Shear beam for compression force, high accuracy, up to 4536 kg

with electrical output

Description

Force transducer F3272 is available in rated loads from 500 lb to 10,000 lb (227 kg to 4,536 kg).

The use of high grade steel, the welded cover over the strain gauge measuring elements and the glass bushing for the cable connection allow trouble free use even in harsh environments.

The low-profile design combined with innovative introduction of force endow this force transducer with significant advantages for use in scales and for force measurements of all kinds.

A version of load take-up with partial thread is available.

Due to the special calibration (in mV/V/Ω), corner correction is generally not necessary when several force transducers are used, e.g. in a pair of scales.

An explosion-proof version of the force transducer conformant to EEx ia IIC T6...T4 T130°C ATEX can be supplied for use in explosion-hazardous areas of zones 0, 1, 2 (gas) and 20, 21, 22 (dust).

Note

It must be ensured that the supporting surface is level when installing the force transducer.

The permitted direction of loading is indicated by an arrow.

Features

- High precision
- Stainless steel version, robust design
- Hermetically sealed
- Protection class IP68/IP69K
- Low-profile design, ease of assembly
- Optimal load input
- High input resistance: 1100 Ω
- Simple cable replacement
- An entire range of fitting kits is optionally available
- Version for explosion-hazard zones 0, 1, 2, and 20, 21, 22 ATEX

Measuring range

- 227 kg to 4536 kg

Applications

- Force measurement
- Weighing & dosing applications
- Platform scales
- Production lines
- Testing and manufactoring plants

Specific information

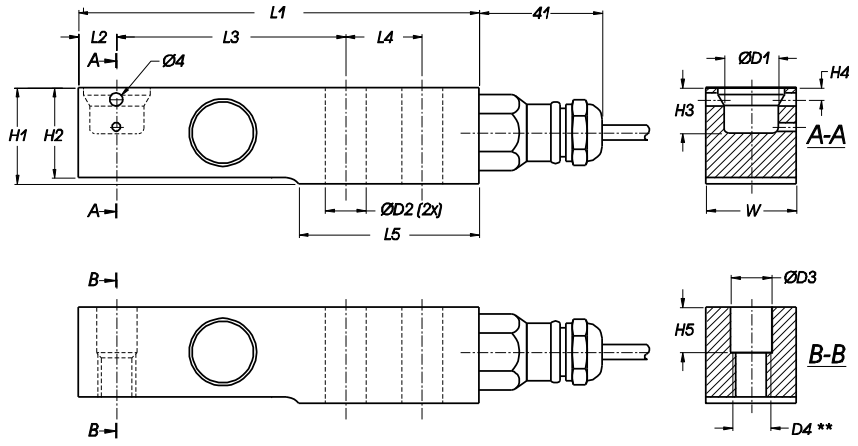
- Load input elements available (option)

Model: F3272

Technical specifications

Model	F3272	Option
Nominal load F_{nom} Metric equivalents (1 lb=0.45359 kg)	500 / 1000 / 2500 / 5000 / 10000 lb 227 / 454 / 1134 / 2268 / 4536 kg	
Calibration in mV/V/Ω (A...I classified)	<± 0.05 % of F.S.	<± 0.005 % of F.S.
Limit load F_{nom}	200 % F_{nom}	
Breaking load	> 300 % F_{nom}	
Combined error	≤± 0.05% of F.S.	≤± 0.02% of F.S.
Creep (30 min. at F_{nom})	<± 0.06% of F.S.	≤± 0.016% of F.S.
Nominal deflection	< 0.5 mm	
Nominal temperature range	-10…+40°C	
Service temperature range	-40…+80°C	
Storage temperature range	-40…+80°C	
Temperature effect - span - zero	 ≤± 0.002% of F.S. /10 K ≤± 0.004% of F.S. /10 K	 ≤± 0.0011% of F.S. /10 K ≤± 0.0011% of F.S. /10 K
Protection type (acc. to DIN 40.050)	IP68/IP69K	
Insulation resistance	> 5 GΩ / 100 V	
Analogue output - Output signal - Bridge resistance - Tolerance of span - Zero - Excitation voltage - Electrical connection	 2 mV/V Input: 1100±50 Ω Output: 1000±2 Ω ≤± 0.1% of F.S. ≤± 5% of F.S. 5 V … 15 V Cable 3 m, 4-wire, shielded, PUR cable sheath, cable connection stainless steel	
Encapsulation	Hermetically sealed; cable connection using a glass bushing	
Material	Stainless steel 17-4 PH (1.4548)	

Dimensioned drawings



Type	L1	L2	L3	L4	L5	H1	H2	H3	H4	H5	W	D1	D2	D3	D4	Mounting screws	Tightening torque *
500 lb/ 1000 lb	133.4	12.7	76.2	25.4	59.9	31	28.8	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
2500 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 8.8	90 Nm
5000 lb	133.4	12.7	76.2	25.4	59.9	31	30.5	15	4	15	30	18	13	13.5	M12	M12 10.9	120 Nm
10000 lb	177.8	19.1	95.3	38.1	92.7	43.6	38.1	20.5	8	20.1	43	25	21	30.2	M20	M20 8.8	400 Nm

Dimensions in mm. Subject to technical change without prior notice.

* Grease screw thread for assembly.

** Version available with threads 1/2-20 UNF (500...5000 lb) and 3/4-16 UNF (10000 lb)

Cable connection

- The force transducer has a 4-wire, shielded cable (AWG 24).
  Cable sheath made of polyurethane.
- Cable length: 3 m for 3096.720 -500 lb to 5,000 lb, 4.5 m for 3096.720 -10,000 lb
- Cable diameter: 5 mm
- The shield is not applied on the load cell side
  (shield applied upon request).

Electrical connection	Colour
Supply (-)	Black
Supply (+)	Green
Signal (+)	White
Signal (-)	Red
Shield	Yellow