

ISB miniature s-beam force transducer



product description

The ISB is a series of miniature force transducers designed for applications in general test and measurement as well as machine monitoring and control.

The compact design enables the ISB to be easily embedded into machinery or test equipment – ideal for packaging machinery, assembly machinery or end-of-line test equipment.

Available in a range of standard capacities from 25lb through to 100lb; the ISB is configured for tension and compression force measurement. Full-bridge, bonded foil strain gauge technology provides excellent long-term stability and ensures high performance even in applications requiring in excess of 1 million load cycles. The ISB built-in overload protection operates in both tension and compression modes.

Constructed from high grade stainless steel, the sensor is protected by means of a stainless steel cover.

The ISB can be supplied with standard cable configurations or with industry standard connectors. As an additional aid to system integrators, the ISB can be supplied as a TEDS (Transducer Electronic Data Sheet) enabled smart transducer this provides an on board memory chip storing manufacturing and calibration data.

available accessories

- Comprehensive range of electronic modules available

approvals

- RoHS – lead-free

RoHS

key features

- High accuracy $\pm 0.1\%$
- Compact design
- Built-in overload protection
- Tension & compression force measurement
- Low weight
- Stainless steel construction
- Temperature compensated $-15^{\circ}\text{C} - + 71^{\circ}\text{C}$
- Environmental protection to IP40

options

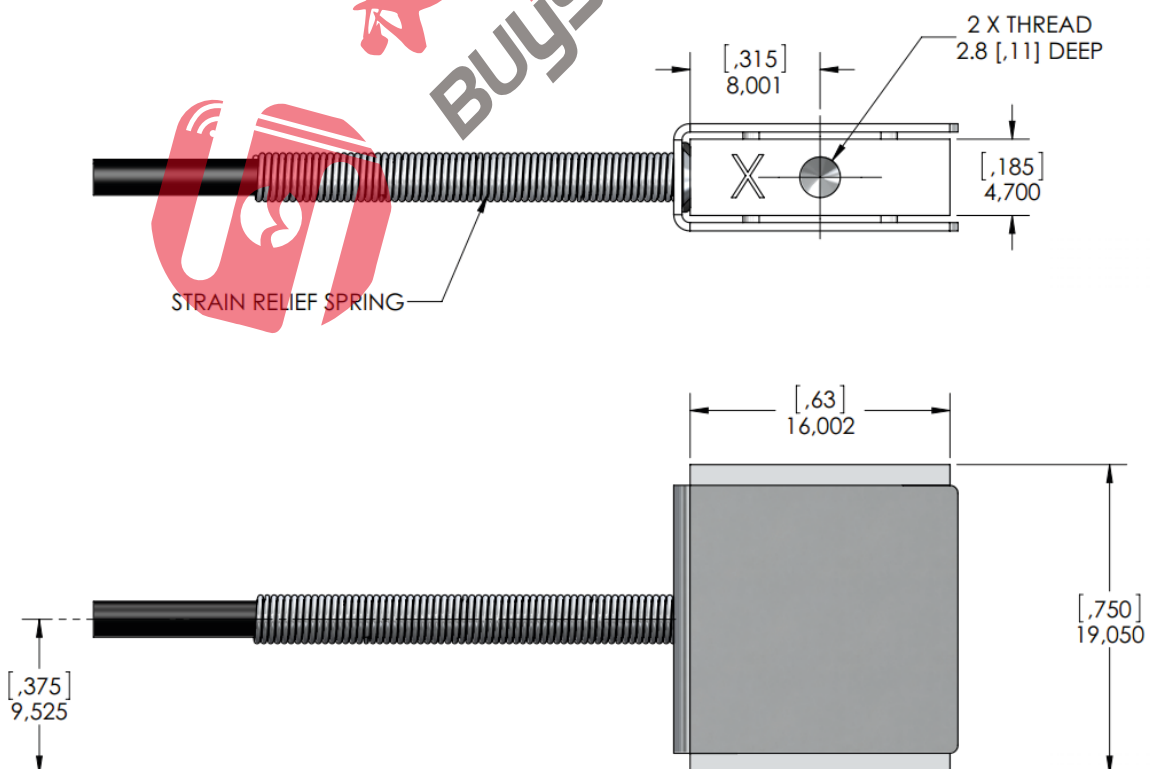
- Available in a range of cable lengths
- Cable supplied as flying leads or with end of cable connectors
- TEDS IEEE 1451.4 memory chip
- Multi-point calibration available

