

MINIATURE FORCE TRANSDUCER LOAD CELL

TENSION &  
COMPRESSION



- COMBINED ERROR  $\leq \pm 0.05\%$
- MINIATURE LOAD CELL
- IP66 PROTECTION RATING
- 17-4PH STAINLESS STEEL | 1.4542



NOMINAL LOAD (FS)

| N   | kg (optional) | Net weight (kg) | Accuracy          | Rated Output (mV/V) |
|-----|---------------|-----------------|-------------------|---------------------|
| 1   | 0.1           | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 2.5 | 0.25          | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 5   | 0.5           | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 10  | 1             | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 20  | 2             | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 50  | 5             | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 100 | 10            | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 200 | 20            | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 300 | 30            | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |
| 500 | 50            | 0.1             | $\leq \pm 0.05\%$ | 2.0 $\pm 10\%$      |



## TECHNICAL DATA

## PRECISION

|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Combined error                         | $\leq \pm 0.05 \%FS$                |
| Non-linearity                          | $\leq \pm 0.05 \%FS$                |
| Hysteresis                             | $\leq \pm 0.05 \%FS$                |
| Repeatability                          | $\leq \pm 0.03 \%FS$                |
| Creep                                  | $\leq \pm 0.05 \%FS$ (at 30 min FS) |
| Temperature coefficient of zero        | 0.005 %FS/°C                        |
| Temperature coefficient of sensitivity | 0.005 %FS/°C                        |
| Compensated temperature range          | -10...+60 °C                        |
| Operating temperature range            | -20...+80 °C                        |
| Reference Temperature                  | 23 °C                               |

## MECHANICAL PROPERTIES

|                                 |                                 |
|---------------------------------|---------------------------------|
| Material                        | 17-4PH STAINLESS STEEL   1.4542 |
| Deflection at nominal load (FN) | ~ 0.5 mm                        |

## MECHANICAL LIMITS

|                               |           |                                                                                                                                                                           |
|-------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service load                  | 120 %FS   | Load without any permanent deformation or change in calibration.                                                                                                          |
| Safe overload                 | 150 %FS   | The highest static load that may be applied once or briefly without mechanical damage.                                                                                    |
| Breaking load                 | > 300 %FS | Load at which permanent deformation or mechanical failure (fracture) occurs.                                                                                              |
| Max. transverse load (side)   | 50 %FS    | Maximum lateral or shear load that can be applied (e.g. due to misalignment or friction).                                                                                 |
| Max. permissible dynamic load | 70 %FS    | For cyclic or oscillating loads, the amplitude should not exceed this load to prevent fatigue failure. The dynamic load must be applied to the transducer central thread. |

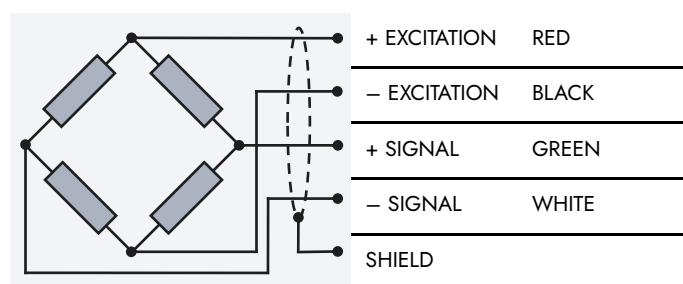
## COMPLIANCE AND CERTIFICATION

|                   |                                                                |
|-------------------|----------------------------------------------------------------|
| Protection Rating | IP66 (IEC 60529)                                               |
| Compliance        | CE, RoHS, REACH                                                |
| Calibration       | Factory-calibrated, ISO 17025 calibration available on request |
| HS-CODE           | 9031.80.80                                                     |

## ELECTRICAL PROPERTIES

|                                |                                |
|--------------------------------|--------------------------------|
| Bridge configuration           | Full Wheatstone bridge, 4-wire |
| Input resistance               | 350±30 Ω                       |
| Output resistance              | 350±5 Ω                        |
| Insulation resistance          | ≥ 5 000 MΩ at 100 V            |
| Recommended excitation voltage | 5 V                            |
| Cable diameter                 | 2 mm                           |
| Cable length                   | 4000 mm                        |

## ELECTRICAL CONNECTION



## DIMENSIONS

|   | 0.1...2kg<br>1...20N<br>[mm] | 5...50kg<br>50...500N<br>[mm] |
|---|------------------------------|-------------------------------|
| A | 5                            | 6                             |
| B | 6.8                          | 7.5                           |
| M | M3                           | M4                            |

