

## Force Sensor KD80s 1kN

Item number: 7169



The force sensor KD80s is used for tensile and compressive force measurements and for weighing.

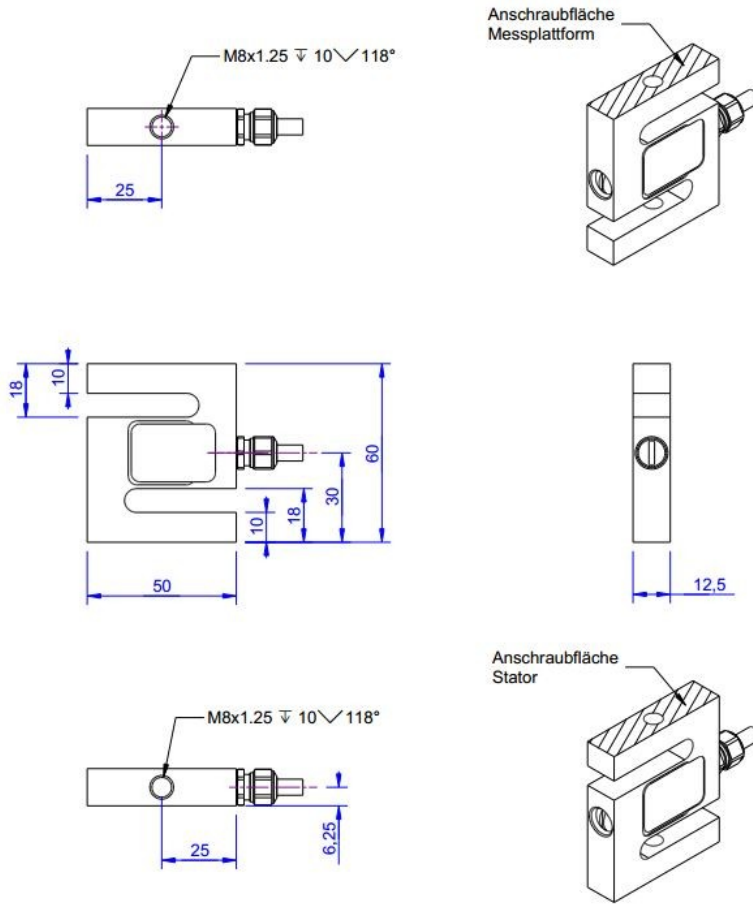
The areas of application are e.g. wire rope measurements, test beds, overload securing for lifting tools, process controllers as well as weighing scales.

The force sensor KD80s for the standard temperature range will be delivered with cable Unitronic FD CP Plus 4x0,14.

The force sensor KD80s HT is used for the maximum operating temperature of 150°C. For this temperature range of 150°C the sensor will be delivered with 6-wire high temperature resistant cable ALMI HAFL-C MOD. SO 6x0,15mm<sup>2</sup>.

The KD80s sensors have accuracy class of 0,05%. The environmental protection is IP65.

## Technical Drawing



## Technical Data

| Basic Data                       |  | Unit |
|----------------------------------|--|------|
| Type                             | Kraftsensor                                    |      |
| Force direction                  | Tension/Compression                            |      |
| Rated force F <sub>x</sub>       | 1  | kN   |
| Force introduction               | Internal thread                                |      |
| Dimension 1                      | M8x1,25  |      |
| Sensor Fastening                 | Internal thread                                |      |
| Dimension 2                      | M8x1,25  |      |
| Operating force                  | 150  | %FS  |
| Rated displacement               | 0.2  | mm   |
| Lateral force limit              | 100  | %FS  |
| Material                         | Stainless steel                                |      |
| Natural frequency f <sub>x</sub> | 5  | kHz  |
| Dimensions                       | 60mm x 50mm x 10mm ...<br>200mm x 150mm x 60mm |      |
| Height                           | 60   | mm   |
| Length or Diameter               | 50   | mm   |
| Bending moment limit             | 10   | Nm   |
| Variants                         | 100N... 200kN                                  |      |

| Electrical Data                            |      | Unit      |
|--|------|-----------|
| Input resistance                           | 400  | Ohm       |
| Tolerance input resistance                 | 50   | Ohm       |
| Output resistance                          | 350  | Ohm       |
| Tolerance output resistance                | 10   | Ohm       |
| Insulation resistance                      | 5    | GOhm      |
| Rated range of excitation voltage from     | 2.5  | V         |
| Rated range of excitation voltage to       | 5    | V         |
| Operating range of excitation voltage from | 1    | V         |
| Operating range of excitation voltage to   | 10   | V         |
| Zero signal                                | 0.05 | mV/V      |
| Rated output                               | 2    | mV/V / FS |

| Accuracy Data                              |      | Unit  |
|--|------|-------|
| Accuracy class                             | 0,05 |       |
| Relative linearity error                   | 0.02 | %FS   |
| Relative zero signal hysteresis            | 0.02 | %FS   |
| Temperature effect on zero signal          | 0.02 | %FS/K |
| Temperature effect on characteristic value | 0.01 | %RD/K |
| Relative creep                             | 0.1  | %FS   |

| Environmental Data               |      | Unit |
|----------------------------------|------|------|
| Rated temperature range from     | -10  | °C   |
| Rated temperature range to       | 70   | °C   |
| Operating temperature range from | -10  | °C   |
| Operating temperature range to   | 85   | °C   |
| Storage temperature range from   | -10  | °C   |
| Storage temperature range to     | 85   | °C   |
| Environmental protection         | IP65 |      |

Abbreviation: RD: „Reading“; FS: „Full Scale“;1) The exact nominal sensitivity is indicated in the test report;

## Pin Assignment

| Channel | Symbol | Description            | Wire color | PIN |
|---------|--------|------------------------|------------|-----|
|         | +Us    | positive bridge supply | brown      |     |
|         | -Us    | negative bridge supply | white      |     |
|         | +Ud    | positive bridge output | green      |     |
|         | -Ud    | negative bridge output | yellow     |     |

Pressure load: positive output signal.  
Shield- transparent.