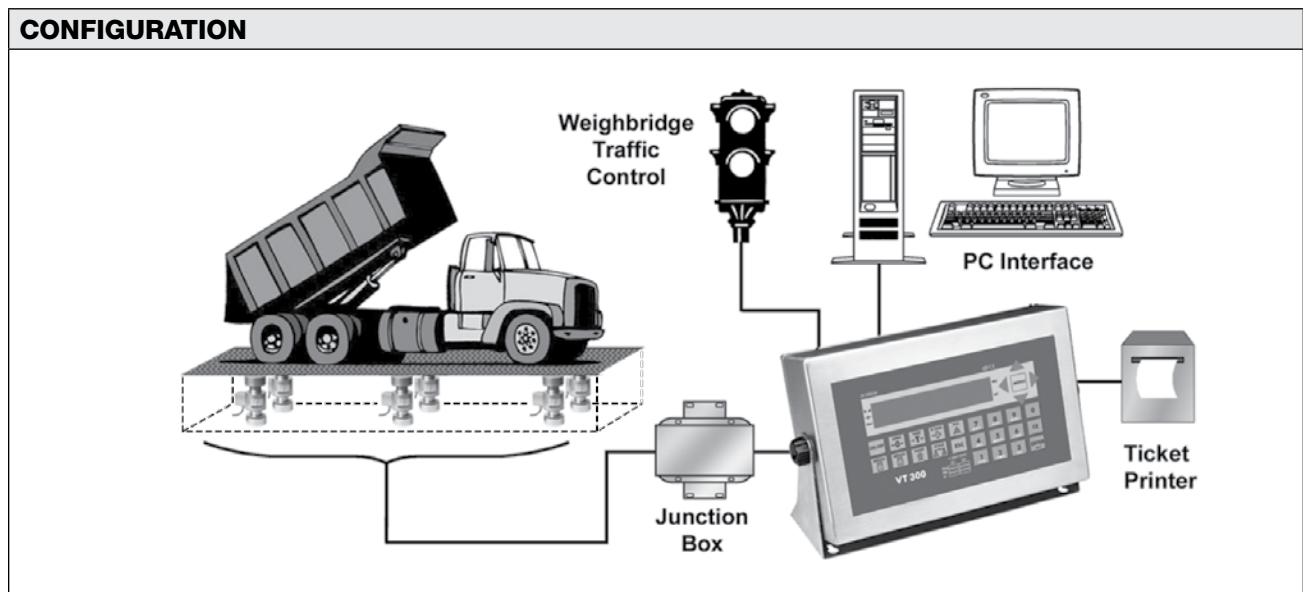
Using a weighing system that includes the VT 300D together with VPG Transducers digital load cells (DSC, SCC, SBC and MDBD) enables very easy installation, calibration, corner compensation, maintenance and diagnostics of the system.

VT 300D software manages various transactions allowing choices of customer, material type, or truck identification. Records of all activities are maintained in memory and made available for computer reporting. Printable tickets and reports are easily formatted and edited.

The VT 300D can support one digital load cells weighbridge and one analog load cell weighbridge at same time.

Enclosure selections include tilted, wall-mount, and desktop.

CONFIGURATION



Weighbridge Indicator for Digital and Analog Load Cells

SPECIFICATIONS

PERFORMANCE

Analog Load Cell Interface Performance

Resolution

Selectable up to 990,000 dd

Conversion Speed

3–70 samples per second (selectable)

Sensitivity

0.4 $\mu\text{V}/\text{Vsi}$ for approved scales,
0.1 $\mu\text{V}/\text{Vsi}$ for non-approved scales

Full Scale Range

–0.25 to 1.75 mV/V or –0.25 to 3.75 mV/V

Linearity

0.002% of full scale

Long-Term Stability

0.005% of full scale per year

Excitation

+5V alternating polarity or +5 VDC (selectable), with sense (6 wires)

Number of cells

Up to 10; 350 Ω load cells

Filter

FIR automatically adjusted to conversion speed, rolling average.

Offset Drift

≤ 2 ppm/ $^{\circ}\text{C}$

Span Drift

≤ 2 ppm/ $^{\circ}\text{C}$

A/D Converter Type

Sigma-Delta, ratiometric, 550,000 internal counts

Digital Load Cell Interface Performance

Resolution

Selectable up to 990,000 dd

Update Rate

25 updates per second

Supply to Load Cell

14–18 VDC; 1.5A (Standard 15V)

Number of Cells

Up to 12

Compatible Load Cells

DSC, SCC, SBC, MDBD

General Performance

Count By

x1, x2, x5, x10, x50

Decimal Point

Between any digits of the weight display

Calibration Methods

Dead load and span, or data sheets calibration, via the mV/V output values of the load cell. Digital corner correction. Digital default calibration.

