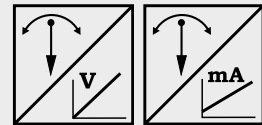


POSITILT® PTAM2 Inclination Sensor with Analog Output



Analog inclination sensor with 1 or 2 axes in MEMS technology

- Linear output of the inclination angle
- Measurement range $\pm 180^\circ$ for 1 axis, $\pm 60^\circ$ for 2 axes
- Contact-free, wear free, high resolution
- High shock resistance
- Protection class IP67 / IP69K
- Analog output



Specifications	Output	Voltage 0.5 ... 10 V (linearized) Current 4 ... 20 mA, 3 wire (linearized)
	Excitation voltage	18 ... 36 V DC
Measurement range	Single axis: $\pm 5 \dots \pm 180^\circ$; 2 axes: $\pm 5 \dots \pm 60^\circ$	
Resolution	0.05°	
Linearity	0.5°	
Settling time	0.1 s ... 2 s, configurable	
Protection class	IP67/IP69K	
Connection	5 pin connector M12	
Stability (temperature)	$\pm 100 \times 10^{-6} / ^\circ\text{C}$ f.s.	
Environmental		
EMC	Refer to output specification	
Temperature	Refer to output specification	

Order code PTAM2

PTAM2 - [] - [] - [] - [] - []

Model name

Axis of inclination

- 1 = Inclination with regard to X axis (mounting X)
- 2 = Inclination with regard to X und Y axis (mounting XY)

Measuring range

- 5 ... 180 = 1 axis: $\pm 5 \dots \pm 180^\circ$ in 5° increments
- 5 ... 60 = 2 axes: $\pm 5 \dots \pm 60^\circ$ in 5° increments

Output

- U2 = 0.5 ... 10 V
- I1 = 4 ... 20 mA

Output delay (90 % f.s.)

- 0,1 ... 2 = 0.1 ... 2 s in 0.1 s increments

Connection

- M12R5 = 5 pin socket M12, radial (compatible with 4 pin mating connector)
- M12A5 = 5 pin socket M12, axial (compatible with 4 pin mating connector)

Order code connector cable

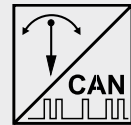
KAB-...M-M12/4F/G-LITZE

Order example: PTAM2 - 1 - 180 - I1 - 0,1 - M12R5



Analog inclination sensor with 1 or 2 axes in MEMS technology

- Linear output of the inclination angle
- Measurement range $\pm 180^\circ$ for 1 axis, $\pm 60^\circ$ for 2 axes
- Contact-free, wear free, high resolution
- High shock resistance
- Protection class IP67 / IP69K
- CANopen bus

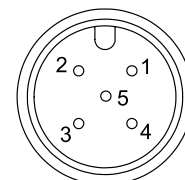


Specifications	Output	CANopen bus (profile „inclination sensor“)
	Excitation voltage	8 ... 36 V DC
	Measurement range	Single axis: $\pm 5 \dots \pm 180^\circ$; dual axis: $\pm 5 \dots \pm 60^\circ$
	Resolution	0.05 °
	Linearity	$\pm 0.5^\circ$
	Settling time	0.1 s ... 2 s, configurable
	Stability (temperature)	$\pm 100 \times 10^{-6} / ^\circ\text{C}$ f.s.
	Protection class	IP67/IP69K
	EMV Automation	EN 61326:2006

Interface CANOP	Communication profile	CANopen CiA 301 V 4.02, Slave
	Encoder profile	CiA 410 Inclinometer
	Error Control	Node Guarding, Heartbeat, Emergency Message
	Node ID	Adjustable via LSS; default 127
	PDO	3 TxPDO, 0 RxPDO, no linking, static mapping
	PDO Modes	Event-/Time triggered, Remote-request, Sync cyclic/acyclic
	SDO	1 server, 0 client
	CAM	2 cams
	Certified	Yes
	Transmission rates	50 kBaud to 1 MBaud, adjustable via LSS; default: 125 kBaud
	Nodes	127 max.
	Bus connection	M12 connector, 5 pins
	Integrated bus terminating resistor	No
	Bus, galvanic isolated	No

Signal wiring / connection	Signal name	Connector pin
	Shield	1
	Excitation +	2
	GND	3
	CAN-H	4
	CAN-L	5

