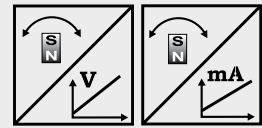




Magnetic inclination sensor in a 36 mm housing

- Protection class IP67/IP69K
- Magnetic measurement principle
- Outputs:
Voltage 0.5 ... 4.5 V; 0.5 ... 10 V
Current 4 ... 20 mA
- Redundant second channel as option
- Other outputs available on request



Specifications	Outputs	Voltage: 0.5 ... 4.5 V; 0.5 ... 10 V Current: 4 ... 20 mA, 3 wire
	Resolution	0.03 % ($\pm 30 \dots \pm 180^\circ$); 0.1 % ($\pm 15^\circ$)
	Repeatability	$\pm 0.03 \%$ ($\pm 30 \dots \pm 180^\circ$); $\pm 0.1 \%$ ($\pm 15^\circ$)
	Linearity	$\pm 0.3 \%$ f.s. (typ.)
	Measurement range	0 ... $\pm 15^\circ$ to 0 ... $\pm 180^\circ$, standard $\pm 180^\circ$
	Settling time	Ambient temperature 25 °C: $T_s < 2.5$ s for a deviation $< 45^\circ$ and $\pm 1^\circ$ accuracy of end position Ambient temperature -40 °C: $T_s < 5$ s for a deviation $< 45^\circ$ and $\pm 1^\circ$ accuracy of end position
	Signal characteristics	CW, CCW
	Material	Stainless steel / aluminium / zinc (depends on the model)
	Mounting	Clamps, mounting plate
	Protection class	IP67 (IP67/IP69K option)
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 PTAS2

Model name _____

Measurement range $\pm 15 \dots \pm 180^\circ$ in steps of 15°
15 / 30 / 45 / ... / 165 / 180

Output (see page 26)

U6 = 0.5 ... 4.5 V ratiometric
U2 = 0.5 ... 10 V
I1 = 4 ... 20 mA, 3 wire

Signal characteristics

CW = Signal increasing CW
CCW = Signal increasing CCW

Connection

KAB2M = Cable, standard length 2 m, IP67
KAB2M69K = Cable, standard length 2 m, IP67/IP69K
M12A5 = 5-pin socket M12 axial (compatible with 4-pin connector)
M12R5 = 5-pin socket M12 radial (compatible with 4-pin connector), (in preparation)

Order code mounting clamps (set of 3 pieces)

PRPT-BFS1

Order code connector cable (see accessories page 32)