Weighing Functions

Automatic zero tracking, no motion detection, auto-zero on power-up, zero tare, preset tare, net mode, multiple test functions.

Memory Allocation

Calibration data EEPROM, flash tally-roll (Alibi) memory capable of 10,000 weight registrations, 250 records database (trucks). Stores the digital load cell performance and calibration data.

Piece Counting Mode

Real-Time Clock

ENVIRONMENTAL

Operating Temperature

–10 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$ [14 $^{\circ}\text{F}$ to 104 $^{\circ}\text{F}$]

Storage Temperature

–10 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ [–4 $^{\circ}\text{F}$ to 158 $^{\circ}\text{F}$]

Relative Humidity

40–90% RH, non-condensing

DISPLAY AND KEYBOARD

Display

16-character, LCD, backlit

Digital Height

14.5 mm

Status Enunciators

No motion, zero, tare in use, net, scale in operation (#1 or #2 or sum # 1+2, if second scale connected), piece counting mode

Weight Digits

4, 5 or 6 (setup selectable)

Keyboard

Pseudo-alphanumeric, 27 keys, with tactile feedback

ELECTRICAL

Voltage

85–265 VAC

Current

500 mA

ISOLATED ANALOG OUTPUT (OPTIONAL)

Resolution

16 bit DAC

Voltage Output

0.02–10V

Current

0–20 mA or 4–20 mA

Weighbridge Indicator for Digital and Analog Load Cells

Linearity

0.01% of full scale

Thermal Stability

50 ppm /°C typical

INPUTS AND OUTPUTS**(x1) Logic Input**

9–24 VDC, negative common, opto-isolated to 2.5 kV

(x2) Logic Output

24 VDC \pm 10%, positive common, max current
100 mA, opto-isolated to 2.5 kV.

SERIAL COMMUNICATION**Serial Output #1**

RS-232, non-programmable

Baud Rate

2400 baud, full duplex

Applications

Printer output, weight output

Serial Output #2

RS-485 setup programmable

Baud Rate

2400–57800 baud, half duplex

Applications

EDP output, master-slave protocols, continuous
output, remote printer and digital load cell
communication.

ENCLOSURE

Stainless Steel Enclosure

Dimensions

252 x 152 x 62 mm L x H x D

Mounting

Wall and tilt mount

Protection

IP65

Wiring Connections

Cable glands

Aluminum Enclosure

Dimensions

194 x 100 x 107 mm L x H x D

Mounting

Desktop

Protection

IP40

Wiring Connections

D-sub connectors

APPROVALS (ACCURACY CLASS III)**OIML R-76**

10,000d single or dual interval
EU-type approval no. DK0199.62

VPG Transducers is continually seeking to improve product quality and performance. Specifications may change accordingly.

Weight Controller/Indicator

FEATURES

- Inventory and batching control terminal
- High sample rate, up to 70 samples per second
- Up to two serial ports with printing and networking (one standard)
- Two opto-isolated weight setpoints
- Large 6 digit LED display
- Alibi (Flash) memory for last 10,000 transactions
- OIML R-76 approved to 10000d
- Panel mount IP40 enclosure
- Input power 24 VDC
- **Optional Features**
 - Analog output
 - IP54 front panel cover
 - RS-485 port
 - Second RS-232 port

APPLICATIONS

- Process weighing
- Inventory control



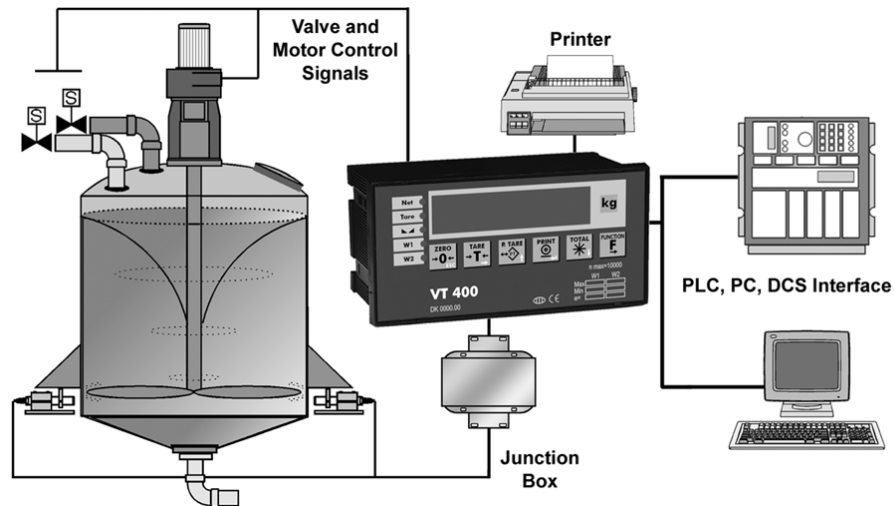
DESCRIPTION

VT 400 Weight Controllers provide weighing and control functions for industrial process systems.

