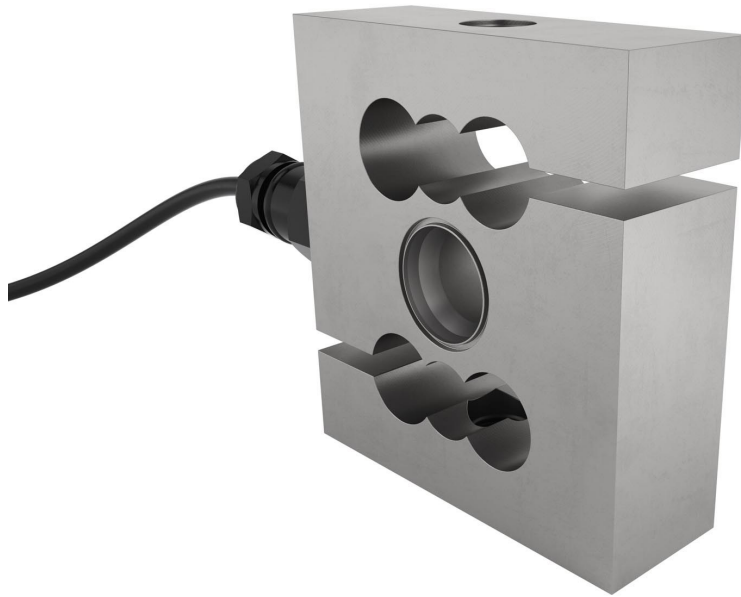


UB1 tension load cell



product description

A fully welded, stainless steel tension and compression load cell – the UB1 is ideal for very harsh environments. Available in a wide range of capacities from 1000kg thru to 10,000kg it is particularly suited for higher capacity Process Weighing applications. Certified by both OIML and NTEP for trade approved weighing.

applications

Suspended tanks and hoppers, crane scales.

key features

Stainless steel construction

Hermetically sealed to IP68

High capacity range

Tension and compression loading (bi-directional)

High accuracy, high input resistance

Capacities from 10kN to 100kN (1,020kg to 10,197kg)

Calibration in mV/V/Ω

approvals

OIML approval to C3 (Y = 5,700)

