



# **POSIROT® / PRDS**

## **Digital Magnetic Angle Sensors**

### **Instruction Manual**



**Please read carefully before installation and operation!**

---

<b>Contents</b>	<b>Safety instructions</b>	<b>3</b>
	<b>Description</b>	<b>4</b>
	<b>Mounting</b>	<b>4</b>
	<b>Placement and alignment of the position magnet</b>	<b>4</b>
	<b>Reference position</b>	<b>4</b>
	<b>Torque for the mounting screws</b>	<b>6</b>
	<b>Electrical installation</b>	<b>6</b>
	<b>Outline drawings</b>	<b>7</b>
	<b>Specification of the outputs</b>	<b>18</b>
	<b>RS422</b>	<b>18</b>
	<b>HTL</b>	<b>19</b>
	<b>SSI</b>	<b>20</b>
	<b>CANopen</b>	<b>21</b>
	<b>CAN SAE-J1939</b>	<b>25</b>
	<b>Accessories</b>	<b>29</b>
	<b>Accessory cables</b>	<b>29</b>
	<b>Position magnets</b>	<b>30</b>
	<b>Assembly of the magnets</b>	<b>33</b>
	<b>Mounting plates</b>	<b>34</b>
	<b>Declaration of conformity</b>	<b>36</b>

**Safety  
instructions**



**DANGER**

**Do not use POSIROT® position sensors in safety critical applications where malfunction or total failure of the sensor may cause danger for man or machine.**

**For safety related applications additional mechanisms (devices) are necessary to maintain safety and to avoid damage.**

**Disregard of this advice releases the manufacturer from product liability.**

**The sensor must be operated only within values specified in the catalog or datasheet.**

**Connection to power supply must be performed in accordance with safety instructions for electrical facilities and performed only by trained staff.**

## Description

The angle sensors PRDS of the POSIROT® product family perform touchless or shaft based angle measurement. A position magnet rotates in front of the sensing area of the sensor head. The angular position is converted into a standardized incremental output. Resolutions up to 1024 pulses per revolution are available.

## Mounting

### Placement and alignment of the position magnet



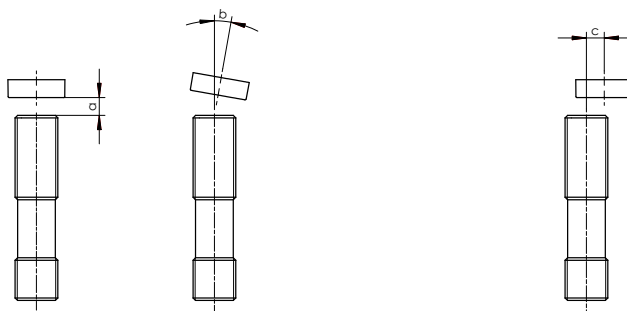
For non-contact sensor models air gap and alignment of sensor and position magnet has to be observed. The linearity will degrade in case of misalignment. Also external magnetic fields and magnetized materials nearby can effect the measuring result.

### Reference position

For ease of mounting there are reference markings at housing, position magnet or shaft. If both markings match, the reference output  $Z / \bar{Z}$  will be activated.

**Mounting**                      **Measuring error by misalignment of the position magnet**  
 (continuation)

Sensor	Position magnet	Air gap [mm]	Parallelism [°]	Error by axial misalignment [°]					
				0,2 mm	0,5 mm	1 mm	2 mm	3 mm	4 mm
PRDS1	PRMAG20	0 ... 4,5	0 ... 5	0,15	0,4	0,8	2,2	5,0	–
	PRMAG21	0 ... 1,5	0 ... 5	0,2	0,4	1,0	3,8	10	–
	PRMAG22	0 ... 7,5	0 ... 5	0,1	0,4	1,0	2,2	4,5	8,0
PRDS2	PRMAG20	0 ... 4	0 ... 5	0,15	0,4	0,8	2,2	5,0	–
	PRMAG21	0 ... 4,5	0 ... 5	0,2	0,4	1,0	3,8	10	–
	PRMAG22	0 ... 7	0 ... 5	0,1	0,4	1,0	2,2	4,5	8,0
PRDS5	PRMAG5-Z	0 ... 5,5	0 ... 5	0,1	0,2	0,6	1,5	4,5	8,5
	PRMAG20	0 ... 3,5	0 ... 5	0,15	0,4	0,8	2,2	5,0	–
	PRMAG21	0 ... 1	0 ... 5	0,2	0,4	1,0	3,8	10	–
	PRMAG22	0 ... 6,5	0 ... 5	0,1	0,4	1,0	2,2	4,5	8,0
PRDS27	PRMAG20	0 ... 4,5	0 ... 5	0,15	0,4	0,8	2,2	5,0	–
	PRMAG22	0 ... 7,5	0 ... 5	0,0	0,0	0,7	1,5	3,8	7,0



**Torque for fixing screws**

Torque	Mounting method	Material	Torque [Nm]
	Nuts M12x1 (PRDS1)	–	2.5
	M2,5 screws for mounting brackets (PRDS2, PRDS3)	–	0.8
	M3 screws for mounting flange (PRDS3)	–	1.2
	M4 screws (PRDS24, PRDS27)	–	1

**Electrical installation**

**Supply voltage, current consumption, wiring**

For wiring of connector or cable outlet as well as supply voltage and current consumption refer to chapter „Specification of the outputs“ at the end of this manual.

Cable screen has to be connected to protective earth.



**Caution:** Observe different color code for pre-assembled accessory cables - refer to accessories pages.

The protection class of sensors with connector output is valid only if the electrical plug is connected!

**Caution:** Do not twist the M12 connector insert.

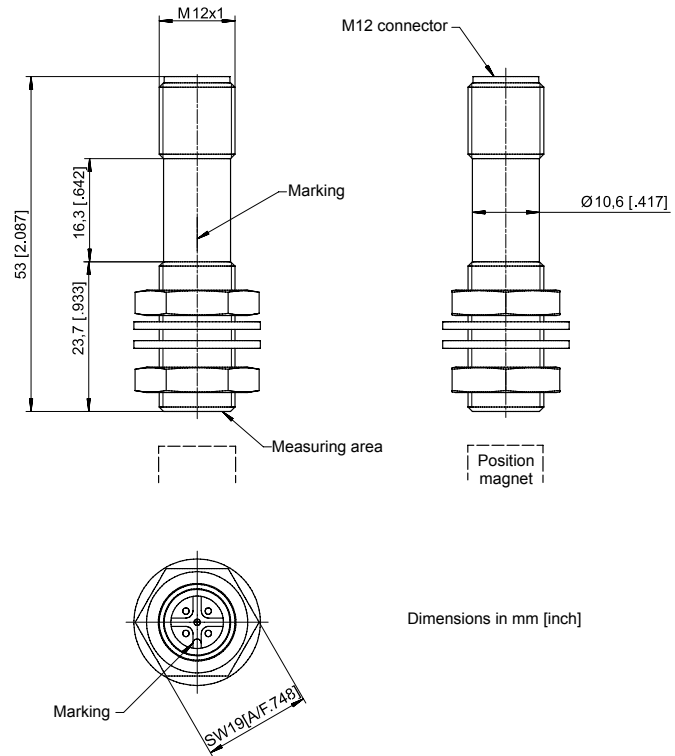
Cable outputs must be installed in such a way that no moisture can get into the cable.

Crossing the dew point must be avoided.

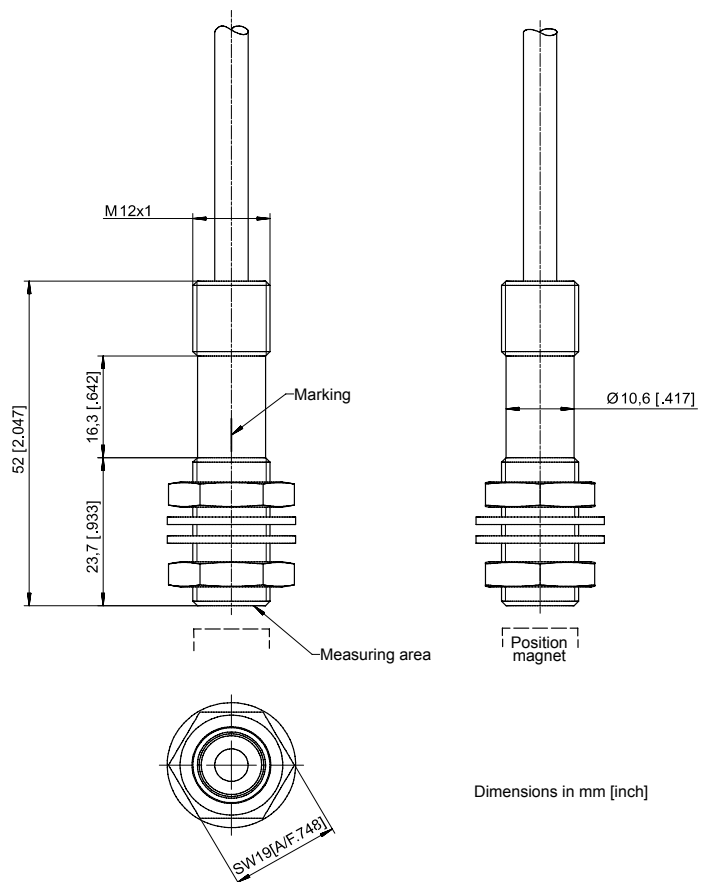
Rotational speed limit by resolution and maximum pulse frequency	Resolution [periods per turn]	Rotational speed for maximum pulse frequency [rpm]	
		50 kHz	200 kHz
	1024	1500	6000
512	3000	10000 *)	
256	6000	10000 *)	
128	10000 *)	10000 *)	
64	10000 *)	10000 *)	
32	10000 *)	10000 *)	
16	10000 *)	10000 *)	

