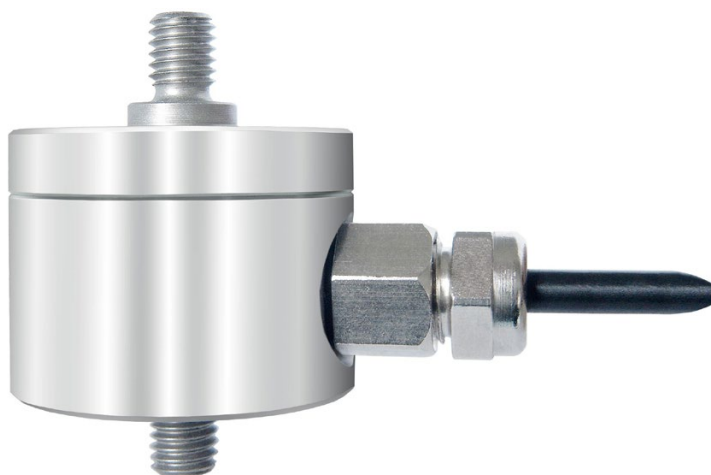


Tension and Compression Force Sensor K-1563 with Rated Force from 100 to 2000 N



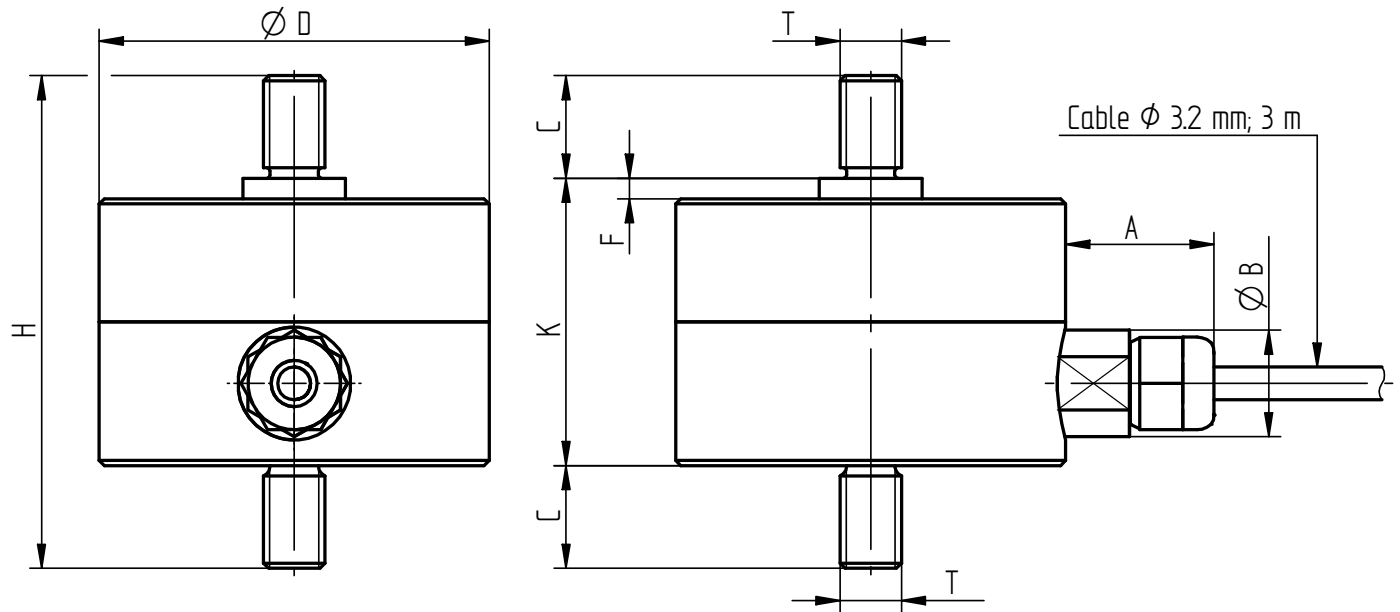
Performance Features

- Sensor for tension and compression force measurement
- TEDS (Transducer Electronic Data Sheet)
Standard IEEE 1451.4 (optional)
- Simple handling and assembly
- Reliable and durable
- Long-term stability
- Level of protection IP67
- Special versions on request