View to sensor connector



Order code connector cable

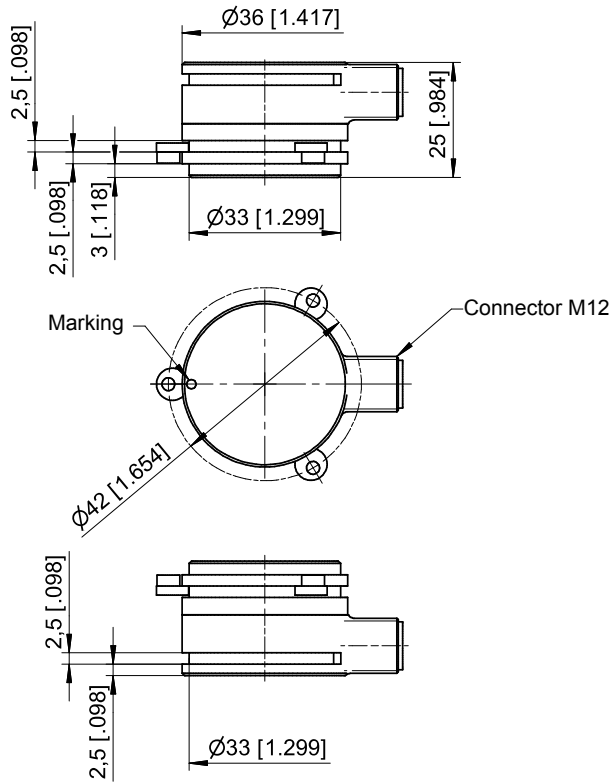
KAB-...M-M12/5F/G-M12/5M/G

Order example: PTAM2 - 1 - 180 - CANOP - 0,1 - M12R

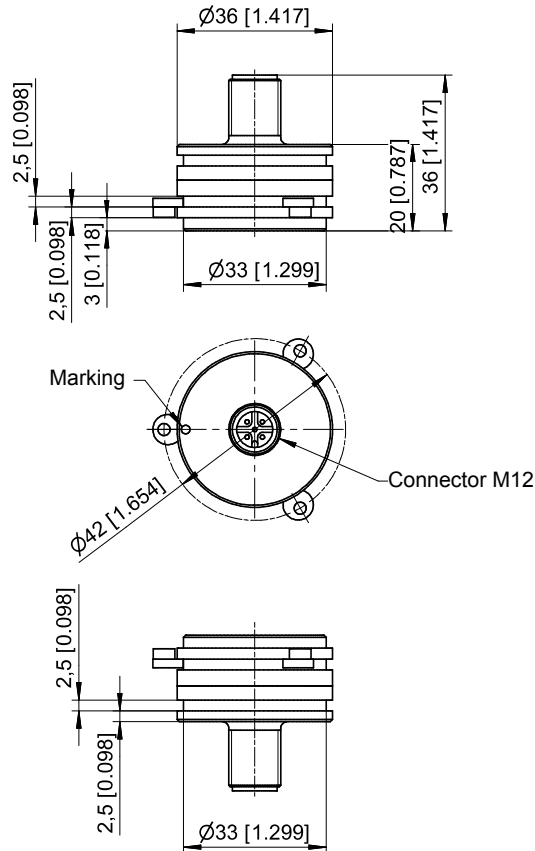
**POSITILT®
PTAM2
Inclination Sensor**



**Outline drawing
M12 radial**



**Outline drawing
M12 axial**



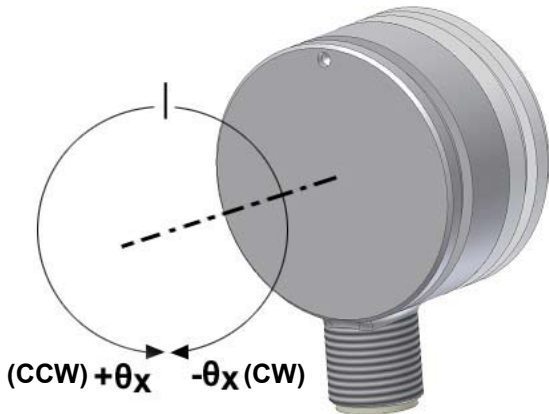
Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