\*) Speed limited by mechanical restrictions of the rotating magnet

**Outline drawing**  
**PRDS1**  
 Connector version

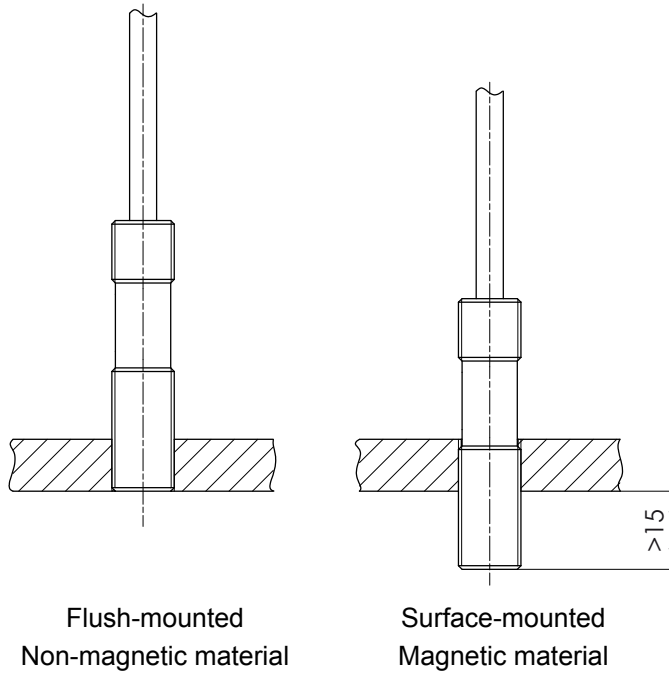


**Outline drawing**  
**PRDS1**  
 Cable version

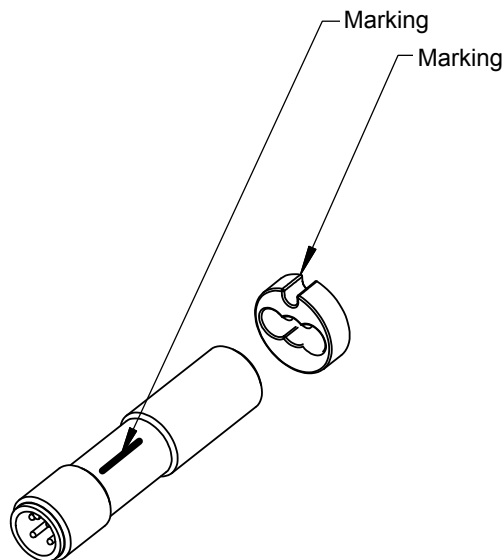


Weight without cable 20 g approx.  
 Dimensions informative only.  
 For guaranteed dimensions consult factory.

## Mounting PRDS1

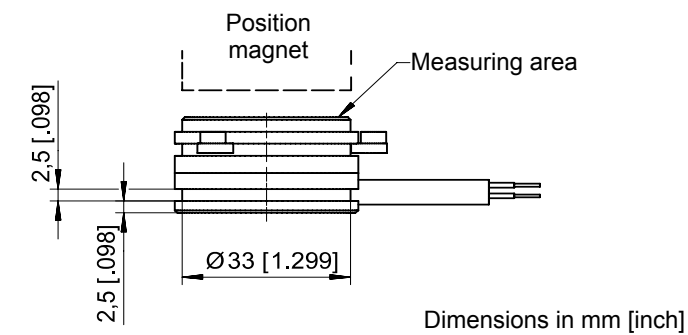
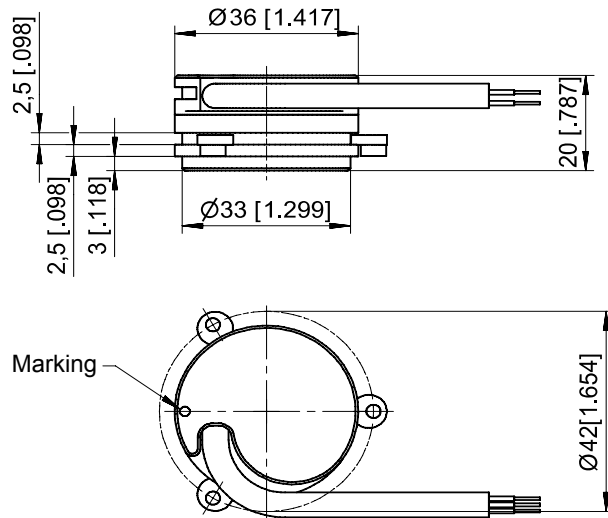


## Reference position



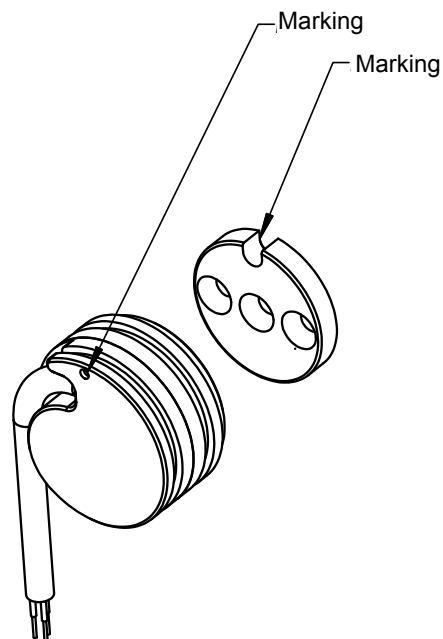


**Outline drawing**  
**PRDS2**  
 Cable version

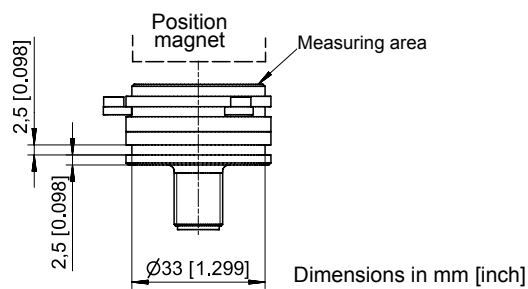
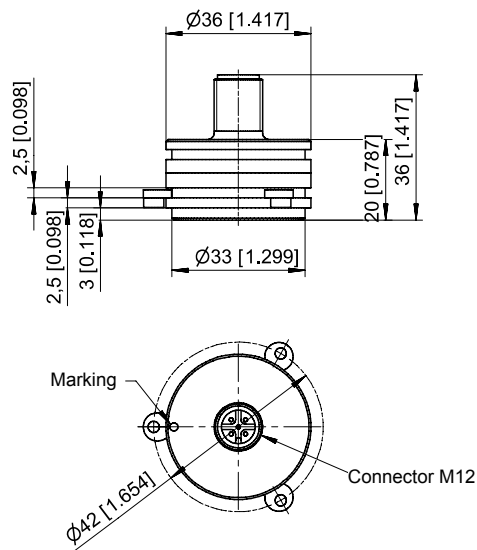


Weight without cable 40 g approx.  
 Dimensions informative only.  
 For guaranteed dimensions consult factory.

**Reference position**

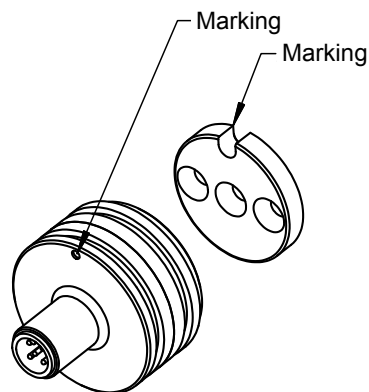


**Outline drawing**  
**PRDS2**  
 Connector version  
 M12 axial

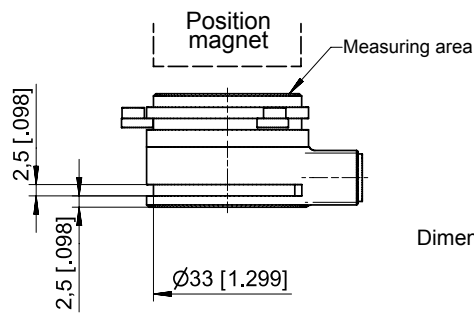
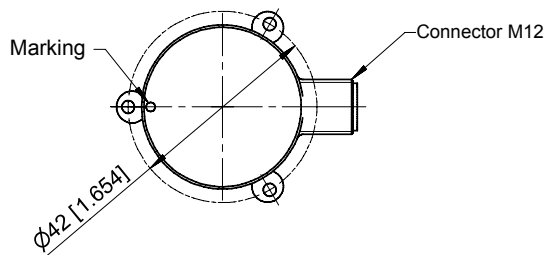
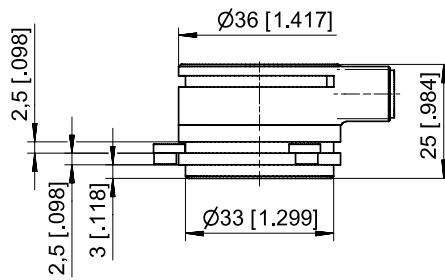


Weight without cable 50 g approx.  
 Dimensions informative only.  
 For guaranteed dimensions consult factory.

