

# KAD-S Force Transducer

## Applications

- For measuring tensile and compressive forces
- Machines and systems

## Features

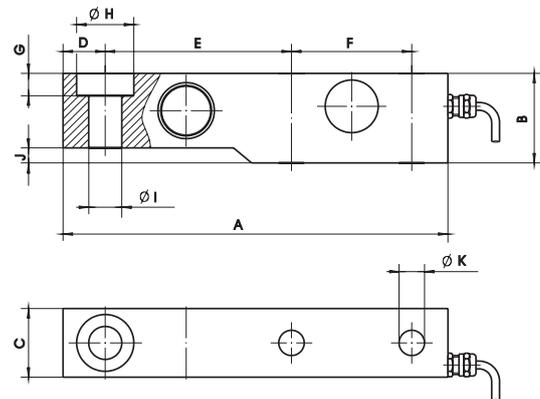
- 5kN to 100kN
- Accuracy class 0.1 / 0.05
- Made of stainless steel
- Rugged design
- Hermetically sealed enclosure (IP 67)



## Options

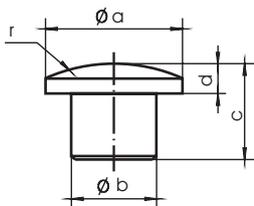
- ATEX Certificate 5kN ... 50kN

## Dimensions

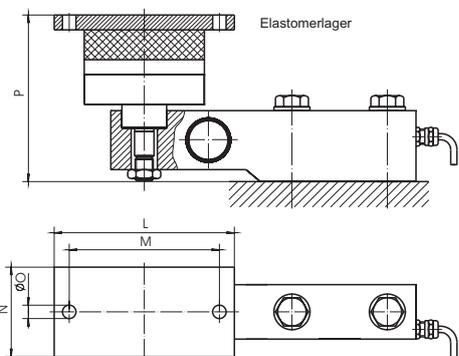


Rated Force	A	B	C	D	E	F	G	H	I	J	K	Weight
5kN	203.2	47.6	36.5	22.3	98.3	63.5	11.9	Ø30.2	Ø17.5	17	Ø13.4	2.3kg
10kN	203.2	47.6	36,5	22.3	98.3	63.5	11.9	Ø30.2	Ø17.5	13.6	Ø13.4	2.3kg
20kN	203.2	47.6	36.5	22.3	98.3	63.5	11.9	Ø30,2	Ø17.5	8	Ø13.4	2.3kg
50kN	234	70	47.6	23.2	123.7	66.5	15.9	Ø41.3 <sup>+0.2</sup>	Ø25.5	21.2	Ø22.5	5.0kg
100kN	279.4	82.6	60.3	31.7	139.7	82.6	20.7	Ø51.0 <sup>+0.2</sup>	Ø32 <sup>H11</sup>	19.1	Ø27	8.0kg

## Appliances for Installation and Mounting



Load button



Rated Force	a	b	c	d	r	L	M	N	O	P
5kN ... 20kN	30	17.5 f7	33	23	R50	120	100	60	9	112
50kN	41	25.5 f7	29	9	R50	150	125	100	11	147

## Wiring Code

Cable length 3m with free cable end



Compressive load is a positive change of signal.

## Specifications

Accuracy class	% F <sub>nom</sub>	0.1	0.05
Rated (nominal) force (F <sub>nom</sub> )	kN	5 / 10 / 20 / 50 / 100	
Maximum operating force (F <sub>G</sub> )	% F <sub>nom</sub>	150	
Breaking force (F <sub>B</sub> )	% F <sub>nom</sub>	> 500	
Lateral force limit (F <sub>Q</sub> )	% F <sub>nom</sub>	100	
Rated characteristic value (C <sub>nom</sub> )	mV/V	2.000 ± 0.002	
Zero signal tolerance	%	≤ 1	
Reference excitation voltage (U <sub>ref</sub> )	VDC	10	
Operating range of excitation voltage (B <sub>UG</sub> )	Ω	380 ± 30	
Input resistance (R <sub>e</sub> )	Ω	352 ± 1.5	
Output resistance (R <sub>a</sub> )	Ω	> 5 × 10 <sup>9</sup>	
Insulation resistance (R <sub>is</sub> )			
Relative linearity error (d <sub>lin</sub> )	%	≤ 0.1	≤ 0.05
Relative reversibility error (v)	%	≤ 0.1	≤ 0.05
Temperature effect on zero signal (TK <sub>0</sub> )	% / 10K	≤ 0.05	≤ 0.025
Temp. effect on characteristic value (TK <sub>c</sub> )	% / 10K	≤ 0.1	≤ 0.05
Relative creep over 30 minutes (d <sub>cr, F+E</sub> )	% / 10K		
Tolerance output signal	%	≤ 0.1	≤ 0.05
Tolerance zero signal	%		
Reference temperature (T <sub>ref</sub> )	°C	+23	
Rated temperature range (B <sub>T, nom</sub> )	°C	-20 ... +60	
Operating temperature range (B <sub>T, G</sub> )	°C	-30 ... +70	
Storage temperature range (B <sub>T, S</sub> )	°C	-40 ... +70	
Environmental protection (EN 60529)		IP 67	

All data according to VDI/VDE/DKD 2638

## Order Example

Type Code	Description
KAD-S/10kN/0.1	Force transducer 10kN with 0.1% accuracy
	Accuracy class
	Rated load
	Model

## Accessoires / Options

	Type Code	Description
Load button	XKM 048 XKM 039	K17-50 for 5kN ... 20kN K25-50 for 50kN
Elastomere bearing	XKM 050.04 XKM 050.02 XKM 054 XKM 059	for 5kN for 10kN and 20kN for 50kN for 100kN
		transverse stiffness 1200N/mm transverse stiffness 300N/mm
ATEX	KAD-S-EX	for 5kN, 10kN, 20kN, 50kN. Please not ATEX data sheet.