

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 100 kN (1 020 kg to 10 197 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 C3 (Y = 5 700)
- NTEP approval to 5 000 intervals, Class III and 10 000 intervals, Class III L
- 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	100
Weight (kg)	1.8	1.8	5.9	8.4

Available Accessories

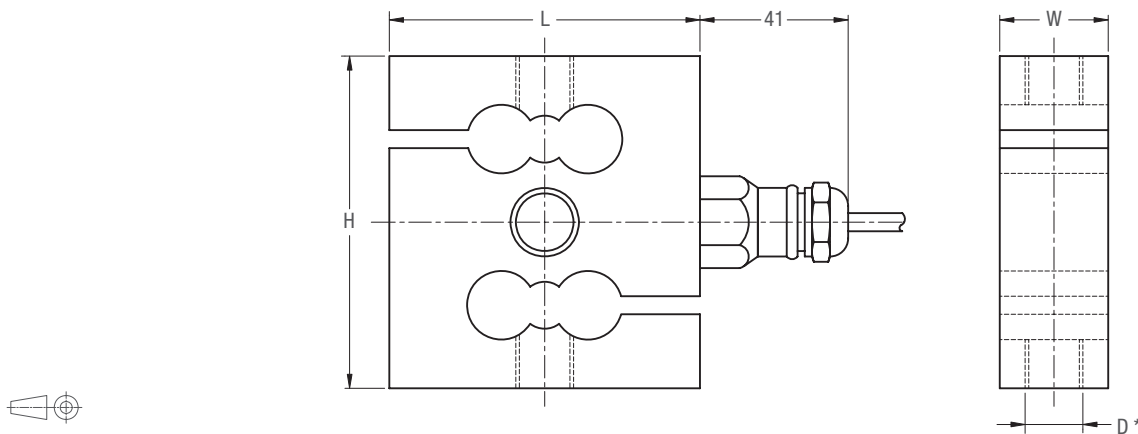
- Compatible range of application hardware
- Compatible range of electronics

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°C	± 0.0400	± 0.0280	± 0.0246	± 0.0246
Temperature effect on sensitivity	(TC _{RO})	%*RO/10°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 ± 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 EN 60 529			IP68 (up to 2 m water depth) / IP69K			

* 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.

Dimensions (in mm)

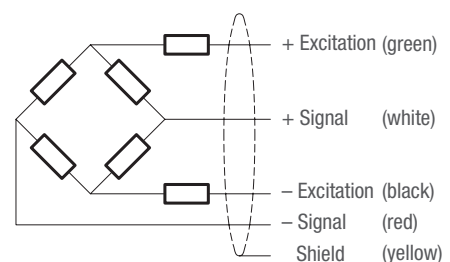


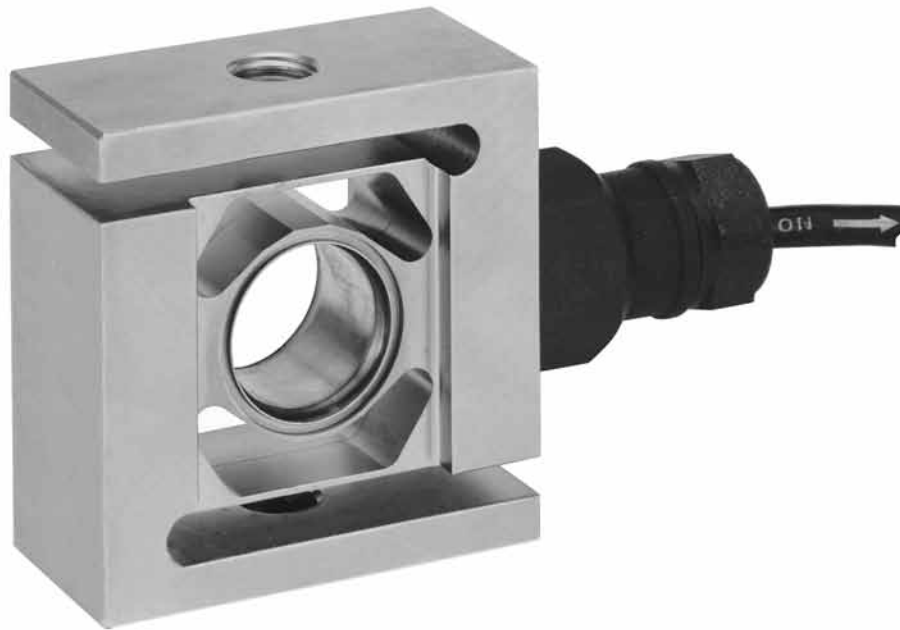
Type	H	L	W	Thread D
UB1-10 kN / UB1-20 kN	92	86	30	M16
UB1-50 kN	136	143	43	M24 x 2
UB1-100 kN	120	120	60	M24 x 3