**Reference**  
**position**



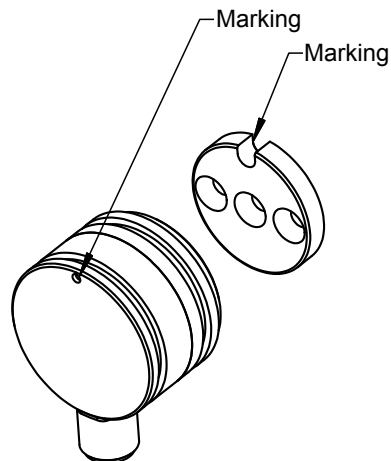
**Outline drawing**  
**PRDS2**  
 Connector version  
 M12 radial



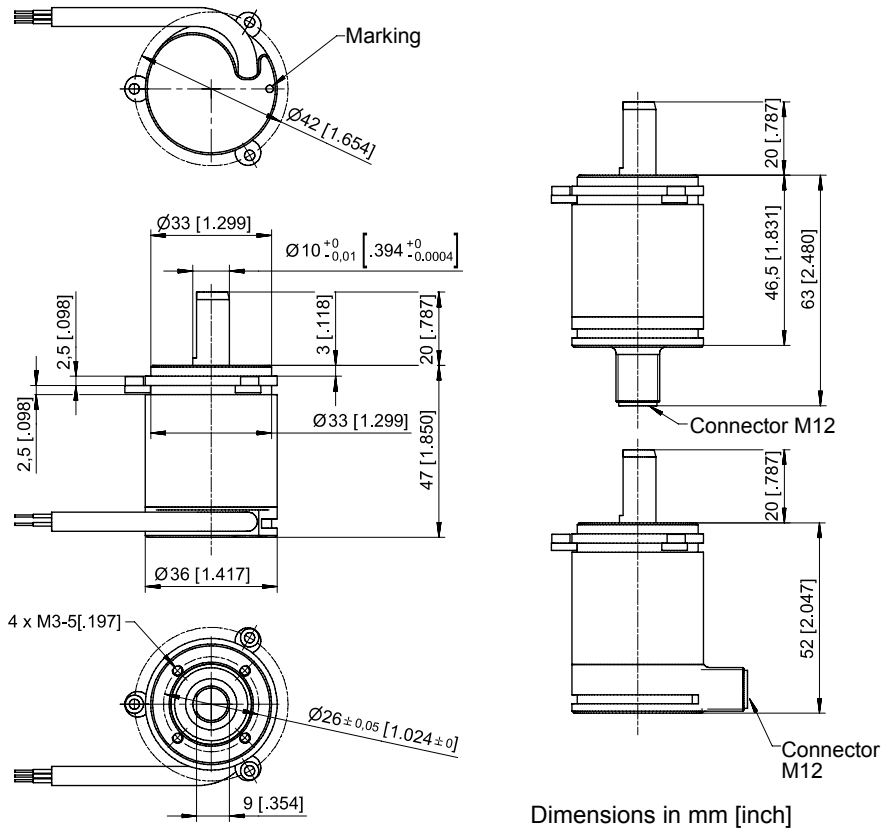
Dimensions in mm [inch]

Weight without cable 50 g approx.  
 Dimensions informative only.  
 For guaranteed dimensions consult factory.

**Reference position**

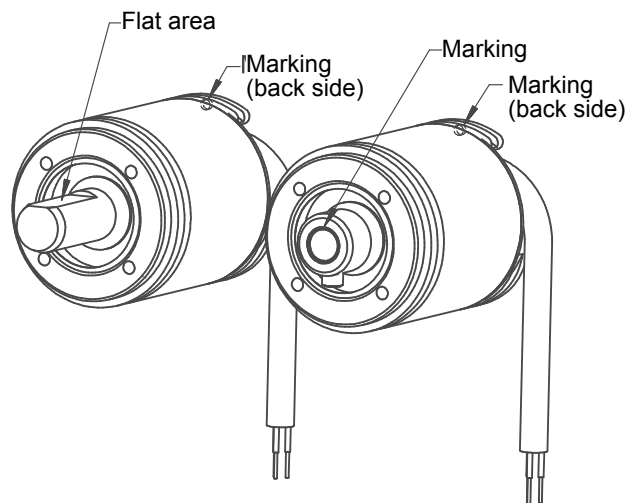


**Outline drawing**  
**PRDS3**  
**Shaft**



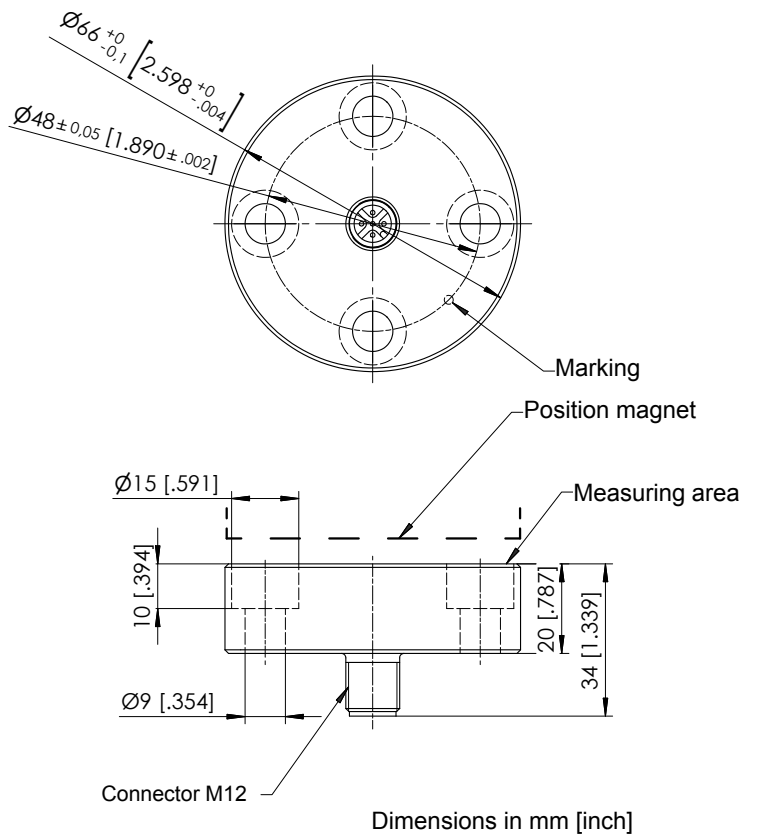
Weight without cable 250 g approx.  
 Dimensions informative only.  
 For guaranteed dimensions consult factory.

**Reference**  
**position**



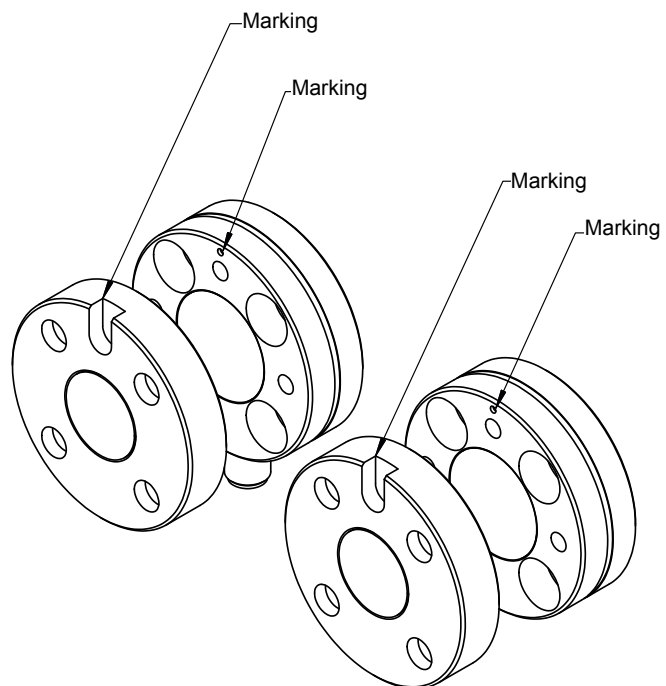


**Outline drawing**  
**PRDS5**  
Connector M12  
axial

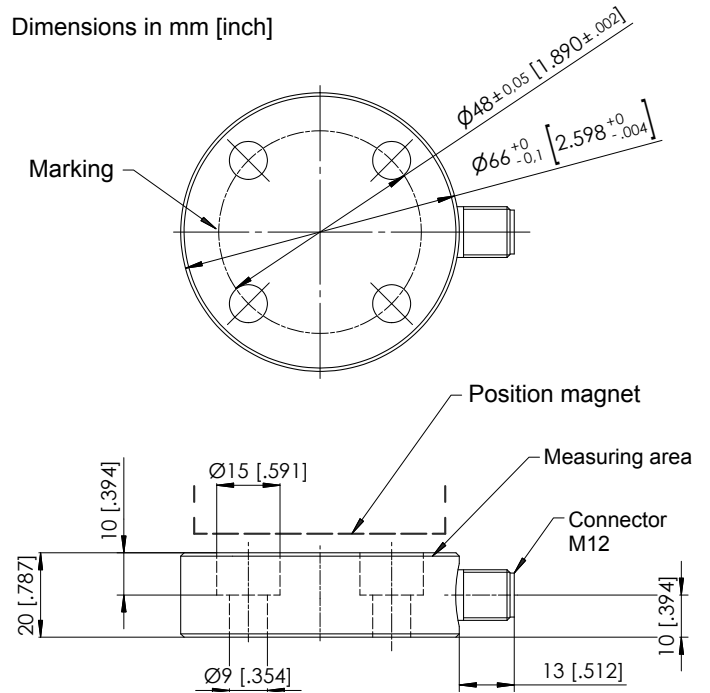


Dimensions informative only.  
For guaranteed dimensions consult factory.

