

Data Sheet | Force Transducer Series K

Nominal Force 0.2 kN — 630 kN





Applications | Key Facts

- Applications: materials testing | component and structural testing | industrial quality and process control
- Compressive and tensile forces, static and dynamic
- Flat, robust design | low mass, high resonance frequency
- Accuracy class: 0.02 to 0.05 | high-precision measurement results over the entire measuring range
- Force introduction via flange or thread
- Fatigue and long-term stability | cycles: > 100 million cycles *note amplitude
- Standard variants with short delivery time or configurable variants for maximum flexibility

Options | Accessories

- Available as flange, threaded or flange and threaded version
- Optional second axial measuring circuit for redundancy
- Optional bending moment measuring circuits Mx, My
- Optional expanded temperature range
- Extensive electrical connection options
- Extensive mechanical accessories
- Tension Torsion combination with Series M torque transducer

STM

Technical Data | 0.2 – 2.5 kN

				-		-	-			
	Nominal forcecompression/tension	$\pm F_{nom}$	kN	0.2	0.5	1	2.5			
	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	ν	%	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						
ta	Eccentricity effect		%/mm		0.0)15				
Da	Bending moment effect		%/N∙m	0.075	0.03	0.015	0.006			
gica	Lateral force effect		%/(0.1·F _{nom})		0.	02				
olog	Torque effect		%/(mm·F _{nom})		0	.2				
Metr	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	<i>d</i> _{S,0}	%		0	.5				
	Input resistance	R _e	Ω	> 550						
ata	Output resistance	R _a	Ω	> 400						
I Dê	Insulation resistance	R _{is}	Ω	> 10 ⁹						
ctrica	Operating range of excitation voltage	В _{U, G}	V		5 -	20				
Ele	Protection (DIN EN 60529)				50 ¹⁾ ;	67 ²⁾				



Technical Data | 0.2 – 2.5 kN

	Nominal forcecompression/tension	± F _{nom}	kN	0.2	0.5	1	2.5		
	Rated Displacement	S nom	mm		0.)5			
	Spring rigidity	C _{ax}	kN/mm	3.5	7	14	35		
ta	Mass	т	kg	0	.3	0.5			
cal Da	Proportionate moving mass	m _{mess}	kg	0.	01	0.0	013		
anio	Fundamental resonant frequency	f_{G}	kHz	8					
Mech	Permissible oscillation stress		%		±	80			
	Force limit		%		±1	.50			
	Breaking force		%		> 3	800			
	Lateral force limit		%		±1	.00			
	Permissible eccentricity	e _G	mm	10					
	Bending moment limit	M _{b zul}	N∙m	2.5	5	15	30		
nits	Rated temperature range	B _{T, nom}	°C		10 -	- 60			
Lin	Operating temperature range	B _{T, G}	°C	-40 - +120					

1) Connection pluggable

2) Permanent connection



Technical Data | 4 – 630 kN

	Nominal force compression/tension	$\pm F_{nom}$	kN	4 5 6.3	10 20 25 30	40 50 63	100	150	160	200 250 300	400 500	630
	Accuracy class						0.02				0.03	0.05
	Force measurment range		%					1 - 100				
	Linearity error	d _{lin}	%				0.02				0.0	03
	Interpolation error	f_c	%					0.4				
	Hysteresis	h	%			0.	02			0.03	0.05	0.08
	Reversibility error	v	%					0.2				
	Repeatability (f.s.)		%					0.003				
	Creep		%					0.025				
	Temperature effect on characteristic value per 10 K	TK _C	%/10 K					0.04				
	Temperature effect on zero signal per 10 K	<i>TK</i> ₀	%/10 K	0.025								
l Data	Eccentricity effect		%/mm					0.015				
	Bending moment effect		%/N∙m					< 0.003				
gica	Lateral force effect		%/(0.1·F _{nom})	0.02								
olo	Torque effect		%/(mm·F _{nom})) 0.005								
Metro	Characteristic value difference, tension/compression force	d _{ZD}	%			0.	07				0.1	
	Rated characteristic value ³⁾	C _{nom}	mV/V		2			1;2		1;	;2	2
	Characteristic value tolerance	d _c	%					0.2				
	Zero signal deviation	<i>d</i> _{<i>S</i>,0}	%					0.5				
	In put register co	D	0	1000	1100	1100		1200		1000	11	00
	inputresistance	Λ _e	12	- 1200	- 1400	- 1200		- 1500		- 1200	15	00
				900	900	900		1000		800	900	1000
	Output resistance	R_a	Ω	- 1000	-	-		- 1200		-	-	- 1200
Ita	Insulation resistance	R :	Ω	1000	1200	1100		> 10 ⁹		1000	1100	1200
ical Da	Operating range of excitation voltage	B _{U,G}	V					5 - 20				
Electri	Protection (DIN EN 60529)						50) ¹⁾ ; 68	3 ²⁾			