Two opto-isolated control outputs, a choice of up to two serial interfaces (RS-232 and RS-485) and an analog output (optional) allow full communication with higher level PCs or PLCs. Up to 30 units can be interconnected through the RS-485 network.

The standard VT 400 panel mount enclosure is rated IP40. However, it can be upgraded with an IP54 front panel cover (optional).

CONFIGURATION



Weight Controller/Indicator

SPECIFICATIONS

PERFORMANCE

Resolution

Selectable up to 990,000 dd

Conversion Speed

3–70 samples per second (selectable)

Sensitivity

0.4 $\mu\text{V}/\text{Vsi}$ for approved scales

0.1 $\mu\text{V}/\text{Vsi}$ for non-approved scales

Full Scale Range

–0.25 to 1.75 mV/V [–1.25 mV to 8.75 mV] or

–0.25 to 3.75 mV/V [–1.25 mV to 18.75 mV]

Linearity

0.002% of full scale

Long-Term Stability

0.005% of full scale per year

Excitation

+5V alternating polarity or +5 VDC (selectable), with sense (6 wires)

Number of Cells

Up to 10, 350 Ω load cells

Filter

FIR automatically adjusted to conversion speed, rolling average

Offset Drift

< 2 ppm/ $^{\circ}\text{C}$

Span Drift

< 2 ppm/ $^{\circ}\text{C}$

A/D Converter Type

Sigma-Delta, ratiometric

Count By

x1, x2, x5, x10, x50

Decimal Point

Between any digits of the weight display

Calibration Methods

Dead load and span, or data sheets calibration, via the mV/V output values of the load cell

Weighing Functions

Automatic zero tracking, motion detection, auto-zero on power-up, zero tare, multiple test functions

Memory Allocation

Calibration data EEPROM (32 kb), Flash tally-roll (Alibi) memory capable of 10,000 weight registrations (64 kb)

ENVIRONMENTAL

Operating Temperature

–10 $^{\circ}\text{C}$ to +40 $^{\circ}\text{C}$ (14 $^{\circ}\text{F}$ to 104 $^{\circ}\text{F}$)

Storage Temperature

–10 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ (–4 $^{\circ}\text{F}$ to 158 $^{\circ}\text{F}$)

Relative Humidity

40–90% RH, non-condensing

DISPLAY AND KEYBOARD

Display

6 digit, 7 segment, LED

Digital Height

14 mm [0.55 in.]

Status Enunciators

No motion, zero, tare in use, net, setpoint in operation

Weight Digits

4, 5 or 6 (setup selectable)

Keyboard

6 membrane keys, with tactile feedback

ELECTRICAL

Voltage

24 VDC

Current

500 mA

ISOLATED ANALOG OUTPUT (OPTIONAL)

Resolution

16 bit DAC

Voltage Output

0.02–10V

Current

0–20 mA or 4–20 mA

Linearity

0.01% (or better) of full scale

Thermal Stability

50 ppm/ $^{\circ}\text{C}$ typical

INPUTS AND OUTPUTS

(x1) Logic Input

9–24 VDC, negative common, opto-isolated to 2.5 kV

(x2) Logic Output

24 VDC $\pm 10\%$, positive common, max current 100 mA, opto-isolated to 2.5 kV, programmable as weight setpoints

Weight Controller/Indicator

SERIAL COMMUNICATION

Serial Output #1

RS-232, non-programmable

Baud Rate

2400 baud, full duplex

Applications

Continuous, print (on demand), alibi print

Serial Output #2

RS-232 or RS-485 setup programmable

Baud Rate

2400–57800 baud, half duplex

Applications

EDP and master-slave protocols, continuous output,
remote printer, weight output

ENCLOSURE—HEAVY DUTY PLASTIC

Dimensions

144 x 72 x 132 mm L x H x D

[5.7 x 2.8 x 5 in. L x H x D]

Mounting

Panel mount

Protection

IP40 standard, optional front panel cover—IP54

Wiring Connections

Mini D-type connectors

APPROVALS (ACCURACY CLASS III/IIIL)

OIML R-76

10000d single or dual interval

EU-type approval no. DK0199.62

VPG Transducers is continually seeking to improve product quality and performance. Specifications may change accordingly.

