

Data sheet

Force Transfer Standard
Series KTN-D
(10 kN – 10000 kN)



Benefits/Application

- Accuracy class VN
- Hermetically sealed
- Insensitive against parasitic forces and moments
- Little weight
- For static compressive forces
- For highest precision requirements
- Very small force application effect
- Easy adaption

Options/Accessories

- Second redundant measuring circuit
- Bending moment circuits

Classification

Nominal force/kN	10	20	50	100	200	500	1000	2000	3000	5000	10000
Class											
VN ¹⁾	✓	✓	✓	✓	✓	✓	✓				
00 ²⁾	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
0,5 ²⁾	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

1) GTM-Classification, better then class 00 according to ISO 376.

2) Class according to ISO 376

Technical data

Class VN

	Nominal force	F_{nom}	kN	10	20	50	100	200	500	1000
Metrological Data	Force measurement range		%	40 - 100						
	Interpolation error	f_c	%	0,002						
	Reversibility error	v	%	0,06						
	Repeatability error in unchanged mounting position	b'	%	0,002						
	Reproducibility error in different mounting positions	b	%	0,005						
	Zero error	f_0	%	0,008						
	Creep		%	0,008						
	Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,01						
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,01						
	Electrical Data	Rated characteristic value	C_{nom}	mV/V	2					
Input resistance		R_e	Ω	>1200			>1100			>1400
Output resistance		R_a	Ω			>900				>1100
Insulation resistance		R_{is}	Ω			>10 ⁹				
Operating range of excitation voltage		$B_{U,G}$	V	5 - 12						
Protection (DIN EN 60529)				54						
Mechanical Data	Mass ¹⁾	m	kg	2,2	3,2	3,4	6,4	10,9	28,4	
	Force limit		%	110						
	Breaking force		%	200						
	Permissible eccentricity	e_G	mm			5				10
	Rated temperature range	$B_{T,nom}$	°C	17 - 27						
	Operating temperature range	$B_{T,G}$	°C	10 - 35						

1) Incl. force transmission

Technical data

Class 00

Nominal force		F_{nom}	kN	10	20	50	100	200	500	1000	2000	3000	5000		
Metrological Data	Force measurement range		%	20 - 100											
	Interpolation error	f_c	%	0,02											
	Reversibility error	v	%	0,06											
	Repeatability error in unchanged mounting position	b'	%	0,023											
	Reproducibility error in different mounting positions	b	%	0,045											
	Zero error	f_0	%	0,01											
	Creep		%	0,01											
	Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,01											
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,01											
	Electrical Data	Rated characteristic value	C_{nom}	mV/V	2										
Input resistance		R_e	Ω	>1200	>1100				>1400	>1100	>900				
Output resistance		R_a	Ω	>900				>1100	>900	>800					
Insulation resistance		R_{is}	Ω	>10 ⁹											
Operating range of excitation voltage		$B_{U,G}$	V	5 - 12											
Protection (DIN EN 60529)				54											
Mechanical Data	Mass ¹⁾	m	kg	2,2	3,2	3,4	6,4	10,9	28,4	71,3	175	178			
	Force limit		%	110											
	Breaking force		%	200											
	Permissible eccentricity	e_G	mm	5					10						
	Rated temperature range	$B_{T,nom}$	°C	17 - 27											
	Operating temperature range	$B_{T,G}$	°C	10 - 35											

1) Incl. force transmission

Technical data

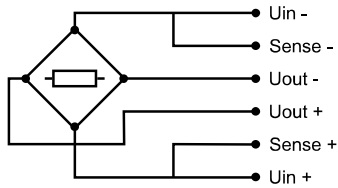
Class 0,5

Nominal force		F_{nom}	kN	10	20	50	100	200	500	1000	2000	3000	5000	10000
Metrological Data	Force measurement range		%	20 - 100										
	Interpolation error	f_c	%	0,04										
	Reversibility error	v	%	0,14										
	Repeatability error in unchanged mounting position	b'	%	0,045										
	Reproducibility error in different mounting positions	b	%	0,09										
	Zero error	f_0	%	0,02										
	Creep		%	0,02										
	Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,02										
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,02										
	Rated characteristic value	C_{nom}	mV/V	2										
Electrical Data	Input resistance	R_e	Ω	>1200	>1100				>1400	>1100	>900	2)		
	Output resistance	R_a	Ω	>900				>1100	>900	>800	2)			
	Insulation resistance	R_{is}	Ω	>10 ⁹										
	Operating range of excitation voltage	$B_{U,G}$	V	5 - 12										
	Protection (DIN EN 60529)			54										
Mechanical Data	Mass ¹⁾	m	kg	2,2	3,2	3,4	6,4	10,9	28,4	71,3	175	178	2)	
	Force limit		%	110										
	Breaking force		%	200										
	Permissible eccentricity	e_G	mm	5				10						
	Rated temperature range	$B_{T,nom}$	°C	17 - 27										
	Operating temperature range	$B_{T,G}$	°C	10 - 35										