Technical Data | 4 – 630 kN

	Nominal force compression/tension	$\pm F_{nom}$	kN	4 5 6.3	10 20 25 30	40 50 63	100	150	160	200 250 300	400 500	630
	Rated Displacement ⁴⁾	S _{nom}	mm	0.093 0.08 0.086	0.0)71	0.12	0.15	0.16	0.19	0.21	0.32
	Spring rigidity ⁴⁾	C _{ax}	kN/mm	43 70 73	140 280 350 420	560 700 890	830	10	00	1050 1300 1580	1900 2400	2000
	Mass	т	kg	0.5	1	1.2		3.7		10.4	20	31
Data	Proportionate moving mass	m _{mess}	kg	0.12	0.22	0.35		0.8			4	5
anical D	Fundamental resonant frequency ⁴⁾	f_G	kHz	3 3.5 4	4	6.8	5			3.7	4	3
Mech	Permissible oscillation stress ³⁾		%					±80				
	Forcelimit		%					150				
	Breaking force		%					300				
	Lateral force limit		%					100				
	Permissible eccentricity	e _G	mm		10			15		20	2	5
	Bending moment limit	$M_{b zul}$	kN∙m	0.25	0.4	1	3.5	!	5	10	2	0
nits	Rated temperature range	B _{T, nom}	°C				1	0 - 6	0			
Lin	Operating temperature range 1) Plug -in connection	B _{T, G}	°C				- 4	0 - +1	120			

2) Permanent connection

3) Rated characteristic value 1mV/V with permissible oscillation stress ± 100 % available on request.

4) Information for rated characteristic value $2mV/V;\,1\!mV/V$ available on request.

Miscellaneous

Nominal force [kN] compression/tension	0.2 0.5 1 2.5	4 5 6,3	10 20 25 30	40 50 63	100	150	160	200 250 300	400 500	630
Series K transducer version: flange = F			\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Series K transducer version: thread = T	\checkmark		\checkmark	\checkmark						
Series K transducer version: thread and flange = B		\checkmark								
Measuring principle bending beam according to the principle of the symetrical spoke	\checkmark									
Measuring principle bending ring		\checkmark								
Material spring body	0.2 kN - 0.5 kN: high strenght aluminium alloy 1 kN - 630 k alloyed heat treated steel Other special steels on reques					kN: est				



Cable Connection | 0.2 – 630 kN



All standard variants **Configurable variants** Plug-in cable connection¹⁾²⁾ Fixed cable connection with open cable ends SMC: grey | Ø 6.5 mm | twisted in pairs | 7-pole LEMO Series 1 3 x 2 x 0.25 mm² | -35 °C to +90 °C Female: TMC: red | Ø 7.2 mm | twisted in pairs | 3 x 2 x 0.25 mm² | -50 °C to +180 °C

Connection		Wire colour	Pin
Supply voltage (+)	U _{in+}	SMC: blue TMC: white	3
Supply voltage (-)	U _{in-}	SMC: black TMC: brown	2
Measurement signal (+)	U _{out+}	SMC: white TMC: grey	1
Measurement signal (-)	U _{out-}	SMC: red TMC: pink	4
Sense (+)	Sense+	SMC: green TMC: green	5
Sense (-)	Sense-	SMC: grey TMC: yellow	6
Shielding		SMC: yellow TMC: black	Housing

1) View too weldingside

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

Pluggable cable connection

All standard variants of the series K are equipped with a pluggable LEMO socket. Suitable measuring cables S-CAB / C-CAB are available as accessories.



Plug-in cable connection with shielded measuring cable type SMC (S-CAB-L-5M-F)



Note: when using angled 90° connectors (not rotatable), the alignment must be observed. In the standard version, the connection socket of the series K force transducer is positioned so that the 90° angled plug points downwards. Other orientations (up, right, left) are possible for non-rotatable 90° angle connectors on request.



Fixed measuring cable

All configurable variants of the series K are optionally available with fixed measuring cables, e.g. with 5 / 10 m shielded standard measuring cable type SMC or 5 m high / low temperature measuring cables and open cable ends or various connectors for strain gauge measuring amplifier connections.



- Male:

Fixed shielded measuring cable type SMC with open cable ends



Fixed shielded measuring cable type SMC with connector

Fixed shielded high/low temperatur measu ring cable type TMC with open cable ends



 Fixed shielded high/low temperatur measuring cable type TMC with connector



Double Bridge | 4 - 630 kN

For the double measuring bridge (available as configurable variant), the technical data apply equally to both measuring circuits.



Bending Moment Measuring Circuits | 4 – 630 kN

The bending moment measuring circuits (available as configurable variant) Mx and My can be used advantagously with the use of a multi-channel measuring amplifier to control the force application.