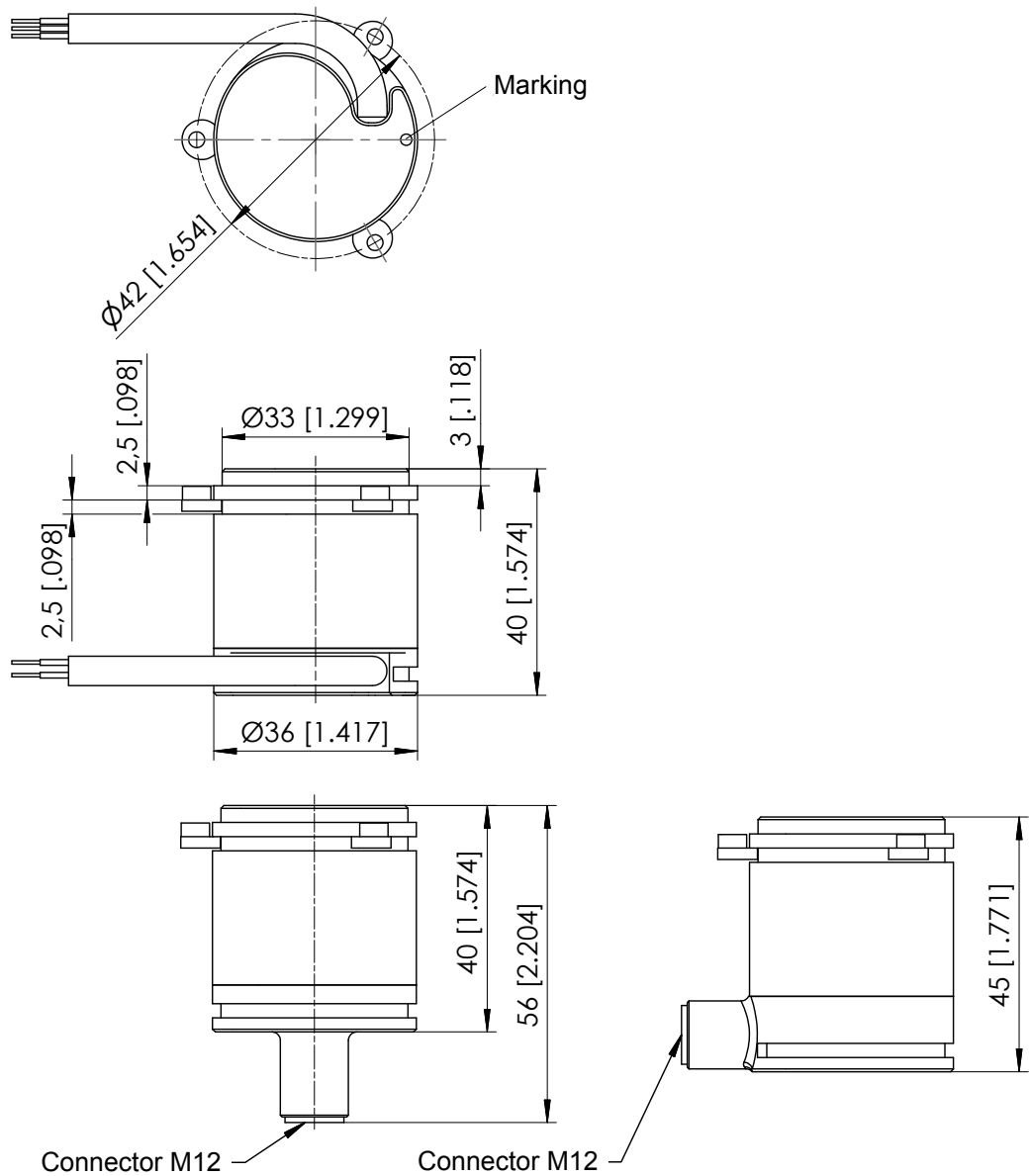
KAB-2M-M12/4F/G-LITZE

Order example: PTAS2 - 180 - I1 - CW - KAB2M

POSITILT[®] PTAS2 Dimensions



Outline drawing
sensor



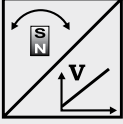
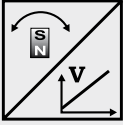
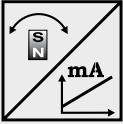
Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions please consult factory.

