

Precision – Multi–Turn – Sensor DMG24 / xx M Ze

Output signal 0/4...20mA, 0...10V, central fixing M10 x 0,75, xx = 3,-5- or 10-turn maintenance-free sliding bearing, option IP65, for mechanical adjustment



The Precision – Multi-Turn Potentiometer DMG24 is used as actual value transmitter for machinery and plant engineering as well as setpoint adjuster and actual value transmitter for apparatus construction and toolbuilding.

options
protection class IP65

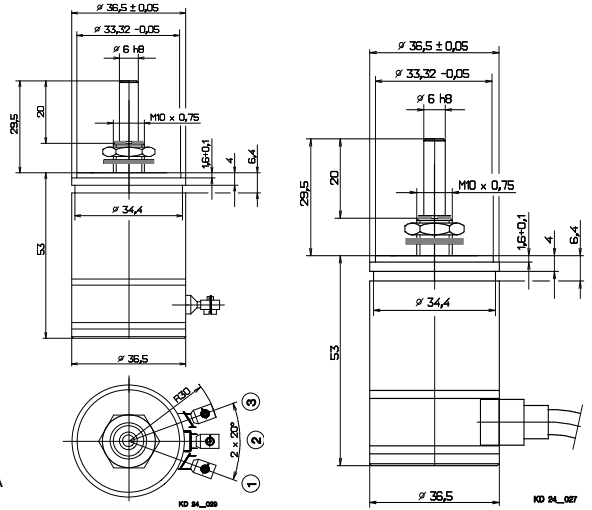
shaft u. central fixing in inch
terminal wires
output signal rising counterclockwisely

mechanical data of the potentiometer

- 1.1 housing..... : aluminium
- 1.2 shaft..... : noble metal $\varnothing 6^{\text{h8}}$
- 1.3 bearing..... : maintenance-free sliding bearing
- 1.4 resistor element..... : precision wire winding or hybrid
- 1.5 slider tap / wiper tap..... : single
- 1.6 housing protection class..... : IP 60
- 1.7 type of connection..... : according to table
- 1.8 mounted by..... : central fixing M10 x 0,75
- 1.9 mechanical rotation angle..... : according to table +10°
- 1.10 electrical rotation angle..... : according to table
- 1.11 rotation speed..... : max. 120 rpm
- 1.12 torque..... : 0,5 to 0,8 Ncm
- 1.13 rotation load life..... : according to table

electrical data of the potentiometer

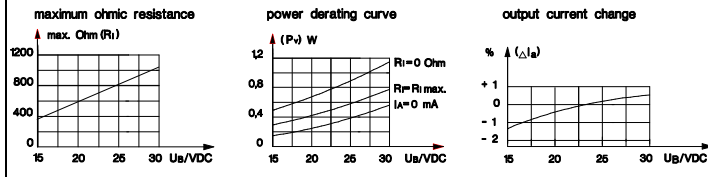
- 2.1 output signal..... : 0/4...20 mA $\pm 0,04$ mA, 0...10 V $\pm 0,03$ V
- 2.2 resistance tolerance..... : $\pm 5\%$ precision wire, $\pm 10\%$ hybrid element
- 2.3 linearity tolerance..... : $\pm 0,25\%$
- 2.4 insulation resistance..... : 1000 M-Ohm
- 2.5 test voltage..... : 1000 V
- 2.6 power rating..... : according to table
- 2.7 slider load current..... : precision wire max. 20mA, hybrid element max. 10mA
- 2.8 temperature range..... : -25°C till +125°C
- 2.9 temperature coefficient..... : precision wire winding 50 ppm/°C, hybrid 100 ppm/°C



electrical data of transducer

- operating voltage U_B : + 24 VDC -5% + 25%
- max. ripple of U_B : 2,5 V_{SS}
- total current..... : ca. 16 mA + I_A
- output current I_A : 0...20 mA / 4...20 mA
- output voltage U_A : 0...10 V
- residual current I_A : $\leq 10 \mu\text{A}$
- output current ripple
- ripple at 10% U_B : $\leq 0,3\%$
- ripple at 2% U_B : $\leq 0,1\%$
- burden resistance at U_B 24 V - 5%..... R_L : max. 500 Ω
- internal resistance R_i : $\leq 1 \text{ M}\Omega$
- linearity error max..... : $\pm 0,5\%$
- temperature coefficient of output current..... : $\leq 0,3 \times 10^{-3}/\text{K}$
- power derating at 80°C amb. temperature $P_{V...}$: 0,9 W
- $\leq 60^\circ\text{C}$ amb. temperature $P_{V...}$: 1,2 W
- storage temperature T_U : - 55 till + 150° C
- operating temperature T_U : - 25 till + 80° C

Key electrical data of the transducer



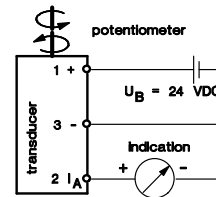
Type	Turn (rotation angle)	Watt	rotation load life
DMG 24 / 10 M Ze DMG 24 / 10 M Ze Hy	10 – turn (3600°)	2,0	1 x 10 ⁶ 5 x 10 ⁶
DMG 24 / 05 M Ze	5 – turn (1800°)	1,5	5 x 10 ⁵
DMG 24 / 03 M Ze	3 – turn (1080°)	1,0	3 x 10 ⁵

output signal				
	mA 3-wire	mA 2-wire	mA 4-wire	VDC 3-wire
clamp connection	0...20mA 4...20mA	4...20mA	possible	0...10VDC
cable connection	0...20mA 4...20mA	4...20mA	possible	0...10VDC
terminal block	0...20mA 4...20mA	4...20mA	possible	0...10VDC

*1 Hy = resistor element in Hybrid Technology
*2 Standard rotation direction: right

mA 3-wire

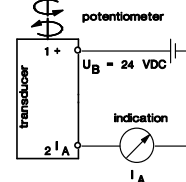
terminal plan 0/4...20 mA



line verification			
electrical connection	point	term.	colour
operating voltage	1	+	brown
output current	2	I _A	white
zero VDC	3	-	green

mA 2-wire

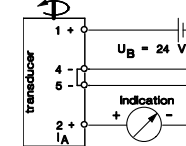
terminal plan 0/4...20 mA



line verification			
electrical connection	point	term.	colour
signal input	1	+	brown
signal output	2	I _A	white

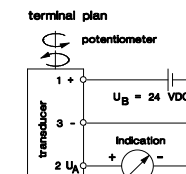
mA 4-wire

terminal plan transducer 0/4...20 mA



Nr.	colour	function
1	brown	operating voltage
2	white	output current
4	green	zero VDC
5	green	zero VDC

VDC 3-wire



line verification			
electrical connection	point	term.	colour
operating voltage	1	+	brown
output current	2	U _A	white
zero VDC	3	-	green