



PCST25

Rod-style displacement sensor for
hydraulic cylinders, level indicators



- Protection class up to IP67/IP69
- Wear and maintenance free
- High level of shock resistance up to 50 g (100 shocks)

Product versions



analog output, 1 channel



analog output, 2 channels



digital output SSI



digital output CANopen



Specification

			Order options, 1 channel
Mounting	Thread M18 x 1,5 Thread ¾"-16UNF Plug-in version	1	M18 Z3/4 SV
Working pressure	400 bar, other values on request		
Measurement range	100 ... 5750 (in 10 mm increments) other lengths upon request	2	100 ... 5750
Output	0 ... 10 V signal conditioner U1 with alarm_HOLD 0.5 ... 10 V signal conditioner U2 with alarm_LOW; U2 with alarm_HOLD 0.5 ... 4.5 V signal conditioner U8 with alarm_LOW; U8 with alarm_HOLD 4 ... 20 mA signal conditioner (3 wire) I1 with alarm_LOW; I1with alarm_HOLD	3	U1 U1/H U2 U2/U; U2/H U8 U8/U; U8/H I1 I1/U; I1/H
Function and characteristics	Position magnet 1, increasing Position magnet 1, decreasing Start value, direction & end value adjustable by the customer	4	P1A P1D PMU
Resolution *)	16 bit f.s., min. 10 µm		
Sampling rate	Up to 1 kHz, depending on the measurement range		
Linearity *)	Ranges >500 mm: ±0.10 % f.s. ±0.02 % f.s. Ranges ≤500 mm: ±0.5 mm ±0.2 mm	5	L10 L02 L10 L02MM
Repeatability *)	±3 µm		
Housing material	Sensor rod: stainless steel EN 1.4404 (AISI 316L), head: AlMgSi		
Protection class	IP67 (optional IP67/IP69; connector version: with mating connector only)		
Connection	Cable, standard length 2 m; other lengths upon request	6	KAB2M
Temperature range	-40 ... +85°C		
Shock	DIN EN 60068-2-27:2010, 50 g/11 ms, 100 shocks		
Vibration	DIN EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles		
EMC	DIN EN 61326-1:2013		

Order code

PCST25 - 1 - 2 - 3 - 4 - 5 - 6

Order example: PCST25 – M18 – 2000 – I1 – P1A – L10 – KAB2M



PCST25 - Rod-style Magnetostrictive Position Sensor Version with analog output, 2 channels

Specifications

		Order options, 2 channels	
Mounting	Thread M18 x 1,5 Thread ¾"-16UNF Plug-in version	1	M18 Z3/4 SV
Working pressure	400 bar, other values on request		
Measurement range	100 ... 5750 (in 10 mm increments) other lengths upon request	2	100 ... 5750
Output	0 ... 10 V signal conditioner U1 with alarm_HOLD 0.5 ... 10 V signal conditioner U2 with alarm_LOW; U2 with alarm_HOLD 0.5 ... 4.5 V signal conditioner U8 with alarm_LOW; U8 with alarm_HOLD 4 ... 20 mA signal conditioner (3 wire) I1 with alarm_LOW; I1 with alarm_HOLD	3	U1 U1/H U2 U2/U; U2/H U8 U8/U; U8/H I1 I1/U; I1/H
Function and characteristics, output 1	Position magnet 1, increasing Position Magnet 1, decreasing Difference magnet 1/2, increasing (2 magnets required) Difference magnet 1/2, decreasing (2 magnets required)	4	P1A P1D DA DD
Function and characteristics, output 2	Position magnet 2, increasing (2 magnets required) Position magnet 2, decreasing (2 magnets required) Difference magnet 1/2, increasing (2 magnets required) Difference magnet 1/2, decreasing (2 magnets required) Velocity with direction detection (with 1 magnet only) Velocity without direction detection (with 1 magnet only)	5	P2A P2D DA DD VZx.x ¹⁾ VAX.x ²⁾
Resolution *)	16 bit f.s., min. 10 µm		
Sampling rate	Up to 1 kHz, depending on the measurement range		
Linearity *)	Ranges >500 mm: ±0.10 % f.s. ±0.02 % f.s. Ranges ≤500 mm: ±0.5 mm ±0.2 mm	6	L10 L02 L10 L02MM
Repeatability *)	±3 µm		
Housing material	Sensor rod: stainless steel EN 1.4404 (AISI 316L), head: AlMgSi		
Protection class	IP67 (optional IP67/IP69; connector version: with mating connector only)		
Connection	Cable, standard length 2 m; other lengths upon request	7	KAB2M
Temperature range	-40 ... +85°C		
Shock	DIN EN 60068-2-27:2010, 50 g/11 ms, 100 shocks		
Vibration	DIN EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles		
EMC	DIN EN 61326-1:2013		

*) only applies in conjunction with an ASM position magnet PCMAG

Order code

PCST25 – **1** – **2** – **3** – **4** – **5** – **6** – **7**

Order example: PCST25 – M18 – 2000 – I1 – P1A – VZ1.0 – L10 – KAB2M

1) VZx.x = velocity with direction detection (with 1 magnet only), in steps of 0.1 m/s

Example: VZ1.5	towards start position		towards end position
	-1.5 m/s	0	1.5 m/s
Output U2:	0.5 V	5.25 V	10 V
Output I1:	4 mA	12 mA	20 mA