POSIROT[®] – PRAS, POSITILT[®] – PTAS

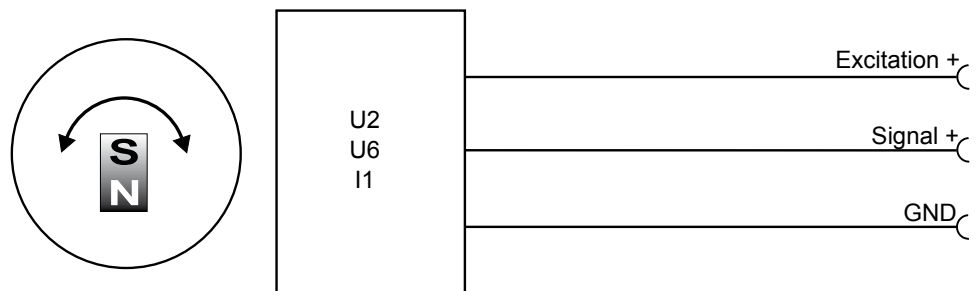
Outputs U2, U6 and I1



U2 Voltage Output 0.5 ... 10 V 	Excitation voltage	18 ... 36 V DC; U2B: 11.5 ... 27 V DC
	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 = U6/5 / U6/8,25 Voltage Output 10 ... 90 % ratiometric 	Excitation voltage	5V DC ±10 % / 8.25 V DC ±10 %
	Excitation current	40 mA max.
	Output voltage	10 ... 90 % of the excitation voltage
	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 ... 36 V DC
	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

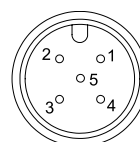
Other outputs available on request.

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

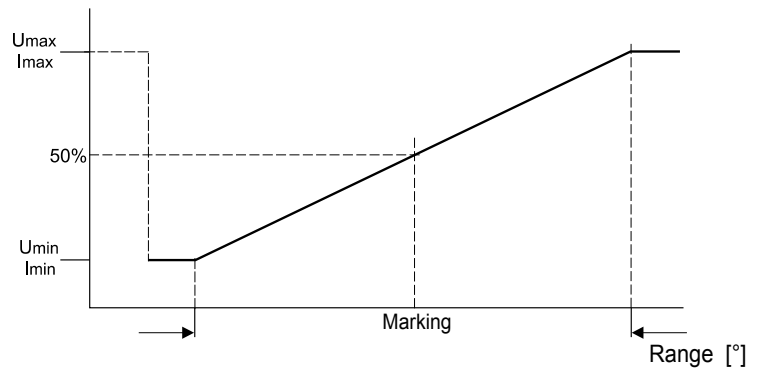
M12A5 / M12R5

POSIROT®

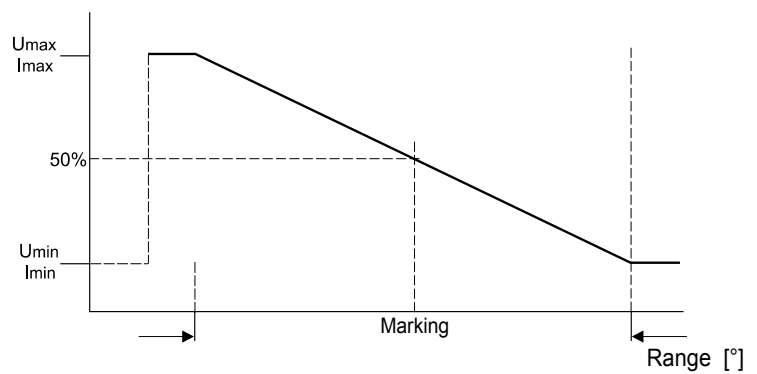
Characteristics for magnetic angle sensors



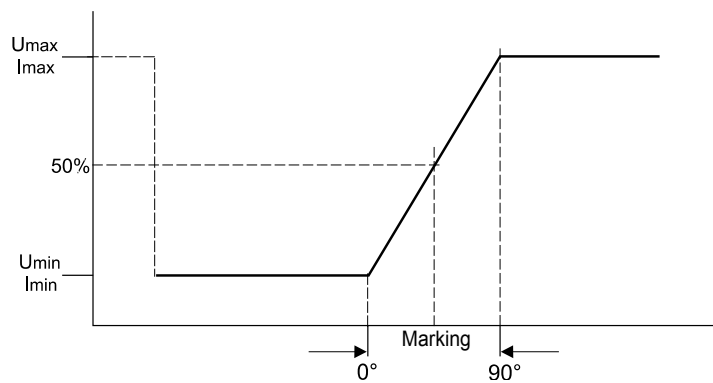
Output signal
(CW increasing)