	Nominal force	F _{nom}	kN	4 - 630 (2mV/V)	100 - 630 (1 mV/V)
	Rated bending moment	Mb nom	N∙m	F _{nom} · 8 mm	F _{nom} · 12 mm
•	Reproducibility		%	0.	01
	Temperature effect on characteristic value per 10 K	TK _C	%/10 K	0	.2
	Temperature effect on zero signal per 10 K	Temperature effect on zero signal per 10 KTK 0%/10 K0.2			.2
The	Rated characteristic value	C_{nom}	mV/V	ca.	0.3
	Input resistance	R _e	Ω	4(00
N.	Operating range of excitation voltage	B _{U, G}	V	5 -	12

Configurable force transducer series K

Single bridge || bending moment measuring ciruits Mx, My | 3 x LEMO push-pull connection sockets (female) | flange version



Dimensions | Threaded Version | 0.2 – 2.5 kN

- Force transducer Series K design: thread
- Transducer design: 0.2 kN 2.5 kN





Nominal force compression/tension	$\pm F_{nom}$	kN	0.2	0.5	1	2.5	
Bore	ØB ₁	mm		5	.5		
Diameter	$\emptyset D_1$	mm		7	7		
Diameter	$\emptyset D_2$	mm		68	- 0.1		
Diameter	ØD 3	mm		1	.5		
Diameter	ØD 4	mm					
Pitch circle diameter	ØP 1	mm	67±0.1				
Thread	T_{I}			Ν	18		
Height	H_{I}	mm		2	.4		
Height	H_2	mm		12	2.5		
Height	H_{3}	mm			2		
Height	H_4	mm					
Height	H_5	mm	2				
Angle	<i>a</i> ₁		60°				
Angle	<i>a</i> ₂			3	0°		



Dimensions | Flange & Threaded Version | 4 – 6.3 kN

▶ Force transducer Series K design: flange and thread

Transducer design: 4 kN - 6.3 kN





Nominal force compression/tension	$\pm F_{nom}$	kN	4 5 6.3
Bore	$\emptyset B_{I}$	mm	5.3
Bore	$\emptyset B_2$	mm	20±0.1
Diameter	$\emptyset D_1$	mm	77-0.1
Diameter	$\emptyset D_2$	mm	68-0.05
Diameter	ØD 3	mm	27.3
Diameter	$\emptyset D_4$	mm	12.7 +0.05
Pitch circle diameter		mm	67±0.1
Pitch circle diameter	ØP ₂	mm	20±0.1
Thread	T_{I}		M10 x 1
Height	H_{I}	mm	26-0.1
Height	H_2	mm	13
Height	H_{3}	mm	2
Height	H_4	mm	2
Height	H_5	mm	16
Angle	<i>a</i> ₁		6 x 60°
Angle	a 2		30°

Dimensions | Threaded Version | 10 – 63 kN

- Force transducer Series K design: thread
- Transducer design: 10 kN 63 kN





Nominal force compression/tension	$\pm F_{nom}$	kN	10 20	25 30	40 50 63
Bore	$\emptyset B_I$	mm		6,6	
Diameter	$\emptyset D_1$	mm	95	-0,1	101-0,1
Diameter	$\emptyset D_2$	mm	81	-0,1	87,5-0,1
Diameter	ØD 3	mm	40	38,6-0,1	
Pitch circle diameter		mm	80:	86±0,1	
Thread	T_{I}			M20 x 1,5	
Height	H_{I}	mm		31-0,1	
Height	H_2	mm		18	
Height	H_{3}	mm	-	1	1,5
Height	H_4	mm			
Angle	<i>a</i> ₁				
Angle	<i>a</i> ₂			22,5°	

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Dimension | Flange Version | 10 – 160 kN

- ▶ Force transducer Series K design: flange
- Transducer design: 10 kN 160 kN







Nominal force compression/tension	$\pm F_{nom}$	kN	10 20	25 30	40 50 63	100 150 160
Bore	$\emptyset B_I$	mm		6,6		11
Bore	$\emptyset B_2$	mm		6,6		11
Diameter	$\emptyset D_I$	mm	95	-0,1	101-0,1	148-0,1
Diameter	$\emptyset D_2$	mm	81	-0,1	87,5 -0,1	131,4 -0,1
Diameter	ØD 3	mm	40	-0,1	38,6-0,1	63
Diameter	$\emptyset D_4$	mm	8н9			10+0,1
Pitch circle diameter		mm	80:	±0,1	86±0,1	130 ±0,1
Pitch circle diameter	ØP ₂	mm		30±0,1		45 ±0,1
Height	H_{I}	mm		31-0,1		49 -0,1
Height	H_2	mm		18		25
Height	H_{3}	mm	1	L	1,5	0,5
Height	H_4	mm				
Angle	<i>a</i> ₁					
Angle	<i>a</i> ₂			22	,5°	



Dimension | Flange Version | 200 – 630 kN

- ► Force transducer Series K design: flange
- Transducer design: 200 kN 630 kN





Nominal force compression/tension	$\pm F_{nom}$	kN	200 250 300	400 500	630
Bore	$\emptyset B_1$	mm	17	22	26
Bore	$\emptyset B_2$	mm	17	22	26
Diameter	$\emptyset D_{I}$	mm	219-0.1	270-0.1	312-0.2
Diameter	$\emptyset D_2$	mm	171.05+0.1	203+0.1	226+0.1
Diameter	$\emptyset D_3$	mm	97-0.1	128-0.1	151 -0.1
Diameter	$\emptyset D_4$	mm		10+0.1	
Pitch circle diameter		mm	194 ±0.1	235±0.1	267±0.1
Pitch circle diameter	ØP ₂	mm	71±0.1	95±0.1	112±0.1
Height	H_{I}	mm	60-0.1	80-0.1	90- 0.1
Height	H_2	mm	32	40	45
Height	H_{3}	mm		1	
Angle	<i>a</i> ₁			8 x 45°	
Angle	<i>a</i> ₂			22.5°	