1) Incl. force transmission

2) Data on request

Cable connection



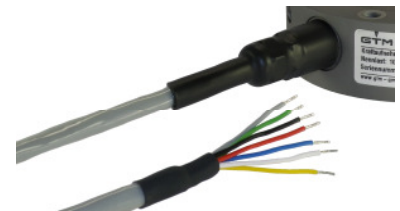
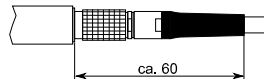
Connection pluggable ¹⁾²⁾		End not connected	
7-pin LEMO Series 0		Grey cable	
Female: - Male:		Ø 6,5 mm	
		6 x 0,25 mm ²	
		Temperature range: -35 °C bis +90 °C	
Connection		Pin	Wire colour
Supply voltage (+)	U _{in+}	3	blue
Supply voltage (-)	U _{in-}	2	black
Measurement signal (+)	U _{out+}	1	white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

1) View too weldingside

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



Pluggable cable connection



End not connected (optional)

- Cable is not standard scope of supply
- Cable length 5 m. Other cable lengths on request
- Other connector types on cable end: D-Sub 9; D-Sub 15; M-S 7pol
- Configuration with customer defined connection is possible
- Optional fixed cable connection to transducers possible

Option: 2.Measuring circuit

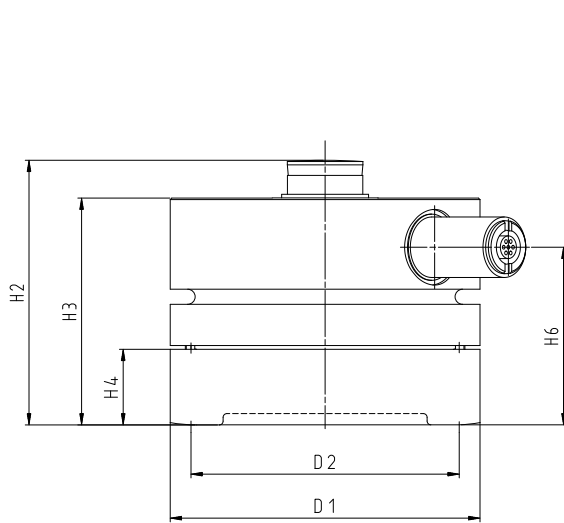
- In case of two circuits the technical data are similarly valid for both circuits

Option: Bending moment

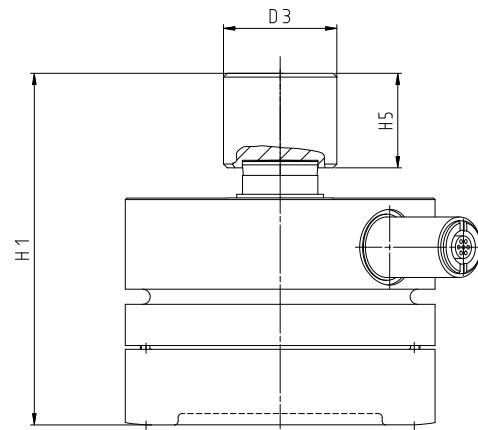
Nominal force	F_{nom}	kN	10 - 10000 (2mV/V)
Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,2
Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,2
Input resistance	R_e	Ω	400
Operating range of excitation voltage	$B_{U,G}$	V	5 - 12

- The bending moment circuits may be advantageously used for the adjustment of the force introduction

Mating dimensions



standard scope of supply



component part: load button

Nominal force	F_{nom}	kN	10	20	50	100	200	500	1000	2000	3000	5000	10000
Diameter	$\varnothing D_1$	mm	82		92		120	140	200	270	375		346
Diameter	$\varnothing D_2$	mm	71		82		104	126	184	240	351		250
Diameter	$\varnothing D_3$	mm	30		42		54	80	110	160	200		250
Height	H_1	mm	93		107		124	149	195	267	360		460
Height	H_2	mm		70			77	93	125	153	203		280
Height	H_3	mm		60			46,75	82,35	103	140	187		270
Height	H_4	mm			20				25		27		110
Height	H_5	mm	25		39		49	58	75	119	163		186
Height	H_6	mm	47			46		54,5	73,5	126	157		192

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



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