2) VAx.x = velocity without direction detection (with 1 magnet only), in steps of 0.1 m/s

Example: VA1.5	towards start position		towards end position
	-1.5 m/s	0	1.5 m/s
Output U2:	10 V	0.5 V	10 V
Output I1:	20 mA	4 mA	20 mA

Accessories:

Position magnets (see from page 13)



PCST25 - Rod-style Magnetostrictive Position Sensor Version with digital output SSI

Specifications

		Order options	
Mounting	Thread M18 x 1,5 Thread ¾"-16UNF Plug-in version	1	M18 Z3/4 SV
Working pressure	400 bar, other values on request		
Measurement range	100 ... 5750 (in 10 mm increments) other lengths upon request	2	100 ... 5750
Resolution *)	50 / 100	3	50 / 100
Output	Synchronous serial interface (SSI)	4	SSI
Output code	Gray Dual	5	G D
Number of data bits	24 bit 25 bit	6	24 25
Sampling rate	Up to 1 kHz, depending on the measurement range		
Linearity *)	Ranges >500 mm: ±0.10 % f.s. ±0.02 % f.s. Ranges ≤500 mm: ±0.5 mm ±0.2 mm	7	L10 L02 L10 L02MM
Repeatability *)	±3 µm		
Housing material	Sensor rod: stainless steel EN 1.4404 (AISI 316L), head: AlMgSi		
Protection class	IP67 (optional IP67/IP69; connector version: with mating connector only)		
Connection	Cable, standard length 2 m	8	KAB2M
Temperature range	-40 ... +85°C		
Shock	DIN EN 60068-2-27:2010, 50 g/11 ms, 100 shocks		
Vibration	DIN EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles		
EMC	DIN EN 61326-1:2013		

*) only applies in conjunction with an ASM position magnet PCMAG

Order code

PCST25	-	1	-	2	-	3	-	4	/	5	/	6	-	7	-	8
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Order example: PCST25 – M18 – 2000 – 5 – SSI / G / 24 – L10 – KAB2M

Accessories:

Position magnets (see from page 13)



PCST25 - Rod-style Magnetostrictive Position Sensor Version with digital output CANopen

Specifications

			Order options
Mounting	Thread M18 x 1,5 Thread ¾"-16UNF Plug-in version	1	M18 Z3/4 SV
Working pressure	400 bar, other values on request		
Measurement range	100 ... 5750 (in 10 mm increments) other lengths upon request	2	100 ... 5750
Output	CANopen-Bus CANopen-Bus with integrated terminating resistance CAN SAE J1939 CAN SAE J1939-Bus with integrated terminating resistance	3	CANOP CANOP/R CANJ1939 CANJ1939/R
Resolution *)	50 µm		
Sampling rate	Up to 1 kHz, depending on the measurement range		
Linearity *)	Ranges >500 mm: ±0.10 % f.s. ±0.02 % f.s. Ranges ≤500 mm: ±0.5 mm ±0.2 mm	4	L10 L02 L10 L02MM
Repeatability *)	±3 µm		
Housing material	Sensor rod: stainless steel EN 1.4404 (AISI 316L), head: AlMgSi		
Protection class	IP67 (optional IP67/IP69; connector version: with mating connector only)		
Connection	Cable (length 0.3 m) with connector M12, 5 pin	5	KAB0,3M-M12/CAN
Shock	DIN EN 60068-2-27:2010, 50 g/11 ms, 100 shocks		
Vibration	DIN EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles		
Temperature range	-40 ... +85°C		
EMC	DIN EN 61326-1:2013		

*) only applies in conjunction with an ASM position magnet PCMAG

Order code

PCST25	–	1	–	2	–	3	–	4	–	5
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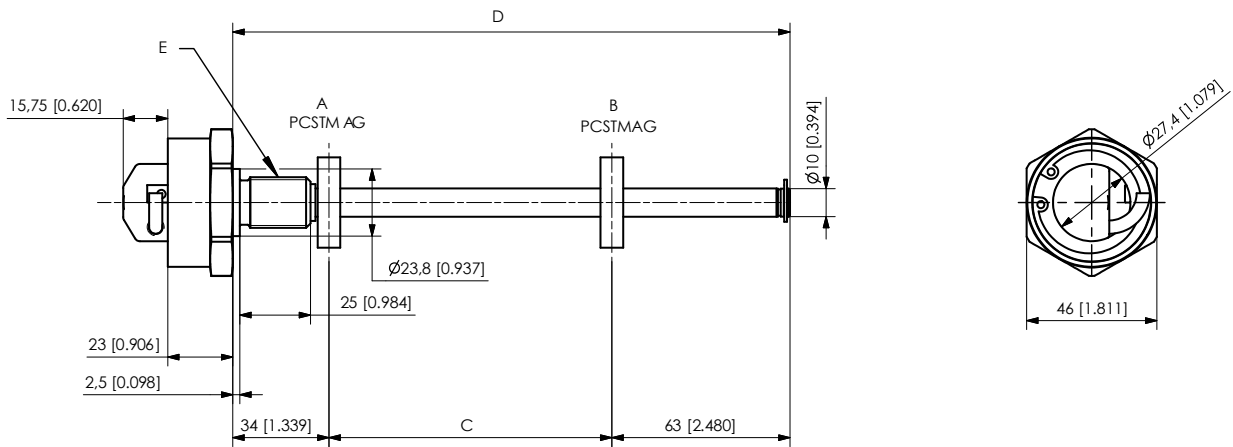
Order example: PCST25 – M18 – 2000 – CANOP – L10 – KAB0,3M-M12/CAN

