

VDW Self-Centering Pressure Load Cell



- Legal for Trade Use Pressure Load Cell, Optimized for Use in Vehicle Scales
- Self-Straightening Function
- Simple Installation and Orientation thanks to Matching Accessories
- Comparison of Characteristic Value and Output Impedance Simplifies Corner-Load Comparison in Multiple-Cell Scales
- Excellent Protection Against Electromagnetic Influences thanks to an Optimized Screening Concept
- Integrated Over-Voltage Protection
- Laser-Welded, Protection Class IP 68 1m/100hr; IP69K

Application

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

The VDW has been consistently optimized for use in vehicle scales. :

- The design of the cell as a self-straightening stabilizer link keeps transverse forces away from it, even if the bridge is displaced horizontally to a large degree.
- The design allows for a rapid and cost-effective assembly of the cell with no expensive mounting parts.
- Matching accessories and fitting aids simplify installation.

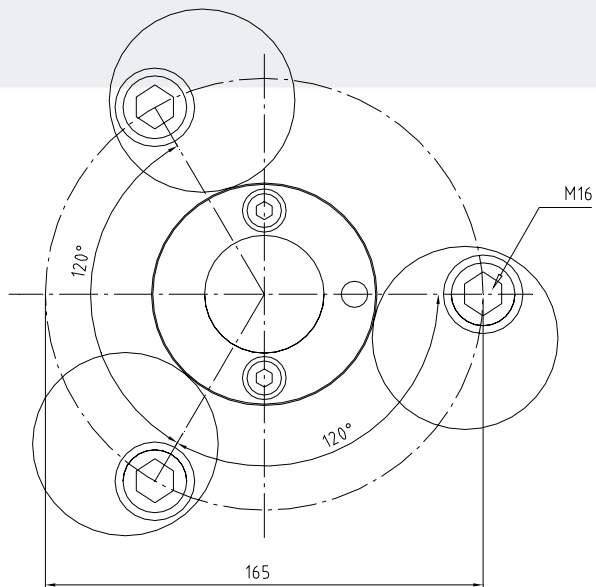
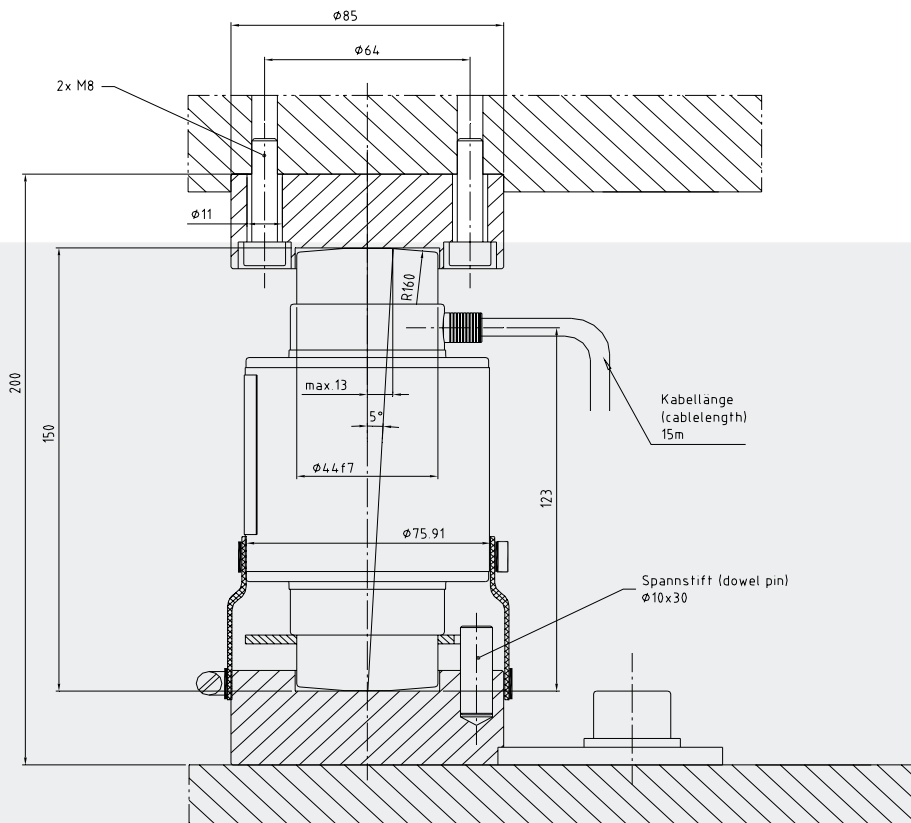
Construction

