

Data Sheet | Force Transducer Series ZST

Nominal Force
200 - 10.000 kN



Key Facts

- ▶ for static tensile forces
- ▶ insensitive against parasitic forces and moments
- ▶ standardised connection dimensions
- ▶ high precision
- ▶ low weight

Options | Accessories

- ▶ Bending moment circuits
- ▶ temperature measurement with PT100

Technical Data | 200 – 10.000 kN

Nominal Force		F_{nom}	kN	200	500	600	1000	1200	2000	5000 6000	10000	
Metrological Data	Classification			0.5 ¹⁾								
	Force measurement range		%	20 - 100								
	Interpolation error	f_c	%	0.045								
	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		%	0.03								
	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								
	Electrical Data	Rated characteristic value	C_{nom}	mV/V	2							
		Input resistance	R_e	Ω	700 - 800							
Output resistance		R_a	Ω	600 - 750								
Insulation resistance		R_{is}	Ω	> 10 ⁹								
Operating range of excitation voltage		$B_{U,G}$	V	5 - 12								
Protection (DIN EN 60529)				54								
Limits	Weight without ball cup		kg	2.4	9	10	16.5	19	43	188	365	
	Weight with ball cup		kg	3.5	12	13	25	27	66	212	550	
	Force limit		%	110								
	Breaking force		%	300								
	Rated temperature range	$B_{T,nom}$	°C	17 - 27								
	Operating temperature range	$B_{T,G}$	°C	10 - 35								

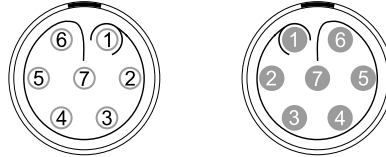
1) Classification according to ISO 376

Cable connection | 200 – 10.000 kN



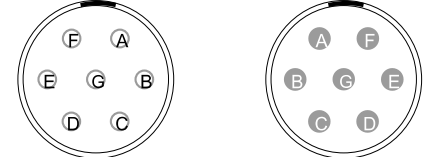
Connection
pluggable^{1) 2)}

7-pin LEMO Series 0
Female: - Male:



Connection
pluggable^{1) 3) 4)}

7-pin Amphenol
Female: - Male:



Connection		Pin	Pin
Supply voltage (+)	U_{in+}	3	C
Supply voltage (-)	U_{in-}	2	B
Measurement signal (+)	U_{out+}	1	A
Measurement signal (-)	U_{out-}	4	D
Sense (+)	Sense+	5	F
Sense (-)	Sense-	6	G
Shielding		Housing	Housing

1) View too weldingside

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

3) Amphenol Series 97, Female Typ: MS3102A-16S-1SF; Male Typ: MS3106A-16S-1P

4) Only available from size 500 kN

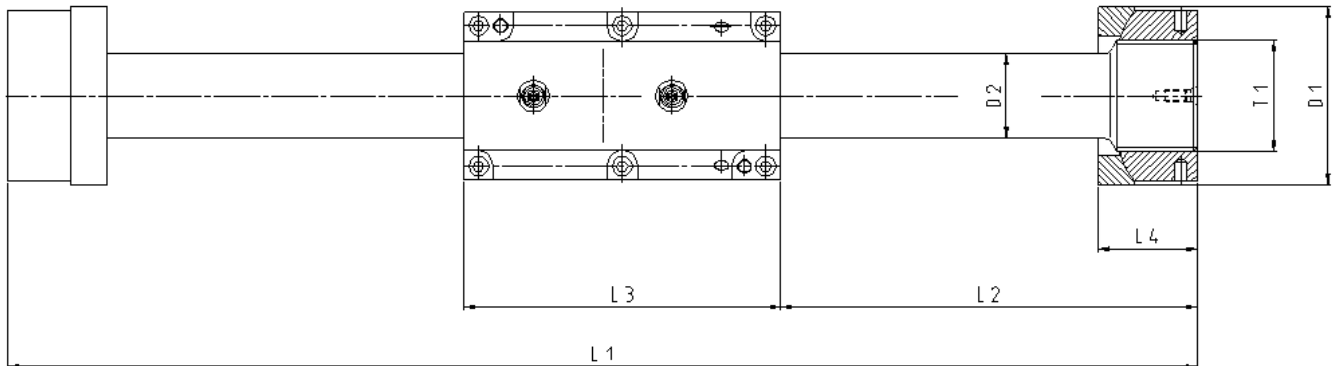
- ▶ Standard cable length type SMC 5m. Other cable types and lengths on request.
- ▶ Other connector types available for the cable end: D-Sub 9; D-Sub 15; M-S7pol.
- ▶ Configuration with customized connector at cable end possible.

Option: bending moment circuits

Nominal force	F_{nom}	kN	200 - 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
Rated characteristic value	C_{nom}	mV/V	1)
Input resistance	R_e	Ω	400
Operating range of excitation voltage	$B_{U,G}$	V	5 - 12

1) Specification shown on the label

Mating dimensions



Nominal force compression/tension	$\pm F_{nom}$	kN	200	500	600	1000	1200	2000	5000 6000	10000
Diameter	$\varnothing D_1$	mm	64 _{c11}	90 _{c11}		120 _{c11}		165 _{c11}	270 _{c11}	345
Diameter	$\varnothing D_2$	mm	26	42.5	46	58	63.5	83	148	191
Lenght	L_1	mm	500	600	650			900	1400	1500
Lenght	L_2	mm	190	220	245			370	565	684
Lenght	L_3	mm	120	160					170	220
Lenght	L_4	mm	32	49.8		71.4		103.2	171	200
Thread	T_1		M30x2	M56x4		M64x4		M90x4	M160x6	M200x6

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).



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Illustrations may differ from originals.