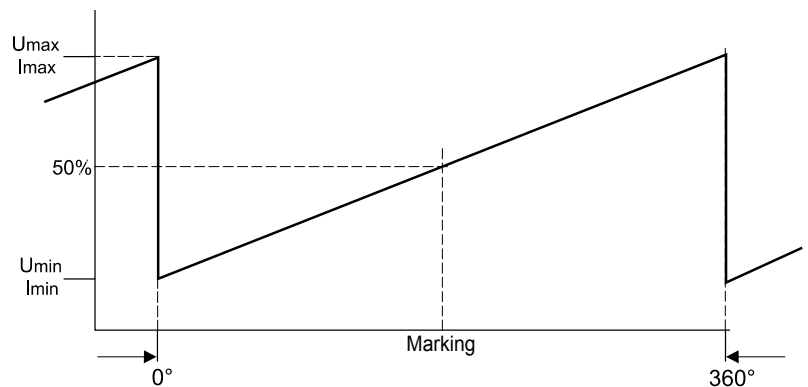
Output signal
(CCW increasing)



Example angular range 90°

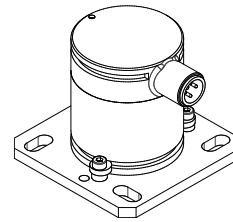
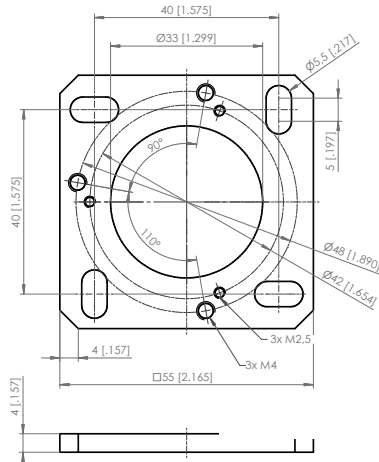


Example angular range 360°

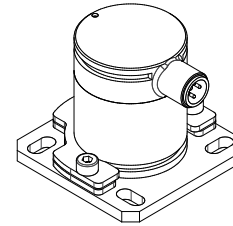


PRPT-BPL1

(screw mounting)
 For PRAS2, PRDS2,
 PRAS3, PRDS3, PTAS2



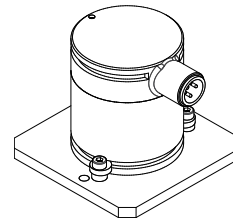
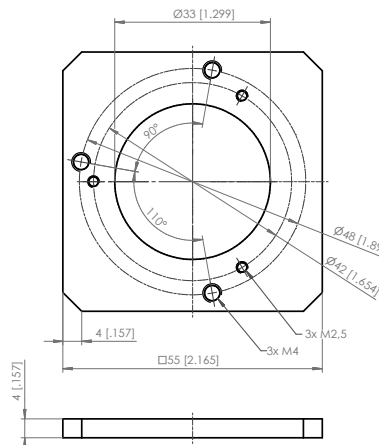
In combination with the
 mounting clamps
 PRPT-BFS1.



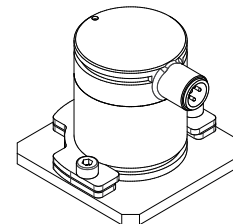
In combination with the
 mounting brackets
 PRPT-BFS2.

PRPT-BPL2

(welding assembly)
 For PRAS2, PRDS2,
 PRAS3, PRDS3, PTAS2



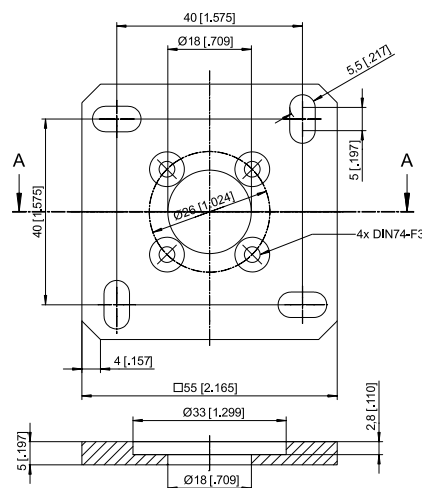
In combination with the
 mounting clamps
 PRPT-BFS1.