Accessories:

Position magnets (see from page 13)

Dimensions

Cable output, M18 flange



A – Start position

B – End position

C – Measurement length (e.g. 100 [3.937])

D – Total length = Measurement length + 97 [3.819] (e.g. 197 [7.756])

E – Flange M18 x 1.5

Cable: outer diameter 5.2 mm ±0.2 mm

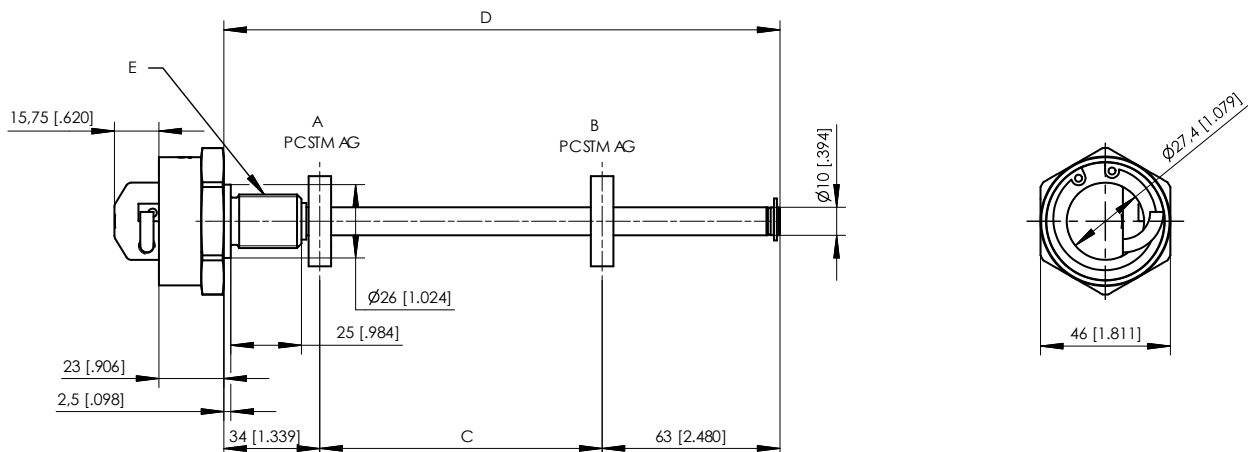
Wire cross sectional area 0.14 mm²

Dimensions in mm [inch]

Dimensions informative only.

For guaranteed dimensions consult factory.

Cable output, with flange 3/4"



A – Start position

B – End position

C – Measurement length (e.g. 100 [3.937])

D – Total length = Measurement length + 97 [3.819] (e.g. 197 [7.756])

E – Flange 3/4"-16UNF-2A

Cable: outer diameter 5.2 mm ±0.2 mm

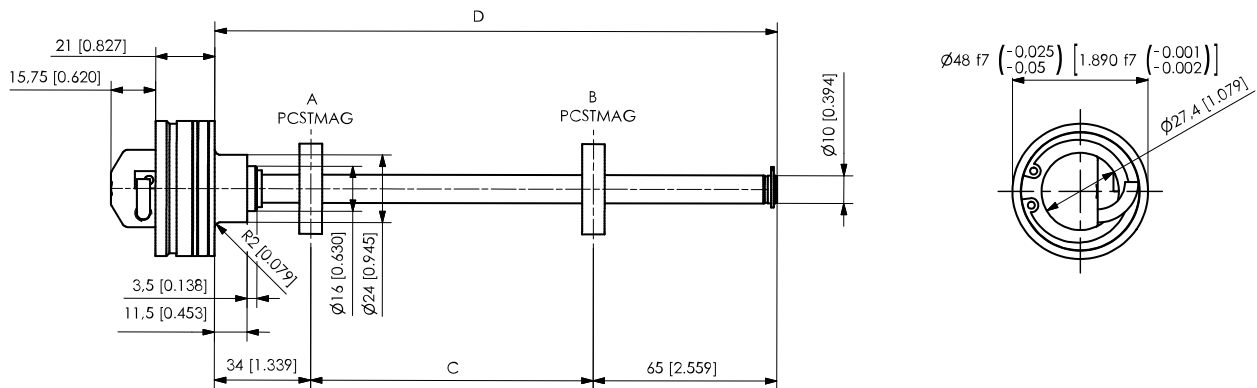
Wire cross sectional area 0.14 mm²

Dimensions in mm [inch]

Dimensions informative only.

For guaranteed dimensions consult factory.

Cable output, Plug-in version



A – Start position

B – End position

C – Measurement length (e.g. 100 [3.937])

D – Total length = Measurement length + 99 [3.898] (e.g. 199 [7.835])

Cable: outer diameter 5.2 mm ± 0.2 mm

Wire cross sectional area 0.14 mm²

Dimensions in mm [inch]

Dimensions informative only.

For guaranteed dimensions consult factory.

Technical drawing of a mechanical part, showing three views: A (top view), B (side view), and C (front view).