**Reference**  
**position**

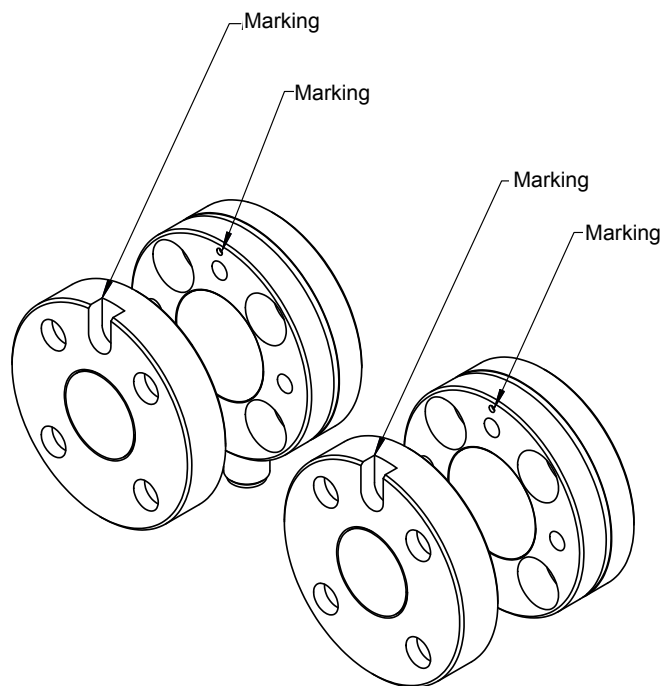


**Outline drawing**  
**PRDS5**  
 Connector M12  
 radial

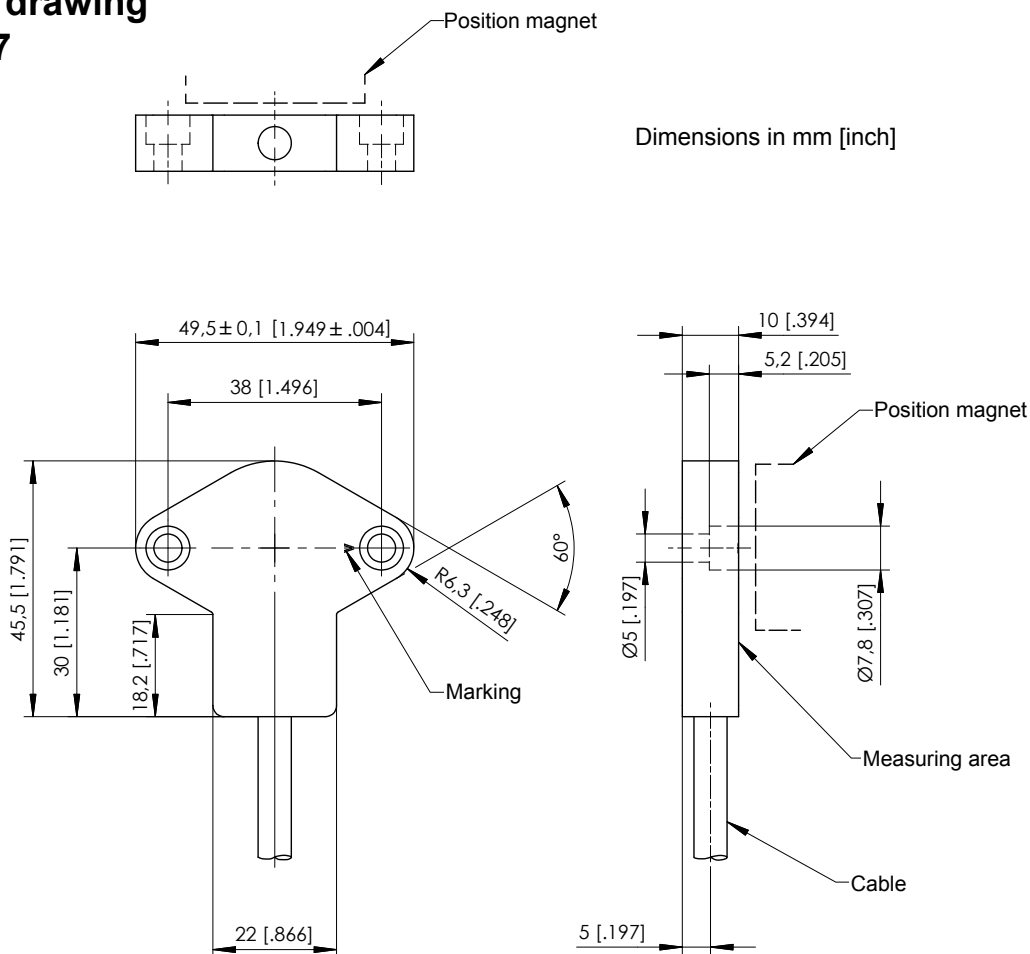


Dimensions informative only.  
 For guaranteed dimensions consult factory.

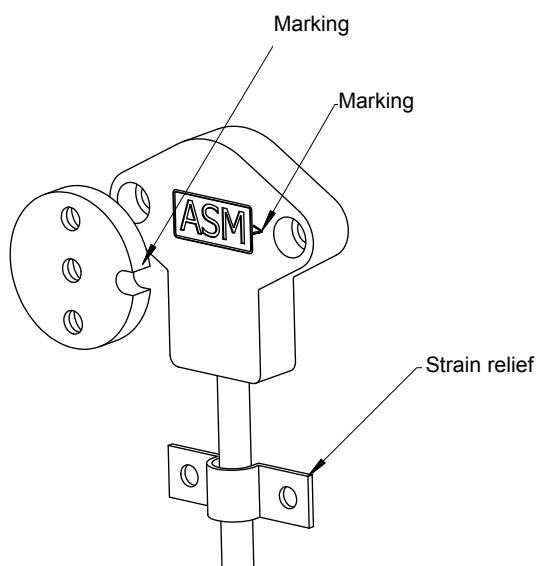
**Reference position**



**Outline drawing**  
**PRDS27**



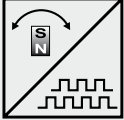
**Reference**  
**position**



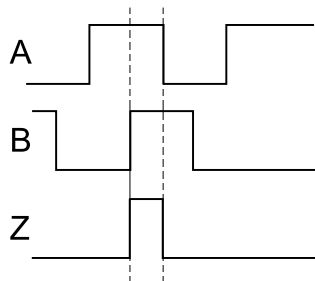
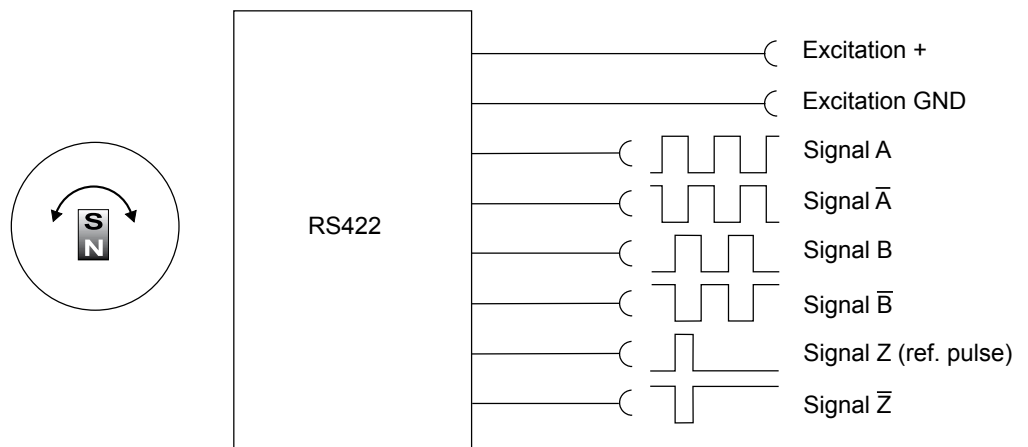
For all sensors with cable:

Cable diameter	Ø 5,2 mm	
Min. bending radius	in motion	not in motion
	10 x Ø, 10 million cycles	5 x Ø



<b>RS422</b> Incremental 	Interface	RS422
	Excitation voltage	5 V ±10 % (RS5V); 12...36 V (RS24V)
	Excitation current	100 mA max., depending on the load
	Pulse frequency	50, 200, 800 kHz
	Output signals	A, $\bar{A}$ , B, $\bar{B}$ , Z, $\bar{Z}$ Push-Pull
	Output current	60 mA max.
	Stability (temperature)	±50 x 10 <sup>-6</sup> / °C f.s. (typ.)
	Operating temperature	-40 ... +85 °C
	Protection	Short circuit
	EMC	According to EN 61326-1:2006

**Output signals**

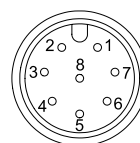


Pulse sequence for clockwise rotation CW in view of shaft or active front of sensor.

The subsequent counting device must be able to process the specified maximum pulse frequency of the sensor.