Analog Junction Box

FEATURES

- Large 6 digit red LED display
- Digit height—57 mm (2-1/4")
- Digit-for-digit replication from the transmitting VPG Transducers indicator
- Communication interface—RS-232, RS-485, or 20 mA
- Baud rate and data format—DIP switch selectable
- Compatible with VT200/220/300/400 only
- Environmental protection to IP65
- **Optional**
 - UL/TUV/UK/China/Japan plug



APPLICATIONS

- Truck scales/weighbridges
- Warehouse scales
- Loading bays
- All outdoor weighing applications

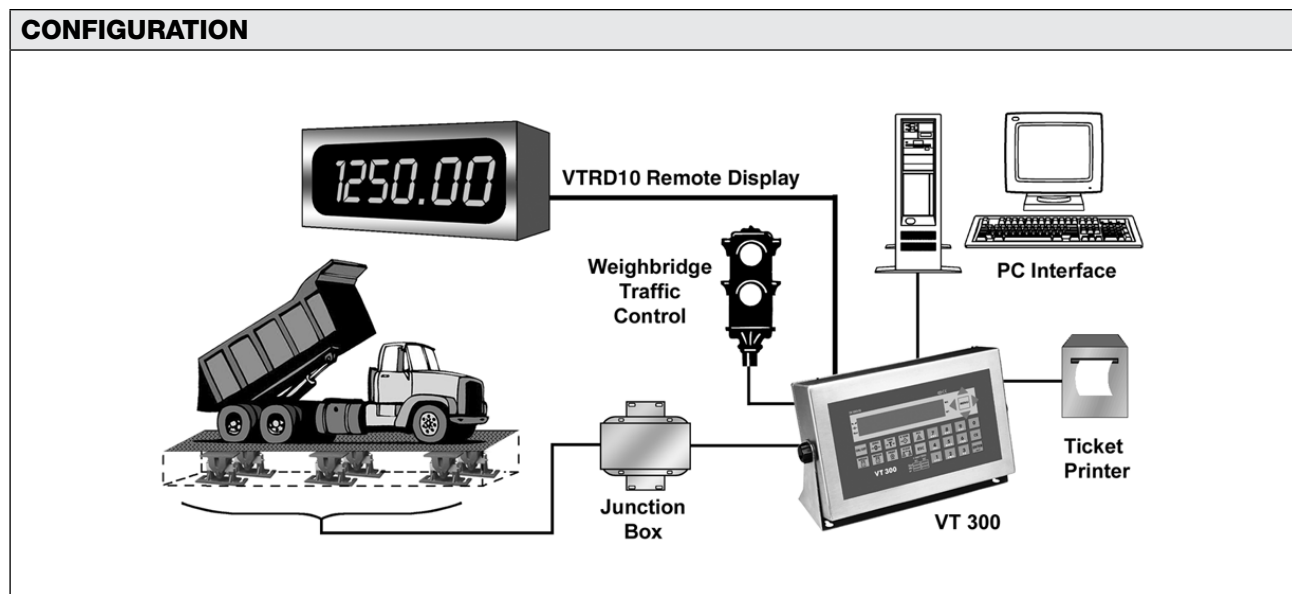
DESCRIPTION

VPG Transducers' RD10 is a compact, digit-for-digit, high visibility remote display.

The large LED display (57mm digits) and wide viewing angle contribute to ease of reading at long distances. The VTRD10 is environmentally protected to IP65 and is suitable for outdoor use.

A standard serial interface (RS-232 or RS-485 or 20mA current loop) allows easy connection between the local indicator and the VTRD10 at distances up to 600 meters (RS-485). The VTRD10 is fully compatible with our Weight Indicator Models 200, 220, 300, and 400.

CONFIGURATION



Analog Junction Box

SPECIFICATIONS

DISPLAY AND SERIAL INTERFACE

Display

6 digits, LED, high visibility (57 mm, red)

Serial Interface

RS-232 or RS-485 or 20 mA current loop, terminated with screw type terminals

Baud Rate

DIP switch selectable 1200, 2400, 9600, 19200 baud

Character Format

DIP switch selectable

- a) 7 data bits, even parity, 1 stop bit
- b) 8 data bits, no parity, 1 stop bit
- c) 8 data bits, even parity, 1 stop bit

Distance

RS-232 and 20 mA current loop = 50 meters
RS-485 = 600 meters

ENVIRONMENTAL

Operating Temperature

-10°C to +40°C (14°F to 104°F)

Storage Temperature

-20°C to +55°C (4°F to 158°F)

Relative Humidity

90% RH max., non-condensing

ELECTRICAL

Voltage

115/230 VAC +10%, 50-60Hz

Power

7W max.

