

Data sheet

Force Transducer Series K

(0,2 kN – 2,5 kN)



Benefits/Application

- For static and dynamic tensile and compressive forces
- High precision
- Easy assembling, lots of possibilities
- Very high-cycle fatigue resistant up to 80 % of nominal load
- Hermetically sealed

Options/Accessories

- Optional solid or plug-in connection
- Extended temperature range
- Mounting parts for tension and compression

Technical data

		$\pm F_{nom}$	kN	0,2	0,5	1	2,5
Metrological Data	Nominal force compression/tension						
	Accuracy class			0,02			
	Force measurement range		%	1 - 100			
	Linearity error	d_{lin}	%	0,02			
	Interpolation error	f_c	%	0,4			
	Hysteresis	h	%	0,02			
	Reversibility error	v	%	0,2			
	Repeatability (f.s.)		%	0,003			
	Creep		%	0,03			
	Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,04			
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,025			
	Eccentricity effect		%/mm	0,015			
	Bending moment effect		%/N·m	0,075	0,03	0,015	0,006
	Lateral force effect		%/(0,1· F_{nom})	0,02			
	Torque effect		%/(mm· F_{nom})	0,2			
Electrical Data	Characteristic value difference, tension/compression force	d_{ZD}	%	0,15			
	Rated characteristic value	C_{nom}	mV/V	2			
	Characteristic value tolerance	d_c	%	0,2			
	Zero signal deviation	$d_{S,0}$	%	0,5			
	Input resistance	R_e	Ω	> 550			
	Output resistance	R_a	Ω	> 400			
	Insulation resistance	R_{is}	Ω	> 10 ⁹			
	Operating range of excitation voltage	$B_{U,G}$	V	5 - 20			
	Protection (DIN EN 60529)			50 ¹⁾ ; 67 ²⁾			

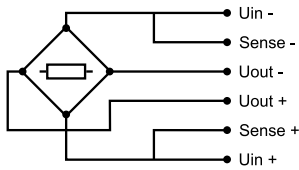
Technical data


Mechanical Data	Nominal force compression/tension	$\pm F_{nom}$	kN	0,2	0,5	1	2,5
	Rated Displacement	s_{nom}	mm	0,05			
	Spring rigidity	c_{ax}	kN/mm	3,5	7	14	35
	Mass	m	kg	0,3		0,5	
	Proportionate moving mass	m_{mess}	kg	0,01		0,013	
	Fundamental resonant frequency	f_G	kHz	8			
	Permissible oscillation stress		%	± 80			
	Force limit		%	±150			
	Breaking force		%	> 300			
	Lateral force limit		%	±100			
Limits	Permissible eccentricity	e_G	mm	10			
	Bending moment limit	$M_{b\ zul}$	N·m	2,5	5	15	30
	Rated temperature range	$B_{T, nom}$	°C	10 - 60			
	Operating temperature range	$B_{T, G}$	°C	-40 - +120			

1) Connection pluggable

2) Permanent connection

Cable connection



		Permanent connection end not connected	Connection pluggable ¹⁾²⁾
		Grey cable Ø 6,5 mm 6 x 0,25 mm ² Temperature range: -35 °C bis +90 °C	7-pin LEMO Series 0 Female: - Male:
			
Connection		Color	Pin
Supply voltage (+)	U _{in+}	blue	3
Supply voltage (-)	U _{in-}	black	2
Measurement signal (+)	U _{out+}	white	1
Measurement signal (-)	U _{out-}	red	4
Sense (+)	Sense+	green	5
Sense (-)	Sense-	grey	6
Shielding		yellow	Housing

1) View too weldingside

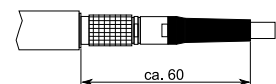
2) Female LEMO S.A. Typ: EGG.1B.307.CLL; Male: FGG.1B.307.CLA.D72



Permanent connection
End not connected

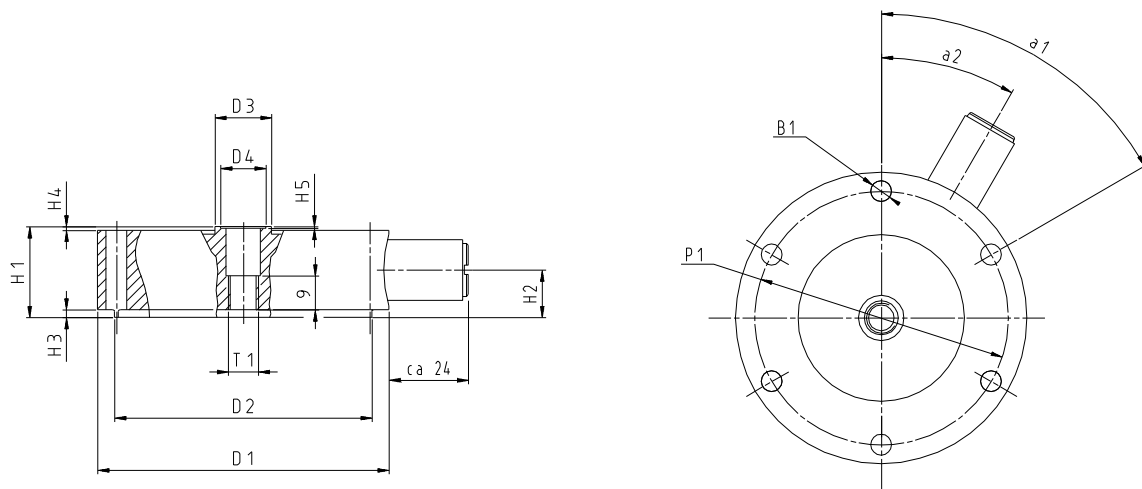


Pluggable connection



- Cable length 5 m
- More cable types and lengths on request
- Connector types on cable end: D-Sub 9; D-Sub 15; M-S 7pol
- In case of order please chose "solid conection" or "plug-in connection"

Mating dimensions



Nominal force compression/tension	$\pm F_{nom}$	kN	0,2	0,5	1	2,5
Bore	$\varnothing B_1$	mm			5,5	
Diameter	$\varnothing D_1$	mm			77	
Diameter	$\varnothing D_2$	mm			68-0,1	
Diameter	$\varnothing D_3$	mm			15	
Diameter	$\varnothing D_4$	mm			12+0,1	
Pitch circle diameter	$\varnothing P_1$	mm			67±0,1	
Thread	T_1				M8	
Height	H_1	mm			24	
Height	H_2	mm			12,5	
Height	H_3	mm			2	
Height	H_4	mm			1	
Height	H_5	mm			2	
Angle	a_1				60°	
Angle	a_2				30°	

Änderungen vorbehalten. Alle Angaben beschreiben unsere Produkte in allgemeiner Form. Sie stellen keine vereinbarte Beschaffenheit im Sinne des § 434 Abs. 1 BGB dar.

GTM
DEFINING PRECISION

GTM Testing and Metrology GmbH
Philipp-Reis-Straße 4-6, 64404 Bickenbach, Germany
www.gtm-gmbh.com
Phone +49(0)6257-9720-0, Fax +49(0)6257-9720-77
contact@gtm-gmbh.com