

Ring-Torsion Load Cells RTB



- PTB & OIML approved as suitable for trade use (up to 6000 d and 7500 d in case of multi-divisional scales)
- High accuracy, even for very small utilisation ranges (down to 15% in case of trade use according to OIML)
- Low power consumption thanks to high impedance resistance of 1100Ω.
- Protection to EEx ib IIC T 6 for use in explosion hazardous areas
- Protection class IP 68

Application

Acting as a transducer, the load cell converts the mechanical input signal, the load, proportionally into the electrical output voltage.

The special design of the ring-torsion load cells offers particular benefits for the user:

- The extremely low headroom simplifies the use in almost all weighing applications.
- The sturdy design enables easy transport, installation, and operation, even under harsh environmental conditions (interfering forces, or extreme temperatures)

Construction

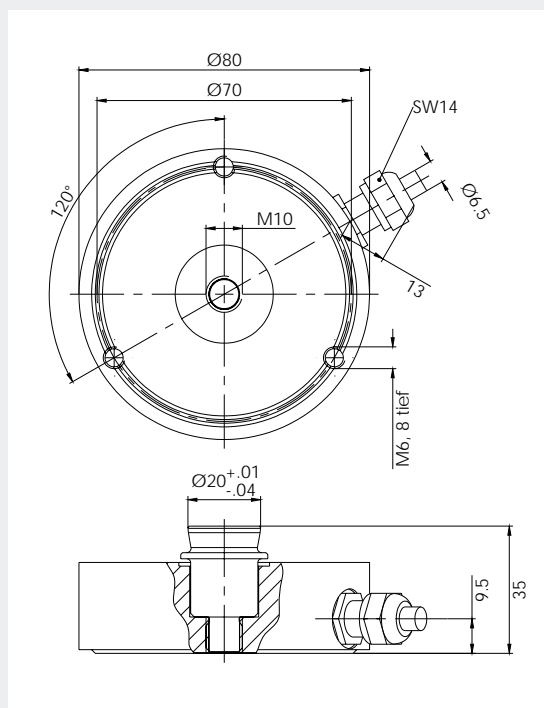
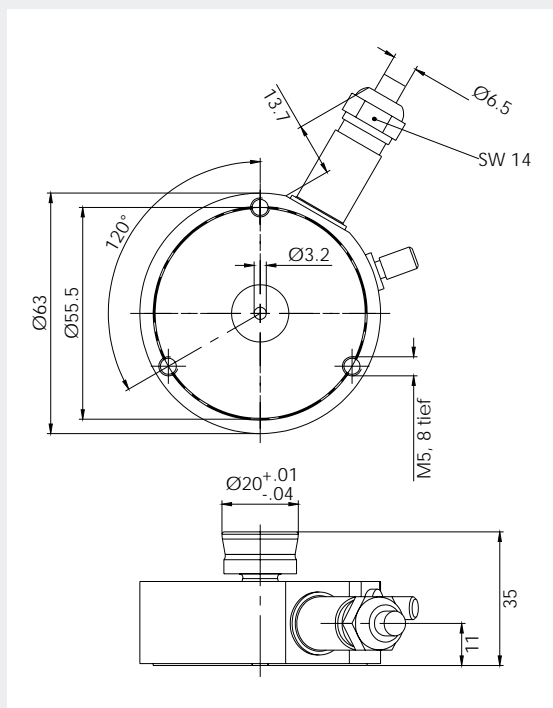
- Hermetically sealed due to laser welding and glass-metal transition (IP68)
- Corrosion protection due to the use of stainless steel
- All electrical components are inside the load cell and are thus optimally protected
- The high-quality, sturdy connection cable is lead radially into the load cell
- Mechanically compatible with the RTK series

Functions

- High repeatability
- High long-term stability and, thus, continuing and consistently high accuracy
- Minimal effect on accuracy by side forces
- High reliability and availability, even in case of unavoidable shock loads, constraining forces or electrical interferences
- Moment-free load input/output due to direct, vertical force flow

RTB 0,13t

RTB 0,25t / 0,5t



Order No.