ENCLOSURE—STAINLESS STEEL

Dimensions

328.3 x 72 x 40 mm L x H x D

Protection

IP65

Wiring Connections

Cable glands

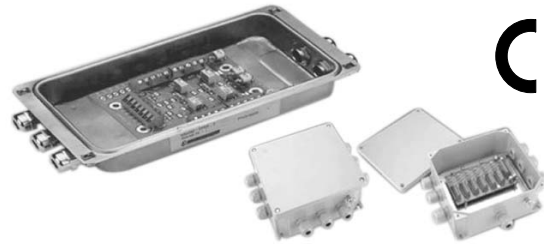
CE APPROVAL

VPG Transducers is continually seeking to improve product quality and performance. Specifications may change accordingly.

Analog Junction Box

FEATURES

- Connection of 4 to 10 load cells
- Robust enclosure with cable glands sealed to IP67
- Easy trimming via resistors or potentiometers
- Integrated surge protection devices
- Strain relief cable fittings
- EMC compatibility



APPLICATIONS

- Truck scales/weighbridges
- Floor scales
- Tanks and silos

DESCRIPTION

VTAJB family of analog junction boxes supplement the VT indicators family line. It offers easy connection of 4 to 10 load cells in a platform, with output trimming, surge protection and meeting EMC compatibility requirements.

SPECIFICATIONS	
GENERAL	
Electromagnetic compatibility	Compliant with EN45501
Connectors	Screw terminals
Trimming	Signal trim by resistors or potentiometer (max. 20Ω), both available in every box
Surge protection	90V clamp. Withstands up to 20 kV and up to 10 kA
Temperature range	-10 to +60°C
AJB-4	
Enclosure	Stainless steel
External dimensions (mm)	199 x 106 x 43.7 (L x W x H)
Protection class	IP67
Cable fittings	Stainless steel cable glands PG9 (cable diameter 3–9 mm)
AJB-6	
Enclosure	Stainless steel or Aluminum
External dimensions (mm)	Stainless steel: 199 x 106 x 43.7 (L x W x H); Aluminum: 240 x 200 x 80 (L x W x H)
Protection class	Stainless steel enclosure: IP67; Aluminum enclosure: IP65
Cable fittings (Stainless steel)	Stainless steel cable glands PG9 (cable diameter 3–9 mm)
Cable fittings (Aluminum)	Plastic cable glands PG11 (cable diameter 6–12 mm)
AJB-8	
Enclosure	Aluminum or Polyester
External dimensions (mm)	Aluminum: 240 x 200 x 80 (L x W x H); Polyester : 120 x 318 x 80 (L x W x H)
Protection class	IP65
Cable fittings	Plastic cable glands PG11 (cable diameter 6–12 mm)
AJB-10	
Enclosure	Polyester
External dimensions (mm)	120 x 318 x 80 (L x W x H))
Protection class	IP65
Cable fittings	Plastic cable glands PG11 (cable diameter 6–12 mm)

All specifications subject to change without notice.

Junction Box for Digital Load Cells (DLC)

FEATURES

- Available for a maximum of 4 and 8 load cells
- Stainless steel construction
- IEC529 enclosure Class IP66
- Optional dedicated surge protection board available
- Protects digital load cells and associated equipment
- Protects against voltages of up to 20 kV
- Protects against currents of up to 10 kA
- Requires no specific grounding techniques



APPLICATIONS

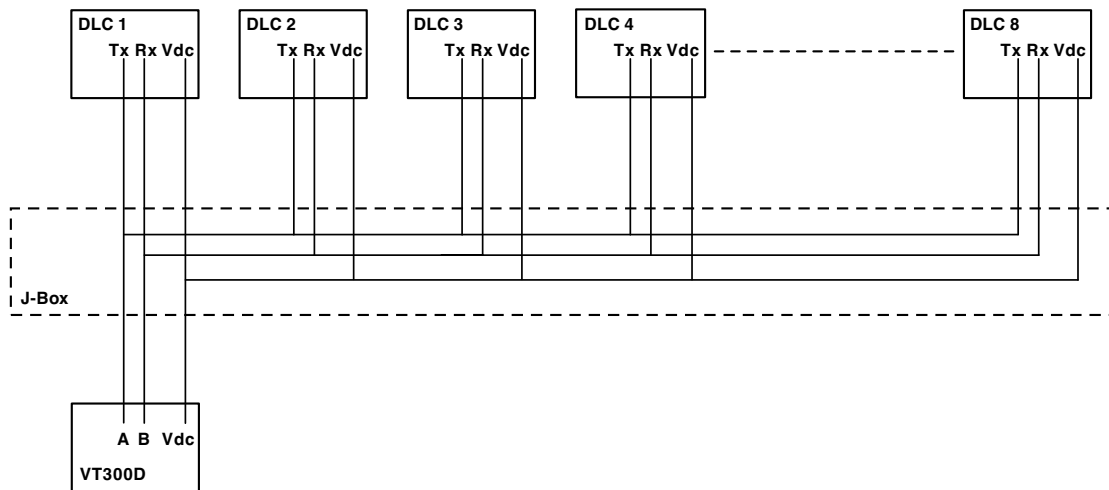
- Digital weighbridge
- Digital platform scales
- Any systems that use digital load cells