View A (Top View):

- Surface texture: $Ra 3,2$
- Chamfer: $15^\circ \pm 1^\circ$
- Chamfer: $45^\circ \pm 5^\circ$
- Surface texture: $Ra 3,2$
- Surface texture: $R0,1 + 0,1 [.004 + .004]$
- Surface texture: $max. R0,4 [.016]$
- Surface texture: $0,1 [.004]$ A
- Surface texture: $0,2 [.008]$ A

View B (Side View):

- Chamfer: $15^\circ \pm 1^\circ$
- Chamfer: $45^\circ \pm 5^\circ$

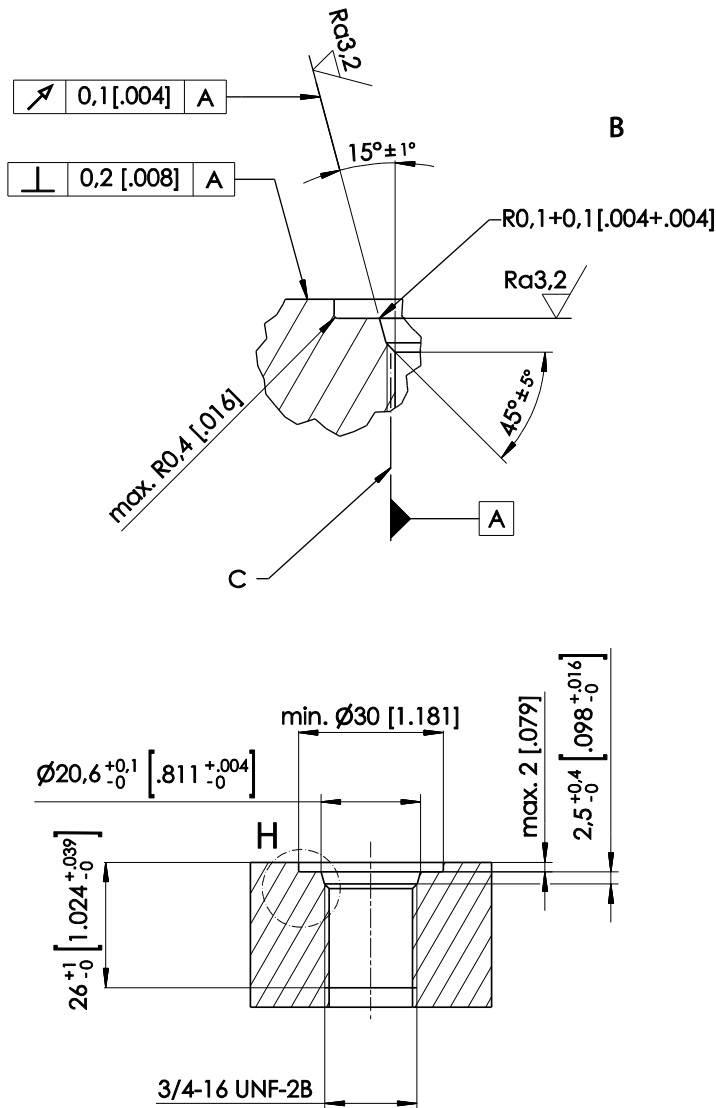
View C (Front View):

- Dimension: $\min. \varnothing 26 [1.024]^*$
- Dimension: $\varnothing 19,8^{+0,1}_{-0} [.780^{+0,004}_{-0}]$
- Dimension: $max. 2 [0.079]$
- Dimension: $2,4^{+0,4}_{-0} [.094^{+0,16}_{-0}]$
- Dimension: $26^{+1}_{-0} [1.024^{+0,039}_{-0}]$
- Dimension: $M18 \times 1,5$

D – Effective diameter

For guaranteed dimensions consult factory.

Mounting hole ¾"



- B – Drive hole according to ISO 11926-1
UN/UNF thread 2B according to ANSI B1.1/ISO 725
Pivot according to ISO 11926-2 and 3
UN/UNF thread 2A according to ANSI B1.1/ISO 725
Sealing by O-ring
- C – Effective diameter

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

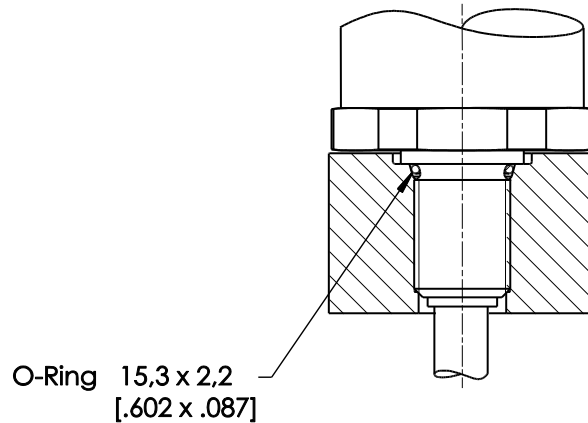
O-ring sealing O-ring sealing (M18)

for:

PCST24-M18...

PCST25-M18...

PCST27-M18...



Dimensions in mm [inch]

Dimensions informative only.

For guaranteed dimensions consult factory.

