

Precision Low - Torque - Potentiometer F25R

Metal Housing



The Low - Torque - Potentiometer is a variable resistor with an extremely low torque.

In order to attain this torque, the contact pressure of the slider tap to the winding is kept as low as possible.

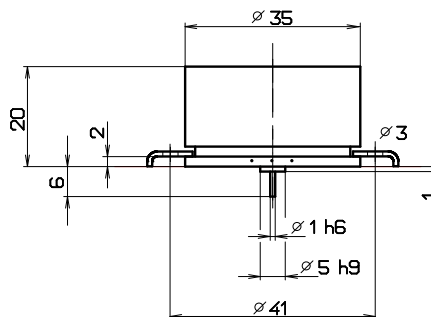
Noble metal alloys are exclusively used for the slider tap and for the winding.

All other parts of the Low - Torque - Potentiometer are made of corrosion-resistant materials.

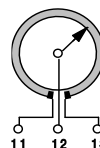


Mechanical data

- 1.1 Housing..... : Aluminium
- 1.2 Shaft..... : Stainless steel $\varnothing 1\text{mm}$
- 1.3 Bearing..... : Jewel bearing
- 1.4 Resistor element..... : Noble metal winding
- 1.5 Slider tap / wiper tap..... : Noble metal, double
- 1.6 Protection class..... : IP60
- 1.7 Connections..... : Terminal wires, 200 mm
- 1.8 Mounted by : Clamping claws
- 1.9 Mechanical rotation angle..... : $290^\circ + 5^\circ$
- 1.10 Electrical rotation angle..... : 290° / option $270^\circ - 1^\circ + 2^\circ$
- 1.11 Rotation speed..... : max. 1 rps
- 1.12 Torque..... : 0,002 ... 0,003 Ncm
- 1.13 Rotation load life..... : 50×10^6 slider path (360°)



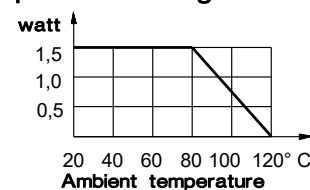
Terminal plan		
Point	Function	Color
11	winding	red
12	slider	yellow
13	winding	blue



Electrical data

- 2.1 Resistance values, standard..... : see table
- 2.2 Resistance values, max. possible... : see table
- 2.3 Resistance tolerance..... : $\pm 3\%$
- 2.4 Lowest starting resistance..... : 0,1 % of overall resistance + $0,3 \Omega *1$
- 2.5 Linearity tolerance..... : $\pm 0,3\%$ effectively $\pm 0,7\% *2$
- 2.6 Insulation resistance..... : 20 M-Ohm
- 2.7 Test voltage..... : 500 V, 50 Hz
- 2.8 Operating voltage..... : max. 50 V
- 2.9 Power rating..... : max. 1,5 Watt
- 2.10 Slider load current..... : 1 mA (max., load life)
- 2.11 Temperature range..... : -50°C ... $+100^\circ\text{C}$
- 2.12 Temperature coefficient..... : 20 ppm/ $^\circ\text{C}$

power derating curve



*1 The value applies only for version with short-circuit tracks and stops.
*2 incl. potential jump between winding turns

Options

- Short-circuit tracks
- Centre tap
- Rotation angle, electrical and mechanical
- Resistance tolerance: $\pm 1\%$
- Shaft: special length, continuous
- Stops (rotation angle max. 350°)
- Suitable for oil-filled instruments
- Torque 0,001 Ncm
- Functional winding

Accessories

- Outer housing
- Mounting set
- Couplings

Other types

- F25RD: multiple versions
- F25RU: through rotation
- F25REB: resistance values in accordance with DIN 43822
- F25RM: integrated measuring transducer 0/4 ... 20 mA
- F25R Lin.: winding linearized
- F25Z160: dial surface mounting $\varnothing 160$
- F25Z100: dial surface mounting $\varnothing 100$

Standard resistance values in Ohm

other values available

135°	270°	290°	297°
200	30	32,2	110
1K	100	107,4	220
2K	200	215	
	500	537	
	1K	1,074K	
	2K	2,148K	
	5K	5,370K	

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