DESCRIPTION

These junction boxes have been designed to ease connection of digital load cell (DLC) systems. There are two variants, one supporting up to 4 digital load cells (SJB4), the other up to 8 digital load cells (SJB8).

The surge protection device protects digital load cells and associated equipment against damage from transient over-voltages or high impulse currents on field cabling. Surges such as these can be caused by nearby lightning strikes, power supply faults and heavy electrical load switching.

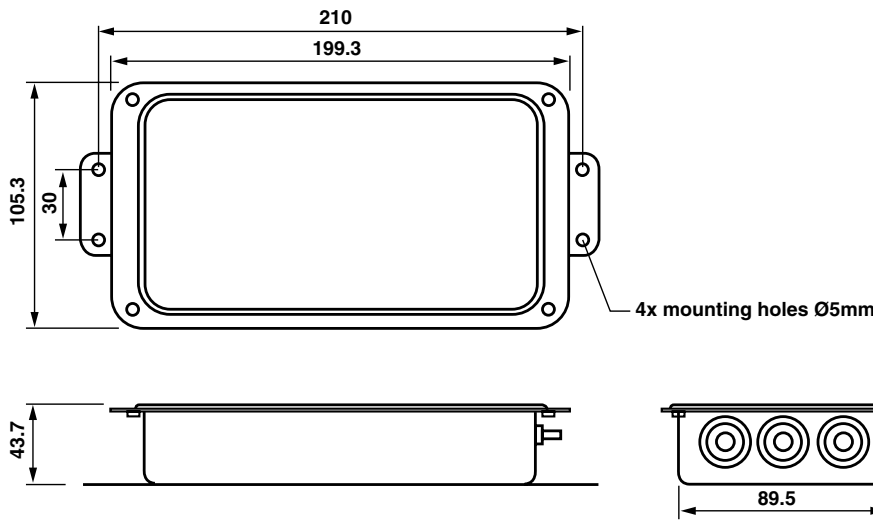
CONFIGURATIONS



Junction Box for Digital Load Cells (DLC)

SPECIFICATIONS			
PARAMETER		VALUE	UNIT
Junction Box			
Max. number of load cells	SJB-4	4	
	SJB-8	8	
Types of DLC cables		3 or 5 times twisted pair	
Terminating resistors		2 x 120	Ω
Operating temperature range		-40 to +70	°C
Storage temperature range		-40 to +80	°C
Humidity		0-85% non-condensing	
Data transmission type		RS485 / RS422	
With SPD protection against voltages up to		20	kV
With SPD protection against currents up to		10	kA
Sealing (to IEC 529 / EN 60.529)		IP66	
Material		Stainless steel	
Weight		1.3	kg
Cable glands: acceptable cable diameter		5-10	mm
Surge Protection Device			
Protection against voltage surges up to		20	kV
Protection against current surges up to		10	kA
Line to line protection		Yes	
Line to ground protection		Yes	
Line to ground let-through		<200	V
Screen to ground let-through		<400	V
Maximum current		600	mA
Printed circuit board dimensions		80 x 60	mm
Inductance per line		110	μH
DC resistance per line		<2.1	Ω
Wiring type		5 times twisted pair plus screen	
Hexagonal mounting columns		3 x M4, 40 mm	

All specifications subject to change without notice.