Order code

PCST – OR – M18

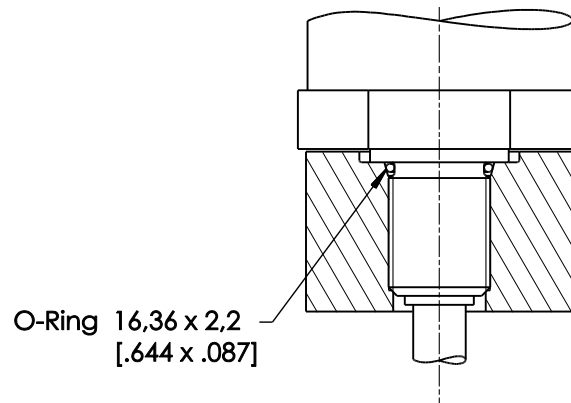
O-ring sealing (Z3/4")

for:

PCST24-Z3/4...

PCST25-Z3/4...

PCST27-Z3/4...



Dimensions in mm [inch]

Dimensions informative only.

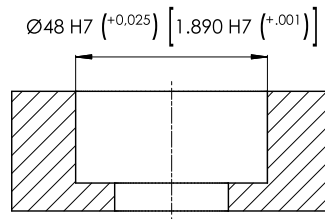
For guaranteed dimensions consult factory.

Order code

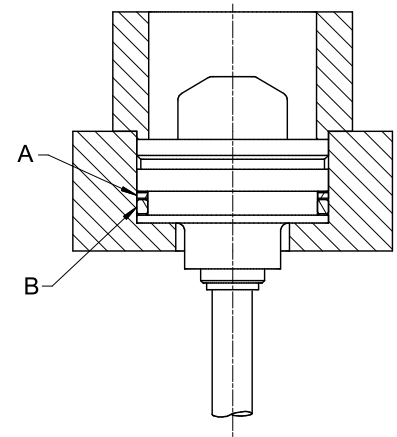
PCST – OR – Z3/4

O-ring sealing (Plug-in version)

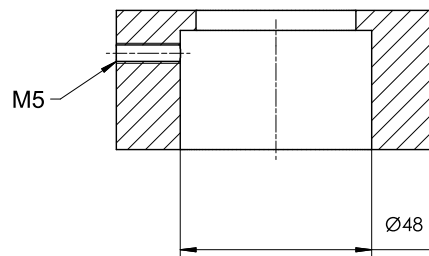
for:
PCST25-SV



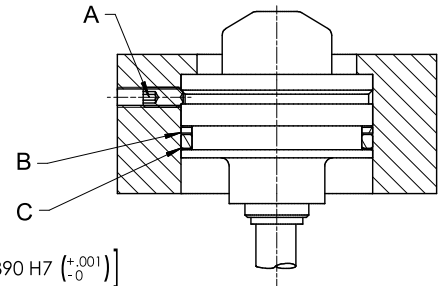
A – Supporting ring
B – O-Ring



for:
PCST25-SV



A – Threaded pin
B – Supporting ring
C – O-Ring



Dimensions in mm [inch]

Dimensions informative only.

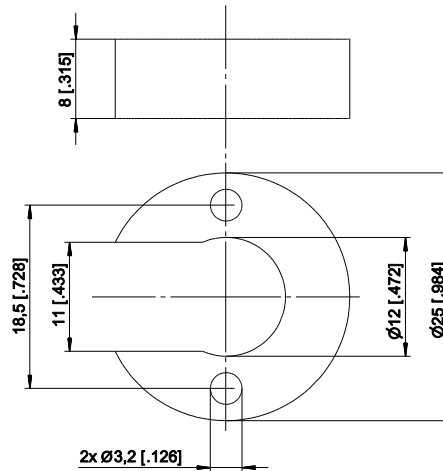
For guaranteed dimensions consult factory.

Order code

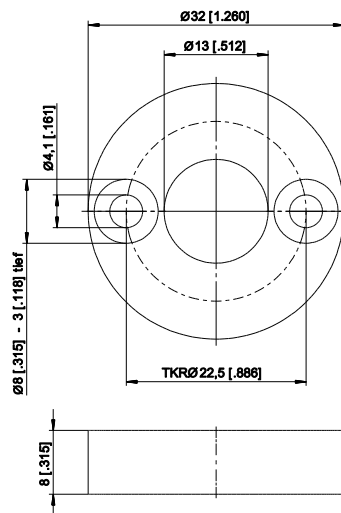
PCST – OR – SV

Position magnets for posichron®-PCST

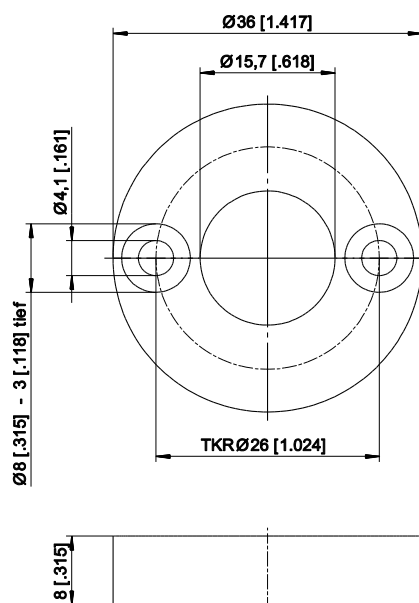
PCSTMAG1



PCSTMAG2 (Standard)

