

Square Three Directional Load Cell

Model TR3D-B-*

- 1000 lb, 4000 lb, and 16000 lb capacity
- Measures forces in three directions in tension and compression
- High-quality, low-cost load cell
- Environmentally protected
- Temperature compensated
- Rugged stainless steel construction



Description

Michigan Scientific's *TR3D-B-** transducers are ideal for applications that require force measurements in three directions. Available in 1000, 4000 and 16000 lb capacities, these transducers were originally designed for body and engine mount force measurements. The transducers are configured for easy adaptation to a variety of applications.

High grade stainless steel material, in addition to weatherproof sealing, combine to provide excellent resistance to corrosion and environmental conditions. Temperature compensation of the transducers ensures stable output throughout a wide temperature range.

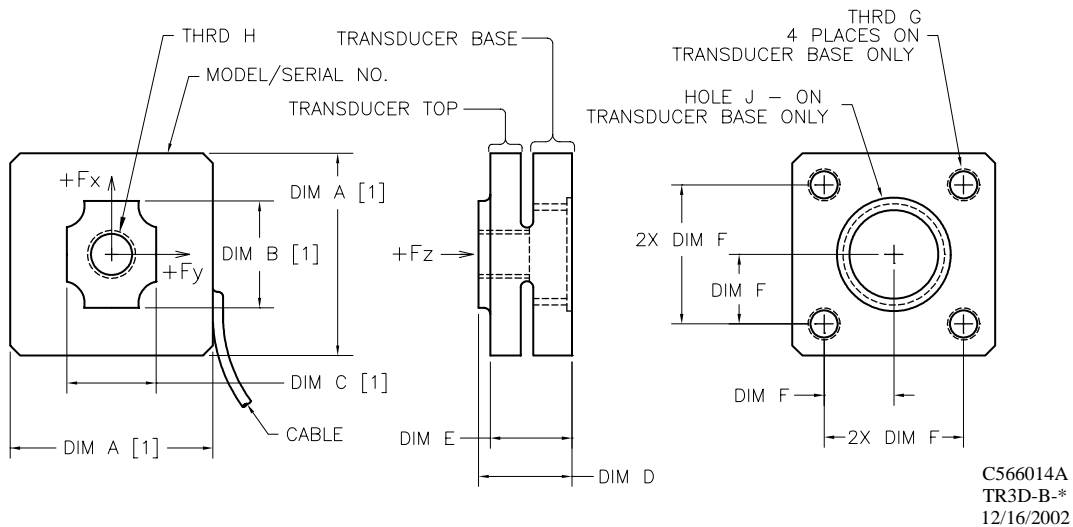
Specifications

	TR3D-B-1K	TR3D-B-4K	TR3D-B-16K
Maximum Load Capacity (per channel)	1000 lbs (454 kg)	4000 lbs (1814 kg)	16000 lbs (7257 kg)
Full Scale Load (per channel)	1000 lbs (454 kg)	4000 lbs (1814 kg)	16000 lbs (7257 kg)
Full Scale Output	4.5 mV/V, nominal, all channels		
Sensor	3 four-arm strain gage bridges		
Nonlinearity	0.5% of full scale output		
Hysteresis	0.05% of full scale output		
Repeatability	0.05% of full scale output		
Zero Balance	Within $\pm 10.0\%$ of rated output at zero load		
Temperature Range, Compensated*	75°F to 200°F (24°C to 93°C)		
Temperature Effect on Zero	<0.5% full scale		
Temperature Range, Useable	-40°F to 300°F (-40°C to 149°C)		
Excitation Voltage, Maximum	10V DC or AC rms		
Insulation Resistance, Bridge/Case	Exceeds 5000 M Ω		
Standard cable length (bare leads)	10 ft per channel		
Weight	0.07 lbs (0.03 kg)	0.60 lbs (0.27 kg)	5.00 lbs (2.27 kg)

* Contact factory for other compensated ranges

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TR3D-B-* Configuration



MODEL	DIM A	DIM B	DIM C	DIM D	DIM E	DIM F
TR3D-B-1K	0.999/1.000 [25.36/25.39]	0.529 [13.43]	0.440 [11.17]	0.499/0.500 [12.66/12.69]	0.403 [10.23]	0.344 [8.74]
TR3D-B-4K	1.997/1.999 [50.72/50.77]	1.057 [26.84]	0.880 [22.34]	0.917/0.920 [23.28/23.36]	0.805 [20.44]	0.6872 [17.45]
TR3D-B-16K	3.994/3.998 [101.45/101.55]	2.113 [53.67]	1.759 [44.68]	1.834/1.839 [46.59/46.72]	1.609 [40.87]	1.374 [34.91]

MODEL	THRD G	THRD H	HOLE J
TR3D-B-1K	M4 x 0.7	M6 x 1.0	M14 x 1.50 THRD; 0.220[5.59] DEPTH; 0.650[16.51] DIA C'BORE, 0.035[0.89] DEEP
TR3D-B-4K	M8 x 1.25	M12 x 1.75	1-14 THRD; 0.420[10.67] DEPTH; 1.120[28.45] DIA C'BORE, 0.050[1.27] DEEP
TR3D-B-16K	M16 x 2.00	M24 x 3.00	2.000[50.8] DIA HOLE; 0.840[21.34] DEPTH

Dimensions are inch [mm]; all tolerances are ± 0.005 in [± 0.13 mm] unless otherwise specified.

Pilot surfaces: [1]; Maximum recommended pilot depths: 1K = 0.020 in [0.51 mm]; 4K = 0.030 in [0.76 mm]; 16K = 0.100 in [2.54 mm] for both the top and the base of the transducer. Positive outputs result when the transducer top is displaced relative to the transducer base, in the directions indicated

Ordering Options

Connectors and cable length may be specified by the customer

Contact Michigan Scientific for information on transducer applications and mounting.

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