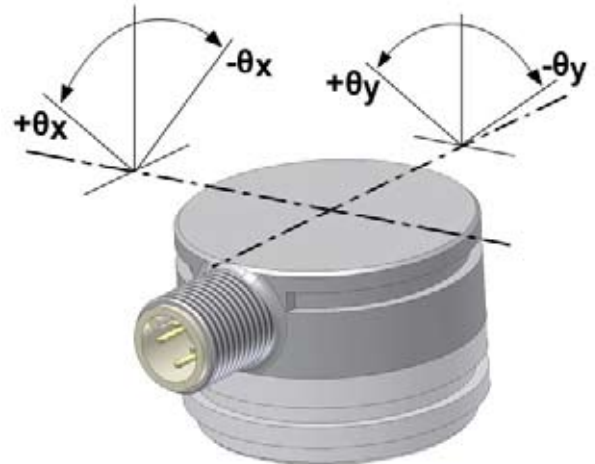
POSITILT®
PTAM2
Inclination Sensor



1 axis

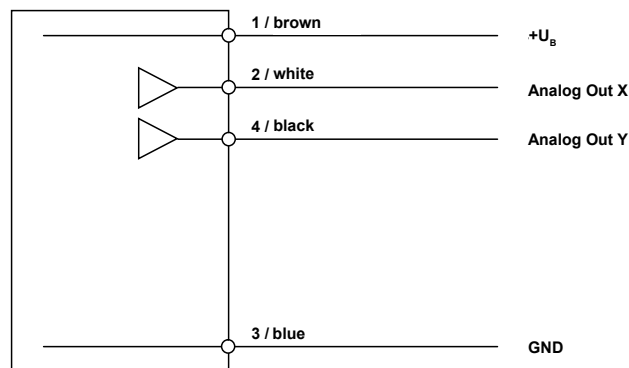


2 axes



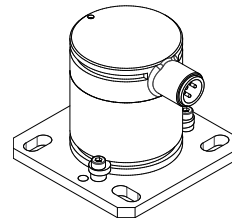
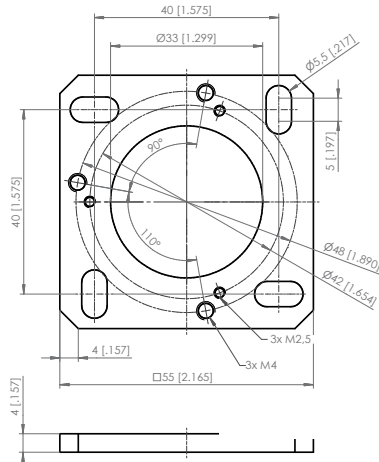
**Connectors und
connector cables**

	Pin no.	Wire color according to VDE 0293-308	Signal name
4-pin connector with one or two analog outputs	1	Brown	+U _B
	2	White	Analog output X (x-inclination)
	3	Blue	GND
	4	Black	Analog output Y (y-inclination as option)
	(5) 4-pin compatible	Grey	Do not connect!

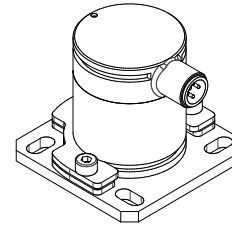


PRPT-BPL1

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



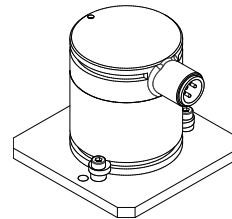
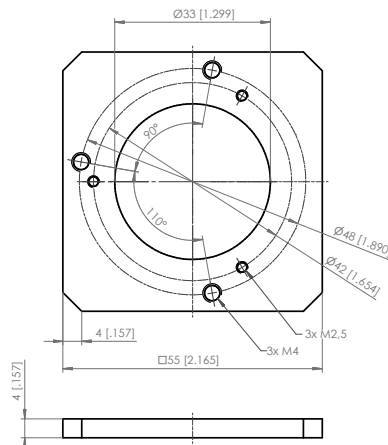
In combination with the
 mounting clamps
 PRPT-BFS1.



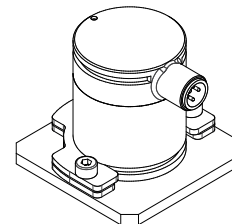
In combination with the
 mounting brackets
 PRPT-BFS2.

PRPT-BPL2

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



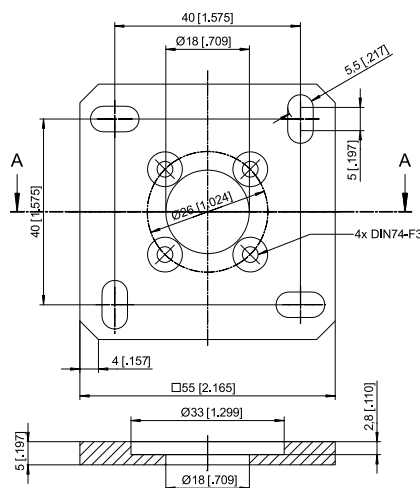
In combination with the
 mounting clamps
 PRPT-BFS1.



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

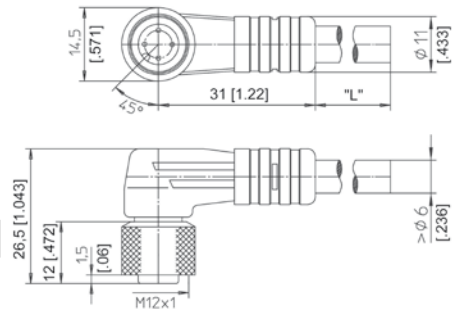
The 4-core screened cable is supplied with a mating 4-pin 90° M12 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m.

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

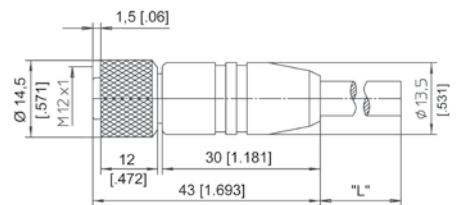
The 4-core screened cable is supplied with a mating 4-pin M12 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m.

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	