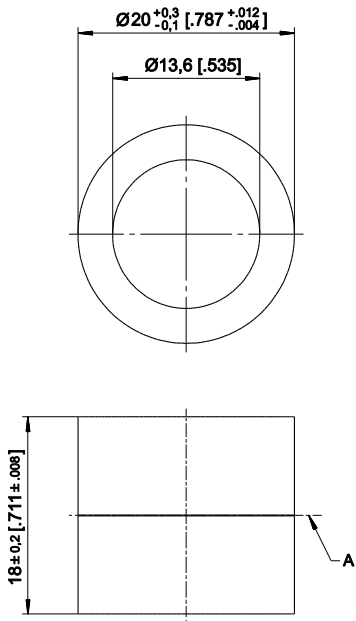


PCSTMAG5



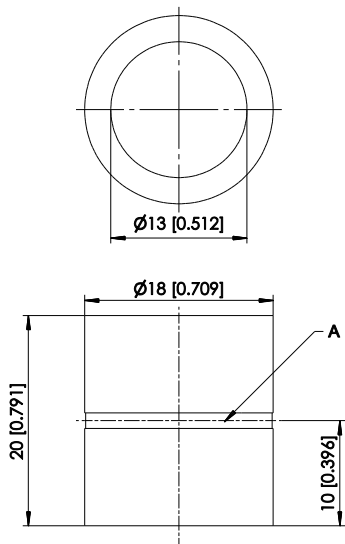
Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions consult
factory.
Other designs can be realized on
request.

PCSTMAG2-MH1



A – Center of magnet

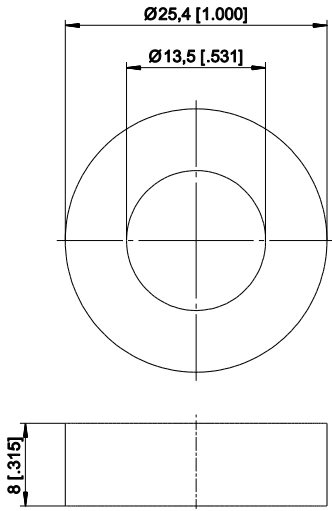
PCSTMAG2-MH2



A – Center of magnet

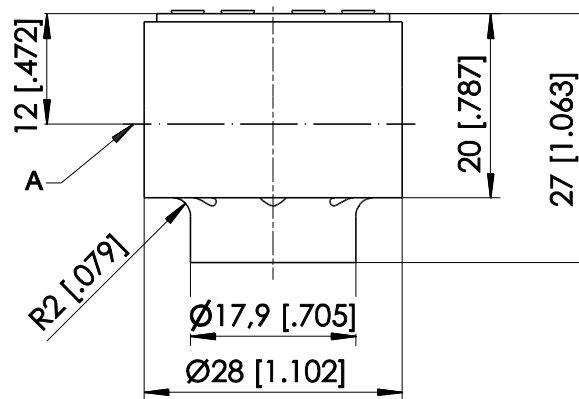
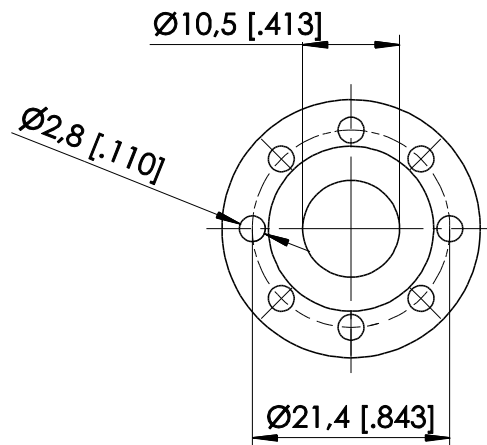
Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions consult
factory.
Other designs can be realized on
request.

PCSTMAG2-MH3



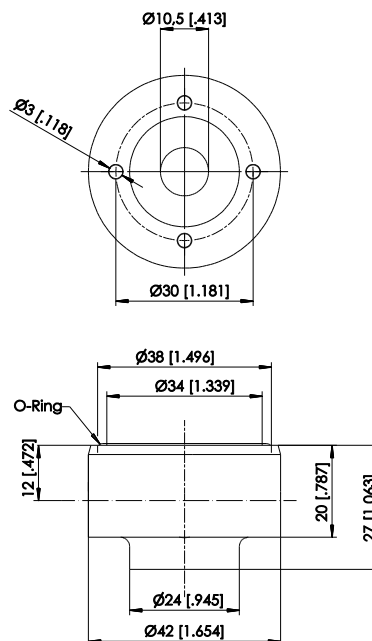
Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions consult
factory.
Other designs can be realized on
request.

PCSTMAG2-G1



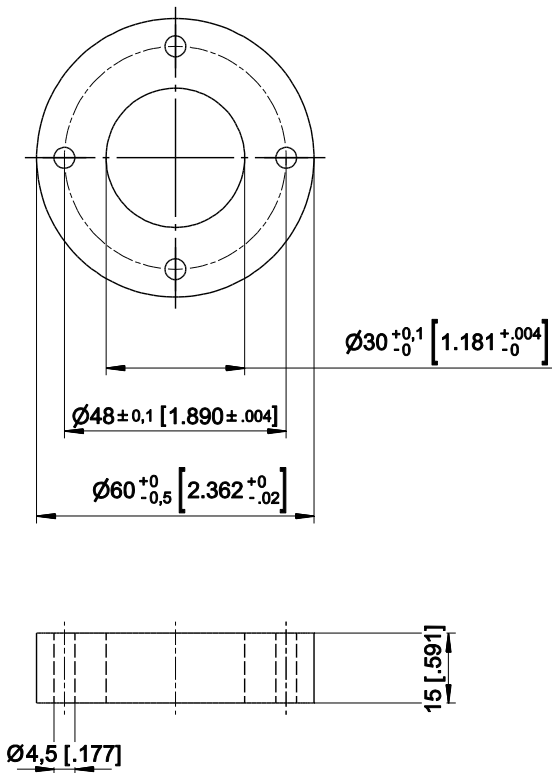
PCSTMAG2 - G1 / G2
Sliding magnet with special self-lubricating and abrasion-resistant material.
To be used if sensor is mounted in horizontal position and a mechanical support of the rod is not possible for measurement ranges >1000 mm.

