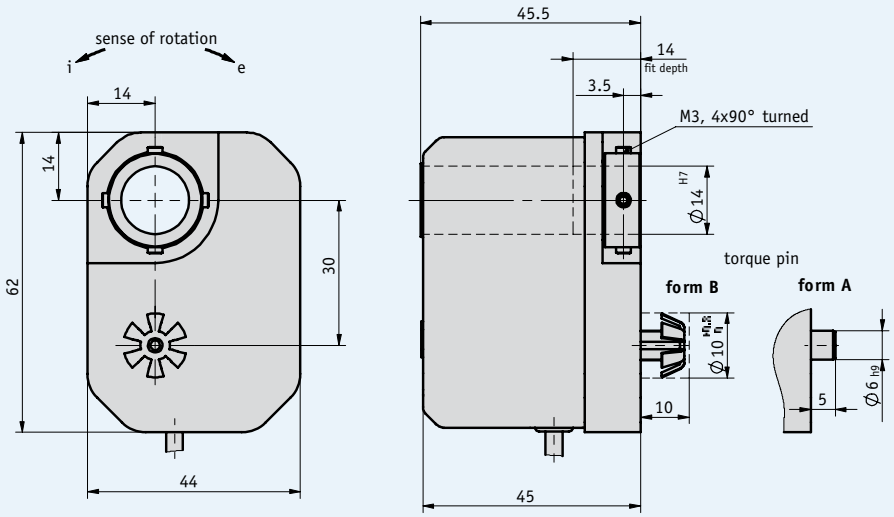
Geared potentiometer GP02
Compact design with through hollow shaft

Profile

- Through hollow shaft Ø 14 mm
- Adaptation to various measurement paths owing to a wide range of gear ratios
- Compact, low-cost design
- Potentiometer or power output
- Easy mounting



Mechanical data

Feature	Technical data	Additional information
Gear ratio	0.2 ... 128	
Speed	max. 500 rpm	depending on gear ratio
Operating temperature	0 ... +80 °C	
Condensation	inadmissible	
Service life of axial movement	1 x 10^6	with P01, P02
	2 x 10^6	with P03
Protection category	IP52	according to DIN VDE 0470
Shaft	browned steel, Ø 14 mm	
Housing	plastic	

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 kΩ, 0 ... 5 kΩ, 0 ... 10 kΩ depending on the potentiometer type used	
Power output	4 ... 20 mA	24 V DC ±20 %, with load ≤ 500 Ω

Potentiometer type

Feature	01	02	03/0.1
Design	hybrid	wire	hybrid
Resistance	1 kΩ, 5 kΩ, 10 kΩ	1 kΩ, 5 kΩ, 10 kΩ	1 kΩ, 5 kΩ, 10 kΩ
Resistance tolerance	±5 %	±5 %	±5 %
Linearity tolerance	±0.25 %	±0.25 %	±0.1 %
Load rating	1 W at 70 °C	1 W at 70 °C	2 W at 70 °C
Range of rotation	340° ±5° (mechanically straight-through)	3600° ±10°	3600° ±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

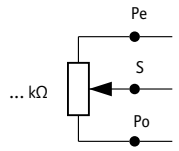
Note: Characters highlighted in orange color are order features.

Pin assignment

Potentiometric outputs P01, P05, P10

Signal	Cable color
Po	brown
Pe	white
S	green

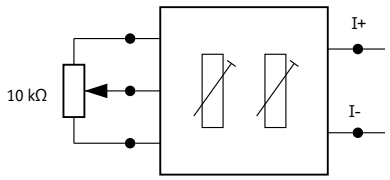
Potentiometric outputs P01, P05, P10



Transducer MWI

Signal	Cable color
I+	brown
I-	white

Transducer MWI



2.3

Order

Ratio calculation (order table, feature A)

Formula: $i1 = \frac{n \times 360°}{\alpha}$

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	0.2, 0.25, 0.333, 0.5, 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 15, 16, 20, 203.636, 24, 28, 30, 36, 36.571, 48, 55, 68, 80, 112, 128	
			others on request	
Torque support	A	B	form A, cylindric pin	
	B		form B for tolerance compensation	
Potentiometer type	01	C	1 coil, hybrid	
	02		10 coils, wire	
	03		10 coils, hybrid	
	03/0,1		10 coils, hybrid, linear tolerance 0.1	
Resistance	P01	D	resistance 1 kΩ	
	P05		resistance 5 kΩ	
	P10		resistance 10 kΩ	
Transducer	MWI	E	transducer 4 ... 20 mA	only with P10 and potentiometer type 02 or 03
	OMW		without	
Sense of rotation	ODR	F	without indication of sense of rotation	with P01, P05 or P10
	e		counter-clockwise ascending values	with MWI
	i		clockwise ascending values	with MWI
Cable length	...	G	0.2 ... 15 m in steps of 0.1 m	

Order code

GP02 – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]
A B C D E F G

Scope of delivery: *GP02, User information*

Accessories:
Electronic display MA50 *Page 92*

Additional information:
General information and areas of application *Page 64 cont.*

Subject to technical alterations 08/2011