

# Precision Low - Torque - Potentiometer F25R V1

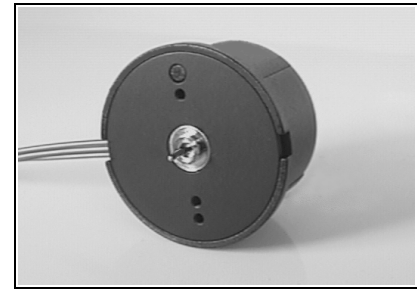
## plastic housing

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

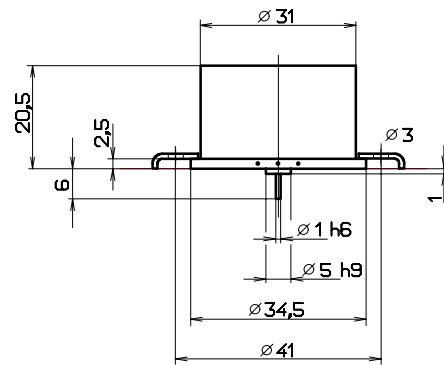
Noble metal alloys are exclusively used for the slider tap and for the winding.

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

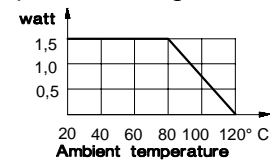


### mechanical data

- 1.1 housing..... : reinforced glass fibre plastic
- 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..... : noble metal, double
- 1.6 housing protection class..... : IP 60
- 1.7 type of connections..... : stranded wires, 200 mm
- 1.8 mounted by..... : clamping claws
- 1.9 mechanical travel..... :  $290^\circ$
- 1.10 electrical travel..... :  $290^\circ$  / option  $270^\circ$
- 1.11 rotating speed..... : max. 1 rpm
- 1.12 torque..... : 0,002 till 0,003 Ncm
- 1.13 rotation load life..... :  $50 \times 10^6$  shaft revolutions

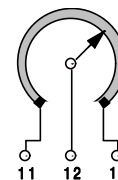


### power derating curve



### 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 $\Omega$
- 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 load current..... : max. 100 mA
- 2.11 temperature coefficient..... :  $-50^\circ\text{C}$  bis  $+100^\circ\text{C}$
- 2.12 temperature range..... :  $20 \text{ ppm}/^\circ\text{C}$



### terminal plan

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

### options

shorted segments  
taps  
electrical and mechanical travel  
resistance tolerance:  $\pm 1\%$   
linearity: min. 0,1%  
shaft: special length,  
straight-going shaft  
stops (rotation angle max.  $350^\circ$ )  
suitable for oil filling  
torque: 0,001 Ncm

### accessories

outer housing  
mounting set  
couplings

### other types

F25RD: multiple versions  
F25RU: rotating  
F25REB: resistance values in accordance with DIN 43822  
F25RD: double working on one level  
F25RS: double slider, tappings  $3 \times 120^\circ$   
F25RM: integrated instrument transformer 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 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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