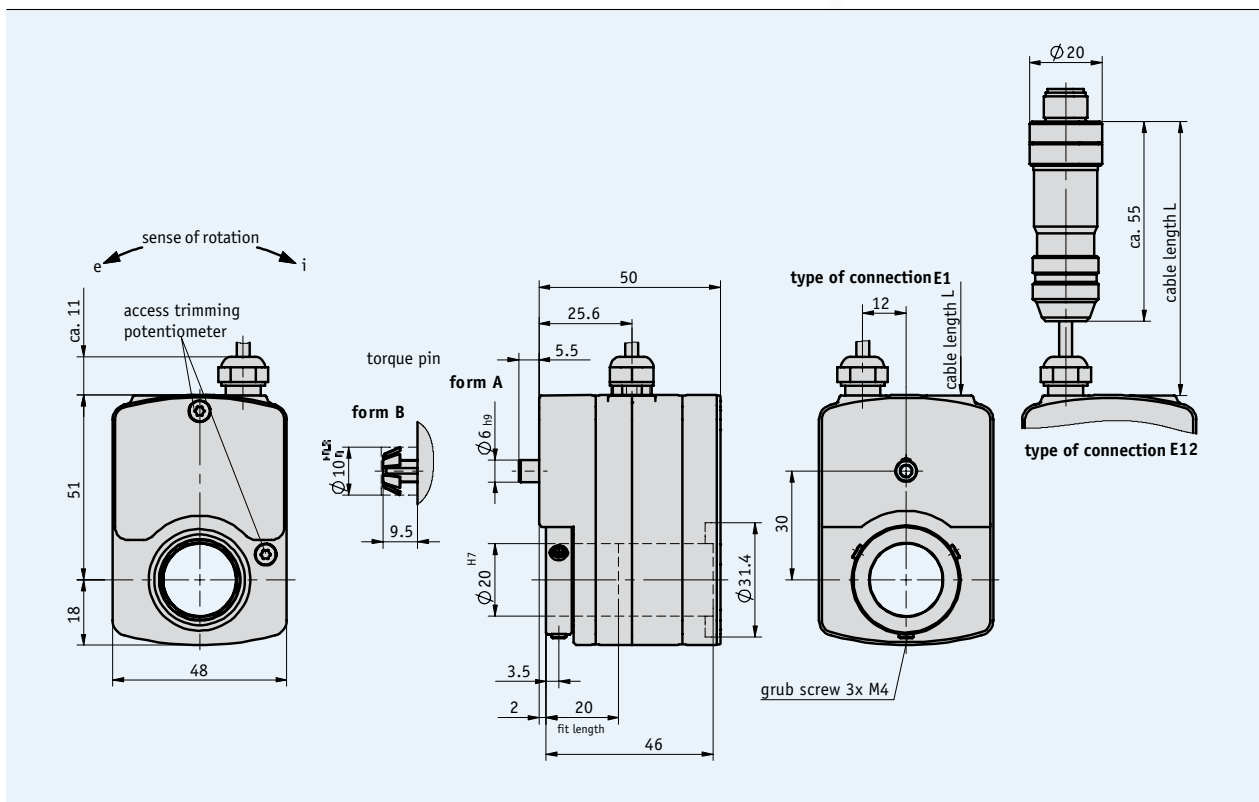


Profile

- Resistant to external influences
- Through hollow shaft \varnothing 20 mm
- Adaptation to various measurement paths owing to a wide range of gear ratios
- Integrated friction clutch to protect the potentiometer
- Compact design
- Potentiometer, power or voltage output
- IP68 protection category with oil filling possible
- Easy mounting



2.3

Mechanical data

Feature	Technical data	Additional information
Gear ratio	0.184 ... 150.036	
Speed	max. 500 rpm	depending on gear ratio
Operating temperature	-20 ... +80 °C	
Condensation	inadmissible	
Service life of axial movement	1 x 10 ⁶ 2 x 10 ⁶	with P01, P02 with P03
Protection category	IP52, IP65, IP68	according to DIN VDE 0470
Maximum shaft load	radial 400 N axial 150 N	
Shaft	stainless steel, \varnothing 20 mm	
Housing	zinc die-cast	

Electrical data

Feature	Technical data	Additional information
Interference protection class	3	according to IEC 801

Analog outputs

Feature	Technical data	Operating voltage
Potentiometer output	0 ... 1 k Ω , 0 ... 5 k Ω , 0 ... 10 k Ω depending on the potentiometer type used	
Power output	4 ... 20 mA	24 V DC \pm 20 %, with load \leq 500 Ω
Voltage output	0 ... 10 V	24 V DC \pm 20 %

Potentiometer type

Characteristic/Specification	01	02	03
Design	hybrid	wire	hybrid
Resistance	1 k Ω , 5 k Ω , 10 k Ω	1 k Ω , 5 k Ω , 10 k Ω	1 k Ω , 5 k Ω , 10 k Ω
Resistance tolerance	\pm 5 %	\pm 5 %	\pm 5 %
Linearity tolerance	\pm 0.25	\pm 0.25 %	\pm 0.1 %
Load rating	1 W at 70 °C	1 W at 70 °C	2 W at 70 °C
Range of rotation	340° \pm 5° (mechanically straight-through)	3600° \pm 10°	3600° \pm 10°
Standard terminal resistor (the higher value is always valid)	0.5 % or 1 Ω	0.5 % or 1 Ω	0.5 % or 1 Ω

Note: Characters highlighted in orange color are order features.

