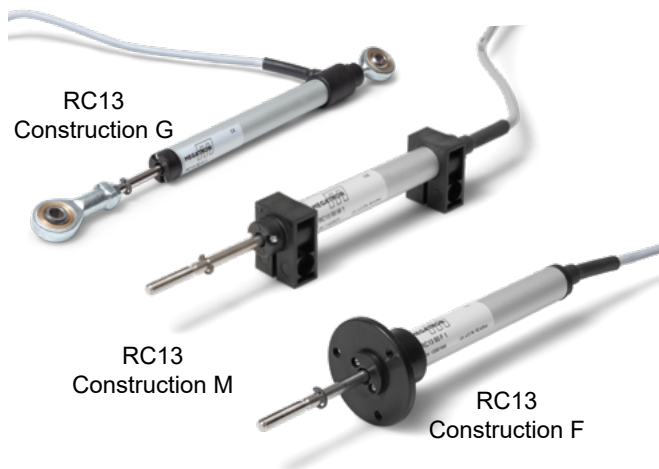


Data Sheet for Linear Sensors

Potentiometric Linear Transducer (Conductive Plastic)

Series RC13



The RC13 displacement sensors in IP60 (IP65 on request) are used in applications where a single push rod from 25 to 250 mm is recommended.

- Linear potentiometer (conductive plastic) with almost infinite resolution
- Measuring lengths from 25 mm to 250 mm
- Long life span (100 million movements)

The ball joints variant compensates movements transversely to the push rod, so that non-linear movements can also be coupled easily and without stress. The three types of construction open up a broad field of application.

Electrical Data	RC13-25	RC13-50	RC13-75	RC13-100	RC13-125	RC13-150	RC13-200	RC13-250
Effective electrical travel (mm +1/-0) 1.)	25	50	75	100	125	150	200	250
Total electrical travel (mm) 1.)	26 ±1	51 ±1	76 ±1	101 ±1	126 ±1	151 ±1	201 ±1	251 ±1
Total resistance (mm) 1.)	1 kOhm	2 kOhm	3 kOhm	4 kOhm	5 kOhm	6 kOhm	8 kOhm	6 kOhm
Resistance tolerance	±20%							
Independent linearity (best straight line) 1.)	±0.2 %	±0.1 %			±0.05 %			
Theoretical resolution 1.)	Almost infinite							
Max. / recommended wiper current 1.)	1 mA (@40 °C, 1 min in case of failure) / <1 µA							
Power rating @40 °C (0 W @120 °C)	≤ 0.5 W	≤ 1 W	≤ 1.5 W	≤ 2 W	≤ 2.5 W	≤ 3 W		
Isolation voltage 1.)	<100 µA @500 VAC, 1bar, 2s							
Isolation resistance 1.)	100 MOhm @ 500 VDC, 1bar, 2s							

Mechanical Data, Environmental Conditions,	RC13-25	RC13-50	RC13-75	RC13-100	RC13-125	RC13-150	RC13-200	RC13-250
Mechanical stroke (mm) 1.)	25 +5	50 +5	75 +5	100 +5	125 +5	150 +5	200 +5	250 +5
Lifetime (90 % effective electrical travel) 2.)	> 25 million meters or 100 million movements (the smaller value applies)							
Max. operational speed	< 10 m/s							
Operational force @ RT 1.) 2.)	≤ 0.5 N							
Operational temperature	-30 °C up to +100 °C							
Storage temperature	-50 °C up to +120 °C							
Protection grade (IEC60529)	IP60							
Vibration (IEC 68-2-6, Test Fc)	20 g (10..2000 Hz, 0.75 mm)							
Shock (IEC 68-2-27, Test Ea)	50 g, halfsine, 11 ms							
Housing length construction M (1 mm)	74.5	99.5	124.5	149.5	174.5	199.5	249.5	299.5
Housing length construction G (mm)	102	127	152	177	202	227	277	327
Housing length construction F (mm)	74.5	99.5	124.5	149.5	174.5	199.5	249.5	299.5

Data Sheet for Linear Sensors

Potentiometric Linear Transducer (Conductive Plastic)

Series RC13

Mechanical Data, Environmental Conditions, Miscellaneous	RC13-25	RC13-50	RC13-75	RC13-100	RC13-125	RC13-150	RC13-200	RC13-250
Mass construction M	45 g	55 g	65 g	75 g	85 g	95 g	115 g	135 g
Mass construction G	70 g	80 g	90 g	100 g	110 g	120 g	140 g	160 g
Mass construction F	60 g	70 g	80 g	90 g	100 g	110 g	130 g	150 g
Mounting parts (included in delivery)	Construction M: 2 x mounting brackets / construction G: 2 x ball joints							
Material housing	Aluminium, Nylon 66 G 25							
Material push rod	Stainless steel AISI303							
Connection type	Round cable 1 m 3-pole (Ø Leads: 3 x 0.20 mm ²)							

1.) According IEC 60393

2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives

Please note: Max. permissible supply voltage <75 VDC respectively <50 VAC in addition the max. power rating must be observed

