

Data sheet

Multicomponent Transducer

Series MKA

(Size I – VI)



Benefits/Application

- Accuracy class 0.2
- For static and dynamic loads
- Very high-cycle fatigue resistant up to 80 % of nominal load
- Compact construction
- Little weight
- Largely flexible combination of forces and moments

Options/Accessories

- Optional solid or plug-in connection
- As a 3-, 4- or 6- component transducer available

Technical data

Metrological Data	Accuracy class		%	0,2
	Linearity error	d_{lin}	%	0,2
	Hysteresis	h	%	0,1
	Repeatability (f.s.)		%	0,01
	Creep		%	0,05
	Temperature effect on characteristic value per 10 K	TK_C	%/10 K	0,025
	Temperature effect on zero signal per 10 K	TK_0	%/10 K	0,04
Electrical Data	Input resistance	R_e	Ω	400 - 800
	Output resistance	R_a	Ω	350 - 700
	Insulation resistance	R_{is}	Ω	$> 10^9$
	Operating range of excitation voltage	$B_{U,G}$	V	5 - 12
	Protection (DIN EN 60529)			IP 50 ¹⁾
Mechanical Data	Rated Displacement	s_{nom}	mm	2)
	Spring rigidity	c_{ax}	kN/mm	2)
	Mass	m	kg	2)
	Proportionate moving mass	m_{mess}	kg	2)
	Fundamental resonant frequency	f_G	kHz	2)
Limits	Force limit		%	2)
	Torque limit		%	2)
	Breaking force		%	2)
	Breaking torque		%	2)
	Rated temperature range	$B_{T,nom}$	°C	10 - 60
	Operating temperature range	$B_{T,G}$	°C	5 - 80

1) Permanent connection

2) Data depending on configuration. Data available on request

Load range

		Size	I	II	III	IV	V	VI
Load range ¹⁾	F_{xy}	kN	0,3 - 30	1 - 80	2 - 200	3 - 300	5 - 500	25 - 500
Load range ¹⁾	F_z	kN	1 - 100	2 - 200	5 - 500	10 - 1000	20 - 1000	100 - 4000
Load range ¹⁾	M_{xy}	N·m	5 - 1500	25 - 5000	100 - 20000	250 - 25000	1000 - 100000	5000 - 200000
Load range ¹⁾	M_z	N·m	5 - 1000	25 - 5000	100 - 10000	250 - 15000	1000 - 25000	5000 - 200000

1) This specifies the minimum and maximum load of the component for which an MKA can be interpreted. Not every combination is possible. For the best possible design for your application please contact us. Other special load ranges / designs on request

Configuration examples

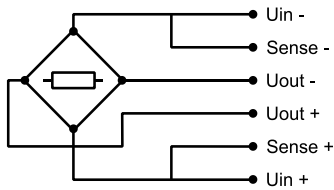
		MKA size	I	II	III	IV	V	VI	
	$\pm F_{nom}^{1)}$	kN	5	40	100	160	200	500	
	$\pm M_{nom}^{2)}$	N·m	250	3000	10000	15000	20000	50000	
Rated characteristic value	C_{Fx}, C_{Fy}	mV/V	2					1,6	
Rated characteristic value	C_{Fz}	mV/V	0,4					0,4	
Rated characteristic value	C_{Mx}, C_{My}	mV/V	2				1		
Rated characteristic value	C_{Mz}	mV/V	2				1		

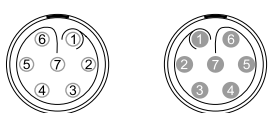
1) F_x, F_y, F_z

2) M_x, M_y, M_z

Other combinations of forces and moments are possible. The resulting nominal values are gladly given on request.

Cable connection



		Permanent connection ³⁾⁴⁾ end not connected		Steckbarer Kabelanschluss ¹⁾²⁾
		Grey cable Ø 6,5 mm 6 x 0,25 mm ² Temperature range: -35 °C to +90 °C	Black cable 6-wire Ø 2,9 mm 6 x 0,04 mm ² Temperature range: -50 °C to +105 °C	7-pin LEMO Series 0 Female: - Male: 
Connection		Color	Color	Pin
Supply voltage (+)	U _{in+}	blue	blue	3
Supply voltage (-)	U _{in-}	black	black	2
Measurement signal (+)	U _{out+}	white	white	1
Measurement signal (-)	U _{out-}	red	red	4
Sense (+)	Sense+	green	green	5
Sense (-)	Sense-	grey	yellow	6
Shielding		yellow	grey	Housing