Variants	Accuracy class		
	C3	C3MI7,5	C6
0.13t	V041085.B01	---	---
0.25t	V041086.B01	---	---
0.50t	V041087.B01	V041087.B03	V041087.B06
0.25t MR	V041086.B07	---	---
0.50t MR	V041087.B07	---	please enquire
Order No. Version ATEX II 2G; EEx ib IIC T6 / II 2D T70°C			
0.13t	V041085.B11	---	---
0.25t	V041086.B11	---	---
0.50t	V041087.B11	---	please enquire

Other Variants
mounts please enquire

Accessories:
Elastomer mount, Compact

Technical Data

Rated capacity	E_{max}	0,13t	0,25t	0,5t			
Accurate class		C3	C3	C3	C3MI7.5	C6	Bezug
Sensitivity	C_n	1mV/V \pm 0.1%	1.75mV/V \pm 0.1%	2mV/V \pm 0.1%			
Combined error	F_{comb}	\pm 0.018%	\pm 0.023%		\pm 0.0115%	C_n	
Minimum dead load output return	F_{dr}	\pm 0.0167%	\pm 0.0167%	\pm 0.0066%	\pm 0.0083%	C_n	
Creep (30 m)	F_{cr}	\pm 0.012%	\pm 0.0245%		\pm 0.0123%	C_n, B_{tn}	
Hysteresis		\pm 0.017%	\pm 0.0167%		\pm 0.0083%	C_n, B_{tn}	
Temperature effect on zero sensitivity per 10K	TK_0	\pm 0.008% ---	\pm 0.014% \pm 0.007%	\pm 0.014% ---	\pm 0.009% \pm 0.005%	C_n, B_{tn} Option MR	
Temperature effect on sensitivity per 10K	TK_c	\pm 0.008%	\pm 0.01%		\pm 0.005%	C_n, B_{tn}	
Maximum number of load cell intervals	n_{LC}	3000	3000		6000		
For multi-divisional scales:	Z			7500			
Minimum load cell verification interval	V_{min}	$E_{max}/17500$ ----	$E_{max}/10000$ $E_{max}/20000$	$E_{max}/10000$ ---	$E_{max}/15000$ $E_{max}/28000$	Standard Option MR	
Min. utilisation range	B_{amin}	17% ---	30% 15%	30% --	40% 21%	E_{max} Option MR	
Max. utilisation range	B_{amax}	100%				E_{max}	
Load limit *	L_l	150%				E_{max}	
Max. transverse load	L_q	100%				E_{max}	
Input resistance	R_e	1260 \pm 100 Ω	1100 \pm 50 Ω	1110 \pm 50 Ω			
Output resistance	R_a	1020 \pm 0.5 Ω	1025 \pm 50 Ω	1025 \pm 25 Ω			
Zero signal	S_0	1%	1.5%	1%		C_n	
Supply voltage	U_s	max. 30V (recommended): 5 – 15V					
Nominal temperature range	B_{tn}	-10°C - +40°C					
Service temperature range	B_{tu}	-30°C - +85°C	-30°C - +75°C				
Storage temperature range		-50°C - +95°C	-50°C - +80°C				
Protection class		IP66 / IP68					
Cable specification		length of cable 5m, Screen insulated from housing (0.13t), or connected to housing (0.25 – 0.50t)					
Colour code		input+ (82): pink / input- (81): grey output+ (28): brown / output- (27): white					
Material		Stainless steel					
Corrosion protection		see table of Chemical resistance DDP8 483					
Recommended torque for attachment bolts		8 Nm	12 – 14 Nm				
ATEX-approval		II 2G; EEx ib IIC T6 / II 2D T70°C					

*: Permitted vibration stress to DIN 50100: 70% E_{max} . Peak value of stress must not exceed E_{max} .



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