- Hermetically sealed thanks to the laser-welding (IP68)
- High corrosion protection thanks to the use of rustproof materials - incl. high-grade steel cable screw connections
- Built-in over-voltage protection
- All electrical components are located in the interior of the load cell and are thus optimally protected.
- Laser-welded, protection class IP 68 1m immersion depth /100hr, or IP69K (steam jet cleaning)

Function

- High measuring sensitivity
- High reproducibility
- High long term stability and thus continuously high accuracy over time.
- Characteristic value and output impedance of the VDW are compared to each other such that the corner-load comparison for a multiple-cell scales generally becomes redundant
- The optimized screening concept (no conductible connection from cable screen to load cell body) gives excellent protection against electromagnetic influences..

Dimensions:



Technical Data

Rated Capacity	E_{max}	33t / 44t	Reference
Accuracy Class:		C3	
Nominal Characteristic Value	C_n	2.2 mV/V \pm 0.5% *)	
Combined Errors	F_{comb}	0.02 %	C_n
Zero-Signal Return After Loading (30m)	F_{dr}	\pm 0.12 %	C_n
Creeping Under Load (30 min)	F_{cr}	\pm 0.017 %	C_n
Temperature Coefficient of the Zero Signal per 10 K	TK_0	\pm 0.014 % \pm 0.04 %	C_n, B_{tn} C_n, B_{tu}
Temperature Coefficient of the Characteristic Value per 10 K	TK_c	\pm 0.008 % \pm 0.025 %	C_n, B_{tn} C_n, B_{tu}
Max. Permissible Number of Legal for Trade Scale Intervals	n_{LC}	3000	
Smallest Scale Interval	V_{min}	$E_{max}/10000$	
Max. Application Area	B_{amax}	$B_{amax} = E_{max}$	
Input Resistance	R_e	700 Ω \pm 3%	T_r
Output Resistance	R_a	706 Ω \pm 0.5% *)	T_r
Zero Signal	S_0	\pm 1%	C_n
Max. Supply Voltage	U_{smax}	12V +10%	
Nominal Temperature Range	B_{tn}	-10°C to +40°C	
Operating Temperature Range	B_{tu}	-30°C to +70°C	
Storage Temperature Range	B_{ts}	-50°C to +85°C	
Permissible Angle Error	α	5°	
Permissible Horizontal Displacement	S_{max}	13mm	
Restoring Force	F_r	0.76% / 0.94% per mm displacement	E
Nominal Measuring Displacement		0.8mm / 0.9mm	E_{max}
Limit Load	E_l	45t / 60t	
Breaking Load	L_d	100t / 125t	
Vibrational Loading (as per DIN 50100)		70% E_{max} . Peak load may not exceed the load E_{max}	
Protection Class		IP 68 (1m; 100hr); IP 69K	
Cable Specification		TPE (grey) \varnothing 6,5 mm, silicone- and halogen-free, -30°C to +150°C; length 15m	
Connection Assignment		black: input + / blue: input - grey: sense + / green: sense - red: output + / white: output -	
Material		Stainless steel	
Weight		2.3 kg	

*) Characteristic value and output impedance of the VDW are compared to each other such that the corner-load comparison for a multiple-cell scales generally becomes redundant - assuming that the mechanics of the scales can guarantee a clean, reproducible load distribution across the sensors.

Order Numbers

Design	
VDW 33t, C3	V07xxxx.B01