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 & UKCA versions for use in potentially-explosive atmospheres
  - EDOC product appearance will differ from the photograph due to coating

APPLICATIONS

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

DESCRIPTION

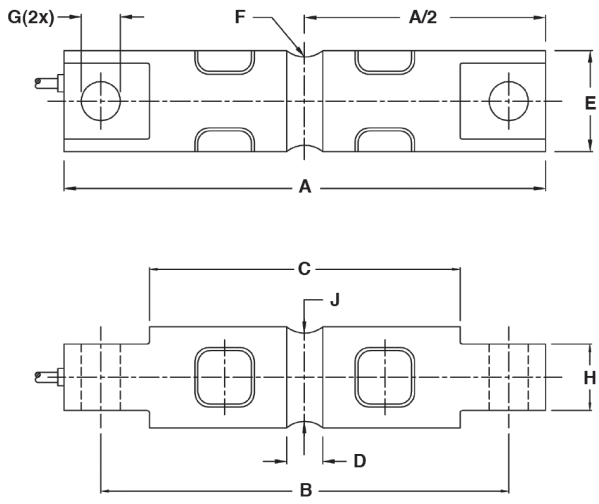
Model 5103 transducers are double-ended, center-loaded shear beam load cells and are constructed of nickel-plated alloy steel.

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 10 m (6 m for 5k–20k)

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

Above dimensions apply to non-EDOC-coated load cells.

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_{lc})	IIIL 10000	D3	3000	
Minimum verification interval (v_{min})			E_{max}/10,000	
Rated output (= S)	3.0			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)	0.030	0.0450	0.0053	±% applied load
Temp. effect on min. dead load output	(0.001)	0.0140	0.0070	±% FSO/5°C (/°F)
Temperature effect on sensitivity	(0.0008)	0.0070	0.0050	±% 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±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 / EN 60.529)	IP67			
Recommended torque on fixation bolts	12 to 14			N*m

* Only 20k–100k lbs (9.1–45.4 t) capacities are OIML approved.

FSO—Full Scale Output
All specifications subject to change without notice.

CERTIFICATION MARKINGS

ATEX & UKEX Markings (For Zone 1, 2 and Zone 21, 22)

II 2 G Ex ib IIC T6…T4 Gb
II 2 D Ex ib IIIC T70°C Db
II 2 D Ex tb IIIC T70°C Db

II 3 G Ex ic IIC T6…T4 Gc or Ex nA IIC T6…T4 Gc
II 3 D Ex ic IIIC T70°C Dc or Ex tc IIIC T70°C Dc

FM Approval Markings (USA and Canada)

IS Class I, II, III, Division 1, Groups A, B, C, D, E, F and G;
NI Class I, Division 2, Groups A, B, C, and D;
DIP Class II, III, Division 2, Groups F and G;
T4;
Ta = -25°C to +40°C;

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