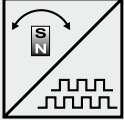
Signal wiring	Output signals	Connector pin	Cable output color
	Excitation +	1	white
	GND	2	brown
	A	4	yellow
	$\bar{A}$	6	pink
	B	3	green
	$\bar{B}$	5	grey
	Z	7	blue
	$\bar{Z}$	8	red

**Connection**

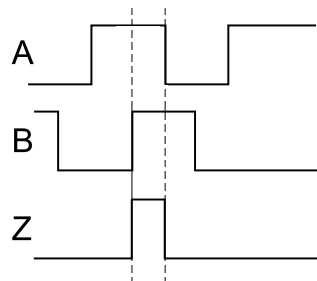
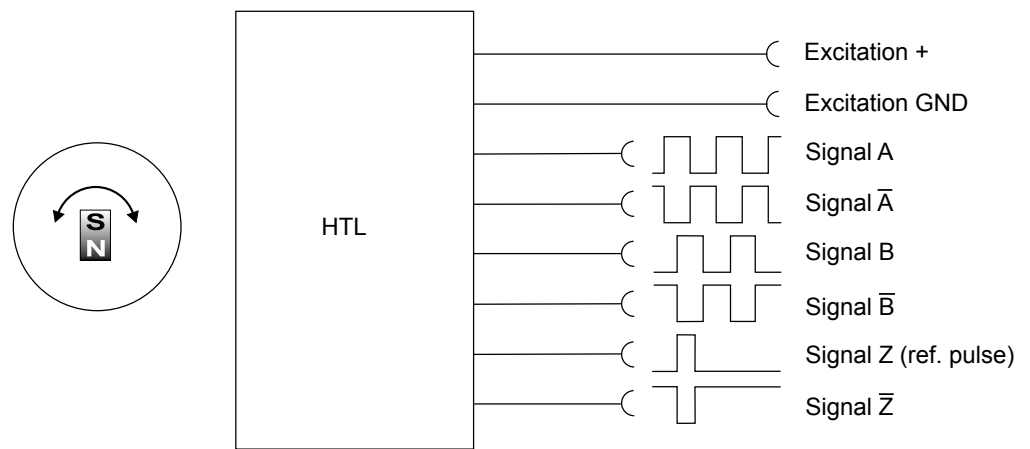


View to sensor connector

M12A8 / M12R8

<b>HTL</b> Incremental 	Interface	HTL
	Excitation voltage	12...36 V
	Excitation current	100 mA max., depending on the load
	Pulse frequency	50, 200, 800 kHz
	Output signals	A, $\bar{A}$ , B, $\bar{B}$ , Z, $\bar{Z}$ Push-Pull
	Output current	50 mA max.
	Stability (temperature)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s. (typ.)
	Operating temperature	-40 ... +85 °C
	Protection	Short circuit
	EMC	According to EN 61326-1:2006

**Output signals**



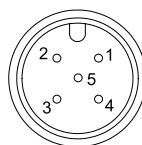
Pulse sequence for clockwise rotation CW in view of shaft or active front of sensor.

The subsequent counting device must be able to process the specified maximum pulse frequency of the sensor.

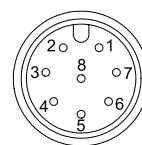
Signal wiring	Output signals	Connector pin M12A5 / M12R5	Connector pin M12A8 / M12R8	Cable output color
	Excitation +	1	1	white
	GND	3	2	brown
	A	2	4	yellow
	$\bar{A}$		6	pink
	B	4	3	green
	$\bar{B}$		5	grey
	Z	5	7	blue
	$\bar{Z}$		8	red

**Connection**

View to sensor connector



M12A5 / M12R5




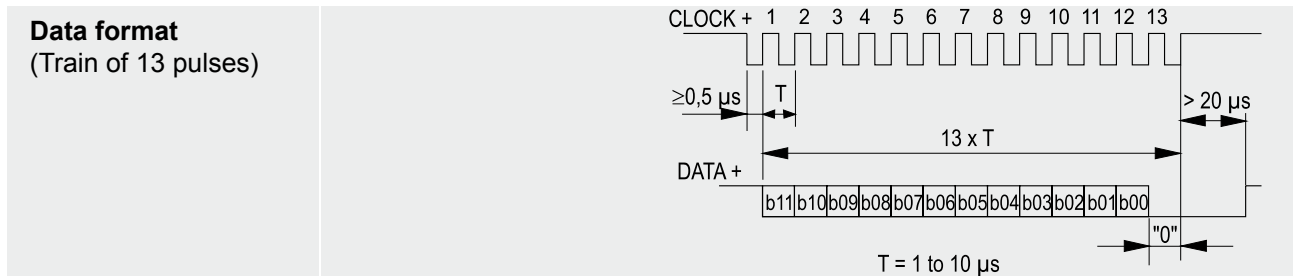
M12A8 / M12R8

# POSIROT® – PRDS

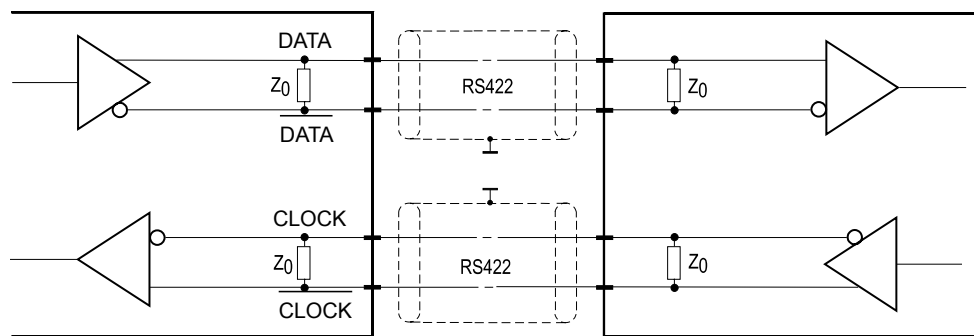
## Output SSI



<b>SSI</b> Synchronous serial 	Interface	EIA RS-422
	Excitation voltage	5 V ±10 % (SSI5V); 12...36 V (SSI24V)
	Excitation current	100 mA max. without load
	Clock frequency	100 kHz ... 1 MHz
	Code	Single step Gray code 12 Bit
	Resolution	12 Bit
	Delay between pulse trains	20 µs min.
	Stability (temperature)	±50 x 10 <sup>-6</sup> / °C f.s. (typ.)
	Operating temperature	-40 ... +85 °C
	Protection	Short circuit
	EMC	According to EN 50082-2, EN50081-1



### Recommended processing input circuit

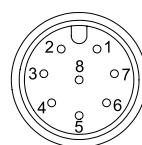


Cable length	Baud rate
50 m	100-1000 kHz
100 m	100-300 kHz

**Note:**  
Extension of the cable length will reduce the maximum transmission rate. The signals CLOCK /CLOCK and DATA/DATA must be connected in a twisted pair cable, shielded per pair and common.

Signal wiring	Signal name	Connector pin no.	Cable output color
	Excitation +	1	white
	Excitation GND	2	brown
	CLOCK	3	green
	CLOCK	4	yellow
	DATA	5	grey
	DATA	6	pink


### Connection



View to sensor connector

M12A8 / M12R8

**Description**      Magnetic angle sensor with CANopen interface according to CiA 406.

<b>Interface CANOP</b> 	Communication profile	CANopen CiA 301 V 4.02, Slave
	Device profile	Encoder CiA 406 V 3.2
	Configuration services	Layer Setting Service (LSS), CiA Draft Standard 305 (transmission rate, node id)
	Error Control	Node Guarding, Heartbeat, Emergency Message
	Node ID	Default: 127; programmable via LSS or SDO
	PDO	3 TxPDO, 0 RxPDO, static mapping
	PDO Modes	Event-/Time triggered, Remote-request, Sync cyclic/acyclic
	SDO	1 server, 0 client
	CAM	8 cams
	Certified	Yes
	Transmission rates	50 kBaud to 1 MBaud, default: 125 kBaud; programmable via LSS or SDO
	Bus connection	M12 connector, 5 pins
	Integrated bus terminating resistor	No
Bus, galvanic isolated	No	
<b>Specifications</b>	Excitation voltage	11 ... 36 V DC
	Excitation current	Typ. 15/30 mA for 24/12 V, 100 mA max.
	Resolution	0.05° max.
	Linearity	1° (0.25° as option)
	Measuring rate	1 kHz (asynchronous)
	Stability (temperature)	$\pm 50 \times 10^{-6}$ / °C f.s.
	Repeatability	1 LSB
	Operating temperature	-40 ... +105 °C
	Protection	Reverse polarity, short circuit
	Dielectric strength	1 kV (V AC, 50 Hz, 1 min.)
EMC Automation	EN 61326-1:2006	

## Setup

Before connecting to the CAN bus make sure that every node has a different node ID and a common bit rate. If necessary set node ID and bit rate by the Layer-Setting-Service (LSS) as defined in Standard CiA DSP-305.

If LSS is not available node ID and bit rate can be changed by writing the new values to objects 2000 and 2010 via Service Data Object (SDO). New node ID and bit rate become effective not before "SAVE" and resetting the device.

After power up the slave will send a boot-up message and will be ready for configuration and start of data exchange. On first power-up the default parameters are effective.

Change parameters and operating mode of process data objects after importing the EDS file by the master software. Changed parameters become effective immediately. Parameters will become non-volatile on writing "SAVE" to object 1010-1.

Note: Setting of some parameters may have influence on the function of other parameters, e.g. changing the resolution may also influence the cam function.



### Warning notice

- Changing the parameters can cause a sudden step of the instantaneous value and can result in unexpected machine (re)actions!
- Precautions to prevent danger for man or machine are necessary!
- Execute parametrizing at standstill of the machine only!

