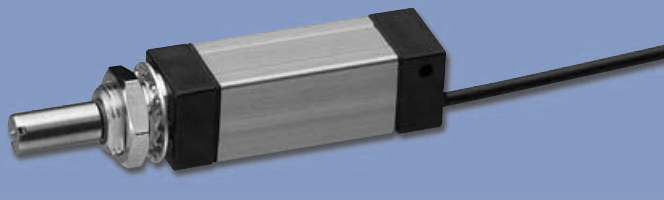


**Geared  
Potentiometers  
Conductive Plastic**

Series ML6-ML100



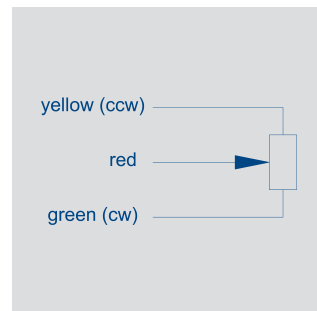
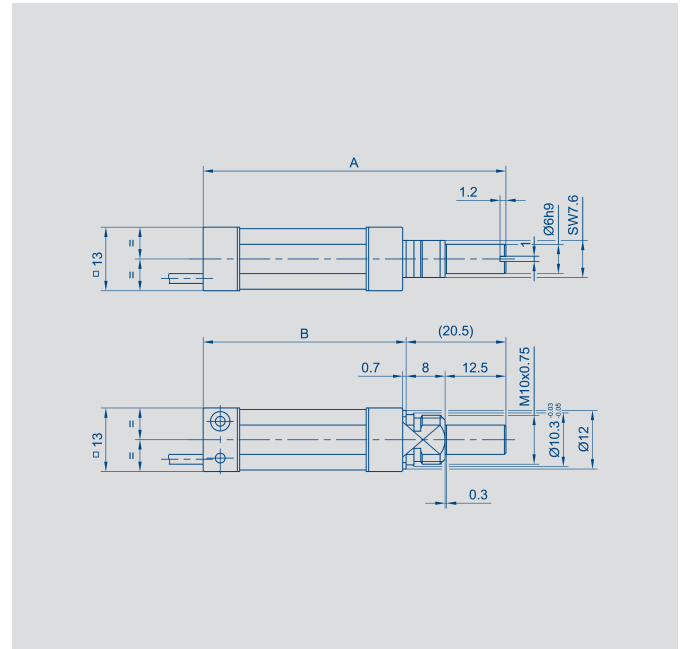
**Special features**

- very small dimensions
- 6 - 100 revolutions
- up to  $15 \times 10^6$  movements
- excellent linearity
- high resolution - better than 0.1%

Angle signals  $>360^\circ$  can be detected in a simple manner with gear potentiometers. Moreover, this design is characterized by very small dimensions.

The careful selection of the materials and high quality of the components used ensure a constant and high level of quality throughout the entire service life of the sensor.

Special designs with other linearities and shaft dimensions on request.



**Description**

Size	housing profile 13 x 13 mm
Housing	aluminium, anodized
Shaft	brass, nickel plated
Bearings	sinter bronze sleeve bearings
Resistance element	conductive plastic
Wiper assembly	precious metal multi-finger wiper
Electrical connections	cable 1 m CRTH 3 x 0.055 mm <sup>2</sup>

**Important**

All the values given in this data sheet for linearity, lifetime and temperature coefficient in the voltage dividing mode are quoted for the device opera-

ting with the wiper voltage driving on operational amplifier working as a voltage follower, where virtually no load is applied to the wiper ( $I_e \leq 1 \mu A$ ).



Sta. Virgilia 29 Local.1A 28033 Madrid  
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Type designations	ML6	ML10	ML25	ML50	ML100	
<b>Mechanical Data</b>						
Dimensions	see drawing					
Dimension A	62.2	62.2	77.2	102.2	102.2	mm
Dimension B	41.7	41.7	56.7	81.7	81.7	mm
Mounting	nut M10 x 0.75 and serrated washer 3/8"					
Mechanical travel	2 160	3 600	9 000	18 000	36 000	°
Permitted shaft loading (axial and radial) static or dynamic force	1					N
Torque	≤ 1					Ncm
Maximum operational speed	300					min <sup>-1</sup>
Weight	27	27	31	37	37	g
<b>Electrical Data</b>						
Actual electrical travel	2 160	3 240	8 280	17 280	34 560	°
Available resistance values	5	5	10	10	10	kΩ
Resistance tolerance	± 20					%
Repeatability	0.17 (=3.6°)	0.1 (=3.24°)	0.04 (=3.32°)	0.02 (=3.46°)	0.01 (=3.46°)	%
Effective temperature coefficient of the output-to-applied voltage ratio	typical 5					ppm/K
Independent linearity	± 2	± 0.5	± 0.25	± 0.25	± 0.25	%
Max. permissible applied voltage	42	35	35	35	35	V
Recommended operating wiper current	≤ 1					μA
Max. wiper current in case of malfunction	5					mA
Insulation resistance (500 VDC, 1 bar, 2 s)	≥ 10 000					MΩ
Dielectric strength (AC, 50 Hz, 1 min, 1 bar)	750					V
<b>Environmental Data</b>						
Temperature range	-25...+75					°
Vibration	30...2000 A <sub>max</sub> = 0.75 a <sub>max</sub> = 10					Hz mm g
Life	15 x 10 <sup>6</sup>					movements
Shock (DIN IEC68T2-27)	30 7					g ms
Protection class (DIN 40050)	IP65					

Order designations		
Type	Art.no.	R in kΩ
ML6 5K0 125 MB	009000	5
ML10 5K0 125 MB	009001	5
ML25 10K0 125 MB	009002	10
ML50 10K0 125 MB	009003	10
ML100 10K0 125 MB	009004	10

**Order designations / Abbreviations**  
 MB: bushing M10x 0.75, axis  
 Ø 6 mm with slot

**Included in delivery**  
 1 nut M10x0.75  
 1 serrated washer 3/8"

**Recommended accessories**  
 Process-controlled indicators  
 MAP... with display,  
 Signal conditioner MUP... for  
 standardized output signals

Subject to changes