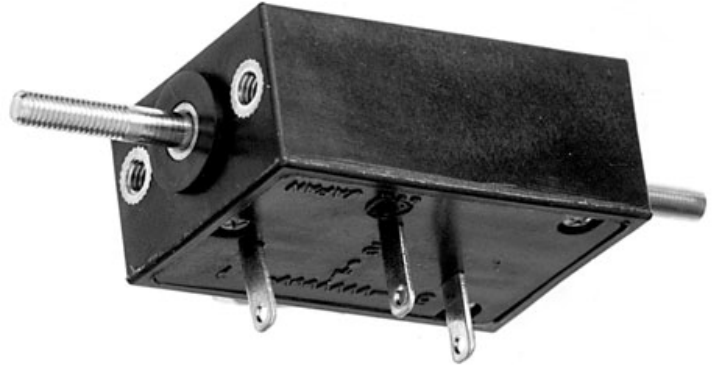


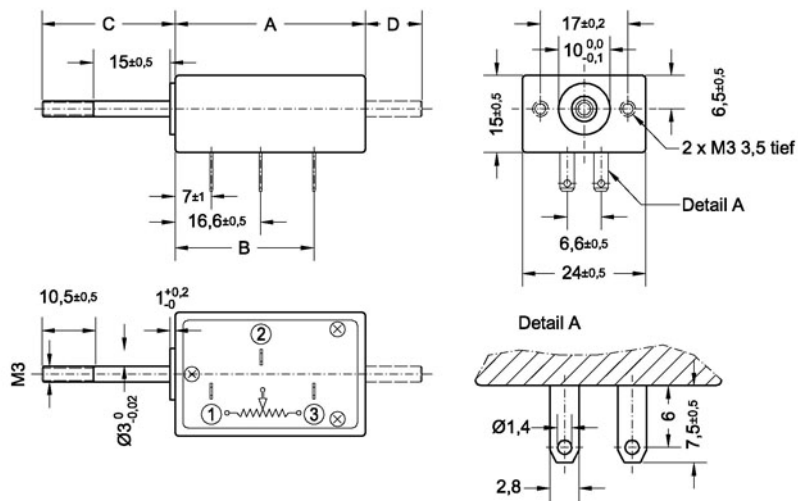
Series MM - Potentiometric Linear Transducer

- Conductive plastic element, resolution quasi infinite
- Electrical travel from 10 mm to 30 mm
- Small dimensions
- Double sleeve bearing
- Resistance values 500 Ohm to 10 kOhm
- Internal spring return device optional

The compact series MM are mounted in a Dusoplasthousing. The stainless shaft can be provided with a spring return device, thus it is useabel as a sensor.



Drawing



Wiring



Diagram is equivalent to the shaft position in the above drawing

Series MM - Potentiometric Linear Transducer

Dimensions

Type	MM(R) 11	MM(R) 15	MM(R) 20	MM(R) 30
A [± 1 mm]	37	37	52	52
B [$\pm 1,5$ mm]	27	27	42	42
C max. [$\pm 0,1$ mm]	26	31	36	46
C min. [$\pm 0,5$ mm]	15	15	15	15
D max. [$\pm 0,5$ mm]	11	16	21	31
D min. [$\pm 0,5$ mm]	0	0	0	0

Version with solder lugs qualified for push-on-contact acc. DIN 46247 part 3, and AMP 110 (2,8 x 0,5)
2 washers and 2 nuts included in delivery.

Tip: At lowest strokes, and if high resolution and life expectancy are required, we are recommending our inductive sensors with an inductive electronic. They work with a direct d.c. voltage-input and -output.

Electrical Data	MM 11	MM 15	MM 20	MM 30
Electrical Travel [$\pm 0,5$ mm]	10 mm	15 mm	20 mm	30 mm
Resistance Value	0,5, 1, 2, 5, 10 kOhm			
Resistance Tolerance	$\pm 10\%$			
Linearity Tolerance, Standard	$\pm 1\%$	$\pm 0,5\%$		
Linearity Tolerance, best	$\pm 0,5\%$			
Resolution	< 0,01 mm			
Power Rating at 40°C	0,2 W	0,3 W	0,4 W	0,5 W
Temperature Coefficient resistor	400 ppm/K			
Starting Resistance	< 2%			
Insulation	> 1000 MOhm (at 1000V DC)			
Dielectric Strength	1000 Veff. / 1 min.			
Max. Wiper Current	1 mA			
Recommended Wiper Current	< 1 μ A (voltage divider circuit)			

Series MM - Potentiometric Linear Transducer

Mechanical Data	MM 11	MM 15	MM 20	MM 30
Mechanical Travel	10 + 2 mm	15 + 2 mm	20 + 2 mm	30 + 2 mm
Operating Friction	0,3 N maximum			
Stopper Strength statically	20 N			
Weight	≈30 g			
Rod Bearingn	2 Sleeve Bearings			
Displacement Speed	2 m/s max.			
Average Life (Shaft Movements)	MM (without spring) 40Mio. MMR (with spring) 20Mio.			
Housing Material	Duroplast			
Rod Material	Stainless Steel			
Terminals	gold-plated solder lugs, for AMP 110 series (28 x 0,5 mm) or replacement types			

Ambient Conditions	
Operating Temperature	-30 ... + 105° C
Storage Temperature	-40 ... + 125° C
Vibration	15 g / 10 ... 2000Hz
Shock	50g / 11ms
Protection Class	IP40 / optional IP54 with a different connection

Options	
Mechanical	Electrical
<ul style="list-style-type: none"> • Special shaft (length, shape, bushing) • Spring return device (lower lifetime) • IP54 (Attention: different dimensions) 	<ul style="list-style-type: none"> • Special resistance values • Tighter tolerances • Center tapping

Order Code					
Series	Version	Travel	Res. Value	Res. Tolerance	Lin. Tolerance
MM	-	11	R5K	W10%	L1%
		15			
		20			
		30			
	R (with spring)				L0,5%

Example: MM R 15 R5K W10% L1%

Series MM with spring return device, elec. travel 15mm, resistance value 5 kOhm, resistance tolerance ± 10%, linearity tolerance ± 1%

The specifications and information in this datasheet cannot consider all special demands that are caused by the application. Because of this, they are no general description of the properties of the product.

21. April 2010. All specifications are subject to change without notice.