* 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)





Product Description

Type UB6 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 1 kN to 5 kN (102 kg to 510 kg)
- Stainless steel construction
- Environmental Protection IP68 with complete hermetic sealing
- High input resistance
- Calibration in mV/V/Ω

Approvals

- OIML approval to C3 (Y = 10 200)
- NTEP approval to 5 000 intervals, Class III and 10 000 intervals, Class III L
- ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

Options

- Y = 20 400 for C3
- Stainless steel cable gland

Packed Weight

■ Capacity (kN)	1	2	5
Weight (kg)	1.0	1.0	1.1

Available Accessories

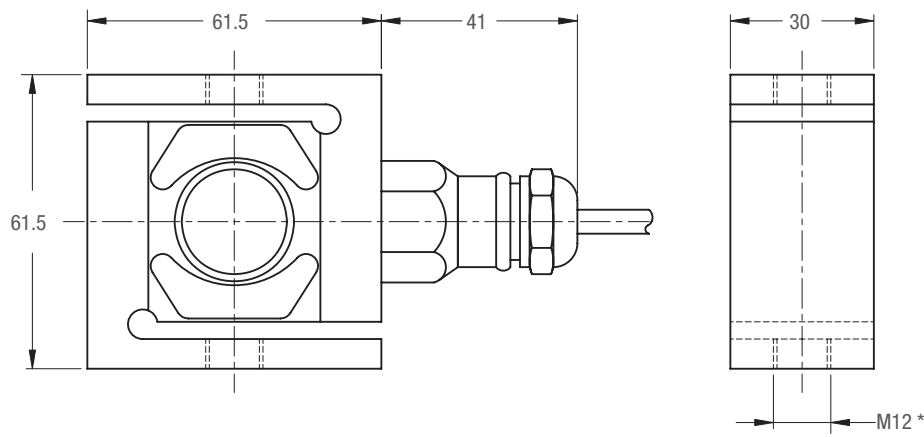
- Compatible range of application hardware
- Compatible range of electronics

Specifications

Maximum capacity	(E _{max})	kN	1 / 2 / 5	
Metric equivalents (1 N=0.10197 kg)		kg	102 / 204 / 510	
Minimum capacity	(E _{min})	%*E _{max}	0	
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} /5 100	E _{max} /10 200
Temperature effect on minimum dead load output	(TC ₀)	%*RO/10°C	± 0.0400	± 0.0137
Temperature effect on sensitivity	(TC _{RO})	%*RO/10°C	± 0.0200	± 0.0100
Combined error		%*RO	± 0.0500	± 0.0200
Non-linearity		%*RO	± 0.0400	± 0.0166
Hysteresis		%*RO	± 0.0400	± 0.0166
Creep error (30 minutes) / DR		%*RO	± 0.0600	± 0.0166
Option	Min. load cell verification interval (v _{min opt})		n.a.	E _{max} /20 400
	Temp. effect on min. dead load output (TC _{0 opt})	%*RO/10°C	n.a.	± 0.0069
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 EN 60 529			IP68 (up to 2 m water depth) / IP69K	

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.

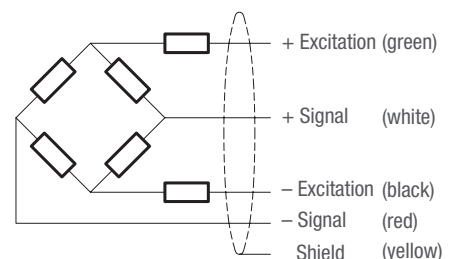
Dimensions (in mm)



* Unified thread 1/2-20 UNF 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)





Product Description

Type ULB is a stainless steel universal load cell which allows for tension and compression loading. Its improved potting makes it suitable for use in industrial environments.

