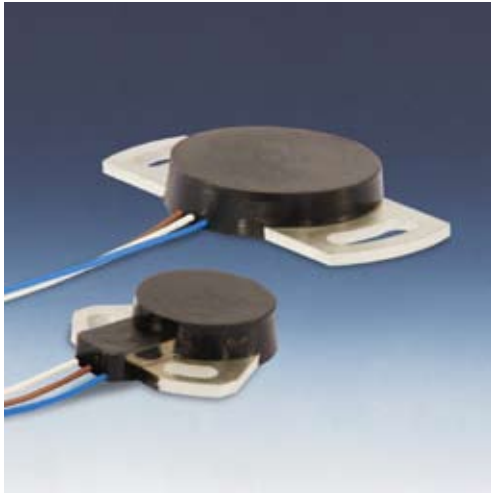
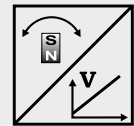


POSIROT®
PRAS20 / 21
Magnetic Angle Sensor with Analog Output



Magnetic angle sensor 0 - 360°

- Protection class IP60
- Non-contact with external position magnet
- Wear free
- Compact, low profile housing
- Output:
Voltage 0.5 ... 4.5 V
- Other outputs available on request



Specifications	Outputs	Voltage: 0.5 ... 4.5 V
	Resolution	0.03 % (60 ... 360); 0.1 % (15 ... 45°)
	Repeatability	±0.03 % (60 ... 360°); ±0.1 % (15 ... 45°)
	Linearity	±0.5 % f.s. (typ.); a misalignment of the position magnet has an effect on the linearity (see page 30)
	Measurement range	0 ... 15° to 0 ... 360°, standard 360°
	Signal characteristics	CW, CCW
	Rated distance sensor / magnet	Depending on the position magnet, see page 30
	Material	Epoxy glass fiber, thermoplastic
	Mounting	Screws M3 resp. M4
	Connection	
	Protection class	IP60
Shock	EN 60068-2-27:1993, 100 g/11 ms, 100 shocks	
Vibration	EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles	

Order Code PRAS20 / 21



Model name

PRAS20
 PRAS21

Measurement range 15 ... 360° in steps of 15°

15 / 30 / 45 / ... / 345 / 360

Output (see page 26)

U6 = 0.5 ... 4.5 V ratiometric

Signal characteristics

CW = Signal increasing CW
 CCW = Signal increasing CCW

Connection

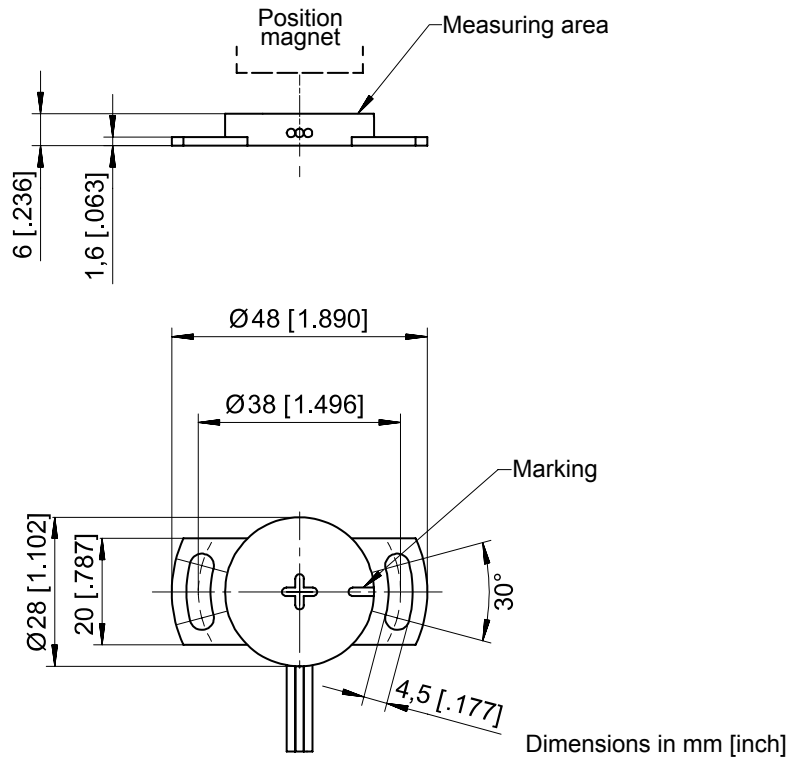
A300 = Single wire ETFE 3 x 0.5 mm², length 300 mm