**Device profile**

	<b>Index</b>	<b>Default</b>	<b>Value range</b>
SAVE	1010-1	„save“	MSB...LSB 73h,61h,76h,65h
LOAD	1011-1	„load“	MSB...LSB 6Ch,6Fh,61h,64h
<b>Manufacturer-specific</b>			
Node ID	2000	127	1...127
Bitrate	2010	4	0...7 (s. table below)
User Offset	2100	0	-2 <sup>31</sup> ... 2 <sup>31</sup> -1
Filter	2102	1	1...255
<b>Angle encoder CiA406</b>			
Operating Parameters	6000-0	0	0...7
Measuring Units per Rev.	6001-0	16383	
Preset Value	6003-0	0	
Position Value	6004-0		
Cyclic Timer	6200-0	100	
Number of revolutions	6502-0	1	
Profile and SW Version	6507-0		
Serial Number	650B-0		
<b>Cam function CiA406</b>			
Cam state register	6300-1	0	
Cam enable register	6301-1	0	
Cam polarity register	6302-1	0	
Cam 1-8 low limit	6310-1...6317-1	0	
Cam 1-8 high limit	6320-1...6327-1	0	
Cam 1-8 hysteresis	6330-1...6337-1	0	

**Operating Parameters Bit Code**

15	...	...	...	4	3	2	1	0
						sfc		cs
MSB								LSB

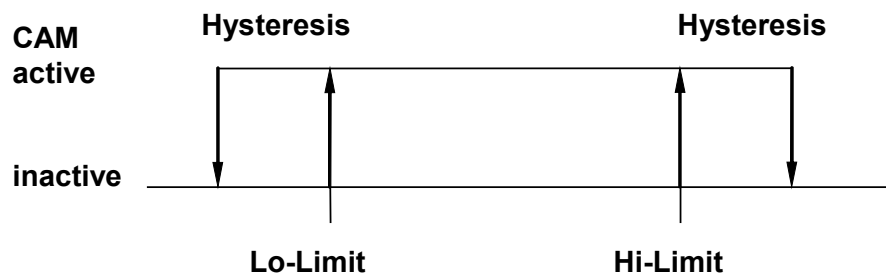
cs = 0 Code sequence CW  
cs = 1 Code sequence CCW  
sfc = 0 Scaling function disabled  
sfc = 1 Scaling function disabled

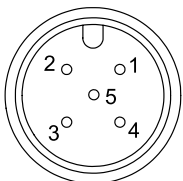
<b>Bit rates</b>	<b>Index</b>	<b>Bit rate</b>
	0	1 MBit/s
	1	800 kBit/s
	2	500 kBit/s
	3	250 kBit/s
	4	125 kBit/s
	5	reserved
	6	50 kBit/s
	7	20 kBit/s

**Process data**

PDO	Content	Preselected transmission mode
TxPDO-01	Position value (4 Byte)	Asynchronous 100 ms
TxPDO-02	Position value (4 Byte)	Sync Mode
TxPDO-04	CAM Status (1 Byte)	Change of State Mode

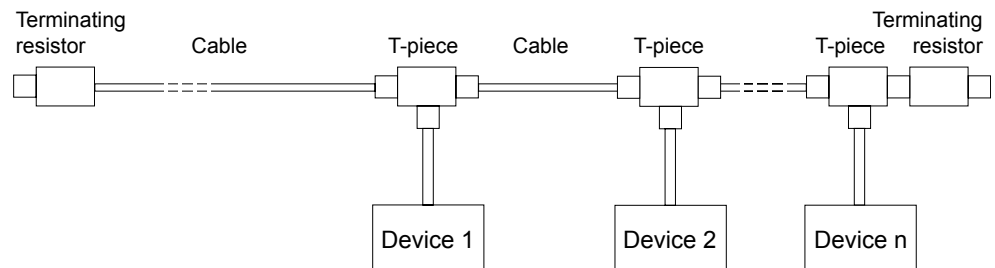
**CAM function**




Signal wiring / connection	Signal name	Connector pin	Wire color	View to sensor connector
	Shield	1	Braid	
	Excitation +	2	White	
	GND	3	Brown	
	CAN-H	4	Blue	
	CAN-L	5	Black	

**CAN bus wiring**

Connect the device by a T-connector to the CAN trunk line. Total length of stubs should be minimized. Do not use single stub lines longer than 0.5 m. Connect terminating resistors 120 Ohm at both ends of the trunk line.



**Description** Angular encoder according to standard SAE J1939. Customer configuration of operating parameters by Peer-to-Peer. Process data exchange by Broadcast message.

<b>Interface J1939</b> 	CAN specification	ISO 11898, Basic and Full CAN 2.0 B
	Transceiver	24V-compliant, not isolated
	Communication profile	SAE J1939
	Baud rate	250 kBit/s
	Internal termination resistor	120 Ω
	Address	Default 247d, configurable

<b>NAME Fields</b>	Arbitrary address capable	1	Yes
	Industry group	0	Global
	Vehicle system	7Fh (127d)	Non specific
	Vehicle system instance	0	
	Function	FFh (255d)	Non specific
	Function instance	0	
	ECU instance	0	
	Manufacturer	145h (325d)	Manufacturer ID
	Identity number	0nnn	Serial number 21 bit

<b>Parameter Group Numbers (PGN)</b>	Configuration data	PGN EFddh	Proprietary-A (PDU1 peer-to-peer) dd Sensor Node ID
	Process data	PGN FFnnh	Proprietary-B (PDU2 broadcast); nn Group Extension (PS) configurable

<b>Specifications</b>	Excitation voltage	8 ... 36 V DC
	Excitation current	Typ. 15/30 mA for 24/12 V, 100 mA max.
	Resolution	0.05° max.
	Linearity	1° (0.25° as option)
	Measuring rate	1 kHz (asynchronous)
	Stability (temperature)	±50 x 10 <sup>-6</sup> / °C f.s.
	Repeatability	1 LSB
	Operating temperature	-40 ... +105 °C
	Protection	Reverse polarity, short circuit
	Dielectric strength	1 kV (V AC, 50 Hz, 1 min.)
	EMC Automation	EN 61326-1:2006



**Setup**

**Node-ID**

The default Node-ID the sensor will claim on power up is user or factory configurable. The user can configure by "Commanded Address" service according to the J1939 standard or by Peer-to-Peer message as described below.

**User configuration**

User accessible parameters including node-id may be configured by peer-to-peer proprietary A message PGN 0EF00h. The parameters are accessed by byte-index and read/write operations coded in the data frame. The slave will return the data frame including the acknowledge code. Parameter values will be effective immediately. On execution of "Store Parameters" the configuration is saved nonvolatile.

**Peer-to-peer message (PGN 0x00EF00), send/receive format**

PGN		8 Byte data frame							
PGN <sub>HIGH</sub>	PGN <sub>LOW</sub> (Node-ID)	Index	Rd/Wr	0	Ack	4-Byte Data			

Request: Control Unit → Sensor

→	0EFh	dd	i	0/1	0	0	LSB	..	..	MSB
---	------	----	---	-----	---	---	-----	----	----	-----

Response: Control Unit ← Sensor

←	0EFh	cc	i	0/1	0	a	LSB	..	..	MSB
---	------	----	---	-----	---	---	-----	----	----	-----

- a: Acknowledge codes:  
 0: Acknowledge, 81: Read only parameter, 82: Range overflow,  
 83: Range underflow, 84: Parameter does not exist
- dd: Sensor Node-ID (Default 0F7h, 247d)
- cc: Control-Unit Node-ID



**Warning notice**

- Changing the parameters can cause a sudden step of the instantaneous value and can result in unexpected machine (re)actions!
- Precautions to prevent danger for man or machine are necessary!
- Execute parametrizing at standstill of the machine only!

## Configuration examples

Example: Set Transmit Cycle to 10ms, Index 31, Node-ID 247d (F7h)

	PGN <sub>HIGH</sub>	PGN <sub>LOW</sub>	8 Byte data frame							
→	0EFh	F7h	1Fh	01h	00	00	0Ah	00	00	00
←	0EFh	cc	1Fh	01h	00	00	0Ah	00	00	00

Example: Read Transmit Cycle value, Index 31

→	0EFh	F7h	1Fh	00	00	00	00	00	00	00
←	0EFh	cc	1Fh	00	00	00	0Ah	00	00	00

Example: Store Parameters permanently, Index 28

→	0EFh	F7h	1Ch	01h	00	00	65h	76h	61h	73h
←	0EFh	cc	1Ch	01h	00	00	65h	76h	61h	73h

Example: Reload factory defaults, Index 29

→	0EFh	F7h	1Dh	01h	00	00	64h	61h	6Fh	6Ch
←	0EFh	cc	1Dh	01h	00	00	64h	61h	6Fh	6Ch

## Encoder - Parameters

Parameter	Index [dec]	Default	Range / Selection	Unit	Read / Write
<b>Control</b>					
Node ID	20	247	128 ... 247		rd/wr <sup>1)</sup>
Baude rate	21	3 (250kB)	-		rd <sup>1)</sup>
Termination resistor	22	0	-		rd <sup>1)</sup>
Store parameters	28	-	"save" <sup>2)</sup>		wr
Reload factory defaults	29	-	"load" <sup>2)</sup>		wr
<b>Communication</b>					
Transmit mode	30	0	0 timer 1 request 2 event		rd/wr
Transmit cycle	31	100	10..65535	ms	rd/wr
PGN Group Extension	32	0	0..255		rd/wr
Event mode hysteresis	38	0	0..16383	steps	rd/wr
Process data byte order	39	0	0 little / 1 big endian		rd/wr
<b>Measurement</b>					
Code sequence	70	0	0 CW 1 CCW		rd/wr
Measuring steps per turn	73	2 <sup>14</sup>	1.. 2 <sup>14</sup>	steps	rd/wr
Preset	74	0	0.. 2 <sup>14</sup> - 1	steps	rd/wr
Averaging filter	77	1	1...255		rd/wr
<b>Identification</b>					
SW Version	198	-	4 bytes	number	rd
Serial number	199	-	4 bytes	number	rd
Identity number	200	-	21 bit	number	rd

<sup>1)</sup> Effective on next power-up

<sup>2)</sup> „save“ MSB...LSB: 73h, 61h, 76h, 65h  
 „load“ MSB...LSB: 6Ch, 6Fh, 61h, 64h

Depending on configuration ordered default settings may be different, refer to ASM homepage.

