

# Low-Cost Compressive Load Cell

With IN-LINE amplifier

Model 8532

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

CAD data 2D/3D for this sensor:  
 Download directly at [www.traceparts.com](http://www.traceparts.com)  
 Info: refer to data sheet 80-CAD-EN

**NEW**  
 very economical price



- Measuring ranges between 0 ... 500 N and 0 ... 20 kN
- Linearity < 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 measuring chain was developed for applications where high precision is required at a very economical price. The sensor's strain gauge technology allows both static (constant) and dynamically changing forces to be measured. The compact design allows the sensor to be integrated into designs where room is very tight. These properties, together with the sensor's dust protection, make the measuring chain suitable for a wide spectrum 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.

## Technical Data

Order Code	Measurement Range	Dimensions [mm]							
		A	B	øC	øD	E	F	G	R
8532-5500	0 ... 500 N	25	21	50	10	76	M 5 x 0.8 / 5 deep	42	50
8532-6001	0 ... 1 kN	25	21	50	10	76	M 5 x 0.8 / 5 deep	42	50
8532-6002	0 ... 2 kN	25	21	50	10	76	M 5 x 0.8 / 5 deep	42	50
8532-6005	0 ... 5 kN	25	21	50	10	76	M 5 x 0.8 / 5 deep	42	50
8532-6010	0 ... 10 kN	25	21	50	10	76	M 5 x 0.8 / 5 deep	42	50
8532-6020	0 ... 20 kN	25	21	50	10	76	M 5 x 0.8 / 5 deep	42	50

### Electrical values

Excitation voltage:	15 ... 30 V DC
Output voltage:	0 ... 10 V
Output resistance:	470 Ω, nominal
Limit frequency:	1 kHz
Isolation resistance (sensor):	> 2000 M Ω
Bridge resistance (sensor):	350 Ω, nominal
Power consumption:	max. 0.3 VA

### Environmental conditions

<b>Sensor</b>	
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
<b>IN-LINE amplifier</b>	
Ambient temperature:	0 °C ... 60 °C
Temperature coefficient:	< 0.1 % / 10 K

### Mechanical values

Accuracy:	< 1 % F.S.	
The error consists of non-linearity, hysteresis and spread at unchanged position.		
Maximum operational force:	120 % of nominal load	
Dynamic forces:	up to 70 % of nominal load	
<b>Material:</b>		
sensor	stainless steel	
amplifier housing	aluminium natural anodized with 2 x PG 7	
Protection class according to EN 60529:		
	Sensor	IP60
	IN-LINE amplifier	IP40
Mass:	Sensor	approx. 250 g
	IN-LINE amplifier	approx. 150 g
<b>Mounting:</b>		
Sensor	4 threaded holes on reference cycle G, refer to table	
IN-LINE amplifier	cable clip, in scope of delivery	

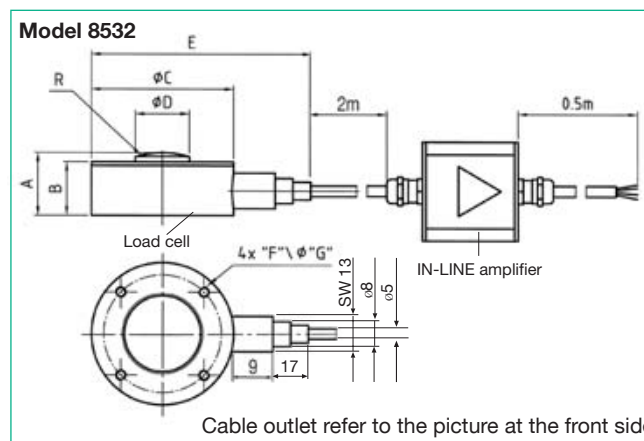
### Electrical connection

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	
<b>Wiring code of the IN-LINE amplifier:</b>		
red	excitation	positive
black	excitation	negative
white	signal output	positive
green	signal output	negative
<b>Wiring code of the load cell cable:</b>		
red	excitation	positive
black	excitation	negative
white	signal	negative
green	signal	positive
<b>Dimensions:</b>		
sensor	refer to table	
amplifier (L x W x H):	54 x 55 x 24 [mm]	

### Caution!

Do NOT open the screw joint at the cable outlet!

### Dimensional drawing



The CAD drawing (3D/2D) for this sensor can be imported online directly into your CAD system.

Download via [www.burster.com](http://www.burster.com) or directly at [www.traceparts.com](http://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 5 kN with IN-LINE amplifier, output 0 ... 10 V **Model 8532-6005**

### Accessories

**Connector**, 12 pin, suitable for burster desktop devices except for 9163 **Model 9941**

**Connector**, 9 pin, suitable for SENSORMASTER 9163-V3 **Model 9900-V209**

Mounting of a connector to the sensor cable **Order code: 99004**

### 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.**