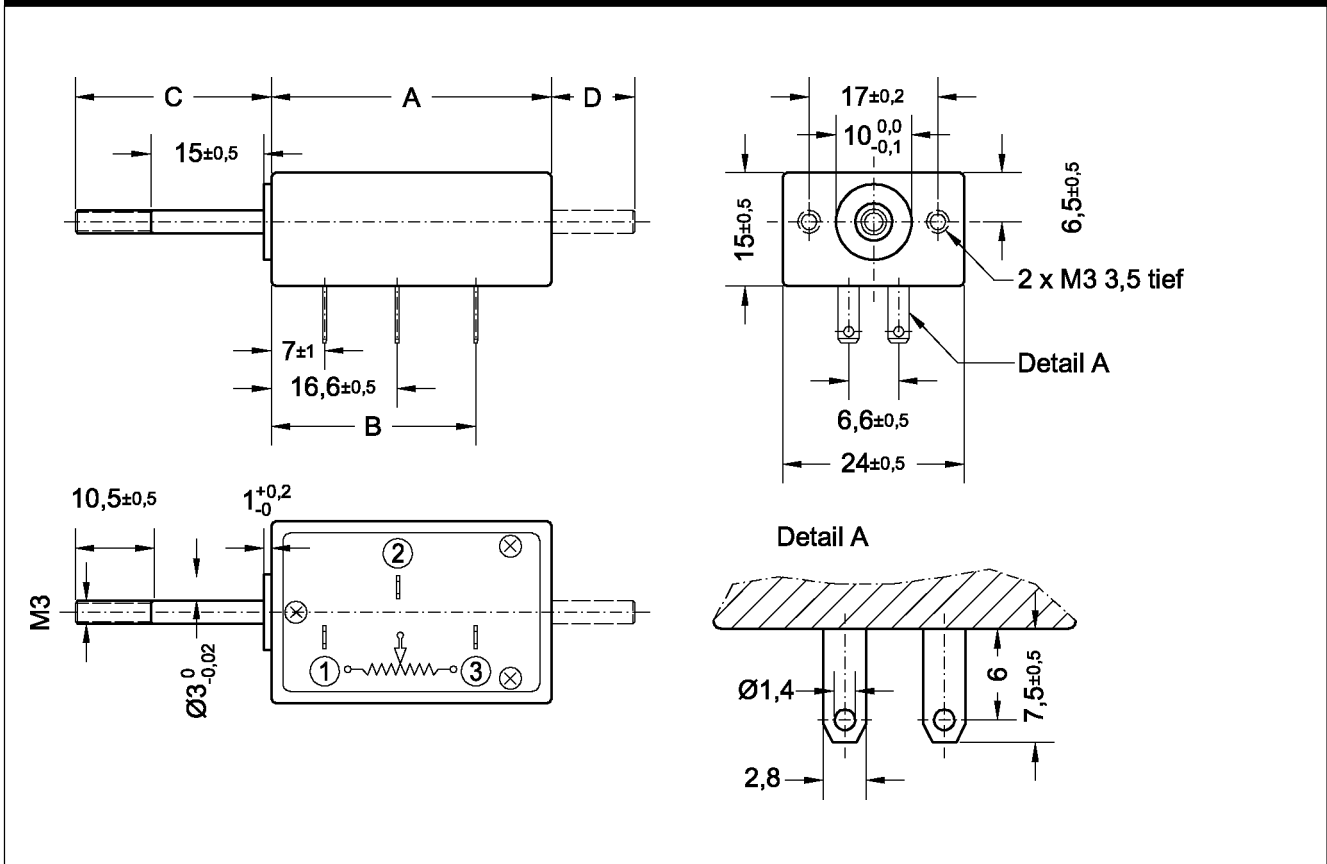


- High resolution (<0,01 mm) conductive plastic element
- Strokes from 10 to bis 30 mm
- Small dimensions
- Shaft with double bearing
- Resistance value from 500 Ohm to 10 kOhm
- Internal spring return device optional

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



**Drawing**



Dimensions					Electrical connection
Type	MM(R) 11	MM(R) 15	MM(R) 20	MM(R) 30	
A [±1 mm]	37	37	52	52	<p>Diagram is equivalent to the shaft position in the above drawing</p>
B [±1,5 mm]	27	27	42	42	
C max [±0,1 mm]	26	31	36	46	
C min [±0,5 mm]	15	15	15	15	
D max [±0,5 mm]	11	16	21	31	
D min [±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)  
 ->Included in delivery: 2 washers and 2 nuts.

**TIP:** At lowest strokes, and if high resolution and life expectance are required, we are recommending our inductive sensors with an internal electronic. They work with a direkt d.c. voltage-input and -output.



Electrical Specifications	MM 11	MM 15	MM 20	MM 30
Electrical stroke [±0,5 mm]	10	15	20	30
Resistance value [kOhm]	0,5, 1, 2, 5, 10			
Resistance tolerance [%]	±10 standard			
Best resistance tol. [%]	--			
Linearity tolerance [%]	±1 standard	±0,5 standard		
Best linearity tolerance [%]	±0,5 (opt.)	--		
Resolution [mm]	<0,01			
Max. power at 40°C [W]	0,2	0,3	0,4	0,5
Temperature coefficient/ res. ppm/K	400			
Starting resistance [%]	<2			
Insulation resistance [MOhm]	>1000 ( at 1000V DC)			
Dielectric strength	1000Veff./1 min.			
Max. wiper current [mA]	1			
Recommended wiper current [µA]	<1 (Voltage divider)			

Mechanical Specifications	MM 11	MM 15	MM 20	MM 30
Mechanical stroke [mm]	10+2	15+2	20+2	30+2
Max. operating friction [N]	0,3			
Stopper strength statically [N]	20			
Weigth [ca. g]	30			
Bearing pushing rod	2 x Gleitlager			
Max. displacement speed [m/s]	2			
Average lifetime (shaft movements)	MM (without spring): 40 Mio. / MMR (with spring): 20 Mio.			
Housing material	Duroplast			
Pushing rod material	stainless steel			
Terminals	gold-plated solder lugs, for AMP 110 series (28 x 0,5 mm) or replacement types			

Environmental Specifications	Value
Operating temperature [° C]	-30...+105
Storage temperature [° C]	-40...+125
Vibration	15 g/10...2000 Hz
Shock	50 g/11ms
Protection grade	IP40 (opt. IP54, with another mechanical dimensions)

Options / Accessories / Subsequent Processing Devices	
<b>Mechanical options:</b> – Special shaft (length, shape, bushing) – Spring return device (lower life expectancy) – IP54 (Attention: other mechanical dimensions)	<b>Electrical Options:</b> – Special resistance values – Tighter tolerances – Center tap

Ordering Description					
Series	Mech. version	Type	Resistance value	Resistance toerance	Linearity tolerance
MM	—	11	R 5 kOhm	W ±10%	L ±1%
– = without spring return device R = with spring return device					
Ordering example: Potentiometric transducer type MM 11, resistance value 5 kOhm, standard-resistance tolerance ±10%, standard-linearity tolerance ±1%					

The specifications and informations in this datasheet can not consider the special customer demands in his application. Any modification may affect the specification of our equipment.