GTM



Order Numbers | Standard Variants

Force transducer Series K | standard variants available at short notice

Nominal force	Description	Order number
200 N	Standard force transducer series K 0.2 kN threaded version	S-K-K200-T
500 N	Standard force transducer series K 0.5 kN threaded version	S-K-K500-T
1 kN	Standard force transducer series K 1 kN threaded version	S-K-1K00-T
2.5 kN	Standard force transducer series K 2.5 kN threaded version	S-K-2K50-T
5 kN	Standard force transducer series K 5 kN threaded and flanged version	S-K-5K00-B
10 kN	Standard force transducer series K 10 kN flange version	S-K-10K0-F
10 kN	Standard force transducer series K 10 kN threaded version	S-K-10K0-T
20 kN	Standard force transducer series K 20 kN flange version	S-K-20K0-F
20 kN	Standard force transducer series K 20 kN threaded version	S-K-20K0-T
25 kN	Standard force transducer series K 25 kN flange version	S-K-25K0-F
25 kN	Standard force transducer series K 25 kN threaded version	S-K-25K0-T
40 kN	Standard force transducer series K 40 kN flange version	S-K-40K0-F
50 kN	Standard force transducer series K 50 kN flange version	S-K-50K0-F
50 kN	Standard force transducer series K 50 kN threaded version	S-K-50K0-T
63 kN	Standard force transducer series K 63 kN flange version	S-K-63K0-F
63 kN	Standard force transducer series K 63 kN threaded version	S-K-63K0-T
100 kN	Standard force transducer series K 100 kN flange version	S-K-100K-F
150 kN	Standard force transducer series K 150 kN flange version	S-K-150K-F
200 kN	Standard force transducer series K 200 kN flange version	S-K-200K-F
250 kN	Standard force transducer series K 250 kN flange version	S-K-250K-F
500 kN	Standard force transducer series K 500 kN flange version	S-K-500K-F
630 kN	Standard force transducer series K 630 kN flange version	S-K-630K-F

Note: all standard versions always (1) without attachments (2) no plug protection (3) 2 mV/V (4) single measuring bridge (5) standard temperature range (6) 1x LEM O connection socket 7-pin push-pull | no measuring cables included



