

# Precision Low - Torque - Potentiometer F25R



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 / wiper to the winding is kept as low as possible.

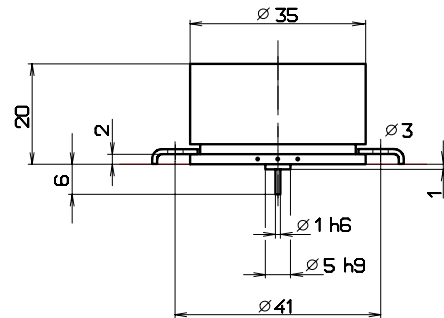
Noble metal alloys are exclusively used for the slider tap and for the winding.

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



## mechanical data

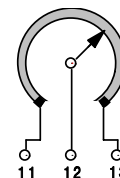
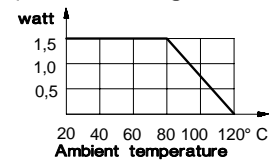
- 1.1 housing..... : aluminium
- 1.2 shaft..... : stainless steel  $\varnothing$ 1mm
- 1.3 bearing..... : jewel bearing
- 1.4 resistor element..... : noble metal winding
- 1.5 slider tap / wiper tap..... : noble metal, double
- 1.6 housing type of protection..... : IP 60
- 1.7 connections..... : stranded wires, 200 mm
- 1.8 mounted by ..... : clamping claws
- 1.9 mechanical travel..... : 290°
- 1.10 electrical travel..... : 290° / option 270°
- 1.11 rotating speed..... : max. 60rpm
- 1.12 torque..... : 0,002 till 0,003 Ncm
- 1.13 rotational load life..... : 50 x 10<sup>6</sup> shaft revolutions



## electrical data

- 2.1 resistance values, standard..... : according to table
- 2.2 resistance values,max possible : 50 K-Ohm
- 2.3 resistance tolerance..... :  $\pm$  3%
- 2.4 lowest starting resistance..... : 0,1% of overall resistance + 0,3
- 2.5 linearity tolerance..... :  $\pm$  0,3%
- 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 / wiper load capacity..... : max. 1 mA
- 2.11 temperature range..... : -50°C bis +100°C
- 2.12 temperature coefficient..... : 20 ppm/°C

## power derating curve



## terminal plan

point	function	colour
11	winding 1	red
12	slider	yellow
13	winding 1	blue

## options

shorted segments  
taps  
electr. and mechan. travel  
resistance tolerance: 1%  
linearity: min. 0,1%  
shaft: special length,  
straight-going shaft  
stops (rotation angle max. 350°)  
suitable for oil filling  
torque: 0,001 Ncm

## accessories

outer housing  
mounting set  
couplings

## other types

F25RD: multiple versions  
F25RU: without stops  
F25REB: resistance values in accordance with DIN 43822  
F25RD: double working on one level  
F25RS: double slider / wiper, taps 3x120°  
F25RM: integrated instrument transducer 0/4...20 mA  
F25R Lin.: winding linearized  
  
F25Z160: dial surface mounting 160  
F25Z100: dial surface mounting 100

## Standard resistance values in Ohm

other values available against extra price

135°	270°	290°	297°	360°
200	30	32,2	110	400
1K	100	107,4	220	2K
2K	200	215		
5K	500	515,5		
	1K	537		
	2K	1,074K		
	5K	2,148K		
	10K	5,370K		
		10,74K		

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