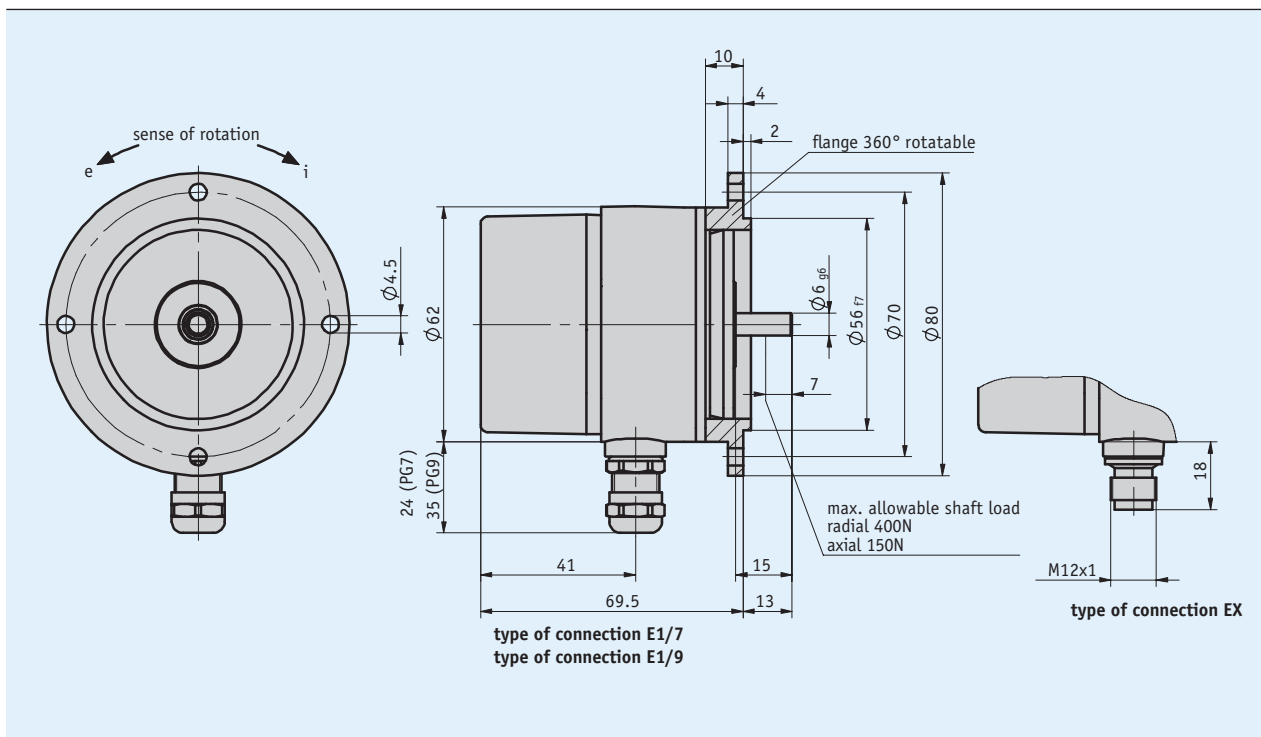


Profile

- Solid shaft \varnothing 4 mm or \varnothing 6 mm
- Adaptation to various measurement distances owing to a wide range of gear ratios
- Integrated slip clutch to protect the potentiometer
- Compact design
- Potentiometer, power or voltage output
- IP65 protection category



Mechanical data

Feature	Technical data	Additional information
Shaft	stainless steel	
Housing	reinforced plastic / aluminum	
Gear ratio	0.2 ... 256	
Speed	\leq 500 rpm	depending on the transmission
Shaft load rating	\leq 400 N	radial
	\leq 150 N	axial
Potentiometer service life	1×10^6 revolution(s)	

Electrical data

Encoder potentiometer type 01, 1 helix

Feature	Technical data	Additional information
Power rating	1 W at 70 °C	≤30 V
Resistance	5, 10 kΩ	
Resistance tolerance	±10 %	
Standard terminal resistance	0.5 %	
Linearity tolerance	±1 %	
Design	hybride	

Encoder potentiometer type 02, 10 helices

Feature	Technical data	Additional information
Power rating	2 W at 70 °C	≤30 V
Resistance	1, 5, 10 kΩ	
Resistance tolerance	±5 %	
Standard terminal resistance	0.5 %	
Linearity tolerance	±0.25 %	
Design	wire	