Application

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

Dimensions of K-1563 in mm



Article-No.	Rated Force [N]	Dimensions [mm]								Weight [kg]
		A	$\varnothing B$	C	$\varnothing D$	F	H	K	T	
104848	100	~10	~9	6.4	25	2	33.8	21	M5	0.2
104270	200									
105489	500									
104301	1000	~10	~9	8	32	2	39	23	M6	0.3
101282	2000	~14	~10	10	38	2	48	28	M6	0.4

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

Tension and Compression Force Sensor K-1563

Rated force F_{nom}	N	100	200	500	1000	2000
Accuracy class compression force or tension force	% F_{nom}	0.15				
Accuracy class compression force and tension force	% F_{nom}	0.3				
Rel. repeatability error in unchanged mounting position b_{rg}	% F_{nom}	0.1				
Relative creep	% $F_{nom}/30$ min	< \pm 0.2				
Rated characteristic value C_{nom}	mV/V	1.00 \pm 5 %				
Input/output resistance R_e/R_a	Ω	350				
Insulation resistance R_{is}	Ω	>2*10 ⁹				
Rated range of excitation voltage $B_{U, nom}$	VDC	2 ... 12 [\leq 1000 N; 2 ... 6]				
Electrical connection		Cable, PVC, 3 m with free strands				
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 0.05				
Temperature effect on characteristic value TK_C	% $F_{nom}/10$ K	\pm 0.05				
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	<0.1				
Preferential direction		Tension direction				
Material		Stainless steel				
Level of protection		IP67				

Options

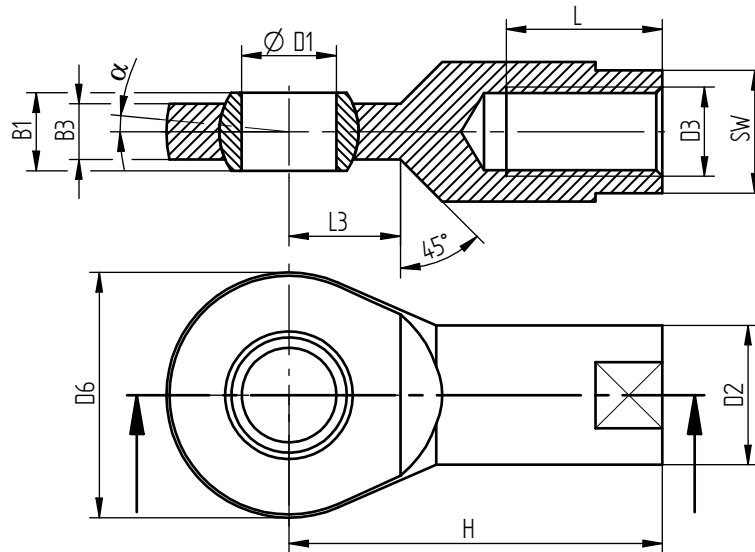
Article-No.	Description	
100218	Control signal	100 % F_{nom}
100739	Control signal	80 % M_{nom}
106154	Control signal	50 % M_{nom}
113134	TEDS-standard IEEE 1451.4	
100896	Nominal sensitivity adjustment	
42828	Extended temperature range	-30 $^{\circ}$ C ... 100 $^{\circ}$ C
42829	Extended temperature range	-30 $^{\circ}$ C ... 120 $^{\circ}$ C [\geq 200 N]
42830	Extended temperature range	-40 $^{\circ}$ C ... 150 $^{\circ}$ C [\geq 200 N]
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
42767	EF 6	6	4	6	10	M6	20	30	12	11	6.5°	9	0.02	10600

Tolerances for Type EF

ØD1		ΔD1		ΔB1		ΔH	
>	≤	Tolerance		Tolerance		Tolerance	
-	5	+0.012	0	0	-0.12	+1.2	-1.2
5	18	0	-0.008	0	-0.12	+1.2	-1.2

Electrical Connection

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 tension and compression force sensor K-1563:



Further suitable amplifiers you can find on our homepage under <https://www.lorenz-messtechnik.de/english/products/>