

Data sheet

Force Transducer Series UB (20 kN – 500 kN)



Benefits/Application

- For static and dynamic tensile and compressive forces
- Compact construction
- Easy assembling, lots of possibilities
- Very high-cycle fatigue resistant up to 100% of nominal load
- Little weight

Options/Accessories

- Optional solid or plug-in connection
- Alternatively, orientation of the cable connection to the key area

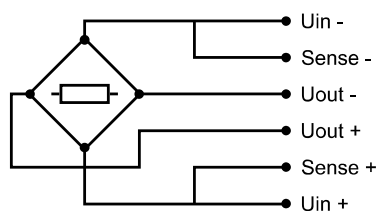
Technical data

Metrological Data	Nominal force compression/tension	$\pm F_{nom}$	kN	20	50	100	200	500
	Accuracy class			0,2		0,3		
	Linearity error	d_{lin}	%	0,2		0,3		
	Hysteresis	h	%	0,05		0,07		
	Repeatability (f.s.)		%	0,01				
	Zero error	f_0	%	0,02				
	Creep		%	0,05				
	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				
	Eccentricity effect		%/mm	0,05				
	Lateral force effect		%/(0,1·F _{nom})	0,1				
	Torque effect		%/(mm·F _{nom})	0,1				
	Characteristic value difference, tension/compression force	d_{zd}	%	max. 2				
	Electrical Data	Zero signal deviation	$d_{s,0}$	%	0,5			
Input resistance		R_e	Ω	350 - 450				
Output resistance		R_a	Ω	200 - 300		250 - 350	300 - 400	
Insulation resistance		R_{is}	Ω	>10 ⁹				
Operating range of excitation voltage		$B_{U,G}$	V	5 - 12				
Protection (DIN EN 60529)				54				

Technical data

Mechanical Data	Nominal force compression/tension	$\pm F_{nom}$	kN	20	50	100	200	500
	Rated Displacement	s_{nom}	mm	0,04	0,07	0,09	0,12	0,21
	Spring rigidity	c_{ax}	kN/mm	500	710	1100	1650	2350
	Mass	m	kg	0,3		1	1,5	8
	Proportionate moving mass	m_{mess}	kg	0,1		0,3	0,6	3,5
	Fundamental resonant frequency	f_G	kHz	7	8,5	6		3
	Permissible oscillation stress		%	100				
Limits	Force limit		%	150				
	Breaking force		%	300				
	Lateral force limit		%	80				
	Permissible eccentricity	e_G	mm	10				
	Rated temperature range	$B_{T,nom}$	°C	-10 - +60				
	Operating temperature range	$B_{T,G}$	°C	-10 - +80				

Cable connection



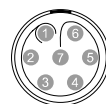
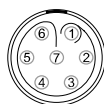
Permanent connection
end connected¹⁾

7-pin LEMO Series 1
Male



Connection
pluggable¹⁾²⁾

7-pin LEMO Series 0
Female: - Male:



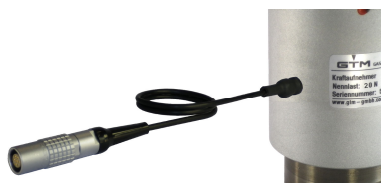
Permanent connection
end not connected

Grey cable
Ø 6,5 mm
6 x 0,25 mm²
Temperature range: -35 °C bis +90 °C

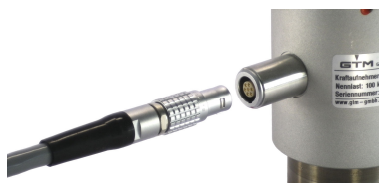
Connection		Pin	Pin	Color
Supply voltage (+)	U _{in+}	3	3	blue
Supply voltage (-)	U _{in-}	2	2	black
Measurement signal (+)	U _{out+}	1	1	white
Measurement signal (-)	U _{out-}	4	4	red
Sense (+)	Sense+	5	5	green
Sense (-)	Sense-	6	6	grey
Shielding		Housing	Housing	yellow

