Low-Cost Compressive Load Cell

With IN-LINE amplifier

Model 8532

Code:	8532 EN
Delivery:	ex stock
Warranty:	24 months

Very economical price

- **Measuring ranges between 0 ... 500 N and 0 ... 20 kN**
- **Measurement accuracy < 1% F.S.**
- **Normalized output signal 0 ... 10 V**
- **Stainless steel sensor**
- **Compact design**
- **Customer-specific versions possible from 20 pieces up**

8532 EN

Application

This force measurement chain was developed for applications where a low cost solution is more important than achieving high levels of accuracy. The sensors strain gauge technology allows the measurement of static and dynamic forces. The load cell is also designed for applications that provide only little space due to its compact design. These properties, together with the sensors dust protection, make the measuring chain suitable for a wide range of applications, such as

- ► Industrial manufacture
- ► Manufacture of customized machinery
- ► Geological investigations
- ► Motor vehicle engineering
- ► Commercial agriculture
- ► Bridge building

Description

The body of the sensor is a flat, cylindrical disk, into which a domed force application knob is integrated. It is important that the force is applied axially to the center of the sensor. The domed form, however, minimizes the effect of a force that is not exactly axial.
A full-bridge strain gauge is used as the measuring element inside the sensor, by means of which the force to be measured is converted into a proportional electrical voltage.
The in-line amplifier increases this voltage from 0 up to 10 V.
The surface against which the sensor rests is important for the quality of the measurement. It should be ground. It must be sufficiently hard and thick and not deform under load.

burster praezisionsmesstechnik gmbh & co kg Germany
Talstr. 1-5 · Gernsbach 76593 · Phone +49-7224-6450
www.burster.com
info@burster.com

Technical Data

Order Code	Measuring Range	Dimensions [mm] A	B	øC	øD	E	F	øG	R
8532-5500	0 ... 500 N	25	21	50	10	51	M 5 x 0,8 / 5 tief	42	50
8532-6001	0 ... 1 kN	25	21	50	10	51	M 5 x 0,8 / 5 tief	42	50
8532-6002	0 ... 2 kN	25	21	50	10	51	M 5 x 0,8 / 5 tief	42	50
8532-6005	0 ... 5 kN	25	21	50	10	51	M 5 x 0,8 / 5 tief	42	50
8532-6010	0 ... 10 kN	25	21	50	10	51	M 5 x 0,8 / 5 tief	42	50
8532-6020	0 ... 20 kN	25	21	50	10	51	M 5 x 0,8 / 5 tief	42	50

Electrical values

Excitation voltage:	15 ... 30 V DC
Output voltage:	0 ... 10 V
Output resistance:	440 Ω, nominal
Limit frequency:	1 kHz
Isolation resistance (sensor):	> 2000 MΩ
Bridge resistance (sensor):	350 Ω, nominal
Power consumption:	max. 0.3 VA

Environmental conditions

Sensor

Range of operation temperature:	- 20 °C ... 80 °C
Range of nominal temperature:	- 10 °C ... 40 °C
Influence of temperature to zero signal:	≤ 0.02 % F.S./K
Influence of temperature to measurement signal:	≤ 0.02 % Rdg./K

IN-LINE amplifier

Ambient temperature:	0 °C ... 60 °C
Temperature coefficient:	< 0.1 % / 10 K

Mechanical values

Measurement accuracy: < 1 % F.S.
Combined value consisting of non-linearity, hysteresis and non-repeatability in constant installation position.

Maximum static operational force: 120 % of nominal load

Dynamic forces: up to 70 % of nominal load

Material:

sensor	stainless steel
amplifier housing	aluminium natural anodized with 2 x PG 7

Protection class according to EN 60529:

Sensor	IP60
IN-LINE amplifier	IP67

Weight:

Sensor	approx. 250 g
IN-LINE amplifier	approx. 150 g

Mounting:

Sensor	4 threaded holes on reference cycle G, refer to table and dimensional drawing
IN-LINE amplifier	cable clip, in scope of delivery

Electrical connection

Shielded PVC cable: ø 5 mm, 4 wires
black coated
bending radius ≥ 30 mm
bend protection, length approx. 20 mm

Cable length between sensor and amplifier: 2 m

Cable length between amplifier and open end: 0.5 m

Wiring code of the IN-LINE amplifier:

red	excitation	positive
black	excitation	negative
white	signal output	positive
green	signal output	negative

Wiring code of the load cell cable:

red	excitation	positive
black	excitation	negative
white	measurement signal	negative
green	measurement signal	positive

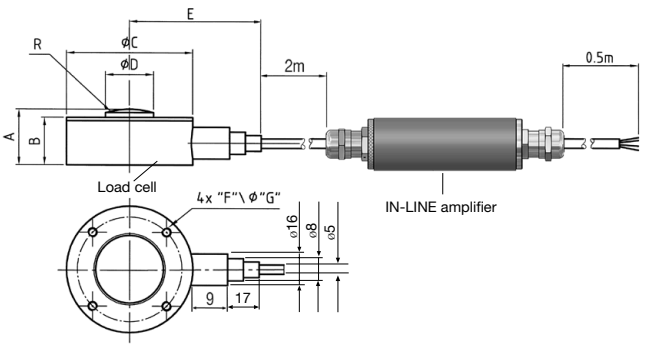
Dimensions:

sensor	refer to table
amplifier (L x ∅D):	120 x 25 [mm]

Caution!
Do NOT open the screw joint at the cable outlet!

Dimensional drawing

Model 8532



Cable outlet refer to the picture at the front side

The CAD drawing (3D/2D) for this sensor can be imported online directly into your CAD system.
Download via www.burster.com or directly at www.traceparts.com. For further information about the burster traceparts cooperation refer to data sheet 80-CAD-EN.

Order Information

Low-Cost load cell, measurement range 0 ... 5 kN
with IN-LINE amplifier, output 0 ... 10 V **Model 8532-6005**

Signal processing
Supply units, amplifier and process control units like digital indicator model 9180 or sensor profibus module model 9221
refer to section 9 of the catalog.

burster praezisionsmesstechnik gmbh & co kg Germany
Talstr. 1-5 · Gernsbach 76593 · Phone +49-7224-6450
www.burster.com
info@burster.com

2391-008532EN-5672-081524