Lorenz® messtechnik gmbh

Radial Force Sensor K-2148 with Nominal Force from 0.5 to 6.5 kN

Data sheet

Performance Features

- Radial force sensor for web tension measurement
- Simple handling and assembly
- Easy to change idler pulley
- With integrated bearing fit
- Reliable and durable
- Long-term stability
- Level of protection IP63
- Special versions on request

Application

- Mechanical engineering
- Production and processing plants
- Measuring and control devices
- Winding technique
- Packaging engineering
- Special mechanical engineering

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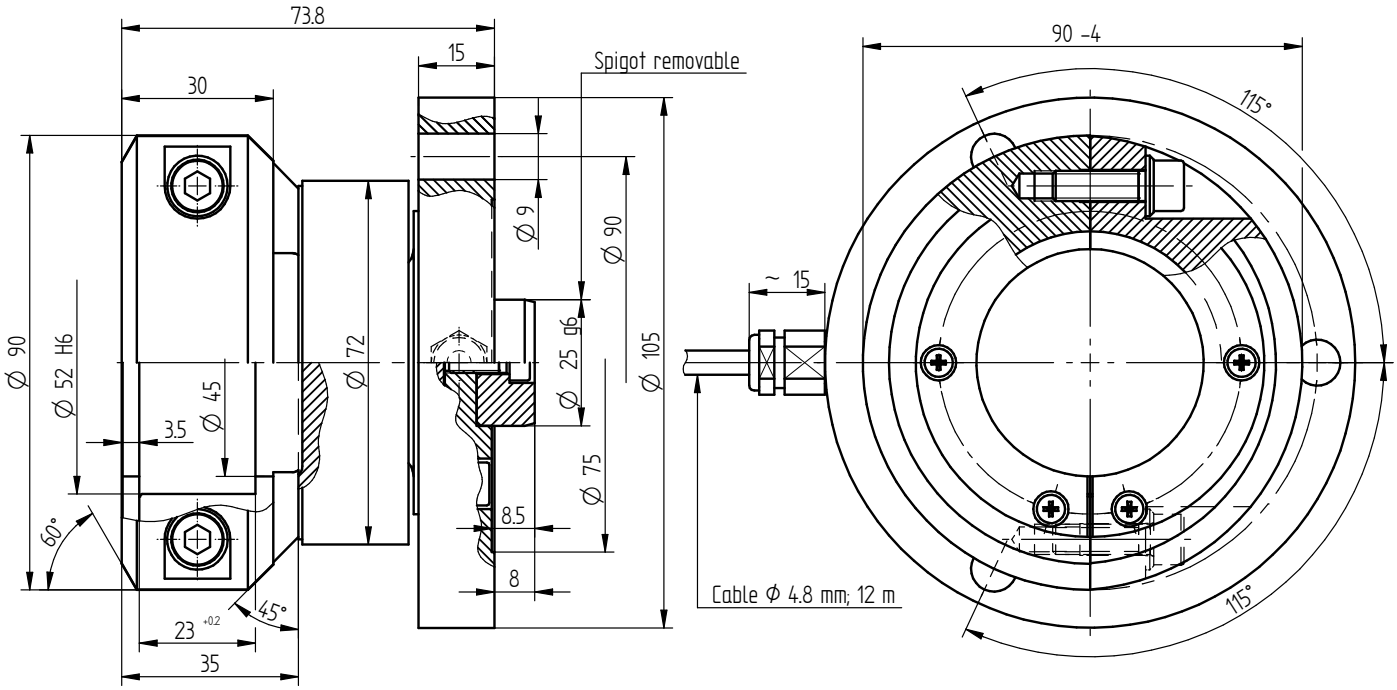
Dimensions in mm



Article-No.	Nominal Force [kN]	Weight [kg]
117080	0.5	2.7
102001	1	
102225	2	
110641	3	
106973	6.5	

Connection Assignment

Electrical connection		
Excitation (-)	Green	
Excitation (+)	Brown	
Signal (+)	Yellow	
Signal (-)	White	
Control signal (option)	Gray	
Shield	Shield	

Technical Data acc. to VDI/VDE/DKD 2638

Radial Force Sensor K-2148						
Nominal force F_{nom}	kN	0.5	1	2	3	6.5
Accuracy class	% F_{nom}	0.5				
Rel. repeatability error in unchanged mounting position b_{rg}	% F_{nom}	0.2				
Relative creep	% F_{nom}/30 min	<±0.15				
Rated characteristic value C_{nom}	mV/V	0.25 ±0.5 %	0.50 ±0.5 %	1.00 ±0.5 %	1.50 ±0.5 %	1.00 ±0.5 %
Input/output resistance R_e/R_a	Ω	350				
Insulation resistance R_{is}	Ω	>2*10^9				
Rated range of excitation voltage $B_{U, nom}$	V	2 ... 12				
Electrical connection		Cable, PVC, 12 m with free strands				
Reference temperature T_{ref}	°C	23				
Rated temperature range $B_{T, nom}$	°C	-10 ... 70				
Operating temperature range $B_{T, G}$	°C	-30 ... 80				
Storage temperature range $B_{T, S}$	°C	-50 ... 95				
Temperature effect on zero signal TK_0	% F_{nom}/10 K	±0.05				
Temperature effect on characteristic value TK_C	% F_{nom}/10 K	±0.15				
Maximum operating force F_G	% F_{nom}	130				
Force limit F_L	% F_{nom}	500	250	150	120	150
Breaking force F_B	% F_{nom}	>1000	>500	>300	>200	>300
Permissible oscillation stress F_{rb}	% F_{nom}	70				
Lateral forces resistance	% F_{nom}	60				
Rated displacement S_{nom}	mm	<0.2				
Material		Stainless steel				
Level of protection		IP63				

Options

Article-No.	Description	
106154	Control signal	50 % F_{nom}
100739	Control signal	80 % F_{nom}
100218	Control signal	100 % F_{nom}
103954	Calibration in kg or t	
107592	6-wire connection	

Calibrations

Article-No.	Description	
400628	Linearity diagram in accordance to factory standard	25 % steps
400170	Linearity diagram in accordance to factory standard	10 % steps
400960	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	3 steps
400652	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	5 steps
400640	Proprietary calibration acc. to DIN EN ISO 376 and DAkkS-DKD-R 3-3	8 steps
	DAkkS-Calibration/Standard on request	

Accessories

Cable and input connector

Article-No.	Description
10323	Cable connector KS6 (6-pin series 581) incl. sensor mounting
10320	Cable connector KSSH15 (15-pin) incl. sensor mounting
43418	Input connector ZA9612FS (ALMEMO) incl. sensor mounting and connector calibration
49205	Input connector ZKD712FS (ALMEMO 202) incl. sensor mounting and connector calibration

Amplifiers

Examples of suitable amplifiers for the radial force sensor K-2148:

LCV	SI-USB	GM 40	GM 80	GM 80-PA
				

Further suitable amplifiers you can find on our homepage under www.lorenz-messtechnik.de.