



Main features:

- Direct measurement of surface strain
- With high grade variable digital amplifier
- Amplifies the signal on the spot, avoiding EMC problems
- High accuracy and linearity in tension and pressure (like bonded strain gauges)
- For dynamic applications
- Used on presses, injection moulding and die-casting machines
- Quick and easy mounting
- Protected against overload

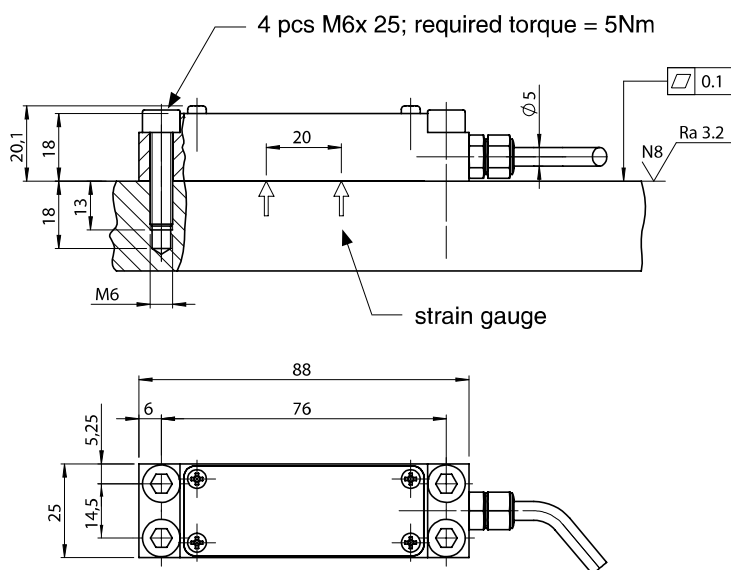
The strain gauge sensor SB76-VDA measure the surface-strain directly at the mounting location in the same quality as bonded strain gages. The integrated variable digital amplifier amplifies the signal on the spot, avoiding EMC problems. The mounting is very fast. The press-on technology, developed by Sensormate AG, presses the strain gauges under the stainless protective film so strongly against the surface to be measured that frictional contact occurs. The sensor can not be overloaded. The sensor do not need a recalibration when it replaced or remounted. The sensor require a cyclical reset.

TECHNICAL DATA

| | | |
|---|-----------------------------------|-------------------------|
| Output signal | VOLTAGE | CURRENT |
| Strain gauge type | Foil strain gage (GF=2.00) | |
| Linearity | < ± 0.3% FS | |
| Hysteresis | < ± 0.5% FS | |
| Repeatability | < ± 0.2% FS | |
| Zero accuracy | < ± 0.1% FS | |
| FS accuracy | < ± 0.2% FS | |
| Accuracy at room temperature (1) | < ± 0.5% FS | |
| Bridge resistance | 350 Ω | |
| Measuring range | ±100...±1000 µε | |
| Output resolution | 16-Bit | |
| Sampling rate | 5 kHz | |
| Low-pass filter | 1 kHz | |
| Case material | Aluminum | |
| Cover | Aluminum | |
| Reset time | > 25 ms | |
| Reset voltage | 12...36 VDC | |
| Supply voltage | 12...36VDC | |
| Power consumption | 0.5W | 1W |
| Zero output signal | 0 V (N) | 4 mA (E) |
| Full scale output signal | + 10 V (N) stretching | 20 mA (E) stretching |
| | - 10 V (N) compression | - |
| Allowed load | ≥ 5 kΩ | 0..500 Ω |
| Operating temperature range | -5°C...+80°C | |
| Storage temperature range | -5°C...+80°C | |
| Overload capability | indefinite (offset occurs) | |
| Weight, without cable | ~ 90 g | |
| Protection class | IP67 | |
| Output short circuit protection | Yes | |
| Reverse polarity protection | Yes | |
| Dielectric strenght (2) | 250V | |
| EC Conformity | According to Directive 2014/30/EU | |
| | | |
| (1) incl. Non-linearity, Hysteresis, Repeatability, Zero-offset and Span-offset | | |
| (2) Uses 50V 2J Voltage suppressor | | |

DIMENSION

SB76-VDA



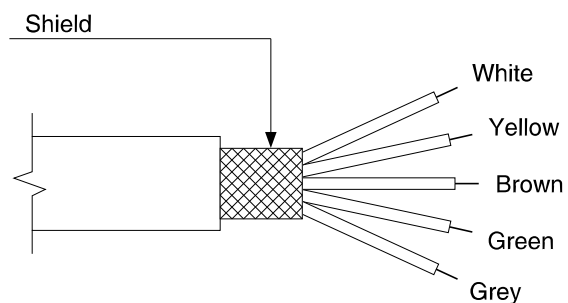
Accessories included:

4 pieces mounting screws M6x25

Dimensions in mm

ELECTRICAL CONNECTION

PUR screened cable (standard); 5 x 0.14mm²; Ø 5mm; bending 10 x Ø

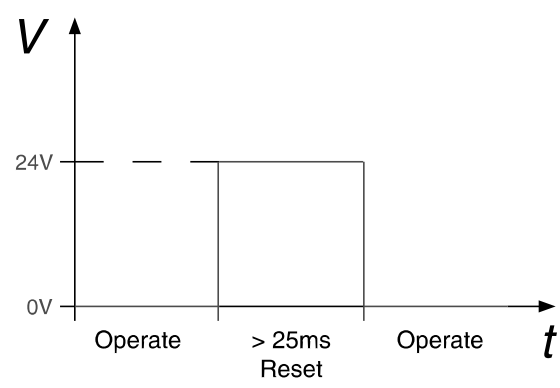


| Cable | Function |
|--------|-------------|
| White | Power (24V) |
| Yellow | GND (0V) |
| Brown | Signal - |
| Green | Reset |
| Grey | Signal + |

Stretching (positive strain) gives positives signal.
Compression (negative strain) gives negative signal.

RESET FUNCTION

24V - TYPE



| | | |
|------------------------------|---------|-----------|
| Reset control input | Reset | 12...36V |
| | Operate | 0V / open |
| Minimum reset pulse duration | >25ms | |

With the power-on reset function the amplifier generates a reset signal when power is applied to device.

ORDER CODE

Press-on strain sensor with
variable digital amplifier

SB76-VDA - - - - - - - -

| Cable length | |
|--------------|------------|
| 1 m | 010 |
| 3 m | 030 |
| 5 m | 050 |
| 10 m | 100 |
| 15 m | 150 |

| Output signal | |
|---------------|----------|
| 0...±10 VDC | N |
| 4...20 mA | E |

| Measuring range | |
|-----------------|-------------|
| 100 µε | 0100 |
| 250 µε | 0250 |
| 500 µε | 0500 |
| 750 µε | 0750 |
| 1000 µε | 1000 |

| Reset type | |
|---|-------------|
| External high-reset (24V), without power-on reset, zero stored (2·10 ⁶ reset cycles allowed) | HO11 |
| External high-reset (24V), with power-on reset (infinite reset cycles allowed) | HR11 |

| Peak feature | |
|--------------|----------|
| No peak-hold | O |

Example: SB76-VDA - 4 - O - 010 - N - 00 - 2 - 0100 - HO11 - O

Press-on strain sensor with variable amplifier, cable length = 1m, Output signal = 0...±10VDC,
measuring range = 100µε, reset type = external high-reset (24V) without power on reset and zero stored, no peak-hold

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice.



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