### Process data

Process data are transmitted by broadcast proprietary-B-Message PGN 0x00FFxx where the low byte is configurable.

Data field of process data

B7	B6	B5	B4	B3	B2	B1	B0
Error				Position value			
Byte <sup>*)</sup>				MSB			LSB

<sup>\*)</sup> Error codes: 0 = no error, 1 = error

# POSIROT® – PRDS

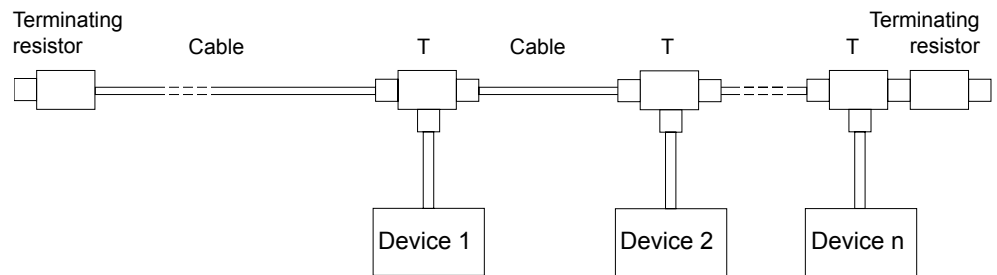
## Output CAN-SAE J1939



Signal wiring / connection	Signal name	Connector pin	Wire color	View to sensor connector
	Shield	1	Braid	
	Excitation +	2	White	
	GND	3	Brown	
	CAN-H	4	Blue	
	CAN-L	5	Black	

### CAN bus wiring

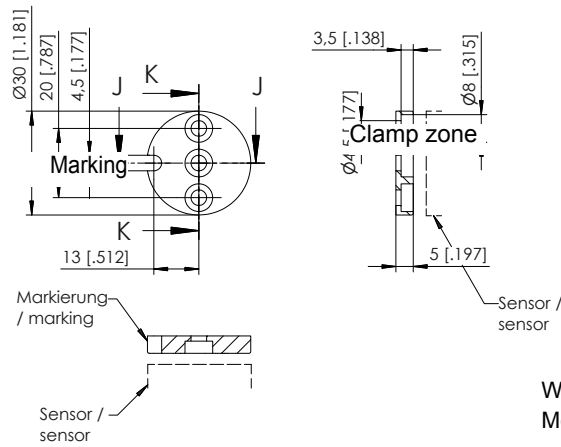
Connect the device by a T-connector to the CAN trunk line. Total length of stubs should be minimized. Do not use single stub lines longer than 0.5 m. Connect terminating resistors 120 Ohm at both ends of the trunk line.



### Accessories

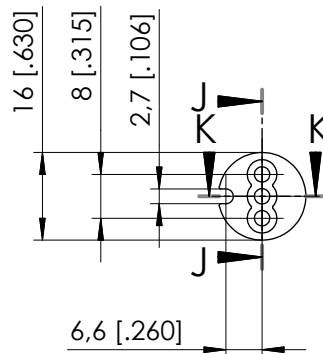
Accessory cable M12, 8 pin	Connector pin / cable color							
	1	2	3	4	5	6	7	8
	White	Brown	Green	Yellow	Grey	Pink	Blue	Red

**Position magnet**  
**PRMAG1**  
**PRMAG1-Z**



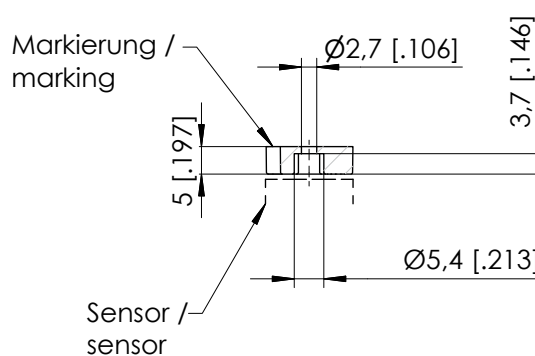
Weight 10 g approx.  
 Moment of inertia 0.1 kgmm<sup>2</sup>

**Position magnet**  
**PRMAG2**  
**PRMAG2-Z**



Weight 30 g approx.  
 Moment of inertia 4.5 kgmm<sup>2</sup>  
 Sensor / sensor

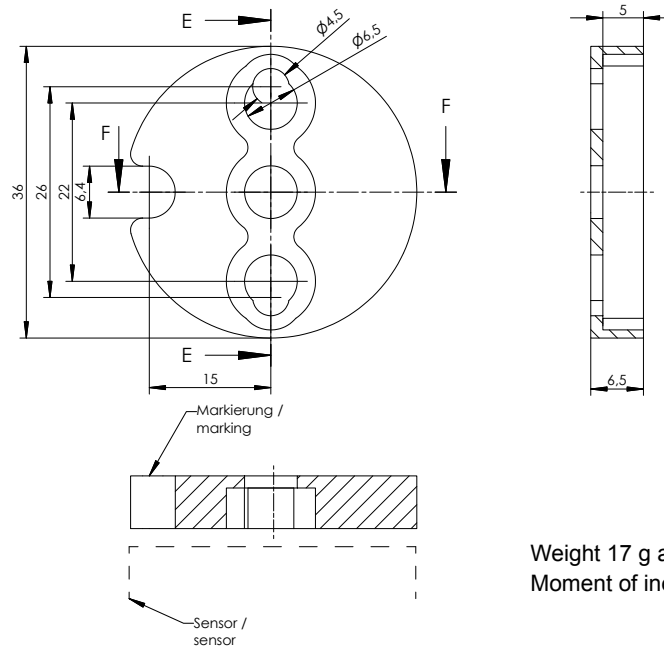
**Position magnet**  
**PRMAG20**



Weight 11 g approx.  
 Moment of inertia 1.2 kgmm<sup>2</sup>

Dimensions in mm [inch]  
 Dimensions informative only.  
 For guaranteed dimensions consult factory.

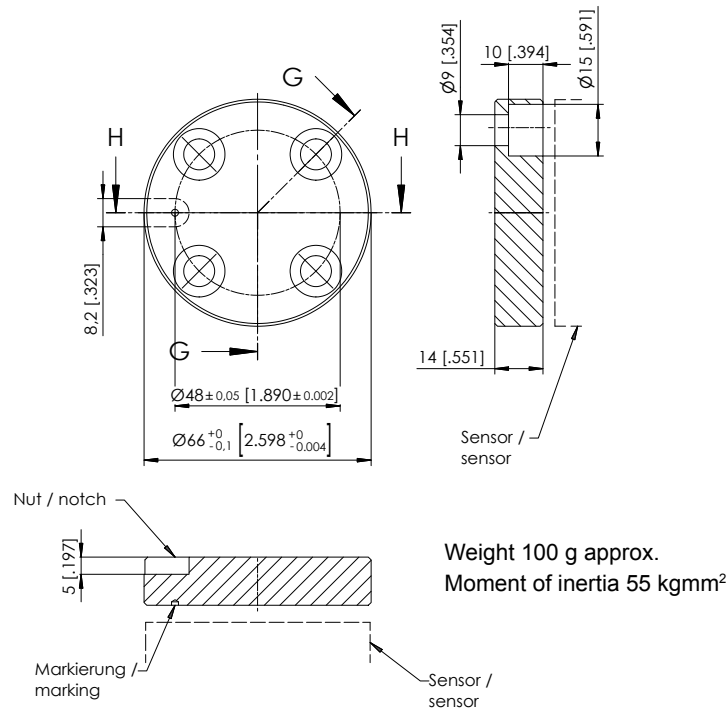
**Position magnet**  
**PRMAG22**



Weight 17 g approx.  
Moment of inertia 3 kgmm<sup>2</sup>

Dimensions in mm [inch]  
Dimensions informative only.  
For guaranteed dimensions consult factory.

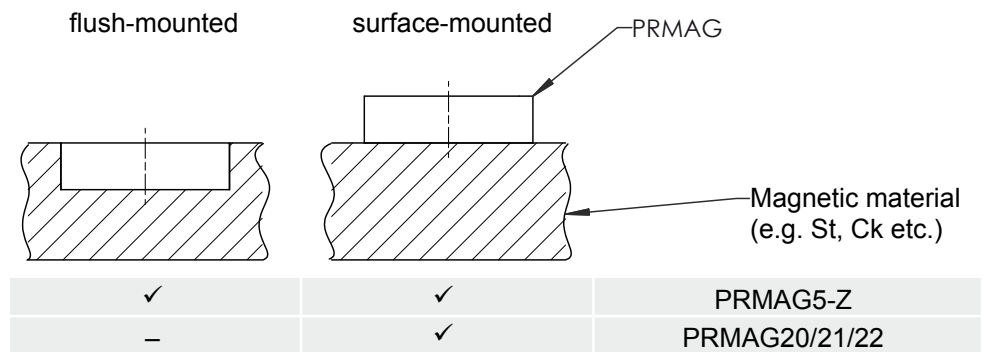
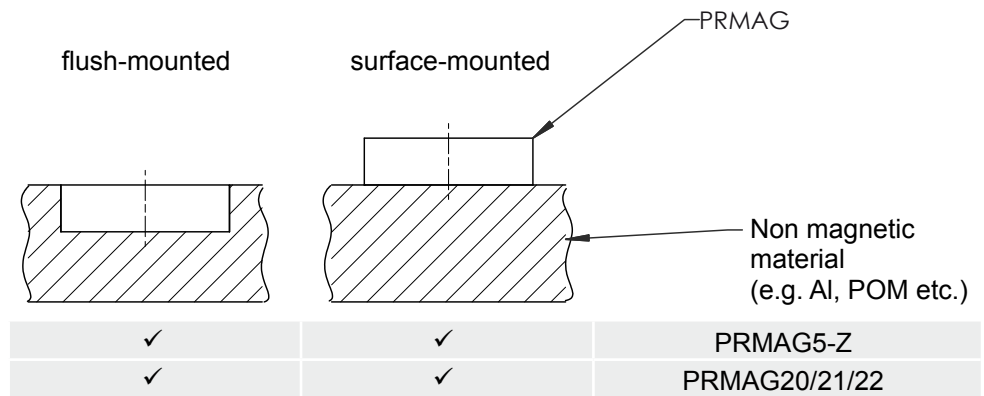
**Position magnet**  
**PRMAG5-Z**



Dimensions in mm [inch]  
 Dimensions informative only.  
 For guaranteed dimensions consult factory.

