

# 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

# ALTMANN

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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.

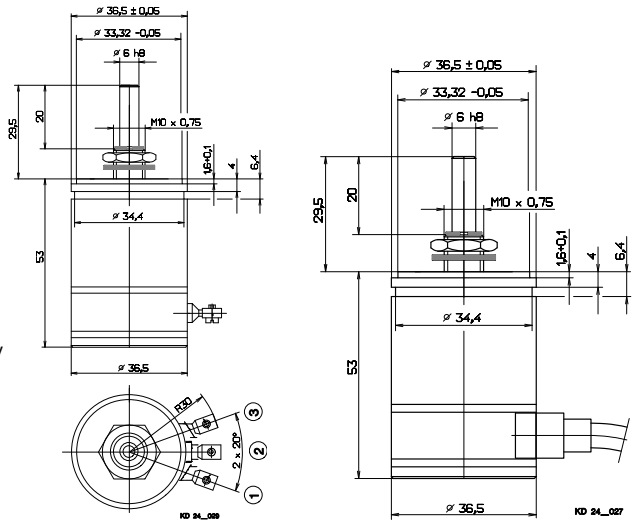
**options**  
 protection class IP65  
 shaft u. central fixing in inch  
 terminal wires  
 output signal rising counterclockwise

### 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
- 1.5 slider tap / wiper tap..... : block slider
- 1.6 housing protection class..... : IP 62
- 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..... : 1x10<sup>6</sup> slider path

### electrical data of the potentiometer

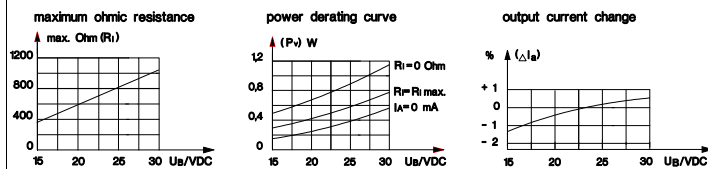
- 2.1 output signal..... : 0/4...20 mA  $\pm 0,04$  mA, 0...10 V  $\pm 0,03$  V
- 2.2 resistance tolerance..... :  $\pm 5\%$  precision wire,  $\pm 10\%$  hybrid element
- 2.3 linearity tolerance..... :  $\pm 0,25\%$
- 2.4 insulation resistance..... : 1000 M-Ohm
- 2.5 test voltage..... : 1000 V
- 2.6 power rating..... : max. 2 Watt
- 2.7 temperature range..... : -25°C till +85°C
- 2.8 temperature coefficient..... : 150 ppm/°C



### electrical data of transducer

- operating voltage  $U_B$ ..... : + 24 VDC -5% + 25%
- max. ripple of  $U_B$ ..... : 2,5 V<sub>SS</sub>
- 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... $I_A$ ..... :  $\leq 10 \mu A$
- 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  $\Omega$
- internal resistance... $R_i$ ..... :  $\leq 1 M\Omega$
- linearity error max..... :  $\pm 0,5\%$
- temperature coefficient of output current..... :  $\leq 0,3 \times 10^{-3}/K$
- power derating at 80°C amb.temperature  $P_V$ ..... : 0,9 W
- $\leq 60^\circ C$  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



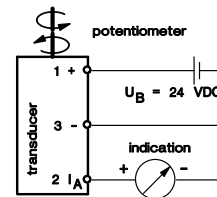
Order # potentiometer	Type	Turn ( rotation angle )
24 611	DMG 24 / 10 M Ze	10 – turn ( 3600° )
24 641 *1	DMG 24 / 10 M Ze Hy	
24 621	DMG 24 / 05 M Ze	5 – turn ( 1800° )
24 631	DMG 24 / 03 M Ze	3 – turn ( 1080° )

	additional order # for the output signal			
	mA 3-wire	mA 2-wire	mA 4-wire	VDC 3-wire
clamp connection	24707 (0...20mA) 24704 (4...20mA)	24706	possible	24705
cable connection	24709 (0...20mA) 24710 (4...20mA)	24708	possible	24711
terminal block	24713 (0...20mA) 24715 (4...20mA)	24712	possible	24714

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

### mA 3-wire

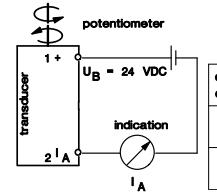
#### terminal plan 0/4...20 mA



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

### mA 2-wire

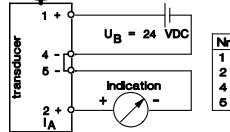
#### terminal plan 0/4...20 mA



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

### mA 4-wire

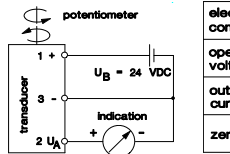
#### terminal plan transducer 0/4...20 mA



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

### VDC 3-wire

#### terminal plan



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