PCSTMAG2-G2

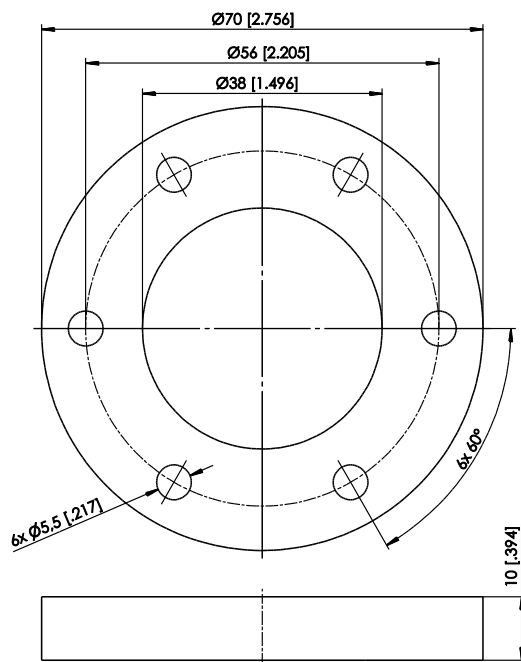


Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions consult factory.
Other designs can be realized on request.

PCSTMAG7



PCSTMAG4

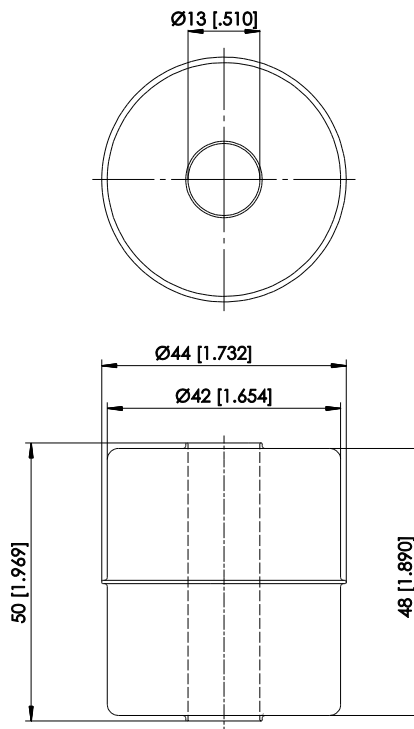


Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions consult
factory.
Other designs can be realized on
request

PCSTMAG3

(float, continuous
pressure up to 9 bar, for
media with a specific
gravity of
 $\geq 0,75 \text{ g/cm}^3$)

Material: 1.4404



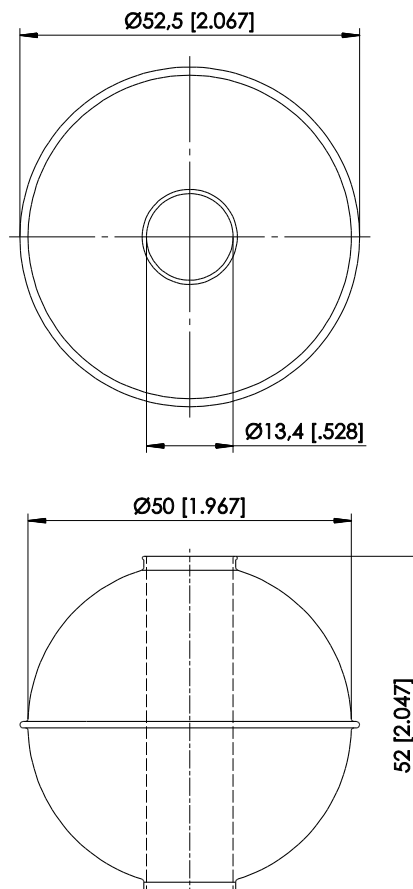
Note: Dependent on the
design the available
measurement range is
reduced of 25 mm
on both ends!

Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions
consult factory.
Other designs can be realized
on request.

PCSTMAG6

(float, continuous pressure up
to 30 bar, for media with a
specific gravity of
 $\geq 0,7 \text{ g/cm}^3$)

Material: 1.4571



Note: Dependent on the
design the available
measurement range is
reduced of 25 mm on
both ends!

Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions
consult factory.
Other designs can be realized
on request.