Order example: PRAS20 - 360 - U6 - CW - A300

POSIROT®
PRDS20 / 21
Magnetic Angle Encoder with Incremental Output

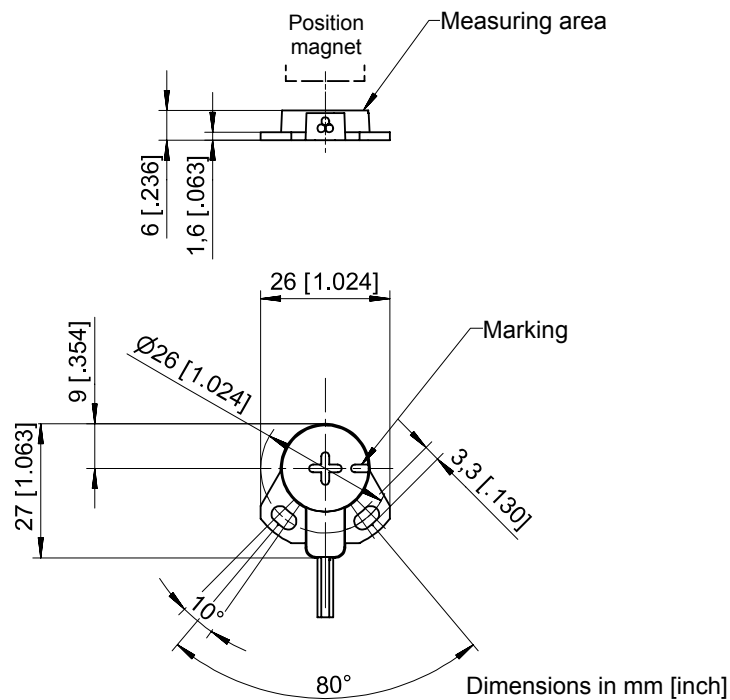


Outline drawing
PRAS20



Weight without cable approx. 8 g.
 Dimensions informative only.
 For guaranteed dimensions please consult factory.

Outline drawing
PRAS21

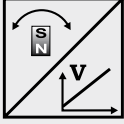
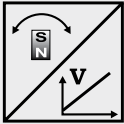
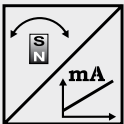


Weight without cable approx. 5 g.
 Dimensions informative only.
 For guaranteed dimensions please consult factory.