Encoder potentiometer type 03, 10 helices

Feature	Technical data	Additional information
Power rating	2 W at 70 °C	≤30 V
Resistance	1, 5, 10 kΩ	
Resistance tolerance	±5 %	
Standard terminal resistance	0.5 %	
Linearity tolerance	±0.25 %	
Design	hybride	

Transducer, power output

Feature	Technical data	Additional information
Operating voltage	24 V DC ±20 %	
Output current	4 ... 20 mA	at ≤500 Ω load

Transducer, voltage output

Feature	Technical data	Additional information
Operating voltage	24 V DC 20 %	
Output voltage	0 ... 10 V	

System data

Feature	Technical data	Additional information
Measuring range	340° ±5° (mechanical full-length)	potentiometer type 01
	3600° +10°	potentiometer types 02, 03

Ambient conditions

Feature	Technical data	Additional information
Ambient temperature	-20 ... 80 °C	
Relative humidity		condensation inadmissible
EMC	EN 61000-6-2	interference resistance / immission
	EN 61000-6-4	emitted interference / emission
Protection category	IP65	EN 60529

Pin assignment

Without transducer

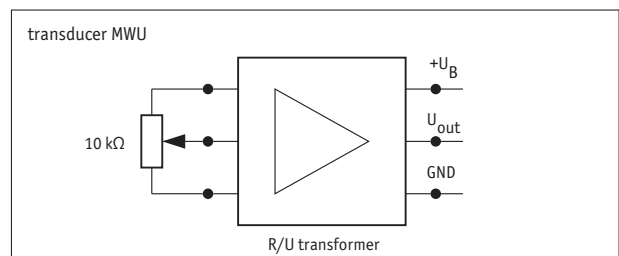
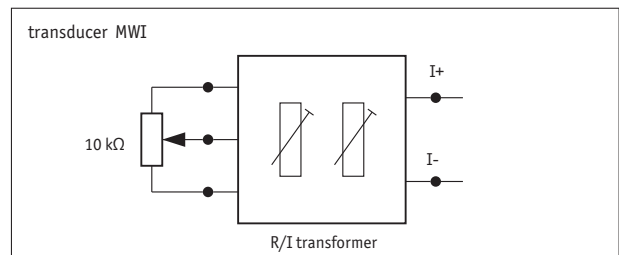
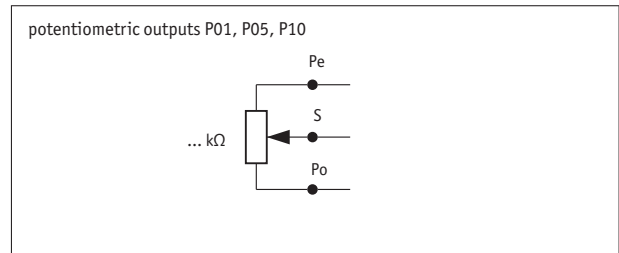
Signal	Terminal E1	PIN EX
Po	1	1
Pe	2	2
S	3	3
nc	-	4

MWI transducer

Signal	Terminal E1	PIN EX
I+	1	1
I-	2	2
nc	3	3
nc	-	4

MWU transducer

Signal	Terminal E1	PIN EX
+24 V DC	1	1
GND	2	2
Uout	3	3
nc	-	4



Order

■ Gear ratio calculation

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

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.

■ Ordering table

Feature	Ordering data	Specification	Additional information
Gear ratio	... A	0.1, 0.166, 0.25, 0.333, 0.5, 1, 2, 3, 4, 5, 6, 7, 10, 12, 15, 20, 24, 30, 40, 55 others on request	
Type of connection	E1/7 E1/9 EX B	PG7 cable gland PG9 cable gland M12 plug	
Potentiometer type	01 02 03 C	1 helix, hybrid 10 helices, wire 10 helices, hybrid	only for P05 or P10 analog output
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	
Sense of rotation	 e i E	no information required clockwise ascending values counter-clockwise ascending values	only for P01, P05, or P10 analog output only for MWI or MWU analog output only for MWI or MWU analog output

■ Order key



Scope of delivery: GP03/1, Mounting instructions

Accessories:

Electronic display MA50
 Servo clamp SK
 Flexible coupling AK18
 Mating Connector Overview
 Mating connector, 4-pole, socket

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 Order key 83419