NTEP approval to 5 000 intervals, Class III and 10 000 intervals, Class III L

ATEX hazardous area approval for zones 0, 1, 2, 20, 21 and 22

FM hazardous area approval

accessories

Compatible range of hardware

Compatible range of electronics

options

Stainless steel cable gland



RoHS compliant



specifications

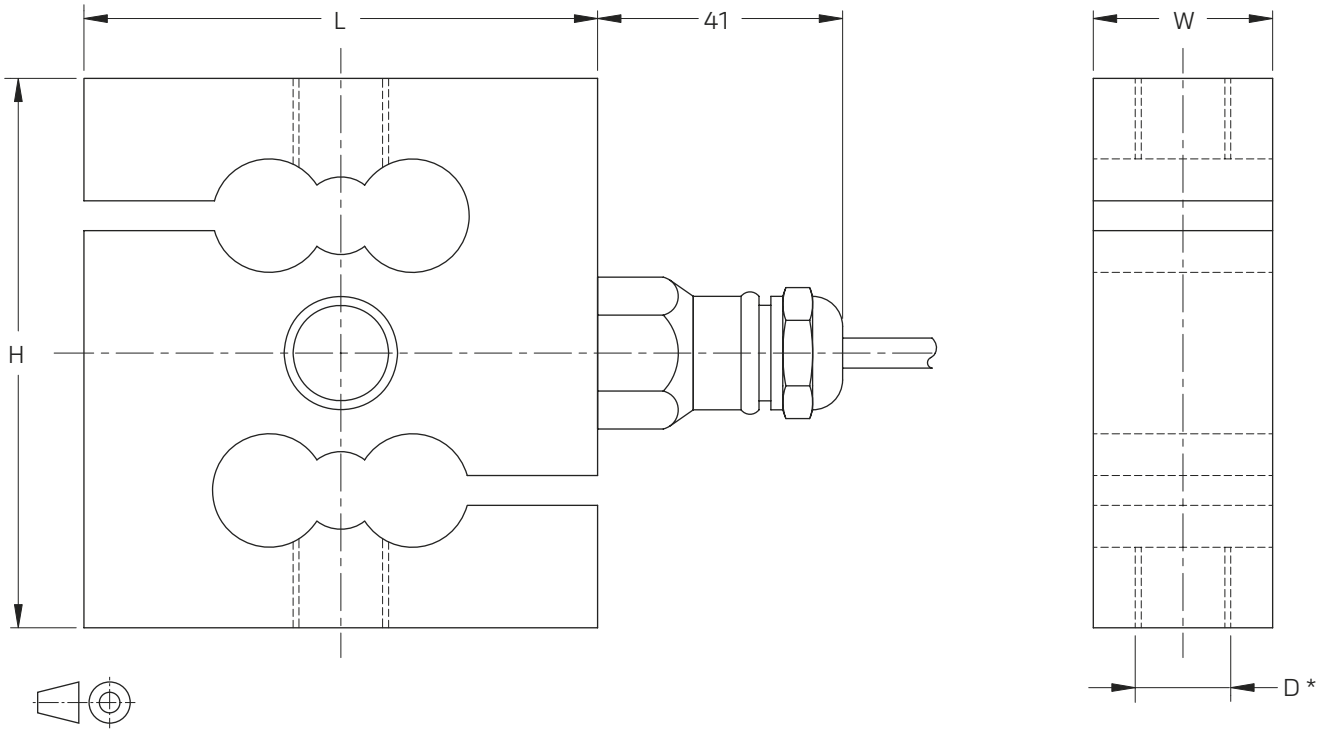
| | | | | | |
|---|---------------------|--|-----------------------|-------------------|-------------------|
| Maximum capacity (E_{max}) | kN | 10 / 20 / 50 / 100 | 10 / 20 / 50 | | 100 |
| Metric equivalents (1 N=0.10197 kg) | kg | 1,020 / 2,039 / 5,099 / 10,197 | 1,020 / 2,039 / 5,099 | | 10,197 |
| Minimum capacity (E_{min}) | $\%*E_{max}$ | 0 | | | |
| Accuracy class according to OIML R60 | | (GP) | C1 | C3 | G3* |
| Maximum number of verification intervals (n_{max}) | | n.a. | 1,000 | 3,000 | 3,000 |
| Minimum load cell verification interval (v_{min}) | | n.a. | $E_{max} / 5,700$ | $E_{max} / 5,700$ | $E_{max} / 5,700$ |
| Temperature effect on minimum dead load output (TC_0) | $\%*RO/10^{\circ}C$ | ± 0.0400 | ± 0.0280 | ± 0.0246 | ± 0.0246 |
| Temperature effect on sensitivity (TC_{RO}) | $\%*RO/10^{\circ}C$ | ± 0.0200 | ± 0.0160 | ± 0.0100 | ± 0.0100 |
| Combined error | $\%*RO$ | ± 0.0500 | ± 0.0300 | ± 0.0200 | ± 0.0200 |
| Non-linearity | $\%*RO$ | ± 0.0400 | ± 0.0300 | ± 0.0166 | ± 0.0166 |
| Hysteresis | $\%*RO$ | ± 0.0400 | ± 0.0300 | ± 0.0166 | ± 0.0166 |
| Creep error (30 minutes) / DR | $\%*RO$ | ± 0.0600 | ± 0.0490 | ± 0.0166 | ± 0.0166 |
| Rated Output (RO) | mV/V | $2 \pm 0.1\%$ | | | |
| Calibration in mV/V/ Ω (A...I classified) | % | $\pm 0.05 (\pm 0.005)$ | | | |
| Zero balance | $\%*RO$ | ± 5 | | | |
| Excitation voltage | V | 5...15 | | | |
| Input resistance (R_{LC}) | Ω | $1,100 \pm 50$ | | | |
| Output resistance (R_{out}) | Ω | $1,000 \pm 2$ | | | |
| Insulation resistance (100 V DC) | M Ω | $\geq 5,000$ | | | |
| Safe load limit (E_{lim}) | $\%*E_{max}$ | 200 | | | |
| Ultimate load | $\%*E_{max}$ | 300 | | | |
| Compensated temperature range | $^{\circ}C$ | -10...+40 | | | |
| Operating temperature range | $^{\circ}C$ | -40...+80 (ATEX -40...+60) | | | |
| Load cell material | | stainless steel 17-4 PH (1.4548) | | | |
| Sealing | | complete hermetic sealing; cable entry sealed by glass to metal header | | | |
| Protection according EN 60 529 | | IP68 (up to 2 m water depth) / IP69K | | | |
| Packet weight | kg | 1.8 (10kN, 20kN), 5.9 (50kN), 8.4 (100kN) | | | |

* corresponds to C3 quality, currently no OIML R60 Test Certificate available

The limits for Non-Linearity, Hysteresis, and TC_{RO} are typical values.

The sum of Non-linearity, Hysteresis and TC_{RO} meets the requirements according to OIML R60 with $p_{LC}=0.7$.

product dimensions (mm)



| Type | H | L | W | Thread D |
|-----------------------|-----|-----|----|----------|
| UB1-10 kN / UB1-20 kN | 92 | 86 | 30 | M16 |
| UB1-50 kN | 136 | 143 | 43 | M24 x 2 |
| UB1-100 kN | 120 | 120 | 60 | M24 x 3 |

* Unified thread 5/8-18 UNF (10...20 kN) and 1-12 UNF (50 kN) is available.

wiring

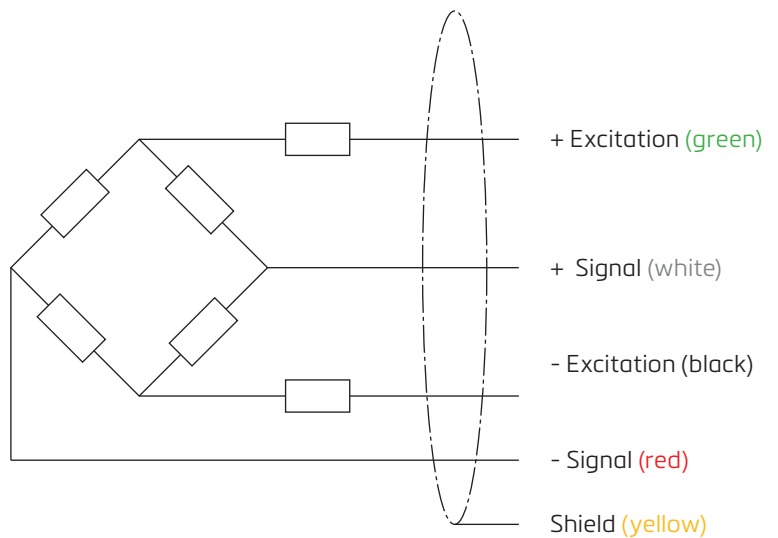
The load cell is provided with a shielded, 4 conductor cable (AWG 24).

Cable jacket: polyurethane

Cable length: 6 m

Cable diameter: 5 mm

The shield is floating
(On request the shield can be connected to the load cell body)



Specifications and dimensions are subject to change without notice.