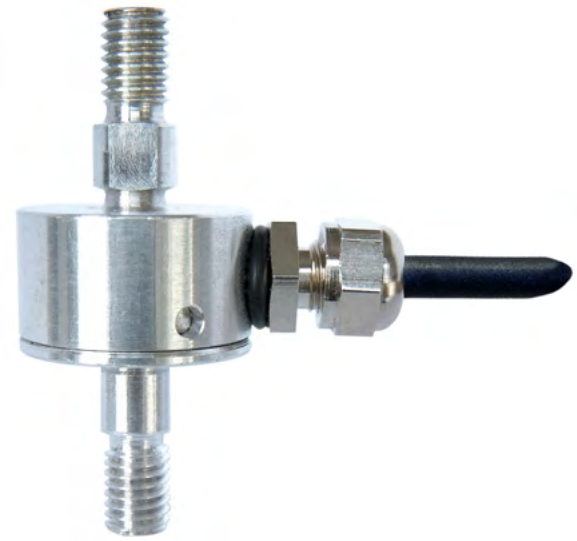
Lorenz® messtechnik gmbh

Miniature Tension Force Sensor K-1107 with Nominal Force from 10 ... 200 N

Data sheet



Performance Features

- Miniature sensor for tension force
- Simple handling and assembly
- Reliable and durable
- Long-term stability
- Level of protection IP63
- Special versions on request

Application

- Equipment engineering
- Fully automated machining centres
- Measuring and control devices
- Rope force measurement
- Tool engineering
- Special mechanical engineering

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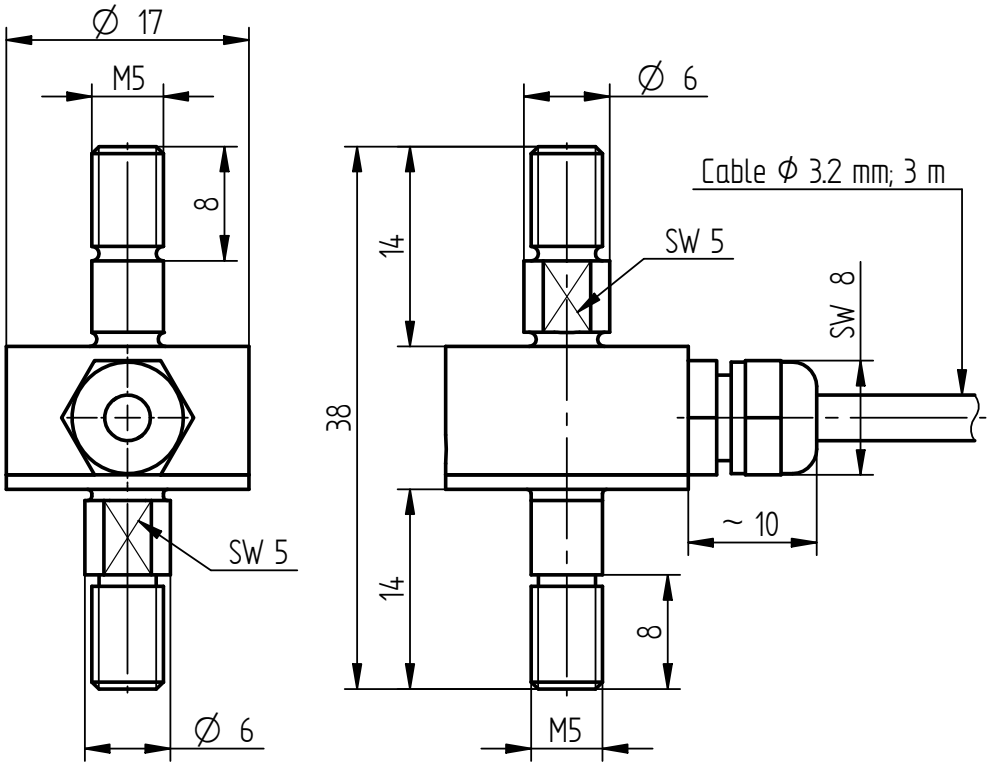
Dimensions of K-1107 in mm