Order Code						
Description	Selection: standard=black/bold , possible <i>options=grey/italic</i>					
Series:	RC13					
Effective electrical travel:						
25 mm		25				L0,2%
50 mm		50				L0,1%
75 mm		75				L0,1%
100 mm		100				L0,1%
125 mm		125				L0,05%
150 mm		150				L0,05%
200 mm		200				L0,05%
250 mm		250				L0,05%
Construction:						
Mounting Brackets				M		
Ball Joints				G		
Flange				F		
Electrical connection:						
Round cable 1 m					-	
<i>Option cable length in m</i>					<i>Kxx</i>	
Resistance tolerance :						
±20%						W20%
Independent linearity depends on electrical travel						
<i>(e.g. L0,2 means ±0.2%)</i>						see above

For higher quantities or on-going demand, additional options are available as described below on request

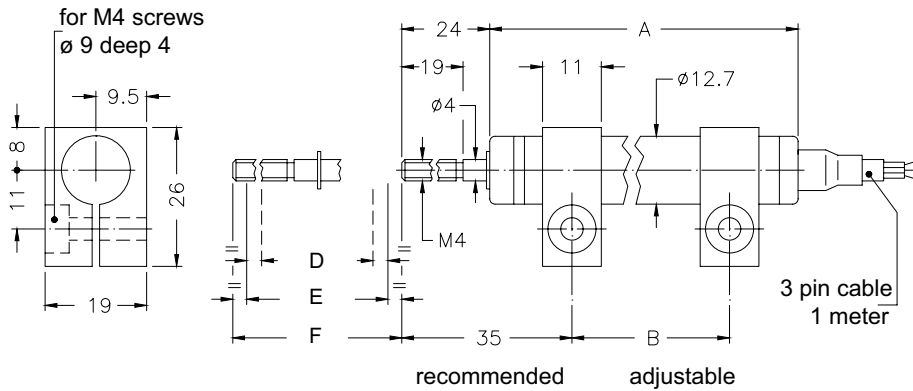
For example:

- Special axis length and much more
- IP65 protection grade on request

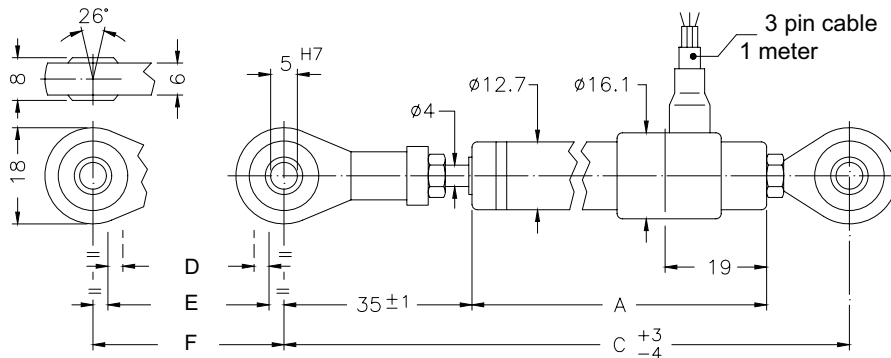
Note: When calibrating the linear transducer, be careful to set the stroke so that the output does not drop below 1 % or rise beyond 99 % of the supply voltage.

Drawing

Construction M - Mounting Brackets

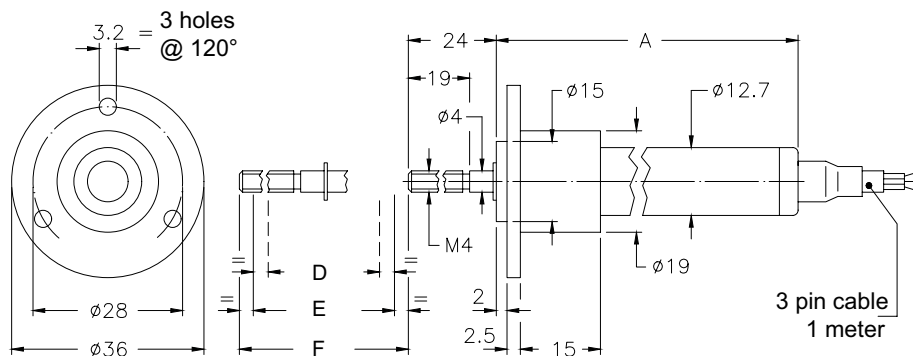


Construction G - Ball Joints



Construction F - Flange

Dimensions in mm



Dimensions	RC13-25	RC13-50	RC13-75	RC13-100	RC13-125	RC13-150	RC13-200	RC13-250
A [mm] construction M	74.5	99.5	124.5	149.5	174.5	199.5	249.5	299.5
A [mm] construction G	102	127	152	177	202	227	277	327
A [mm] construction F	74.5	99.5	124.5	149.5	174.5	199.5	249.5	299.5
B [mm] mounting brackets	42	67	92	117	142	167	217	267
C [mm] ball joints	153	178	203	228	253	278	328	378
D [+1-0 mm] effective el. travel	25	50	75	100	125	150	200	250
E [±1 mm] total el. travel	26	51	76	101	126	151	201	251
F [+5 mm] mech. travel	25	50	75	100	125	150	200	250