material

- Stainless steel body and stainless steel cover
- Polyurethane cable sheath

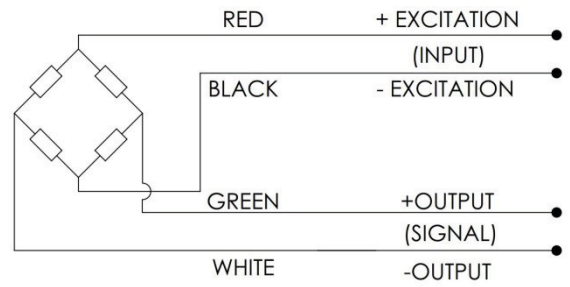
performance specifications

Parameter	Range
RATED CAPACITY	25, 50, 100 lb
RATED OUTPUT (RO)	2mV/V nom.
SAFE OVERLOAD	1000 % of R.O., 200% tension only for 50lb & 100 lb
NO LOAD OFFSET (ZERO BALANCE)	±3% of R.O.
EXCITATION (VDC OR VAC)	10 MAX, 5V recommended
INPUT IMPEDANCE	1000 Ω nom.
OUTPUT IMPEDANCE	1000 Ω nom.
NON-LINEARITY	±0.1% of R.O.
HYSTERESIS	±0.1% of R.O.
NONREPEATABILITY	±0.1% of R.O.
TEMP. SHIFT ZERO	±0.01% of R.O./°F (±0.018 of R.O./° C)
TEMP. SHIFT SPAN	±0.02% of LOAD/°F (±0.036 of LOAD/° C)
COMPENSATED TEMP.	5 to 160 °F (-15 to 71 °C)
OPERATING TEMP.	-60 to 200 °F (-51 to 93 °C)
WEIGHT (approx)	0.02 lb [9 g]
MATERIAL	Stainless steel
DEFLECTION	0.004" [0.1mm] nom.
IP RATING	IP40
CALIBRATION TEST EXCITATION	5 VDC
CALIBRATION (STD)	5 pt. Tension & Compression
CONNECTOR	DB9 Male or Female (specify at time of order)
THREAD	M3x0.5 or #4-40 (specify at time of order)

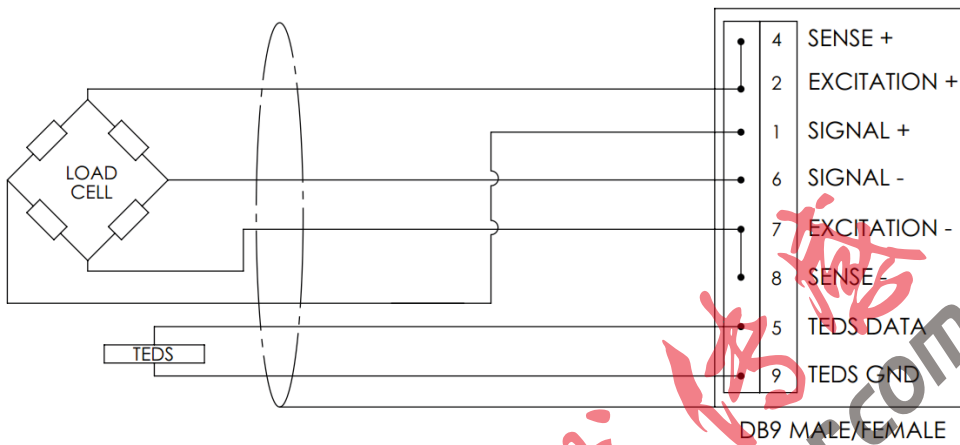


wiring

The sensor is provided with a #32 AWG 4-conductor braided shielded cable with an outer jacket of 0.087" [2.2 mm] diameter, 5 ft [1.5m] long, with no connection between the shield and the sensor body. For additional protection, the cable is contained within a stainless steel spring for strain relief purposes for the first 1" [25 mm].



Connector pin configuration as shown below (for the with-connector version)



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