

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

Output signal 0/4...20 mA, 0...10V, central fixing M10x0,75, 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 tool building.

Options

Protection class IP65
Shaft u. central fixing in inch

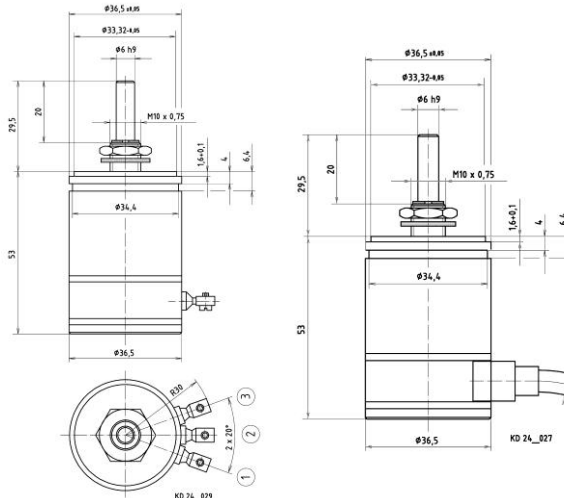
Terminal wires
Output signal rising counterclockwise

Mechanical data of the potentiometer

- 1.1 Housing.....: Aluminium
- 1.2 Shaft.....: Noble metal $\phi 6^{h9}$
- 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.....: IP60
- 1.7 Type of connection.....: see table
- 1.8 Mounted by.....: Central fixing M10x0,75
- 1.9 Mechanical rotation angle.....: see table +10°
- 1.10 Electrical rotation angle.....: see table
- 1.11 Rotation speed.....: max. 120 rpm
- 1.12 Torque.....: $\leq 0,8$ Ncm
- 1.13 Rotation load life.....: see 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.....: see table
- 2.7 Slider load current.....: Precision wire max. 20 mA, hybrid element max. 10 mA
- 2.8 Temperature range.....: -25 °C ... +80 °C
- 2.9 Temperature coefficient.....: Precision wire winding 50 ppm/°C, hybrid 100 ppm/°C

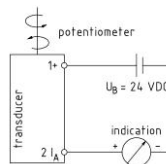


Electrical data of the transducer

Operating voltage U_B: +24 VDC -5% +25%	Internal resistance R_i: ≤ 1 M Ω
Max. ripple of U_B: 2,5 V _{SS}	Linearity error max.....: $\pm 0,5\%$
Total current.....: ca. 16 mA + I_A	Temperature coefficient of output current.....: $\leq 0,3 \times 10^{-3}$ K
Output current I_A: 0...20 mA / 4...20 mA	Power derating at 80°C amb. temperature P_V: 0,9 W
Output voltage U_A: 0...10 V	$\leq 60^\circ$ C amb. temperature P_V: 1,2 W
Residual current I_A: ≤ 10 μ A	Storage temperature T_U: -55 ... +150 °C
Output current ripple at 10% U_B: $\leq 0,3\%$	Operating temperature T_U: -25 ... +80 °C
at 2% U_B: $\leq 0,1\%$	
Max. ohmic load (output) at U_B 24 V - 5% R_i: max. 500 Ω	

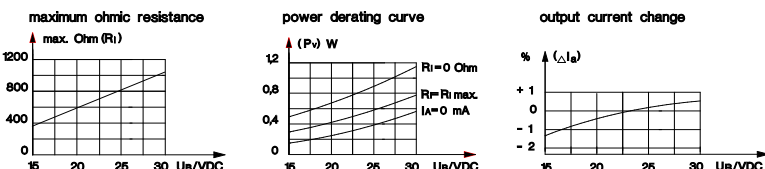
mA 2-wire

Terminal plan 4...20 mA



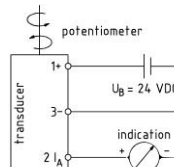
Terminal plan			
Electrical connection	Point	Term.	Colour
Operating voltage	1	+	brown
Output current	2	I_A	green

Key electrical data of the transducer



mA 3-wire

Terminal plan 0/4...20 mA

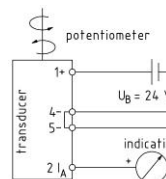


Terminal plan			
Electrical connection	Point	Term.	Colour
Operating voltage	1	+	brown
Output current	2	I_A	white
Zero VDC	3	-	green

Type	Turn (Rotation angle)	Watt	Rotation load life
DMG 24 / 10 M Ze	10 – turn (3600°)	2,0	1 x 10 ⁶
DMG 24 / 10 M Ze Hy			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

mA 4-wire

Terminal plan 0/4...20 mA



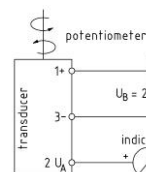
Terminal plan			
Electrical connection	Point	Term.	Colour
Operating voltage	1	+	brown
Output current	2	I_A	white
zero VDC	4	-	green
zero VDC	5	-	yellow

Output signal

	mA 3-wire	mA 2-wire	mA 4-wire	VDC 3-wire
Clamp connection	0...20 mA 4...20 mA	4...20 mA	possible	0...10 V
Cable connection	0...20 mA 4...20 mA	4...20 mA	possible	0...10 V
Terminal block	0...20 mA 4...20 mA	4...20 mA	possible	0...10 V

VDC 3-wire

Terminal plan 0...10 V



Terminal plan			
Electrical connection	Point	Term.	Colour
Operating voltage	1	+	brown
Output voltage	2	U_A	white
zero VDC	3	-	green

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

For your information!

Please note that because of missing material availability the wiper could be C7521 material instead of C7701. 25.08.22