

Product Description

Type UB1 is a stainless steel universal load cell which allows for tension and compression loading. Its complete hermetic sealing makes it suitable for use in harsh industrial environments.

Application

- Crane scales and hanging scales, force measurement in material testing machines, cranes, lifts and other general tension applications

Key Features

- Capacities from 10 kN to 50 kN (1 020 kg to 5 099 kg)
- Stainless steel construction
- Environmental Protection IP68 with complete hermetic sealing
- Bi-direction (tension and compression)
- High input resistance
- Calibration in mV/V/Ω

Approvals

- OIML approval to C1 and C3 (Y = 5 700)
- ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

Option

- Stainless steel cable gland

Packed Weight

Capacity (kN)	10	20	50
Weight (kg)	1.8	1.8	5.9

Available Accessories

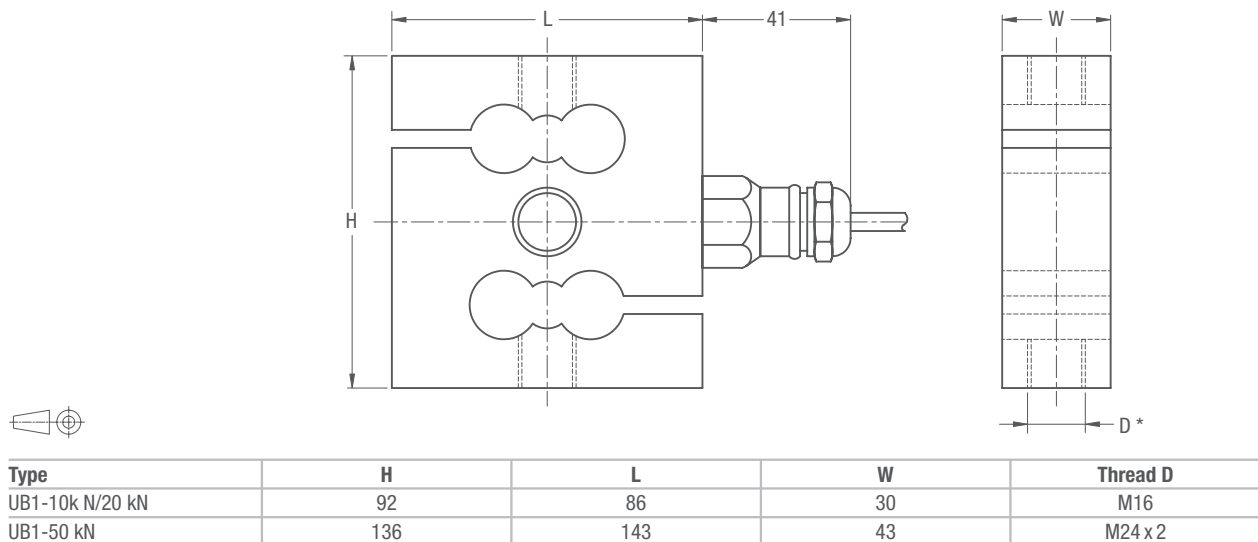
- Compatible range of application hardware
- Compatible range of electronics

UB1 Specifications

Maximum capacity	(E _{max})	kN	10 / 20 / 50		
Metric equivalents (1 N=0.10197 kg)		kg	1 020 / 2 039 / 5 099		
Accuracy class according to OIML R60			(GP)	C1	C3
Maximum number of verification intervals	(n _{max})		n.a.	1 000	3 000
Minimum load cell verification interval	(v _{min})		n.a.	E _{max} / 5 700	E _{max} / 5 700
Temperature effect on minimum dead load output	(TC ₀)	%*RO/10°C	≤ ± 0.0400	≤ ± 0.0280	≤ ± 0.0246
Temperature effect on sensitivity	(TC _{RO})	%*RO/10°C	≤ ± 0.0200	≤ ± 0.0160	≤ ± 0.0100
Combined error		%*RO	≤ ± 0.0500	≤ ± 0.0300	≤ ± 0.0200
Non-linearity		%*RO	≤ ± 0.0400	≤ ± 0.0300	≤ ± 0.0166
Hysteresis		%*RO	≤ ± 0.0400	≤ ± 0.0300	≤ ± 0.0166
Creep error (30 minutes) / DR		%*RO	≤ ± 0.0600	≤ ± 0.0490	≤ ± 0.0166
Rated Output	(RO)	mV/V	2 ± 0.1%		
Calibration in mV/V/Ω (A...I classified)		%	≤ ± 0.05 (≤ ± 0.005)		
Zero balance		%*RO	≤ ± 5		
Excitation voltage		V	5...15		
Input resistance	(R _{LC})	Ω	1 100 ± 50		
Output resistance	(R _{out})	Ω	1 000 ± 2		
Insulation resistance (100 V DC)		MΩ	≥ 5 000		
Safe load limit	(E _{lim})	%*E _{max}	200		
Ultimate load		%*E _{max}	300		
Compensated temperature range		°C	-10...+40		
Operating temperature range		°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 DIN 40.050			IP68		

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.

Dimensions (in mm)



* 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)