Article-No.	Nominal Force [N]	Weight [kg]
104894	10	0.2
104108	20	
101534	50	
105488	100	
102554	200	

Pin Connection

Electrical connection		
Excitation (-)	green	
Excitation (+)	brown	
Signal (+)	yellow	
Signal (-)	white	
Control signal (option)	grey	
Shield	shield	

Technical Data acc. to VDI/VDE/DKD 2638

Miniature Tension Force Sensor K-1107						
Nominal force F_{nom}	N	10	20	50	100	200
Accuracy class	% F_{nom}	0.2				
Rel. repeatability error in unchanged mounting position b_{rg}	% F_{nom}	0.1				
Relative creep	% F_{nom}/30 min	<±0.1				
Rated characteristic value C_{nom}	mV/V	0.50 ±15%				
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 ... 6				
Electrical connection		Cable, PURS, 3 m with free strands				
Reference temperature T_{ref}	°C	23				
Rated temperature range $B_{T, nom}$	°C	0 ... 60		-10 ... 70		
Operating temperature range $B_{T, G}$	°C	-10 ... 70		-30 ... 80		
Storage temperature range $B_{T, S}$	°C	-30 ... 95		-50 ... 95		
Temperature effect on zero signal TK_0	% F_{nom}/10 K	±0.2				
Temperature effect on characteristic value TK_C	% F_{nom}/10 K	±0.2				
Maximum operating force F_G	% F_{nom}	130				
Force limit F_L	% F_{nom}	150				
Breaking force F_B	% F_{nom}	>200				
Permissible oscillation stress F_{rb}	% F_{nom}	70				
Rated displacement S_{nom}	mm	<0.1				
Material		Aluminum		Stainless steel		
Level of protection		IP63				

Options

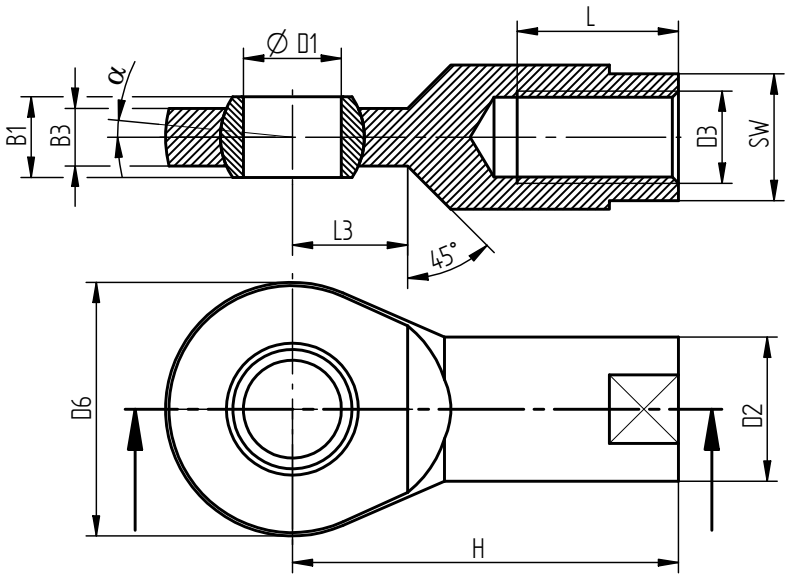
Article-No.	Description	
100218	Control signal	100 % F_{nom}
100896	Nominal sensitivity adjustment	
42828	Extended temperature range	-30 °C … 100 °C
103954	Calibration in kg or t	
107592	6-wire connection	

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

Dimensions of Joint Eye Type EF in mm



Article-No.	Type - EF	Dimensions [mm]											Weight [kg]	Load rating stat. C_0 [N]
		B1	B3	ØD1	D2	D3	D6	H	L	L3	α	SW		
43805	EF 5	8	6	5	11	M5	18	27	10	10	6.5°	9	0.02	11900

Tolerances for Type EF

ØD1		ΔD1		ΔB1		ΔH	
>	≤	Tolerance		Tolerance		Tolerance	
-	5	+0.012	0	0	-0.12	+1.2	-1.2

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 miniature tension force sensor K-1107:

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

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