Order Numbers | Configurable Variants

Force transducer Series K | configurable variants

Force Transducer Series K C+K Configurable force to and/ucer series K K500 200 H K500 200 H K101 148 H K101 148 H K101 168 H K101 148 H K101 168 H K101 168 H K101 168 H K101 168 H K102 20 H C20 H 168 H C200 20 H C200 H 168 H C200 20 H C200 H 168 H C200 20 H C200 H 168 H C200 20 H 168 H 168 H C200 20 H 168 H 168 H C200 20 H 168 H 168 H C200 H 168	Item	Code	Description
K200 200 N K00 144 K00 <td>Force Transducer Series K</td> <td>C-K</td> <td>Configurable force transducer series K</td>	Force Transducer Series K	C-K	Configurable force transducer series K
KS00 30.N K80 1.4% K80 2.5 kW K80 4.6% K80 5.8% K80 5.8% <		K200	200 N
Nominal Force 144 Rominal Force 630 Nominal Force 630 1000 20 M4 2000			500 N
25.00 2.5 kN 94.00 4 kP 95.00 5 kN 96.00 5 kN 96.00 10 kH 206.0 25 kH 206.0 56 kH 206.0 56 kH 206.1 26 kH 206.1			1 kN
4400 4.M 500 5.W 6500 5.W 6730 6.3 W 1000 10 M 2000 20 M 2000 200 M 20000 200 M			2.5 kN
Sk0 5 kH 6K30 6.3 ak 10K0 10 kH 20K0 28 kH 20K0 20 kH 20K1 20 kH 20K2 20 kH 20K2 20 kH 20K2 20 kH 20K2 20 kH 20K3 20 kH 20K4 20 kH 20K5 20 kH 20K5 20 kH 20K5 20 kH 20K6 20 kH 20K6 20 kH 20K7 20 kH 20K8 20 kH 20K8 20 kH 20K8 20 kH 20K8 20 kH <td></td> <td>4K00</td> <td>4 kN</td>		4K00	4 kN
6430 6.3 kM DRG 10 kH 20K0 20 kH </td <td></td> <td>5K00</td> <td>5 kN</td>		5K00	5 kN
10K0 10 kN 20K0 20 kN 20K0 25 kN 30K0 30 kN 30K0 30 kN 30K0 50 kN 50K0 50 kN 50K0 50 kN 50K0 50 kN 100K 100 kN 100K 100 kN 100K 100 kN 200K 200 kN 300K 300 kN 400K 400 kN 500K 500 kN 60K 630 kN 60K 500 kN 50K 500 kN 50K 500		6K30	6.3 kN
Joke Joke Nominal Force Joke Abox Joke Joke Joke <t< td=""><td></td><td>10K0</td><td>10 kN</td></t<>		10K0	10 kN
Nominal Force 25.60 25.64 Nominal Force 306.0 306.0 Nominal Force 40.00 40.04 Sixto 25.64 55.64 Sixto 25.64 55.64 Sixto 25.64 55.64 Lixto Lixto 15.64 Mounting adapter F Flange and thread Mounting parts Nominal sensitivity 1 1 Single or double measuring cincuits Mor, My Mounting parts 1		20K0	20 kN
Nominal Force 30.40 Model of 40 kA SK00 50 kA GSK0 50 kA GSK0 50 kA IDOK 100 kA 120K 150 kA 120K 150 kA 120K 150 kA 200K 200 kA 200K 200 kA 200K 200 kA 200K 30 kA 400K 400 kA 500K 500 kA 630K 630 kA 640 kA 500 kA 500K 500 kA 630 kA 500 kA 63		25K0	25 kN
Nominal Force 40k0 40 k4 SP00 50 k0 GR00 63 k0 IOOK 100 kN 150K 150 k1 IOOK 100 kN 150K 150 kN 200K 200 kN 200K 200 kN 200K 200 kN 200K 200 kN 300K 400 kN 500K 500 kN 630K 500 kN		30K0	30 kN
SR00 50 kM GR00 50 kM GR00 100 kN 100K 100 kN 100K 150 kN 100K 150 kN 200K 200 kN 200K 200 kN 200K 200 kN 200K 200 kN 200K 300 kN 400 kN 500 kN 500K 500 kN 630K 630 kN 630 kN </td <td>Nominal Force</td> <td>40K0</td> <td>40 kN</td>	Nominal Force	40K0	40 kN
Biologic Base Biologic Base 100K 150 kN 150K 150 kN 150K 150 kN 200K 200 kN 200K 200 kN 200K 200 kN 300K 300 kN 400K 400 kN 500K 500 kN 630K 630 kN 7 With nounting parts 7 With plug protection 7 N 8 Single bridge 9 Single bridge 9 Single bridge <td></td> <td>50K0</td> <td>50 kN</td>		50K0	50 kN
100k 100 kl 150k 150 kl 150k 150 kl 150k 150 kl 150k 150 kl 200k 200 kl 250k 250 kl 250k 250 kl 250k 250 kl 300k 300 kl 400 kl 400 kl 500k 630 kl 500k 630 kl 6 Flange and thread Mounting adapter N N No mounting parts Plug protection N No plug protection N Nor No plug protection N Nor No plug protection 2 Nor No plug protection N Nor No plug protection N Nor No bending moment measuring circuits Mx, My BM Bending moment measuring circuits Mx, My BM Bending moment measuring circuits Mx, My S Standard temp. range [+10°C - 4120°C [temp.adjustment [low temp. protective measures I High and low temp. range [+10°C - 4120°C [temp.adjustment] [low		63K0	63 kN
150K 150 kM 160K 160 kM 200K 200 kM 300K 300 kM 630K 630 kM 630K 7 Filege and thread 1 Mounting adapter N Y With mounting parts Plug protection N N No putp protection Y With putp protection Y With putp protection No No budg protection Y 2 Single or double measuring circuits Mx, My Bending moment measuring circuits Mx, My But Datafrage V Standard temp, range +10°C - 40°C E Extended temp, range +10°C - 40°C E Standard temp, range +1		100K	100 kN
160K 160 kN 200K 200 kN 200K 200 kN 200K 200 kN 400K 400 kN 500K 500 kN 500K 500 kN 500K 500 kN 630 kN 500 kN 7 With mounting parts No noing protection No No plug protection 1 1 m/V Single or double measuring circuits Mx, My 50 8 Single bridge 9 0 obseending moment measuring circuits Mx, My 8 Bending moment measuring circuits Mx, My 9 NO No bending moment measuring circuits Mx, My <		150K	150 kN
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		160K	160 kN
250k 250k 300k 300 kN 300k 300 kN 400k 400 kN 500k 500 kN 630 kG 630 kN Mechanical design T Thread T Mounting parts N No mounting parts Y Vifth mounting parts Y Vifth mounting parts Y Nominal sensitivity 1 1 1 mV/V Single or double measuring bridge DB Bending moment measuring circuits Mx, My BM Bending moment measuring circ		200K	200 kN
300K 300 kN 400K 400 kN 500K 500 kN 630K 630 kN Mechanical design F Flange and thread N Mounting adapter N V With mounting parts Plug protection N No plug protection Y Vith plug protection Y Nominal sensitivity 1 1 mV/V 1 mV/V Single or double measuring circuits Mx, My SB Bending moment measuring circuits Mx, My BM Bending moment measuring circuits Mx, My BM Berding moment measuring circuits Mx, My S Standard temp. range +10°C - 40°C textended temp. range +10°C - 40°C Extended temp. range +10°C - 180°C temp. adjustment low temp. protective measures H High and low temp. range -40°C - 180°C temp. adjustment low temp. protective measures B		250K	250 kN
400K 400 kN 500K 500 kN 630K 630 kN F Flange T Thread B Flange and thread Mounting adapter N No mounting parts Y With mounting parts Numing parts N No mounting parts Y Vith plug protection N No plug protection Y Vith plug protection Y Nominal sensitivity 2 Single or double measuring bridge SB Bending moment measuring circuits Mx, My No bending moment measuring circuits Mx, My Bending moment measuring circuits Mx, My BM Bending moment measuring circuits Mx, My B		300K	300 kN
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M M12 8-pole plug (for in-line amplifier series ILA)		С	MS 7-pole plug
		М	M12 8-pole plug (for in-line amplifier series ILA)

