



# ZB

## S BEAM LOAD CELL

### *applications*

- Tension/Compression Measurements
- Level and Inventory Monitoring
- Tank, Bin and Hopper Weighing
- Belt Conveyor Scales
- Process Control Weighing

### *features*

- 25 to 20,000 lbs. Capacities
- Excellent Performance
- Application Versatility
- Load Introduction Hardware
- Steel or Stainless Steel Element
- 0.02% Accuracy Class-NTEP
- IP67 Environmental Sealing
- Output Matched For Single Or Multiple Load Cell Applications
- Two Year Warranty

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MA1 Tension Cell Mount



*NIST H-44 NTEP CERTIFIED "LEGAL-FOR-TRADE"*

- CLASS III: 5,000D/Single and CLASS IIIIL: 10,000D/Single
- 25 Through 20,000 lbs.

The ZB Series is a high performance, bonded foil strain gage load cell constructed of alloy tool steel (ZB1) or stainless steel (ZB3). The ZB Series is designed to accurately measure tension or compression loads in capacities ranging from 25 lbs. to 20,000 lbs. The integrated loading brackets reduce sensitivity to off-center and side loading effects, while making the load cell readily adaptable to in-line measurements. This load cell is environmentally sealed to a rating of IP67, which is thoroughly sealed against airborne particles and the effects of immersion up to 1 meter. The ZB Series output signal is calibrated to a close tolerance to facilitate use with summing/junction devices in multiple load cell applications. Each load cell is provided with a durable polyurethane-jacketed cable. The cable is shielded for mechanical protection and to minimize the effects of common industrial electrical noise, e.g. RFI and EMI. A variety of companion loading accessories include the MA Series Tension Cell Mounts, rod end bearings, eyebolts, load buttons, turnbuckles and others. The attributes of the ZB Series make it an ideal choice for measurements in the laboratory, manufacturing and process applications, and for general force measurements and weighing situations where a dependable, versatile, high performance load cell solution is needed.



ZB1 Steel



ZB3 Stainless Steel

*Innovative Measurement Solutions*



## performance



• CLASS III: 5,000D/Single and CLASS IIIIL: 10,000D/Single  
• 25 Through 20,000 lbs.

Rated capacities <sup>(1)</sup> (lbs.):	25, 50, 75, 100, 150, 200, 250, 300, 500, 750, 1K, 1.5K, 2K, 2.5K, 3K, 5K, 7.5K, 10K, 15K & 20K
Rated output (FSO)	3 mV/V ± 10 %
Combined error	≤ 0.025 % FSO
Non-linearity	≤ 0.02 % FSO
Hysteresis	≤ 0.02 % FSO
Non-repeatability	≤ 0.01 % FSO
Creep (20 minutes)	≤ 0.03 % of load
Zero balance	≤ 1 % FSO
Zero return (20 minutes)	Better than 0.01 % FSO

<sup>(1)</sup> ("K" = thousand)

## mechanical

Material:	Alloy tool steel (ZB1) Stainless Steel (ZB3)
Finish:	Electroless nickel (ZB1) Electro-polished (ZB3)
Safe overload	Compression: 150% FSO Tension: 150% FSO
Ultimate overload	Compression: 300% FSO Tension: 300% FSO
Deflection	See Table Below
Weight	See Table Below

## electrical

Input impedance	385 ± 5 ohms
Output impedance	350 ± 3 ohms
Insulation resistance	>5000 Megohms @ 50VDC
Excitation Voltage	10 V AC/DC (15 V maximum)
Cable Color code:	+ Excitation (red) - Excitation (black) + Output (green) - Output (white) Shield (bare)
Cable type	4-conductor, 22 AWG, tin-copper braided shield, polyurethane jacket
Cable termination	Finished conductors

## environmental



Temperature, operating	4 to +140 °F (-20 to +60°C)
Temperature, compensated	14 to +104 °F (-10 to +40°C)
Temperature effects:	Zero < 0.0015% FSO/°F < 0.0026% FSO/°C Output < 0.0008% of Rdg./°F < 0.0014% Rdg./°C
Sealing	IP67; Multi-redundant

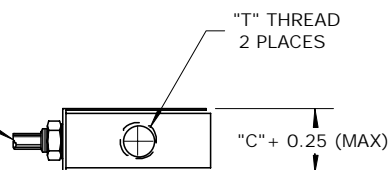
## options

Shunt calibration, Special cable lengths, MS connectors, Companion loading hardware, instrumentation and *MA Series* Tension Cell Mount

## dimensions



CABLE: 4-CONDUCTOR, 22 AWG, POLYURETHANE JACKET, SHIELDED, 20 FT LENGTH STD.



DIMENSIONAL TAB BLOCK

CAPACITY (LB)	"A"	"B"	"C"	"T"	DEFLECTION	WEIGHT
25 - 200 LB	1.97	2.47	0.47	1/4-28 UNF-2B	0.010"	1 LBS (.5 KG)
250 LB	1.97	2.97	0.47	3/8-24 UNF-2B	0.010"	1 LBS (.5 KG)
500 - 1.5K	1.97	2.97	0.72	1/2-20 UNF-2B	0.011"	1.5 LBS (.7 KG)
2K - 3K	1.97	2.97	0.97	1/2-20 UNF-2B	0.012"	2.5 LBS (1.1 KG)
5K	2.97	4.22	0.97	3/4-16 UNF-2B	0.016"	4 LBS (1.8 KG)
10K	3.47	4.72	0.97	3/4-16 UNF-2B	0.025"	6 LBS (2.7 KG)
15K	3.97	5.47	1.22	1-14 UNS-2B	0.025"	7 LBS (3.2 KG)
20K	4.97	6.97	1.97	1 1/4-12 UNF-2B	0.025"	16 LBS (7.3 KG)