1) View too weldingside

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

3) Gray cable with cable fitting P G7

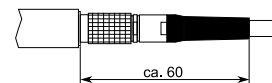
4) Black cable with cable fitting M 6



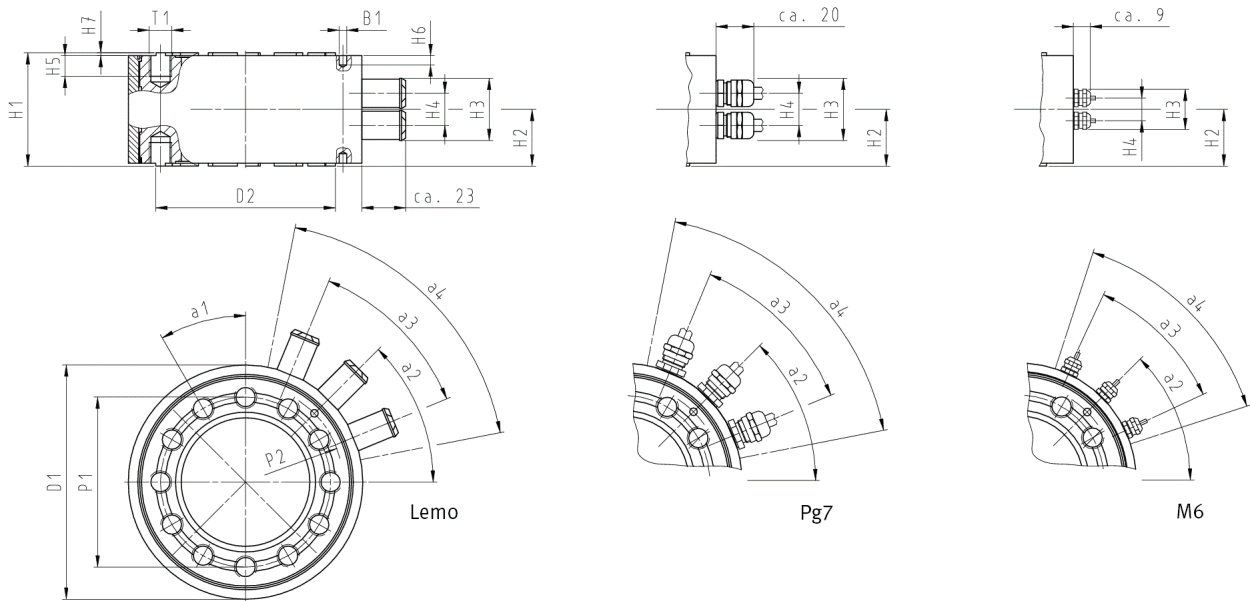
Permanent connection
end not connected



Plugable connection



Mating dimensions



Typ Connection			I LEMO	I Pg7	I M6	II LEMO	II Pg7	II M6	III LEMO	III Pg7	IV LEMO	IV Pg7	V LEMO	V Pg7	VI LEMO	VI Pg7	
Bore	$\varnothing B_1$	mm	4 H7										6H7	8H7			
Diameter	$\varnothing D_1$	mm	88			124			169		180		250		352		
Diameter	$\varnothing D_2$	mm	63-0,05			95-0,05			136-0,05		145-0,05		205-0,1		300-0,5		
Pitch circle diameter	$\varnothing P_1$	mm	60±0,1			90±0,1			130±0,1				200±0,2		280±0,2		
Centering diameter	$\varnothing P_2$	mm	68+0,05			103+0,05			145+0,05		155+0,05		220+0,05		315-0,05		
Thread	T_1		M8			M12			M16		M20			M30			
Height	H_1	mm	52			60			82		112		180		180		
Height	H_2	mm	26			30			41		56		90		90		
Height	H_3	mm	33		21	33		21	33				36				
Height	H_4	mm	17									20					
Height	H_5	mm	8			10,5			16		22		30		30		
Height	H_6	mm	5			7			8		10						
Height	H_7	mm	2										5		5		
Angle	a_1		12 x 30°													16 x 22,5° +11,25°	
Angle	a_2		45°														
Angle	a_3		45°	40°	45°	40°	45°				20						
Angle	a_4		68°	54°	68°	54°	68°				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
DEFINING PRECISION

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