OUTLINE DIMENSIONS in millimeters																			
	<table border="1"> <thead> <tr> <th colspan="2">Wiring for the junction box:</th> </tr> <tr> <th>JB terminal</th> <th>SPD wire</th> </tr> </thead> <tbody> <tr> <td>V+</td> <td>Green</td> </tr> <tr> <td>V-</td> <td>Black</td> </tr> <tr> <td>Rx+</td> <td>Yellow</td> </tr> <tr> <td>Rx-</td> <td>Blue (Brown)</td> </tr> <tr> <td>Tx+</td> <td>Red</td> </tr> <tr> <td>Tx-</td> <td>White</td> </tr> <tr> <td>Shield</td> <td>Transparent</td> </tr> </tbody> </table>	Wiring for the junction box:		JB terminal	SPD wire	V+	Green	V-	Black	Rx+	Yellow	Rx-	Blue (Brown)	Tx+	Red	Tx-	White	Shield	Transparent
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Tx-	White																		
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Weighing System Surge Protector

FEATURES

- Protects measuring equipment and load cells from damage caused by lightning, heavy electrical load switching, etc.
- Suitable for AC or DC excitation voltages
- No influence on system accuracy;
EC certified to EN45.501, "8.1"
- Automatic reset function
- Housed in a fully sealed waterproof enclosure
- Can be used in EEx(i) systems without further certification

APPLICATIONS

- Weighbridges

DESCRIPTION

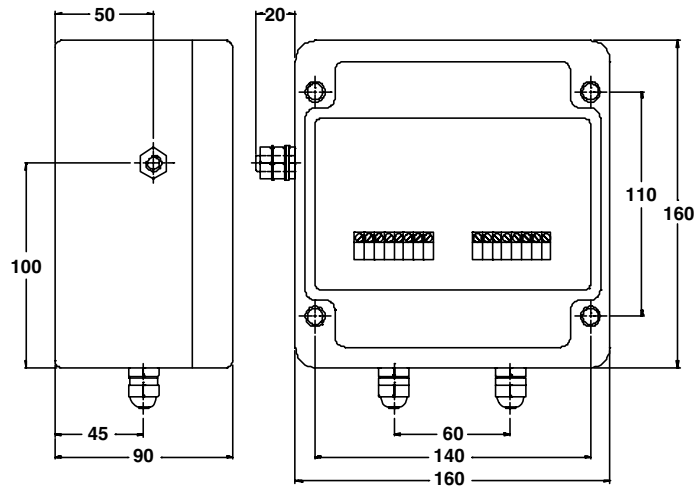
The LC30 Surge Protection Device protects weighing systems and load cell installations from possible malfunction and damage caused by severe over-voltages or high impulse currents on signal cabling.



Potentially destructive surges can be generated from a variety of sources, including lightning, power cable faults and heavy electrical load switching.

The advanced triple stage protection concept used in the LC30 removes the need for additional earthing systems, therefore simplifying installation and reducing cost.

OUTLINE DIMENSIONS in millimeters



Mounting; internal 7mm diameter, through-holes.

Weighing System Surge Protector

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Nominal excitation voltage	10–15	VAC/VDC
Maximum excitation voltage ¹	22	VAC
Maximum excitation voltage ¹	32	VDC
Series resistance	≤1	Ω
Minimum impedance ²	55	Ω
Minimum signal level ²	1	μV/d
Leakage current at 32 VDC	≤10	μA
Peak impulse current (8/20 μs)	10	kA
Let-through voltage (after 6 kV/3 kA IEC801.5 comb. wave test)	80	V
Compensated temperature range	–10 to +40	°C
Operating temperature range	–20 to +60	°C
Storage temperature range	–30 to +70	°C
Humidity	5–95 (Non-condensing)	%RH
Sealing (to IEC 529 / DIN 40.050)	IP65	
Connections	Input/Output/Sense + Earth	
Max. terminal conductor size	1.5	mm ²
Main earth connection	M8 external stud	
Weight	1.5	kg

⁽¹⁾ Symmetrical to ground

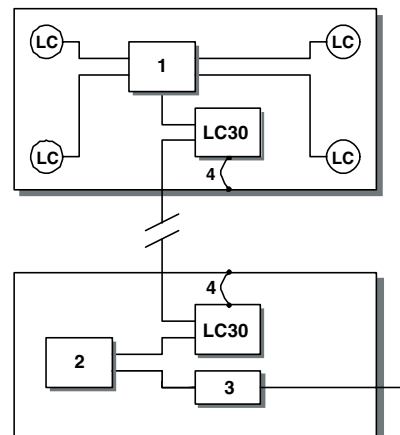
⁽²⁾ For approved systems only

All specifications subject to change without notice.

The LC30 protects the system at the point of installation. A system is likely to have at least one LC30 installed at the load cell network and a secondary LC30 in the weighing control room.

Additional protection should also be provided for the main power supply and any other system interconnected with the weighing package, e.g., remote computer links, data-communications via telephone lines, etc.

