

Beam Force Sensor K-1509 with Nominal Force from 2 ... 20 N



Data sheet

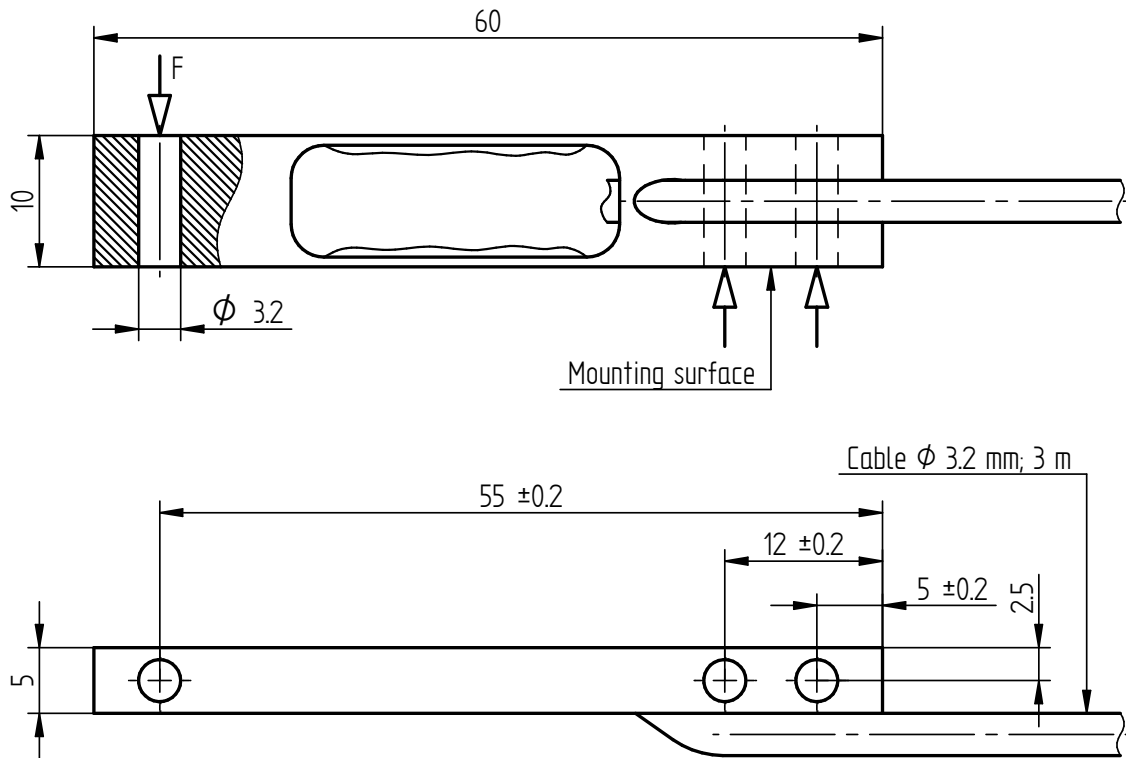
Performance Features

- Force sensor for tension and compression force measurement
- Simple handling and assembly
- Reliable and durable
- Long-term stability
- Special versions on request

Application

- Equipment engineering
- Fully automated machining centres
- Measuring and control devices
- Materials testing machines
- Special mechanical engineering

Dimensions of K-1509 in mm



Article-No.	Nominal Force [N]	Weight [kg]
100535	2	0.2
100536	3	
100537	4	
100538	5	
100539	10	
100540	20	

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

Beam Force Sensor K-1509

Nominal force F_{nom}	N	2	3	4	5	10	20
Accuracy class	% F_{nom}	0.2					
Rel. repeatability error in unchanged mounting position b_{rg}	% F_{nom}	0.1					
Relative creep	% $F_{nom}/30 \text{ min}$	<±0.1					
Rated characteristic value C_{nom}	mV/V	1.00 ±20%					
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					
Operating temperature range $B_{T, G}$	°C	-10 ... 70					
Storage temperature range $B_{T, S}$	°C	-30 ... 95					
Temperature effect on zero signal TK_0	% $F_{nom}/10 \text{ K}$	±0.1					
Temperature effect on characteristic value TK_C	% $F_{nom}/10 \text{ K}$	±0.1					
Maximum operating force F_G	% F_{nom}	130					
Force limit F_L	% F_{nom}	150					
Breaking force F_B	% F_{nom}	>300					
Permissible oscillation stress F_{rb}	% F_{nom}	70					
Rated displacement S_{nom}	mm	<0.2					
Material		Aluminum					
Level of protection		IP50					

Options

Article-No.	Description
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 KS6 (6-pin series 581) 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 beam force sensor K-1509:



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