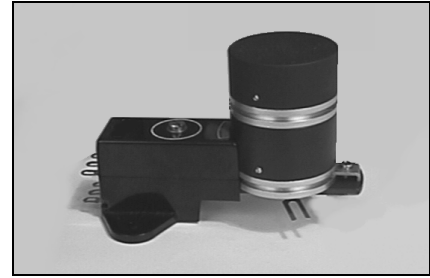


# Precision Low - Torque - Potentiometer F25ZDEB Ø 160 **ALTMANN**® Potentiometer

**Multiple version**, for instrument dial Ø 160, resistance tolerance ±1%

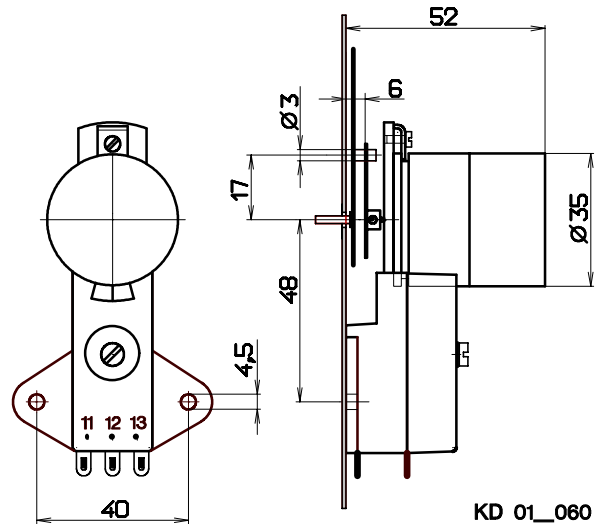
The Low-Torque-Potentiometer is a variable resistor with an extremely low torque. Noble metal alloys are exclusively used for the slider tap / wiper tap and for the winding. Precision Low-Torque-Potentiometers of Type F25REB have a resistance value which is standardised in accordance with DIN 43822. Precision Low - Torque - Potentiometer of type series F25Z Ø 160 are intended especially for installation in pointer instruments Ø 160.

Two Low - Torque - Potentiometer of type F25R are connected to each other mechanically. The torque on the coupling fork amounts to 0,004 to 0,006 Ncm. 2 x 3 solder terminals are provided for the connection. The Low - Torque - Potentiometer can be turned by approx 15° after loosening the clamping claws. This facilitates the adjustment when installing.



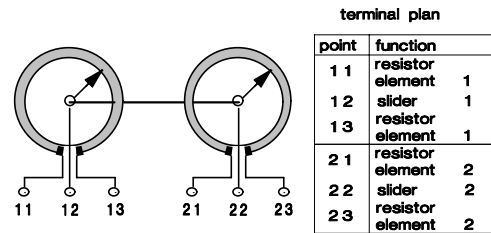
## mechanical data

- 1.1 housing..... : aluminium
- 1.2 shaft..... : stainless steel Ø1mm
- 1.3 bearing..... : jewel bearing
- 1.4 resistor element..... : noble metal winding
- 1.5 slider tap / wiper tab..... : noble metal, double
- 1.6 housing protection class..... : IP 60
- 1.7 type of connections..... : solder terminal
- 1.8 mounted by..... : foot
- 1.9 mechanical travel..... : 290°
- 1.10 electrical travel..... : 290° / option 270°
- 1.11 rotating speed..... : max. 1 r/sec
- 1.12 torque..... : 0,004 till 0,006 Ncm
- 1.13 rotation load life..... : 50 x 10<sup>6</sup> shaft revolutions

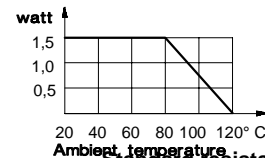


## electrical data

- 2.1 resistance values, standard..... : according to table
- 2.2 resistance values,max possible : 50 K-Ohm
- 2.3 resistance tolerance..... : ± 1%
- 2.4 lowest starting resistance..... : 0,1% of overall resistance + 0,3Ω
- 2.5 linearity tolerance..... : ± 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 power rating (dropping resistor) : max. 4 Watt
- 2.11 slider load current..... : max. 100 mA
- 2.12 temperature coefficient..... : -50°C till +100°C
- 2.13 temperature range..... : 20 ppm/°C



## power derating curve



**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		

## options

short-circuit links  
taps  
angle of rotation, electrical and mechanical  
resistance tolerance ±1%  
linearity: min. 0,1%  
shaft: special length,  
straight going shaft  
stops (rotation angle max. 350°)  
suitable for oil filling

## accessories

outer housing  
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 3x120°  
F25RM: integrated instrument transformer 0/4...20 mA  
F25R Lin: winding linearized  
F25Z100: dial surface mounting Ø100

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