с-к-	630K	- F	- N	- N	- 2	DB	- NO	- S	- A	- F
	630 kN	flange	no mounting parts	no plug protection	2 mV/V	double bridge	no bending moment Mx, My	standard temperatur	5 m fixed cable type SM C	free ends



Order Numbers | Configurable Variants

Item	Description
Mechanical design	The series K force transducer has different mechanical interfaces depending on the nominal load.
	F = Flange version nominal load: 10 - 630 kN
	T = Threaded version nominal load: 0.2 - 2.5 kN and 10 - 63 kN
	B = Flange & threaded version nominal load: 4 - 6.3 kN
Mounting adapter	Depending on the nominal load, the force transducer series K can be equipped with additional attachments. The
-	attachments are all pre-assembled at the factory.
	- Nominal load: 0.2 - 2.5 kN with base plate M8 screwed
	- Nominal load: 4 - 6.3 with base plate M10x1 screwed
	- Nominal load: 10 - 63 kN with base plate M20x1.5 screwed
	- Nominal load: 100 - 160 kN with base plate and thread adapter M30x2 screwed
	- Nominal load: 200 - 300 kN with base plate and threaded adapter M42x3 screwed
	- Nominal load: 400 - 500 kN with base plate and threaded adapter M56x4 screwed
	- Nominal load: 630 kN with base plate and threaded adapter M56x4 screwed
Plug protection	In special cases it may be necessary to additionally equip the electrical connections on the force transducer series K with
	a protective profile around the plug connection. Dimensions depending on nominal load.
Nominal sensitivity	The series K force transducer is specified for a permissible osccilation stress ± 80% (@2 mV/V). For the nominal forces 100
_	kN - 500 kN the option nominal value 1 mV/V can be selected. This allows a permissible osccilation stress of $\pm 100\%$ (@1
	mV/V) to be achieved for these nominal force ranges.
Single or double	For redundancy reasons, it is necessary for example in safety-relevant applications, to check the safety-relevant integrity.
measuring bridge	of the measuring signal by means of a second measuring bridge (functional redundancy in the same force transducer). Via
	on the measuring signal by means or a second measuring on degradulation are durating in the same order transacter), that two socials K force transducers output signals are processed and evaluated
4-030 KN	independently of each other. This makes it possible to connect two measuring amplifiers with different characteristics
	independently of each other. This makes it possible to contract two measuring amplifiers with different characteristics (DC/CE) . The second redundant measuring circuit is characterised by no crossful between the channels at different
	corrier frequencies. The selection of a double measuring bridge affects the number of connection sockets and measuring
	caller inequencies. The selection of a double measuring bridge anects the number of connection sockets and measuring
Bending moment	The series K force transducer can be optionally equipped with bending moment measuring circuits. The additional
measuring circuits	bending moment measuring circuits can be measured to control the horizontal bending moments Mx and My and can be
Мх, Му	provided as separate channels. The selection of bending moment measuring circuits affects the number of connection
4 - 630 kN	sockets and measuring cables (if selected).
Temperature range	The selection of the temperature range has an effect on the feature electrical transducer connection / measuring cables,
	additonal temperature compensation and additional protective measures for high and / or low temperature ranges.
	S = For the standard temperature range +10°C - +60°C shielded measuring cables type SMC are used.
	$E =$ For the extended temperature range +10°C - \leq +120°C shielded high/low temperature measuring cables type TMC are
	used additional temperature compensation
	L = For the low and extended temperature range -40°C - ≤ +120°C shielded high/low temperature measuring cables type
	TMC are used additional temperature compensation additional protective measures for use in the low temperature
	range
	H = For the high temperature range +10° - +180°C shielded high/low temperature measuring cables type TMC are used
	additional temperature compensation additional protective measures for use in the high temperature range
	B = For the high and low temperature range -40° - +180°C shielded high/low temperature measuring cables type TMC are
	used additional temperature compensation additional protective measures for use in the high and low temperature
	range
	Note: temperature compensation ensures that the series K force transducer fullfills the metrological characteristics over
	the selected temperature range.
Electrical	The series K force transducer can be configured with fixed push-pull connection plugs (female) or fixed cables (type SMC
transducer	or I MC) in different lengths.
connection	P = LEMO connection socket(s) / -pole push-puil
	A = 5 m Tixed standard measuring cable type SMC
	B = 10 m tixed standard measuring cable type SMC
	S = 5 m fixed nign/low temperature measuring cable type I MC
	notes: the number of connection plugs and measuring cables results from the number of selected measuring bridges.
	I he type of measuring cable depends on the selected temperature range.
Cable connection	If the series K force transducer is configured with fixed measuring cables, different connector types for strain-gauge
type	measuring amplifiers can be selected in addition to open cable ends. The assembly of the selected connectors is carried
	out by GTM. The force transducer can be connected directly to a measuring amplifier.
	P = LEMO push-pull connection socket(s) no fixed measuring cables
	F = free cable ends on all configured measuring circuits
	A = D-Sub 9-pin on all configured measuring circuits
	B = D-Sub 15-pin on all configured measuring circuits
	C = MS 7-pole on all configured measuring circuits
	M = M12 8-pole on all configured measuring circuits