Typical weighbridge system connections:



- 1: Junction box
- 2: Measuring device or indicator
- 3: Additional power supply protection
- 4: Local structural bond

Load Cell Tester

FEATURES

- Provides the user with essential data about electrical conditions and physical distortion (zero balance)
- Fits most load cells available in the market
- No need to remove the load cell from the scale to do the test
- Stand-alone, portable, battery-operated
- Clear screen messages, user-friendly, easy to use

DESCRIPTION

The LCT-01 is a stand-alone portable hand-held device that was especially designed to help technical people immediately analyze the condition of strain-gage based load cells. The LCT fits all common types of load cells available in the market today: four wires, six wires (with sense) and all rated gain outputs.

The LCT provides the user with the essential data needed about the conditions of the tested load cell, such as physical distortion (possibly caused by overload, shock load or metal fatigue), and electrical conditions (bridge resistance, shielding and resistance to ground).

The LCT allows the user to test the load cell whether it is installed or removed. The unit is fully computerized and battery operated. A 16x2 alphanumeric LCD display guides the operator through all test stages and clearly



displays the results. It is also equipped with a buzzer and LED which will alert the user as to any suspicious result.

The unit's three operation keys (plus an on/off switch) and concise messages on the display guide the user in a step-by-step fashion to it takes only a few minutes to learn how to use the LCT-01.

SPECIFICATIONS		
PARAMETER	VALUE	UNIT
Power source	4 standard AA alkaline batteries	
Approximate working time	500	hrs
Connectors	Screw terminal	
Total connecting points	8 (2 input, 2 output, 2 sense, 1 shield, 1 ground)	
Size	100 X 180 X 44	mm
Weight	approx. 250	gram
Excitation	2.5	VDC
Internal resolution	12	bit
Accommodate load cell type	4 or 6 wire, up to 8K	
Total accuracy	2%	
Accommodate load cell gain	1 mV/V to 5 mV/V in 0.1 mV/V steps	
Input resistance	1	Resolution
Output resistance	1	Resolution
Shielding to input/output impedance	up to 10	Ω
Ground to input/output impedance	up to 10	Ω

Load Cell Calibrator

FEATURES

- Versatile load cell calibrator with multiple functions
- Display, test, simulate, source—all in one unit
- Rechargeable Lithium-ion battery
- SD card for data logging
- USB computer connection
- On-screen user manual

DESCRIPTION

The VPG Transducers Model LC-II is a portable, multi-function, precision instrument for strain gage load cell system testing and calibration. This model now includes the powerful ARM processor, a display function (ideal for portable scales or field readings), an SD Card for data logging, a USB port for connection to a computer for certificates or spreadsheets, and a long lasting Lithium-ion battery pack. Supplied complete with carrying case, charger, and leads.



FUNCTIONS

Load cell Display Function: Show mass, force, strain, or torque from load cells; set mV/V, range, decimal point, and units; zero and span trim; select tare, peak hold.

Test Load Cell Function: Connect the load cell leads to spring terminals and get a readout of 4- or 6-wire, zero balance, input and output resistance, bridge balance, etc.

Test Insulation Function: Connect the leads to screen, housing, and gage to get a 50V insulation test between each in megohms.

Measurement Function: Show mV output, excitation voltage, mA outputs for systems, etc.

Source Function: High accuracy mV injection and mA output for workshop or field calibration of amplifiers and indicators.

Convert Function: Change between different mass units; grams, Newtons, ton, kilograms, etc.

SPECIFICATIONS				
MEASURE	RANGE	IMPEDANCE	ACCURACY	RESOLUTION
LC Display	-5 to +35 mV/V	min 3000Ω	0.01% FS	5 digit
Bridge Balance	-5 to +10 mV/V	≥1 MΩ	0.02 mV/V	0.001 mV/V
Resistance	0 to 2000Ω	—	0.03% FS	0.1Ω
Millivolt	-4.5 to 35 mV	≥1 MΩ	0.01% FS	0.001 mV/V
Voltage	0 to 20V	≥110 kΩ	0.01% FS	0.001V
Current	0 to 24 mA	±17Ω	0.02% FS	0.001 mA
Insulation (50V)	0 to 1000 MΩ	—	5% FS	1 MΩ
SOURCE	RANGE	MAX LOAD	ACCURACY	RESOLUTION
Millivolts	-5 to +50 mV	min 500Ω	0.01% FS	0.001 mV
Milliamps	0 to 24 mA	max 600Ω	0.01% FS	0.001 mA

All specifications subject to change without notice.

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Россия (495)268-04-70

Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Киргизия (996)312-96-26-47

Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Казахстан (7172)727-132

Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93