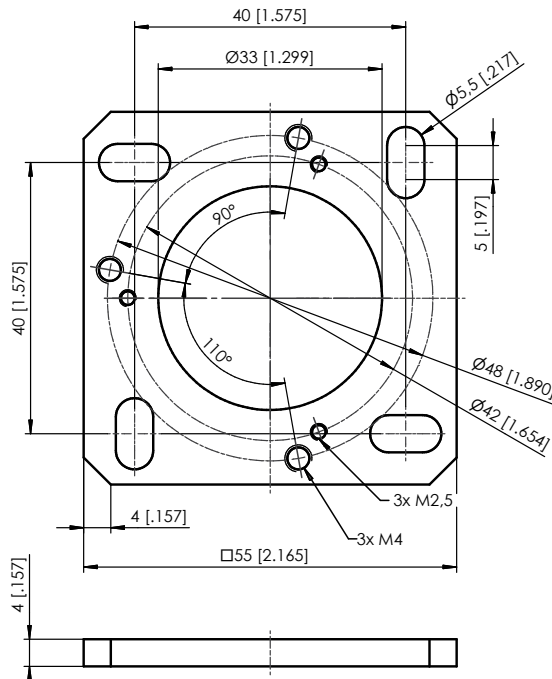
Mounting of the magnets	Magnet	Mounting method	Material
	PRMAG20	Screw(s) M4	A4
	PRMAG21	Screw(s) M2,5	A4
	PRMAG22	Screw(s) M4 or M6	A4
	PRMAG5-Z	Screws M8	A2
	Anti-rotation element	–	A2 or non-magnetic

**Assembly of  
the position  
magnets**



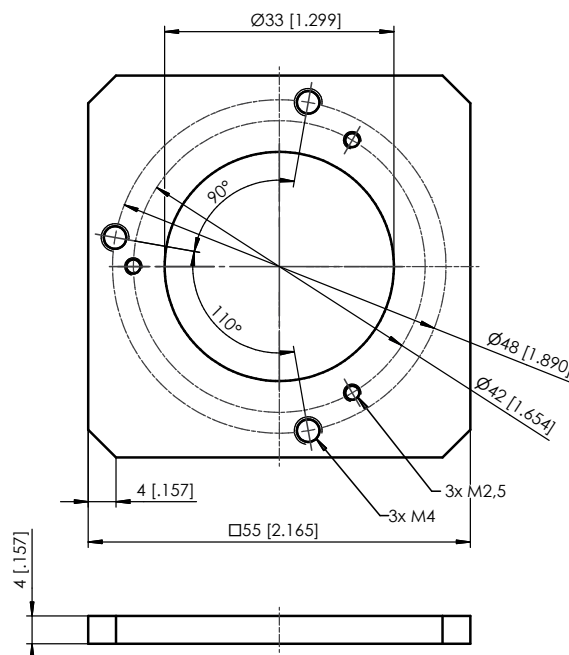


**Mounting plate**  
**PRPT-BPL1**



In combination with the mounting clamps PRPT-BFS1 (3 x M2.5) or in combination with the mounting bracket PRPT-BFS2 (3 x M4).

**Mounting plate**  
**PRPT-BPL2**  
 (welding assembly)

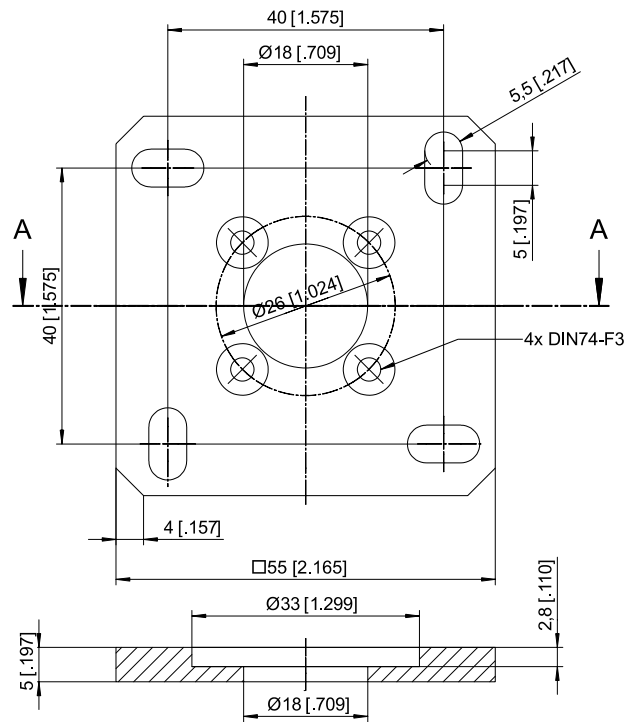


In combination with the mounting clamps PRPT-BFS1 (3 x M2.5) or in combination with the mounting bracket PRPT-BFS2 (3 x M4).

Dimensions in mm [inch]

Dimensions informative only.  
 For guaranteed dimensions consult factory.

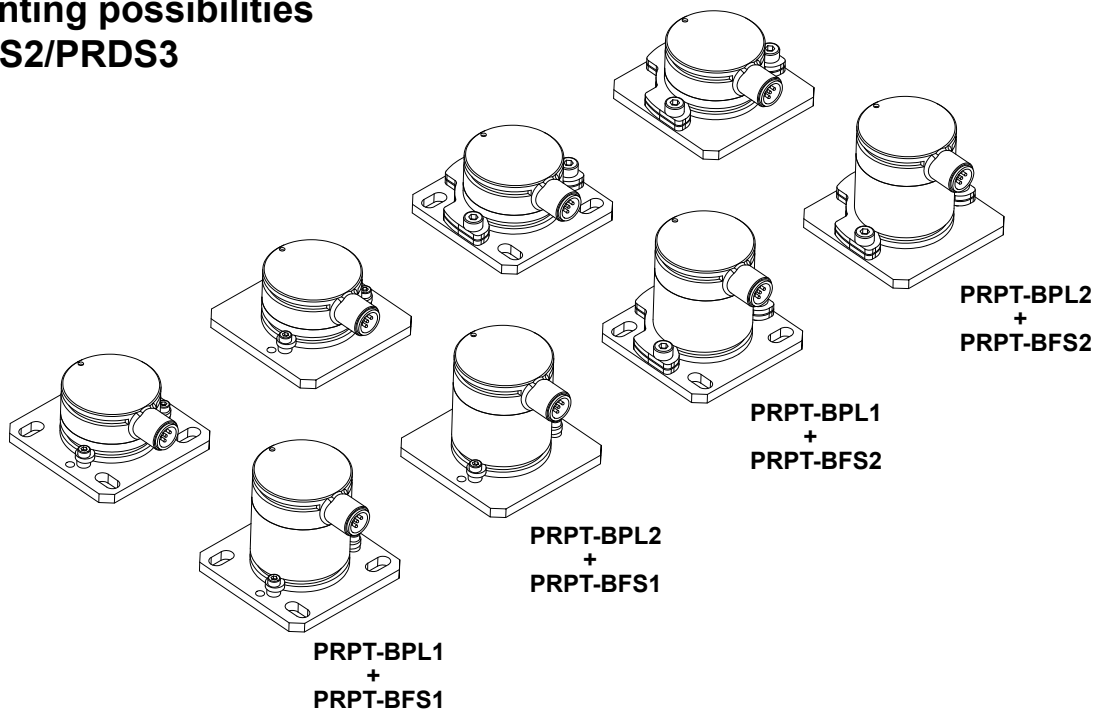
**Mounting plate**  
**PRPT-BPL3**



Dimensions in mm [inch]

Dimensions informative only.  
 For guaranteed dimensions consult factory.

**Mounting possibilities**  
**PRDS2/PRDS3**



## Declaration of conformity



### The angle sensor

Manufacturer: ASM GmbH  
Am Bleichbach 18-22  
85452 Moosinning / Germany

Model: **PRDS1, PRDS2, PRDS3, PRDS5, PRDS27**

complies with the following standards and directives:

Directives: 2004/108/EG (EMC)

Standards: EN 61326-1:2006 (EMC)

Moosinning, 20.07.2011

A handwritten signature in black ink, appearing to read 'A. Bolm'. The letters are cursive and somewhat stylized.

i.A. Andreas Bolm  
Quality Manager

A handwritten signature in black ink, appearing to read 'P. Wirth'. The letters are cursive and somewhat stylized.

i.A. Peter Wirth  
Head of Development

---

**ASM GmbH Automation • Sensorik • Messtechnik**

Am Bleichbach 18-22

Telephone: +49 8123 986-0

Internet: [www.asm-sensor.de](http://www.asm-sensor.de)

E-Mail: [info@asm-sensor.de](mailto:info@asm-sensor.de)

85452 Moosinning / Germany

Telefax: +49 8123 986-500

[www.asmsensors.com](http://www.asmsensors.com)

[info@asmsensors.com](mailto:info@asmsensors.com)