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Description	Order number			
Measuring cable				
Standard measuring cable grey 5 m shielded and twisted in pairs cable sheath Ø 6.5 mm 6-wire technology transducer connection: straight plug (male) type LEMO 7-pole push-pull cable end amplifier: open	S-CAB-SMC-L-5M-F			
Double-shielded measuring cable yellow 5 m double shielded and twisted in pairs cable sheath Ø 6.5 mm 6-wire technology transducer connection: straight plug (male) type LEMO 7-pole push-pull (male) cable end amplifier: open	S-CAB-DMC-L-5M-F			
Temperature-resistant measuring cable red 5 m shielded and twisted in pairs cable sheath Ø 7.2 mm 6-wire technology transducer connection: straight plug (male) type LEMO 7-pole push-pull (male) cable end amplifier: open	S-CAB-TMC-L-5M-F			
High flexible measuring cable black 5 m double shielded and twisted in pairs cable sheath Ø 2.9 mm 6-wire technology transducer connection: straight plug (male) type LEMO 7-pole push-pull (male) cable end amplifier: open	S-CAB-FMC-L-5M-F			
Configurable measuring cable type SMC, DMC, TMC, FMC in different lengths with different connectors	C-CAB			
Series K Base plate (1 piece)				
Series K 0.2 - 0.5 kN base plate	S-MA-K-BP-00			
Series K 1 - 2.5 kN base plate	S-MA-K-BP-01			
Series K 4 - 6.3 kN base plate	S-MA-K-BP-02			
Series K 10 - 30 kN base plate	S-MA-K-BP-03			
Series K 40 - 63 kN base plate	S-MA-K-BP-04			
Series K 100 - 160 kN base plate	S-MA-K-BP-05			
Series K 200 - 300 kN base plate	S-MA-K-BP-06			
Series K 400 - 500 kN base plate	S-MA-K-BP-07			
Series K 630 kN base plate	S-MA-K-BP-08			
Note: 0.2 - 0.5 kN Material: aluminium				
Series K bolts outer hole circle (1 set)				
Series K 0.2 - 0.5 kN bolts set outer hole circle	S-MA-K-BO-00			
Series K 1 - 2.5 kN bolts set outer hole circle	S-MA-K-BO-01			
Series K 4 - 6.3 kN bolts set outer hole circle	S-MA-K-BO-02			
Series K 10 - 63 kN bolts set outer hole circle	S-MA-K-BO-03			
Series K 100 - 160 kN bolts set outer hole circle	S-MA-K-BO-04			
Series K 200 - 300 kN bolts set outer hole circle	S-MA-K-BO-05			
Series K 400 - 500 kN bolts set outer hole circle	S-MA-K-BO-06			
Series K 630 kN bolts set outer hole circle	S-MA-K-BO-07			
Note: 1 set for mounting the foot plate over outer hole circle				

