

## 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 C1 (Y = 6 000) and C3 (Y = 12 000), in preparation
- 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

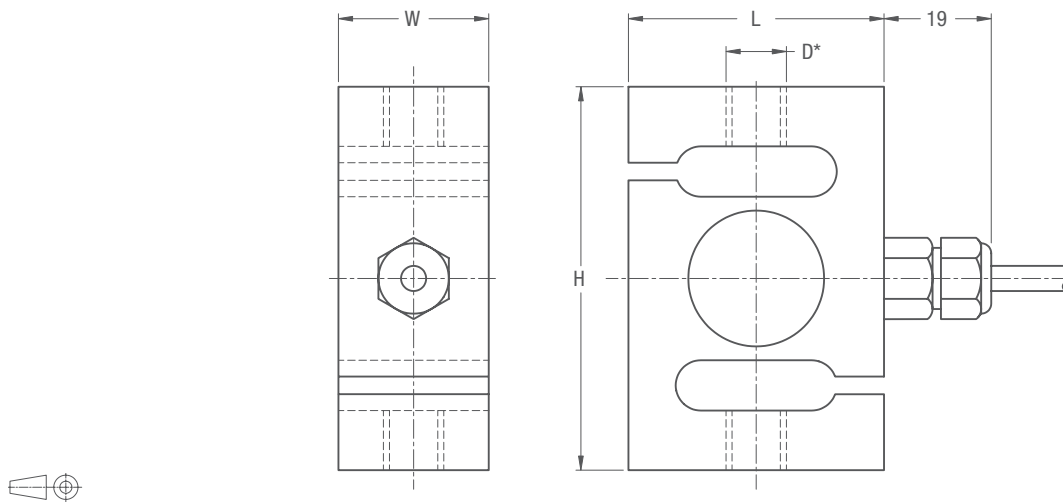
### ULB Specifications

	(E <sub>max</sub> )	kg	100 / 200 / 500 / 1 000 / 2 000 / 3 000 / 5 000		
			(GP)	C1	C3
Accuracy class according to OIML R60					
Maximum number of verification intervals	(n <sub>max</sub> )		n.a.	1 000	3 000
Minimum load cell verification interval	(V <sub>min</sub> )		n.a.	E <sub>max</sub> / 6 000	E <sub>max</sub> / 12 000
Temperature effect on minimum dead load output	(TC <sub>0</sub> )	%*RO/10°C	≤ ± 0.0400	≤ ± 0.02338	≤ ± 0.0117
Temperature effect on sensitivity	(TC <sub>RO</sub> )	%*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/W (A...I classified)		%	≤ ± 0.05 (≤ ± 0.005)		
Zero balance		%*RO	± 5		
Excitation voltage		V	5...15		
Input resistance	(R <sub>LC</sub> )	Ω	1 100 ± 50		
Output resistance	(R <sub>out</sub> )	Ω	1 000 ± 2		
Insulation resistance (100 V DC)		MΩ	≥ 5 000		
Safe load limit	(E <sub>lim</sub> )	%*E <sub>max</sub>	200		
Ultimate load		%*E <sub>max</sub>	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 DIN 40.050			IP67		

The limits for Non-Linearity, Hysteresis, and TC<sub>RO</sub> are typical values.

The sum of Non-linearity, Hysteresis and TC<sub>RO</sub> meets the requirements according to OIML R60 with p<sub>LC</sub>=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 x 1.75	1/2-20	
ULB-1000 kg	76.2	49	30	M16 x 2	1/2-20	5/8-18
ULB-2000 kg	86.1	76.2	30	M16 x 2	5/8-18	
ULB-3000 kg	88.7	88.7	40	M20 x 1.5	3/4-16	
ULB-5000 kg	146	91.2	56.4	M24 x 2	1-12	

\* Versions with unified thread available: -U / -H.

### 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)