1) View too weldingside

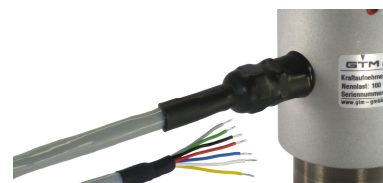
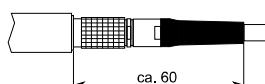
2) Female LEMO S.A. Typ: EGG.1B.307.CLL; Male: FGG.1B.307.CLA.D72



*Permanent connection
end connected*



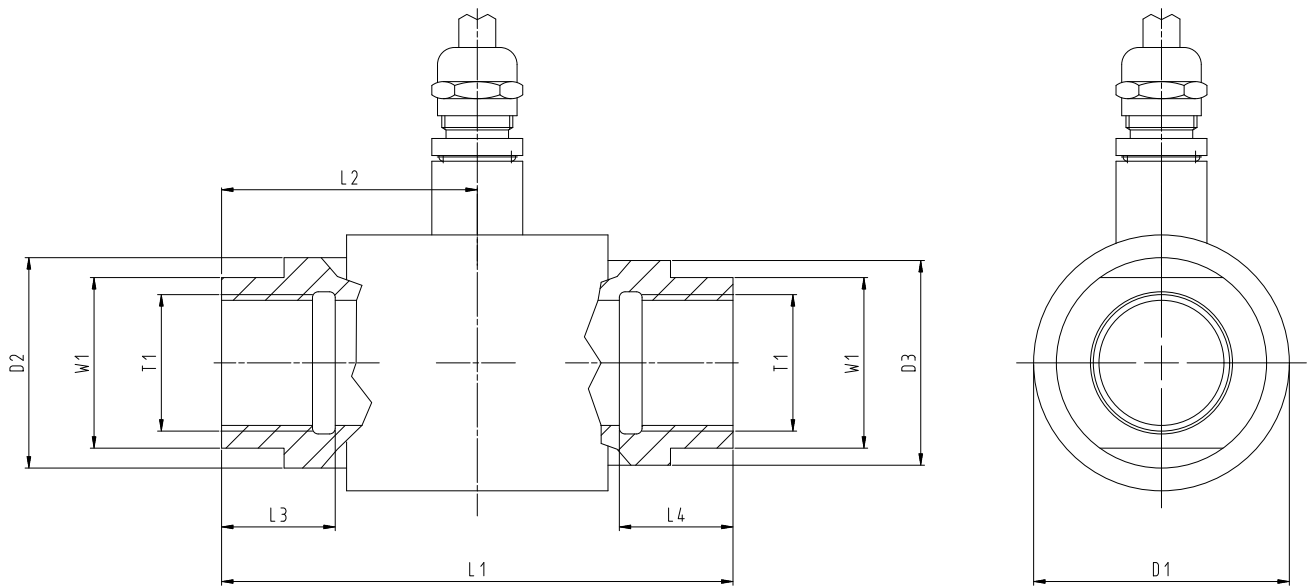
Connection pluggable



*Permanent connection
end not connected*

- 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"
- When ordering please specify if the cable connection should be aligned to the key area. Default orientation see drawing in the mating dimensions

Mating dimensions



Nominal force compression/tension	$\pm F_{nom}$	kN	20	50	100	200	500
Diameter	$\varnothing D_1$	mm	38		55	65	120
Diameter	$\varnothing D_2$	mm	30		45	55	110
Diameter	$\varnothing D_3$	mm	29		44	54	109
Lenght	L_1	mm	71		95	115	180
Lenght	L_2	mm	35,5		47,5	57,5	92
Lenght	L_3	mm	19		22	25	55
Thread	T_1		M20x1,5		M24x2	M30x2	M56x4
Width	W_1	mm	24		36	46	85

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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