Application

- Crane scales and hanging scales, small hopper and tank weighing systems, hybrid systems with lever work, belt weighers and other load carriers with multiple load cells

Key Features

- Wide range of capacities from 100 kg to 5 000 kg
- Stainless steel construction
- Environmental Protection IP67
- Bi-direction (tension and compression)
- High input resistance
- Calibration in mV/V/Ω

Approvals

- OIML approval to C3 (Y = 12 000) (for tension load only)
- NTEP approval to 5 000 intervals, Class III and 10 000 intervals, Class III L
- ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

Packed Weight

■ Capacity (kg)	100	200	500	1 000
Weight (kg)	1.0	1.0	1.1	1.1
■ Capacity (kg)	2 000	3 000	5 000	
Weight (kg)	1.85	2.62	5.22	

Available Accessories

- Compatible range of application hardware
- Compatible range of electronics

Specifications

Maximum capacity	(E _{max})	kg	100 / 200 / 500 / 1 000 / 2 000 / 3 000 / 5 000	100 / 200	500 / 1 000 / 2 000 / 3 000 / 5 000
Minimum dead load	(E _{min})	%*E _{max}		0	
Accuracy class according to OIML R60			(GP)	G3**	C3*
Maximum number of verification intervals	(n _{max})		n.a.		3 000
Minimum load cell verification interval	(v _{min})		n.a.		E _{max} /12 000
Temperature effect on minimum dead load output	(TC ₀)	%*RO/10°C	± 0.0400		± 0.0116
Temperature effect on sensitivity	(TC _{RO})	%*RO/10°C	± 0.0200		± 0.0100
Combined error		%*RO	± 0.0500		± 0.0200
Non-linearity		%*RO	± 0.0400		± 0.0166
Hysteresis		%*RO	± 0.0400		± 0.0166
Creep error (30 minutes) / DR		%*RO	± 0.0600		± 0.0166
Rated Output	(RO)	mV/V		2 ± 0.1%	
Calibration in mV/V/W (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		-20...+65 (ATEX -20...+60)	
Load cell material				stainless steel 17-4 PH (1.4548)	
Sealing				potted	
Protection according EN 60 529				IP67	

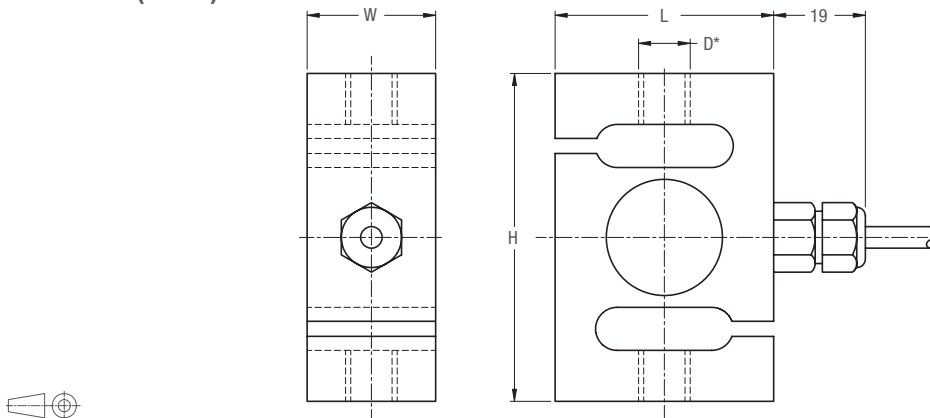
* Accuracy class is only valid for tension load.

** corresponds to C3 quality, test certificate not 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.

Dimensions (in mm)



Type	H	L	W	Metric thread D-M	Unified thread D-U	Unified thread D-H
ULB-100 kg...500 kg	76.2	49	30	M12	1/2-20	5/8-18
ULB-1000 kg				M16		
ULB-2000 kg	86.1	76.2	40	M20 x 1.5	5/8-18	
ULB-3000 kg	88.7	88.7			3/4-16	
ULB-5000 kg	146	91.2			56.4	

* 3 versions available: ULB-xxxx kg-M (with metric thread), ULB-xxxx kg-U (with unified thread) or ULB-xxxx kg-H (with special thread)

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)

