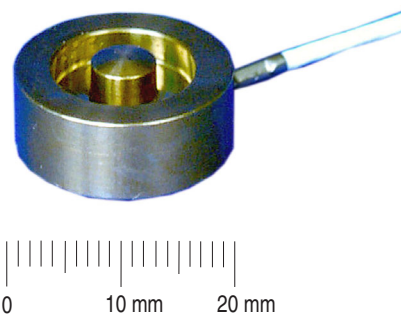


Miniature Load Cell

Model 8415

Code:	8415 E
Manufacturer:	burster
Delivery:	ex stock/4 weeks
Warranty:	24 months

CAD data in 3D/2D available on
powerPARTS by web2CAD
Info: data sheet 80-CD-ROM-E



- Available ranges from 0 ... 200 N up to 0 ... 5000 N
- Low-priced
- Small dimensions
- Made of stainless steel

Application

The miniature load cells of this type are of a sturdy construction and made of stainless steel. They have small dimensions and can therefore be used in various fields of industry and in the laboratories. The load cells are easy to handle and enable a relatively uncomplicated installation. Because of their small dimensions they are well-suited for the use in very restricted structures for both static and dynamic measurements.

As measuring element you can apply these load cells in:

- fully automatic production centres
- measuring and controlling equipment
- precision mechanics
- tool manufacturing
- apparatus engineering etc.

Description

The miniature load cell model 8415 is a flat cylindrical disc, its bottom is closed with a cover. The load button is integrated in the load cell.

A full bridge circuit is applied on the measuring element. By applying force to it, the resistance change of the gages is transformed into an output voltage which is directly proportional to the measured quantity.

The small measured working section of the load cell causes a high constancy. The force to be measured has to be introduced in a centric and transversal force-free way. The load cells have to be mounted on a smooth, plane parallel surface.

Technical Data

Order Code	Measuring range	Dimensions [mm]					Natural frequency [kHz]
		ø D1	ø D2	ø D3	H1	H2	
8415 - 5200	0 ... 200 N	20	6	16	5.5	7	2.0
8415 - 5500	0 ... 500 N	20	6	16	5.5	7	4.0
8415 - 6001	0 ... 1000 N	20	6	16	8	9	6.5
8415 - 6002	0 ... 2000 N	20	6	16	8	9	10.5
8415 - 6005	0 ... 5000 N	20	6	16	8	9	20.0

Electrical

Bridge resistance: full bridge, foil-type strain gage 350 Ω, nominal
 Excitation: max. 5 V DC
 Output: 1 mV/V, nominal*
 Insulation resistance: > 10 MΩ
 Calibration resistor: 100 kΩ ± 0.1 %
 The bridge output voltage, resulting from a shunt of this value, is shown in the calibration certificate.

* Deviations from the stated value are possible.

Environmental

Temperature operating: 0 °C ... + 80 °C
 Temperature compensated: + 15 °C ... + 70 °C
 Temperature effect zero: ≤ ± 1.50 % F.S./50K
 Temperature effect span: ≤ + 1.50 % F.S./50K

Mechanical

Non-linearity:
 range ≤ 0 ... 2000 N < 0.5 % F.S.
 range 0 ... 5000 N < 0.75 % F.S.
 Hysteresis:
 range ≤ 0 ... 2000 N < 0.2 % F.S.
 range 0 ... 5000 N < 0.3 % F.S.
 Non-repeatability: < 0.2 % F.S.
 Deflection, full scale: approx. 60 μm
 Static overload safe: 150 % over capacity
 Dynamic performance:
 recommended 50 % of capacity
 maximum 70 % of capacity

Casing material: High-grade stainless steel 1.4542

Electrical connection:
 shielded, TPE coated cable with bare ends for soldering
 Length approx. 2 m,
 Bending radius ≥ 10 mm

Protection class: according to DIN 60529 IP 54

Wiring code:
 White Excitation (positive)
 Brown Excitation (negative)
 Yellow Signal output (positive)
 Green Signal output (negative)

Dimensions: see table and scale drawing
 General tolerance of dimensioning: acc. to ISO 2768-f
 Weight: approx. 20 g

Mounting Instructions

The measurement force must be introduced centrally and without any transverse vectors. To prevent contact at just a few points, ensure that the sensor is installed on a flat surface.

The sensor can be secured, for example, with silicon, wax or adhesive cement. Do not subject the sensor to lateral clamping forces as these would lead to measurement errors.

When handling and installing the sensor, ensure that the cable outlet and sensor cable are not subjected to excessively high tensile or lateral forces.

Option

Standardization of the sensitivity in the sensor connection cable to 1.0 mV/V ± 0.5 %.

Order code: -V010

Order Information

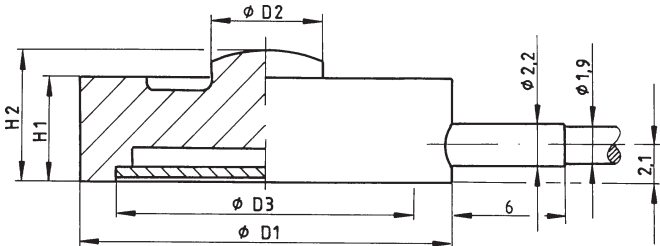
Miniature load cell, measuring range 0 ... 200 N.

Model 8415-5200
 (order code see table above)

Miniature load cell, measuring range 0 ... 500 N standardization of sensitivity to 1.0 mV/V ± 0.5 %.

Model 8415-5500-V010

Scale Drawing



Sensor CAD drawing can be imported in 3D or 2D version from CD-ROM or downloaded from the Internet.

For more information on *POWERPARTS* by web2CAD please refer to the introduction of product section 8 in the catalog.

Special Calibration

Calibration of the load cell separately as well as connected to an indicator is available. Calculation with basic cost and additional cost per point. Please state the requested points. Standard is an 11-point-run in 20 %-increments up and down.

Order code: 84WKS-8415

Accessories

Mating connector
 12 pins, to all burster table housings
 9 pins, to model 9235 and model 9310

Model 9941
Order code: 9900-V209

Mounting of mating connector to conductor cable.

Order code: 99004

Amplifiers, sensor supplying instruments and process controllers as e.g. digital measuring indicator, series 9180, modular amplifier, type 9243 or DIGIFORCE® model 9306.

See section 9 of the catalog.

DMS Simulator

Support accessories for creating strain gage source signals in order to adjust amplifiers and monitors.

Model 9405