More than sensors + automation

JUMO CEROS S01 M

Digital pressure measuring cell with integrated signal processing

Highlights overview

- Silicon measuring cells with piezoresistive sensing element for absolute and relative pressure measurement
- Temperature compensated and calibrated, pressure-proportional, digital/ratiometric output signal
- Digital output signal includes pressure and temperature values
- Zero point correction through setup program possible (e.g. after installation/welding of the measuring cell)
- Direct mounting on circuit board possible without additional connector
- Adjustable sensor monitoring (signal limitation, attenuation, limit value)
- Traceability of the sensor with a clear digital signature

Type 405101

Brief overview

The digital pressure measuring cell JUMO CEROS S01 M is used to measure the pressure of liquid and gaseous media. Here, in contrast to conventional pressure measuring cells, an active component supplies a temperature-compensated and calibrated digital or analog output signal. The piezoresistive sensing element with integrated signal processing is hermetically encapsulated. It ensures stable, precise linearity and accuracy values even under adverse conditions. The digital pressure measuring cell allows the production of pressure transmitters and level probes to be significantly optimized as complex and time-consuming production steps (such as pressure and temperature compensation) are omitted. The result is production that is a quick and flexible.

Features

- Piezoresistive silicon sensor
- Integrated temperature sensor
- Oil filling: silicone
- Output: 0.5 to 4.5 V ratiometric/I²C-protocol
- Accuracy: <0.4 %
- Linearity: <0.2 %
- Housing material: 1.4404, 1.4571
- Measuring ranges: 100 mbar to 100 bar relative, 0 to 100 bar absolute
- Temperature range: -40 to +125 °C
- Signal resolution: 15 bit
- Electric strength: ±40 V
- Response time: T90 <3 ms
- Optionally: surface roughness Ra ≤ 0.8 µm

Product benefits

- No investments in additional production technology – the pressure measuring cell provides an elaborately temperature-compensated and calibrated, pressure-proportional, digital/ratiometric output signal
- Space-saving design – digital pressure measuring cell with integrated signal processing for applications in which installation space is extremely limited
- Subsequent zero point adjustment through setup program possible to correct welding or installation errors
- Digital communication allows transfer of pressure and temperature values with minimal cabling
- Increased reliability of the sensor due to improved temperature stability
- Simple, hassle-free use through protection against reverse-polarity, overvoltage, and electrostatic discharge

Application areas

- Manufacturers of pressure, level, and flowmeter devices
- Pumps, compact devices, valve blocks, data loggers, handheld devices, level measurement via bubble-through method, digital manometer, industrial pressure regulator, electropneumatics converter (I/P or U/P or D/P transducer), volume corrector
- Food and pharmaceutical industry (front-flush installation)

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