POSIROT® – PRAS, POSITILT® – PTAS

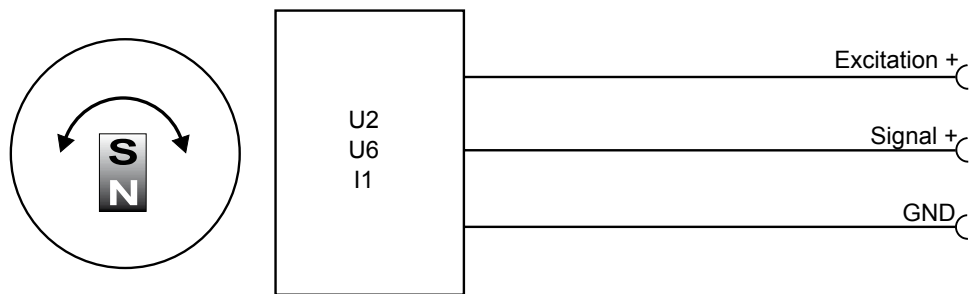
Outputs U2, U6 and I1



U2 Voltage Output 0.5 ... 10 V 	Excitation voltage	+18 ... +27 V DC (+36 V DC as option)
	Excitation current	40 mA max.
	Output voltage	0.5 ... 10 V DC
	Output current	2 mA max.
	Output load	> 5 kΩ
	Measuring rate	1 kHz standard
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s. (typ.) for 90°...360° ±100 x 10 ⁻⁶ / °C f.s. (typ.) for <90°
	Operating temperature	-40 ... +85 °C (+105 °C as option)
	Protection	Reverse polarity, short circuit
EMC	According to EN 61326:2004	
U6 Voltage Output 0.5 ... 4.5 V ratiometric 	Excitation voltage	+ 5V DC ±10 %
	Excitation current	40 mA max.
	Output voltage	0.5 ... 4.5 V DC
	Output current	2 mA max.
	Output load	> 1 kΩ
	Measuring rate	1 kHz standard
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s. (typ.) for 90°...360° ±100 x 10 ⁻⁶ / °C f.s. (typ.) for <90°
	Operating temperature	-40 ... +85 °C (+105/125 °C as option)
	Protection	Reverse polarity, short circuit
EMC	According to EN 61326:2004	
I1 Current Output 4 ... 20 mA 	Excitation voltage	+18 ... +27 V DC (+36 V DC as option)
	Excitation current	60 mA max.
	Load resistor	500 Ω max.
	Output current	4 ... 20 mA
	Measuring rate	1 kHz standard
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s. (typ.) for 90°...360° ±100 x 10 ⁻⁶ / °C f.s. (typ.) for <90°
	Operating temperature	-40 ... +85 °C
	Protection	Reverse polarity, short circuit
	EMC	According to EN 61326:2004

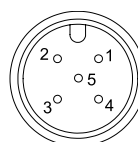
Other outputs available on request.

Output signals



Signal Wiring	Output signals	Connector pin	Cable color
	Excitation +	1	brown
	Signal	2	white
	GND	3	blue
	Do not connect!	4	black
	Do not connect!	5	-

Connection



View to sensor
connector

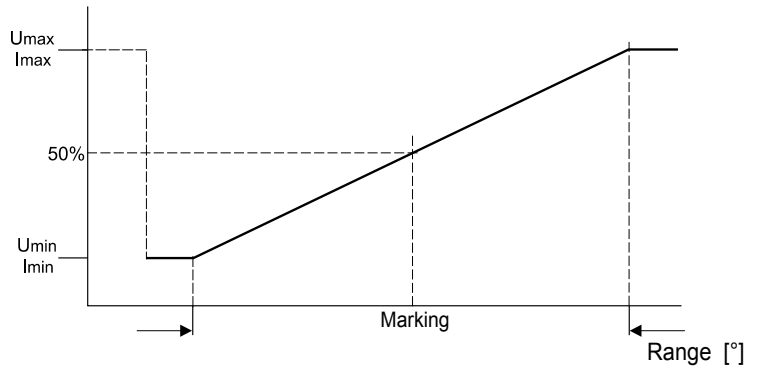
M12A5 / M12R5

POSIROT[®]

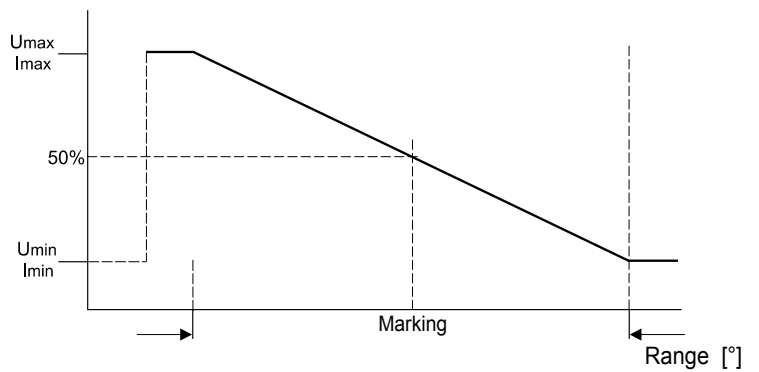
Characteristics for magnetic angle sensors



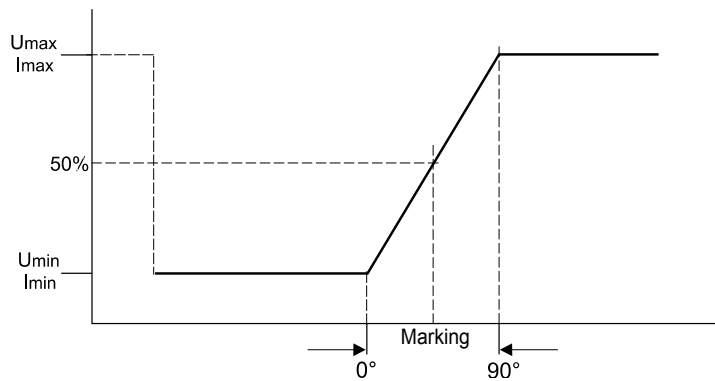
Output signal
(CW increasing)



Output signal
(CCW increasing)



Example angular range 90°



Example angular range 360°

