

Miniature Compression Force Sensor K-1613 with Rated Force from 0.1 ... 50 kN



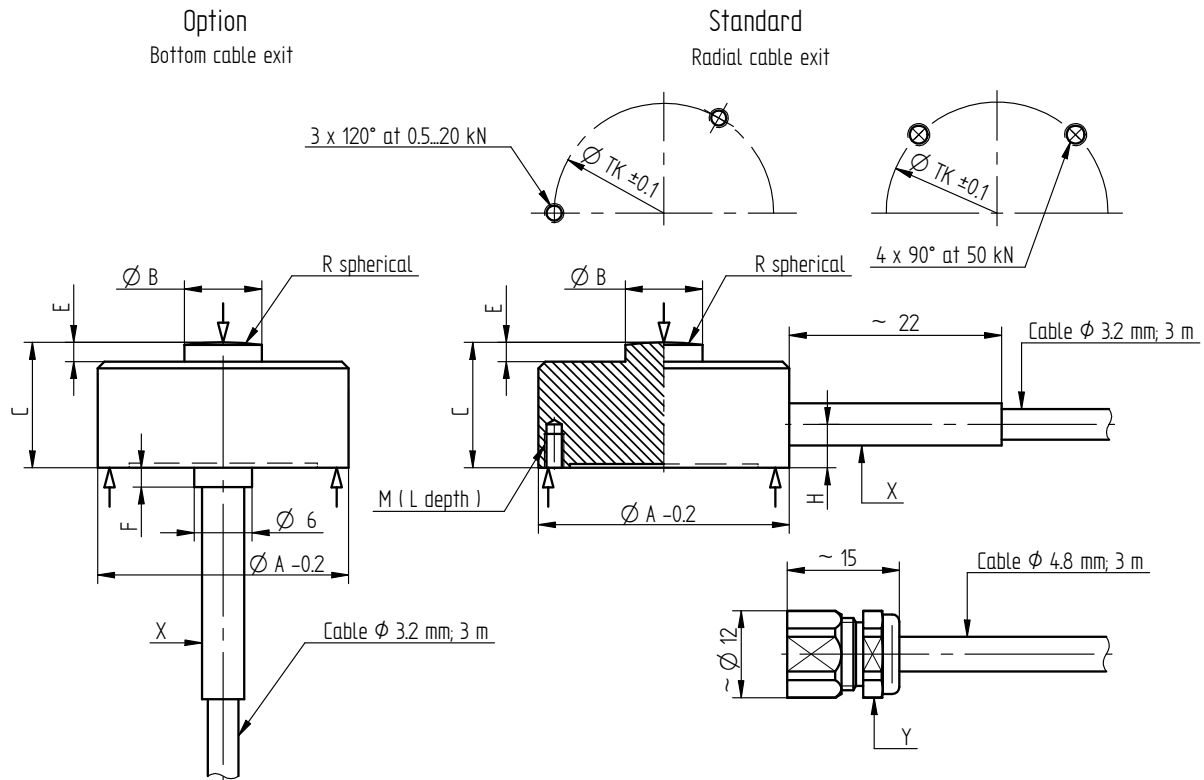
Performance Features

- Miniature sensor for compression force
- TEDS (Transducer Electronic Data Sheet) Standard IEEE 1451.4 (optional)
- Simple handling and assembly
- Stainless steel
- Level of protection IP65
- Long-term stability
- Special versions on request

Application

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

Dimensions in mm



Article-No	Rated Force [kN]	Dimensions [mm]											Weight [kg]	
		ØA	ØB	C	E	F	H	L	M	R	X	Y		ØTK
104888	0.1	26	8	13	2	2	4.5	3.5	M2	30	X	-	22.75	0.3
105853	0.2													
100035	0.5													
100036	1													
100037	2													
100038	5													
100039	10													
100040	20	46	16	28	8	-	8	6	M4	60	-	X	40	0.5
104274	50													

Connection Assignment

Electrical connection

Excitation (-)	Green	●
Excitation (+)	Brown	●
Signal (+)	Yellow	●
Signal (-)	White	○
Control signal or TEDS (option)	Gray	●
Shielding	Shield	⊕

Technical Data acc. to VDI/VDE/DKD 2638

Miniature Compression Force Sensor K-1613

Rated force F_{nom}	kN	0.1	0.2	0.5	1	2	5	10	20	50
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	< \pm 0.1								
Rated characteristic value C_{nom}	mV/V	1.00 \pm 20 %								
Input/output resistance R_e/R_a	Ω	350								
Insulation resistance R_{is}	Ω	> $2 \cdot 10^9$								
Rated range of excitation voltage $B_{U, nom}$	VDC	2 ... 12 [\leq 2 kN; 2 ... 6]								
Electrical connection		Cable, PURS, 3 m with free strands [\leq 20 kN] Cable, PVC, 3 m with free strands [50 kN]								
Reference temperature T_{ref}	$^{\circ}$ C	23								
Rated temperature range $B_{T, nom}$	$^{\circ}$ C	-10 ... 70								
Operating temperature range $B_{T, G}$	$^{\circ}$ C	-30 ... 80								
Storage temperature range $B_{T, S}$	$^{\circ}$ C	-50 ... 95								
Temperature effect on zero signal TK_0	% $F_{nom}/10$ K	\pm 0.2								
Temperature effect on characteristic value TK_C	% $F_{nom}/10$ K	\pm 0.2								
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	<0.15								
Material		Stainless steel								
Level of protection		IP65								

Options

Article-No.	Description	
100218	Control signal	100 % F_{nom}
100739	Control signal	80 % M_{nom}
106154	Control signal	50 % M_{nom}
113134	TEDS-standard IEEE 1451.4	
42828	Extended temperature range	-30 $^{\circ}$ C ... 100 $^{\circ}$ C
42829	Extended temperature range	-30 $^{\circ}$ C ... 120 $^{\circ}$ C [\geq 0.2 kN]
42830	Extended temperature range	-40 $^{\circ}$ C ... 150 $^{\circ}$ C [\geq 0.2 kN]
100896	Rated sensitivity adjustment	
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
104998	Cable output axial

Amplifiers

Examples of suitable amplifiers for the miniature compression force sensor K-1613:



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