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Order Numbers | Accessories

	Description	Order number
Series K load b	utton threaded version (1 piece)	
Series K 0.2 - 2.	5 kN load button threaded version	S-MA-K-LB-T-00
Series K 4 - 6.3	κN load button threaded version	S-MA-K-LB-T-01
Series K 10 -63	kN load button threaded version	S-MA-K-LB-T-02
Series K 100 - 1	60 kN load button threaded version	S-MA-K-LB-T-03
Series K 200 - 3	00 kN load button threaded version	S-MA-K-LB-T-04
Series K 400 - 6	30 kN load button threaded version	S-MA-K-LB-T-05
Series K load b	utton flange version (1 piece)	
Series K 4 - 6.3	KN load button flange version	S-MA-K-LB-F-00
Series K 10 - 63	kN load button flange version	S-MA-K-LB-F-01
Series K 100 - 1	60 kN load button flange version	S-MA-K-LB-F-02
Series K 200 - 30	00 kN load button flange version	S-MA-K-LB-F-03
Series K 400 - 5	00 kN load button flange version	S-MA-K-LB-F-04
Series K 630 kN	load button flange version	S-MA-K-LB-F-05
Series K flange	e tensile force introduction (1 piece)	
Series K 4 - 6.3	KN flange tensile force introduction	S-MA-K-F-F-00
Series K 10 - 63	kN flange tensile force introduction	S-MA-K-F-F-01
Series K 100 - 1	60 kN flange tensile force introduction	S-MA-K-F-F-02
Series K 200 - 3	00 kN flange tensile force introduction	S-MA-K-F-F-03
Series K 400 - 5	00 kN flange tensile force introduction	S-MA-K-F-F-04
Series K 630 kN	flange tensile force introduction	S-MA-K-F-F-05
Series K bolts i	nner hole circle (1 set)	
Series K 4 - 6.3	<n bolt="" bolts="" circle<="" inner="" set="" td="" =""><td>S-MA-K-BI-00</td></n>	S-MA-K-BI-00
Series K 10 - 63	kN bolts set inner hole circle	S-MA-K-BI-01
Series K 100 - 1	60 kN bolts set inner hole circle	S-MA-K-BI-02
Series K 200 - 3	00 kN bolts set inner hole circle	S-MA-K-BI-03
Series K 400 - 5	00 kN bolts set inner hole circle	S-MA-K-BI-04
Series K 630 kN	bolts set inner hole circle	S-MA-K-BI-05
Note: 1 set for mo	unting the tensile force introduction via inner hole circle	
Series K tensio	n bolts (1 set)	
Series K 4 - 6.3	<n bolts<="" td="" tension="" =""><td>S-MA-K-TB-00</td></n>	S-MA-K-TB-00
Series K 10 - 63	kN tension bolts	S-MA-K-TB-01
Series K 100 - 1	60 kN tension bolts	S-MA-K-TB-02
Series K 200 - 3	00 kN tension bolts	S-MA-K-TB-03
Series K 400 - 5	00 kN tension bolts	S-MA-K-TB-04
Series K 630 kN	tension bolts	S-MA-K-TB-05
Note: expansion s	screws are recommended for dynamic use	



Order Numbers | Accessories

	Description	Order number
Series K	thrust piece (1 piece)	
Series K	0.2 - 2.5 kN thrust piece	S-MA-K-TP-00
Series K	4 - 6.3 kN thrust piece	S-MA-K-TP-01
Series K	10 - 30 kN thrust piece	S-MA-K-TP-02
Series K	40 - 63 kN thrust piece	S-MA-K-TP-03
Series K	100 - 160 kN thrust piece	S-MA-K-TP-04
Series K	200 - 300 kN thrust piece	S-MA-K-TP-05
Series K	400 - 500 kN thrust piece	S-MA-K-TP-06
Series K	630 kN thrust piece	S-MA-K-TP-07
Series K	threaded adapter flange (1 piece)	
Series K	10 - 63 kN threaded adapter flange	S-MA-K-TAF-00
Series K	100 - 160 kN threaded adapter flange	S-MA-K-TAF-01
Series K	200 - 300 kN Threaded adapter flange	S-MA-K-TAF-02
Series K	400 - 500 kN Threaded adapter flange	S-MA-K-TAF-03
Series K	630 kN Threaded adapter flange	S-MA-K-TAF-04
Series K	tension Adapter (1 piece)	
Series K	4 - 6.3 kN tension adapter	S-MA-K-TA-00
Series K	10 - 63 kN tension adapter	S-MA-K-TA-01
Series K	100 - 150 kN tension adapter	S-MA-K-TA-02
Series K	200 - 300 kN tension adapter	S-MA-K-TA-03
Series K	400 - 500 kN tension adapter	S-MA-K-TA-04
Series K	630 kN tension adapter	S-MA-K-TA-05
Series K	tension rod (1 piece)	
Series K	0.2 - 2.5 kN tension rod	S-MA-K-TR-00
Series K	4 - 6.3 kN tension rod	S-MA-K-TR-01
Series K	10 - 63 kN tension rod	S-MA-K-TR-02
Series K	100 - 150 kN tension rod	S-MA-K-TR-03
Series K	160 kN tension rod	S-MA-K-TR-04
Series K	200 kN tension rod	S-MA-K-TR-05
Series K	250 - 300 kN tension rod	S-MA-K-TR-06
Series K	400 - 500 kN tension rod	S-MA-K-TR-07
Series K	630 kN tension rod	S-MA-K-TR-08
Series K	kulový plášť / matice(1 pair)	
Series K	0.2 - 40 kN spherical shell / nut	S-MA-K-SWN-00
Series K	50 - 63 kN spherical shell / nut	S-MA-K-SWN-01
Series K	100 - 150 kN spherical shell / nut	S-MA-K-SWN-02
Series K	160 - 200 kN spherical shell / nut	S-MA-K-SWN-03
Series K	250 - 400 kN spherical shell / nut	S-MA-K-SWN-04
Series K	500 - 600 kN spherical shell / nut	S-MA-K-SWN-05
Series K	630 kN spherical shell / nut	S-MA-K-SWN-06

Subject to change without notice. All information describes our products in general terms. They do not represent agreed quality in the sense of § 434 Para. 1 of the BGB (German Civil Code). Illustrations may differ from originals.



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