

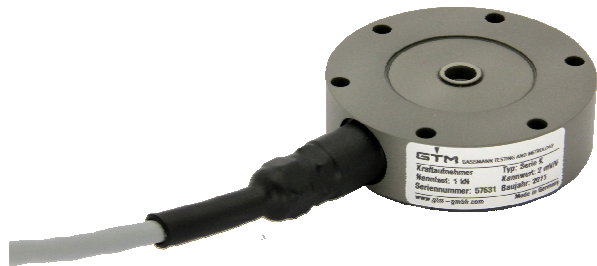
# Data sheet

---

Force Transducer

**Series KS**

(0,2 kN – 2,5 kN)



## Benefits/Application

---

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

## Options/Accessories

---

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

# Technical data

	Nominal force compression/tension	$\pm F_{nom}$	kN				
				0,2	0,5	1	2,5
Metrological Data	Accuracy class			0,02			
	Force measurment 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 <sub>nom</sub> )	0,02			
	Torque effect		%/(mm·F <sub>nom</sub> )	0,2			
	Characteristic value difference, tension/compression force	$d_{ZD}$	%	0,15			
Electrical Data	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 <sup>9</sup>			
	Operating range of excitation voltage	$B_{U,G}$	V	5 - 20			
	Protection (DIN EN 60529)			50 <sup>1)</sup> ; 67 <sup>2)</sup>			

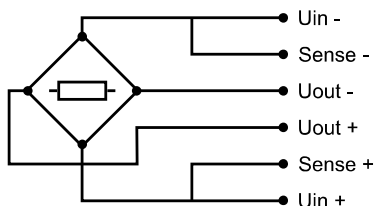
# Technical data

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			
Limits	Force limit		%	±150			
	Breaking force		%	> 300			
	Lateral force limit		%	±100			
	Permissible eccentricity	$e_G$	mm	10			
	Bending moment limit	$M_{bzul}$	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

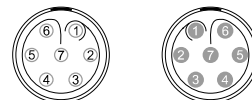


Permanent connection  
end not connected

Grey cable  
Ø 6,5 mm  
6 x 0,25 mm<sup>2</sup>  
Temperature range: -35 °C bis +90 °C

Connection  
pluggable<sup>1)2)</sup>

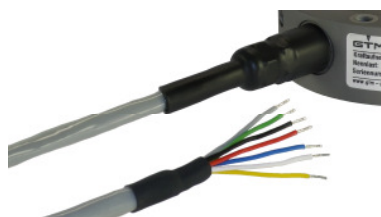
7-pin LEMO Series 0  
Female: - Male:



Connection		Color	Pin
Supply voltage (+)	U <sub>in+</sub>	blue	3
Supply voltage (-)	U <sub>in-</sub>	black	2
Measurement signal (+)	U <sub>out+</sub>	white	1
Measurement signal (-)	U <sub>out-</sub>	red	4
Sense (+)	Sense+	green	5
Sense (-)	Sense-	grey	6
Shielding		yellow	Housing

1) View too weldingside

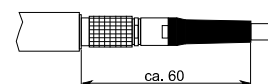
2) Female LEMO S.A. Typ: EGG.1B.307.CLL; Male: FGG.1B.307.CLA.D72



*Permanent connection  
end not connected*

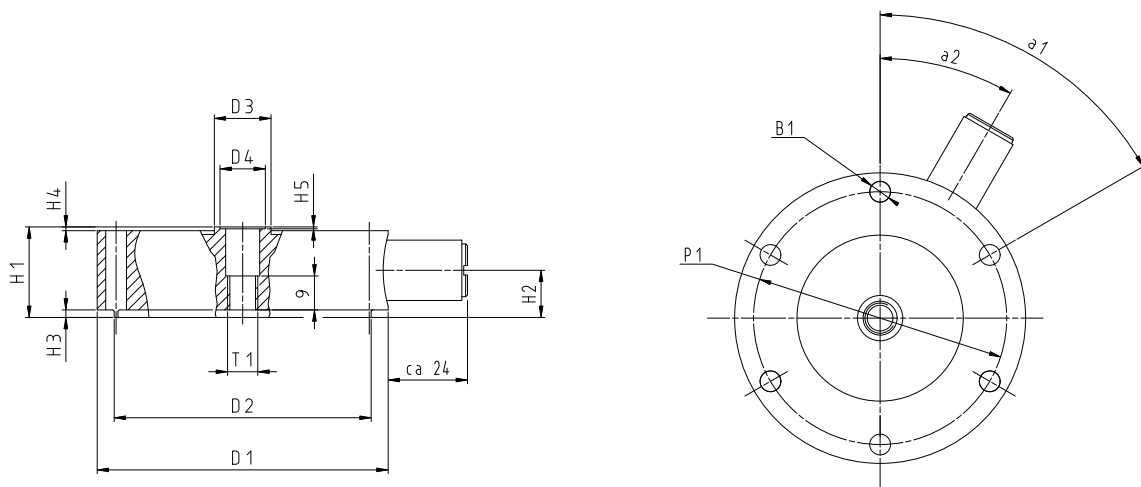


*Connection pluggable*



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

# 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 $\pm 0,1$		
Diameter	$\varnothing D_3$	mm		15		
Diameter	$\varnothing D_4$	mm		12 $\pm 0,1$		
Pitch circle diameter	$\varnothing P_1$	mm		67 $\pm 0,1$		
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 Testing and Metrology GmbH  
 Philipp-Reis-Straße 4-6, 64404 Bickenbach, Germany  
[www.gtm-gmbh.com](http://www.gtm-gmbh.com)  
 Phone +49(0)6257-9720-0, Fax +49(0)6257-9720-77  
[contact@gtm-gmbh.com](mailto:contact@gtm-gmbh.com)