Pin assignment

Potentiometric outputs P01, P05, P10

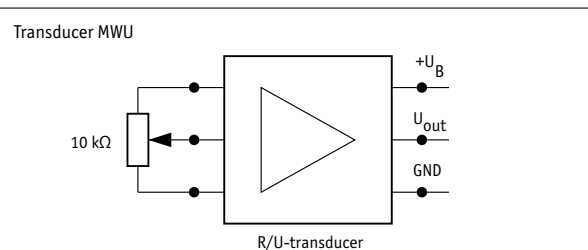
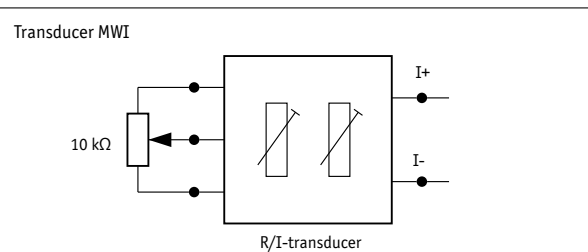
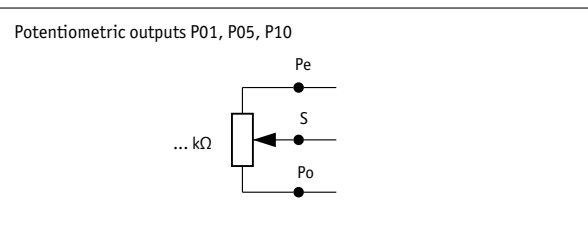
Signal	E1 (Cable color)	E12 (Connector pin)
Po	brown	3
Pe	white	1
S	green	2
N.C.		4

Transducer MWI

Signal	E1 (Cable color)	E12 (Connector pin)
I+	brown	3
I-	white	1
N.C.		2
N.C.		4

Transducer MWU

Signal	E1 (Cable color)	E12 (Connector pin)
+24 V DC	brown	3
GND	white	1
U _{out}	green	2
N.C.		4



Order

Ratio calculation (order table, feature A)

$$\text{Formula: } i_1 = \frac{n \times 360^\circ}{\alpha}$$

n = number of revolutions on the driving shaft
 α = potentiometer angle of rotation
 340° with 1-coil potentiometer
 3600° with 10-coil potentiometer
 i1 = order feature for gear ratio

If the calculated ratio "i1" is the same as a value in the ordering table for the "ratio" feature, but this is not available, select the next highest ratio.

Order table

Feature	Order data	Specifications	Additional information
Gear ratio	... A	0.184, 0.27, 0.361, 0.740, 1, 2, 2.503, 3.048, 4, 5.213, 6, 8.003, 10, 12, 15.238, 20, 24.167, 40.034, 45.494, 53.333, 58.333, 76.190, 100.392, 150.036 others on request	
Torque support	A B	B form A, cylindric pin form B for tolerance compensation	
Potentiometer type	01 02 03/0,1	C 1 coil, hybrid 10 coils, wire 10 coils, hybrid, linear tolerance 0.1	
Analog output	MWI MWU P01 P05 P10	D transducer 4 ... 20 mA transducer 0 ... 10 V potentiometer 1 kΩ potentiometer 5 kΩ potentiometer 10 kΩ	only with potentiometer type 02 only with potentiometer type 02
Sense of rotation	ODR e i	E without indication of sense of rotation counter-clockwise ascending values clockwise ascending values	with P01, P05 or P10 with MWI or MWU with MWI or MWU
Type of connection	E1 E12	F flying leads connector, M12	
Cable length L (m)	... G	G 0.2 ... 20 m, in steps of 0.1 m	
Protection category	IP52 IP65 IP68	H with oil filling, against condensation	
Max. number of revolutions*	OAU ... I	I customer-adjustable 0.17, 0.25, 0.333, 0.6, 1, 2.5, 4, 5, 10, 12, 20, 24, 40, 60, 75, 100 others on request	except with IP68 only with IP68 prot. categ. and analog output MWI, MWU only with IP68 prot. categ. and analog output MWI, MWU

*The max. number of revolutions must be ≤ the measuring range.

Order code



Scope of delivery: GP09, User information

Accessories:

Mating connectors Page 106
 Self-aligning coupling Page 112
 Electronic display MA50 Page 92

Additional information:

General information and areas of application Page 64 cont.