In combination with the
 mounting brackets
 PRPT-BFS2.

PRPT-BPL3

For PRAS3, PRDS3



Dimensions in mm [inch]

Weight 30 g approx.
 Dimensions informative only.
 For guaranteed dimensions please consult factory.

POSIROT® Accessories Connector Cables



Connector cable for POSIROT® angle sensors 4 pins M12

Suitable for 5-pin sensor connectors M12A5 and M12R5

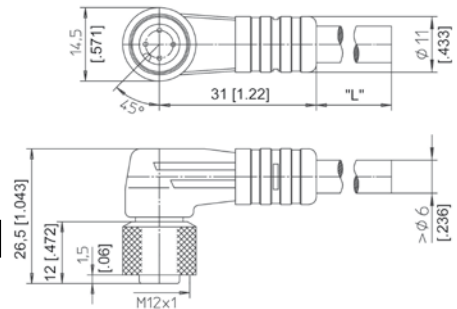
The 4-core screened cable is supplied with a mating 4-pin 90° M12 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/4F/W - LITZE

IP69K: **KAB - XM - M12/4F/W/69K - LITZE**

Length in m



Connector cable for POSIROT® angle sensors 4 pins M12

Suitable for 5-pin sensor connectors M12A5 and M12R5

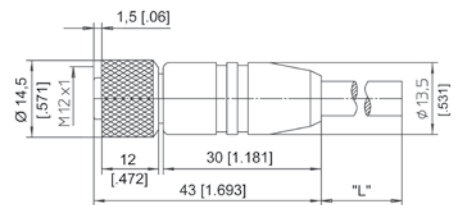
The 4-core screened cable is supplied with a mating 4-pin M12 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/4F/G - LITZE

IP69K: **KAB - XM - M12/4F/G/69K - LITZE**

Length in m



Signal wiring M12, 4 pin	Connector pin / cable color			
	1	2	3	4
Brown	White	Blue	Black	

POSIROT® Accessories Connector Cables



Connector cable for POSIROT® angle sensors
8 pins M12

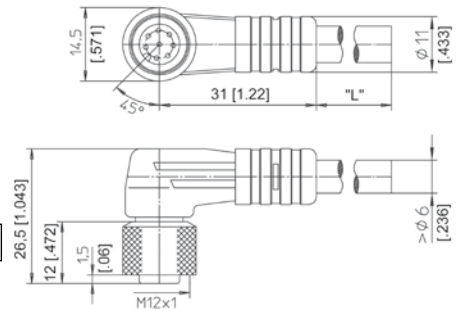
The 8-core screened cable is supplied with a mating 8-pin 90° M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/8F/W - LITZE

IP69K: **KAB - XM - M12/8F/W/69K - LITZE**

Length in m



Connector cable for POSIROT® angle sensors
8 pins M12

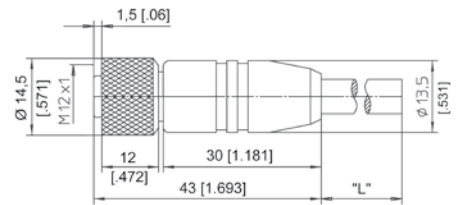
The 8-core screened cable is supplied with a mating 8-pin M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m.

Order code:

KAB - XM - M12/8F/G - LITZE

IP69K: **KAB - XM - M12/8F/G/69K - LITZE**

Length in m



Signal wiring M12, 8 pin	Connector pin / cable color							
	1	2	3	4	5	6	7	8
	White	Brown	Green	Yellow	Grey	Pink	Blue	Red