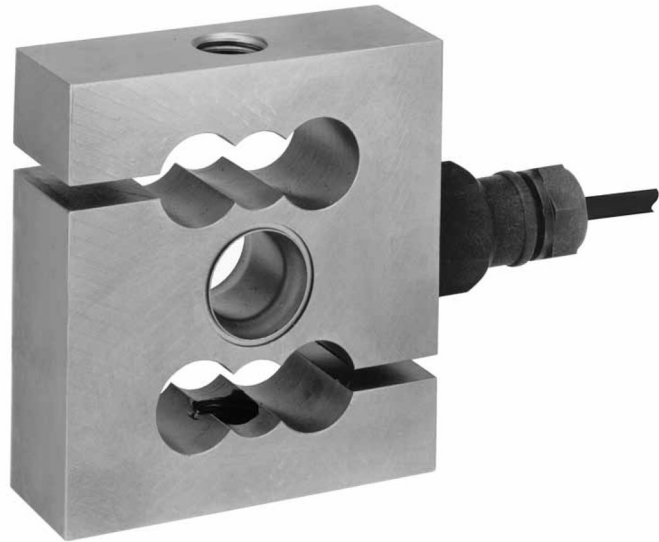




# PENKO Engineering BV

The Leading Experts In Weighing & Dosing

10kN-100kN  
1020Kg-10197Kg **UB1**



## 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

## 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)

## 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

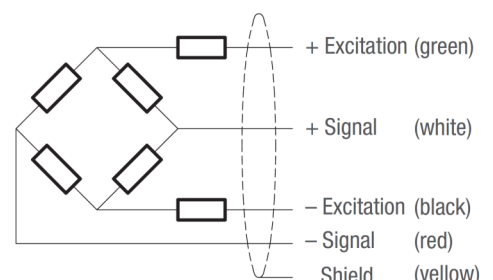
- Stainless steel cable gland

## 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



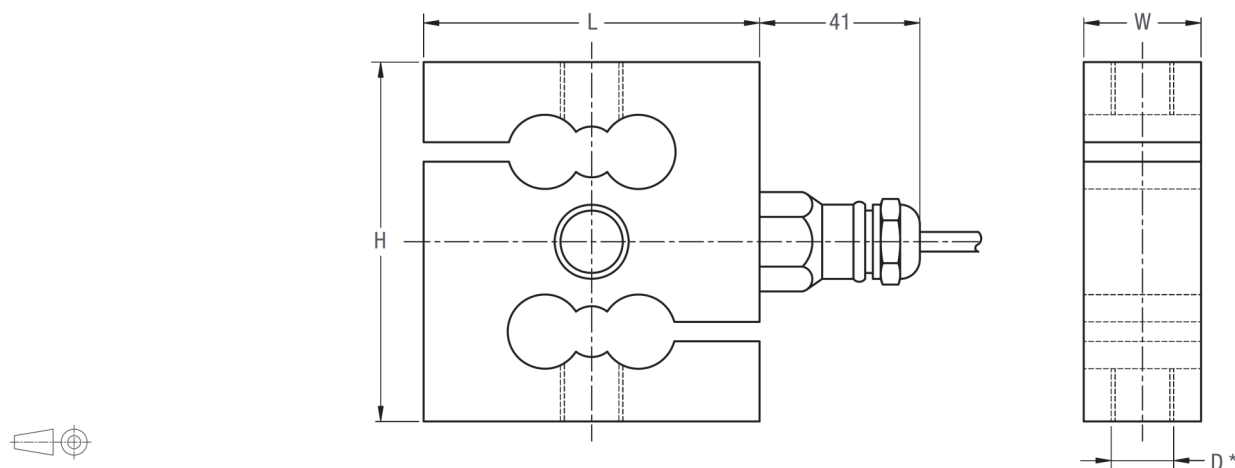
Specifications						
Maximum capacity	(E <sub>max</sub> )	kN	10 / 20 / 50 / 100	10 / 20 / 50	100	
Metric equivalents (1 N=0.10197 kg)		kg	1 020 / 2 039 / 5 099 / 10 197	1 020 / 2039 / 5099	10 197	
Minimum capacity	(E <sub>min</sub> )	%*E <sub>max</sub>	0			
Accuracy class according to OIML R60			(GP)	C1	C3	G3*
Maximum number of verification intervals	(n <sub>max</sub> )		n.a.	1 000	3 000	3 000
Minimum load cell verification interval	(v <sub>min</sub> )		n.a.	E <sub>max</sub> /5 700	E <sub>max</sub> /5 700	E <sub>max</sub> /5 700
Temperature effect on minimum dead load output	(TC <sub>0</sub> )	%*RO/10°C	± 0.0400	± 0.0280	± 0.0246	± 0.0246
Temperature effect on sensitivity	(TC <sub>RO</sub> )	%*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 <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	-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<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	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.