Output specification

Analog output

U1 Voltage output 0 ... 10 V 	Excitation voltage	18 ... 36 V DC
	Excitation current	typical 23 mA at 24 V DC typical 46 mA at 12 V DC max. 80 mA
	Output voltage	0 ... 10 V DC
	Output current	2 mA max.
	Output load	>5kΩ
	Resolution	16 bit f.s. min. 10 μm
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0,5 mV _{RMS}
	Operating temperature	-40 ... +85°C
	EMC	DIN EN 61326-1:2013

U2 Voltage output 0,5 ... 10 V 	Excitation voltage	18 ... 36 V DC
	Excitation current	typical 23 mA at 24 V DC typical 46 mA at 12 V DC max. 80 mA
	Output voltage	0,5 ... 10 V DC
	Output current	2 mA max.
	Output load	>5kΩ
	Resolution	16 bit f.s., min. 10 μm
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0,5 mV _{RMS}
	Operating temperature	-40 ... +85°C
	EMC	DIN EN 61326-1:2013

U8 Voltage output 0.5 ... 4.5 V 	Excitation voltage	10 ... 36 V DC
	Excitation current	typical 23 at 24 V DC typical 46 mA at 12 V DC max. 80 mA
	Output voltage	0.5 ... 4.5 V DC
	Output current	2 mA max.
	Output load	>5kΩ
	Resolution	16 bit f.s., min. 10 μm
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0,5 mV _{RMS}
	Operating temperature	-40 ... +85°C
	EMC	DIN EN 61326-1:2013

I1 Current output 4 ... 20 mA, 3 wire 	Excitation voltage	18 ... 36 V DC (10 ... 36 V for R _L ≤ 250Ω)
	Excitation current	Typical 36 mA at 24 V DC Typical 66 mA at 12 V DC 100 mA max.
	Load resistor R _L	350 Ω max.
	Output current	4 ... 20 mA (max. 30 mA at failure)
	Resolution	16 bit f.s. min. 10 μm
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Protection	Reverse polarity, short circuit
	Output noise	0,5 mV _{RMS}
	Operating temperature	-40 ... +85°C
	EMC	DIN EN 61326-1:2013

Behavior of the output signal when falling below or exceeding the measuring range

If the magnet is moved out of the measuring range, the error only occurs after a transition range which can be a few millimetres depending on the interface and measuring length.

With the SSI interface, there is a sharp transition at the zero point if the value falls below the measuring range; if the value exceeds the measuring range at the end point, the transition range is a few millimetres. With the CANOP interface, there is a sharp transition when the value falls below the zero point, and the transition range is a few millimetres when the value exceeds the end point.

With the analog interface, the transition range is a few millimetres when falling below the zero point or exceeding the end point.

Diagnostic on analog outputs

Behaviour of the analog signal output in case of error

In case of error (magnet missing) the analog output signal will assume a state according to the following options:

Alarm_HIGH

The output voltage resp. the output current is at HIGH level (overrange).

Alarm_LOW

The output voltage resp. the output current is at LOW level (underrange).

Alarm_HOLD

The output voltage resp. the output current will keep the last valid state.

	Alarm_HIGH (Standard)	Alarm_LOW (.../U)	Alarm_HOLD (.../H)
U1	$U_{out} \geq 10.5 \text{ V}$	—	keeps last valid state (Order code U1/H)
U2	$U_{out} \geq 10.5 \text{ V}$	$U_{out} < 0.25 \text{ V}$ (Order code U2/U)	keeps last valid state (Order code U2/H)
U8	$U_{out} \geq 10 \text{ V}$	$U_{out} < 0,25 \text{ V}$ (Order code U8/U)	keeps last valid state (Order code U8/H)
I1	$I_{out} \geq 21 \text{ mA}$	$1.5 \dots 2 \text{ mA}$ (Order code I1/U)	keeps last valid state (Order code I1/H)

Error signal for SSI output

If the sensor cannot detect a magnet, the position value will take the maximum value (0xFFFFF) for 24 bits and (0x1FFFFFF) for 25 bits.

Option - PMU for analog output U1, U2, U8 and I1

Programming of the start and end value by the customer:

The option PMU allows to program the start value and the end value of the output range by a programming signal SPAN/ZERO available at the connector. This Signal SPAN/ZERO must be connected with GND via a push button, then position magnet of the sensor must be moved to the start resp. end position. Pushing the button between 2 and 4 seconds sets the actual position as start position, pushing the button more than 5 seconds sets the actual position as end position. The values will be stored and are available after switching off the sensor.

To reset the sensor to the factory values the button must be pushed for longer than two seconds when the sensor is switched on.

Digital output

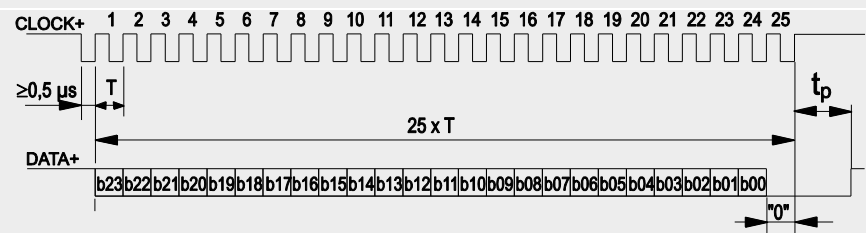
SSI Synchronous serial interface SSI 	Interface	EIA RS-422
	Excitation voltage	10 ... 36 V DC, residual ripple 10 mV _{ss}
	Excitation current	typical 22 mA at 24 V DC typical 46 mA at 12 V DC 150 mA max.
	Clock frequency	100 kHz ... 1 MHz
	Code	Gray-Code, Dual-Code
	Delay between pulse trains (tp)	>25 µs
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Operating temperature	-40 ... +85°C
	EMC	DIN EN 61326-1:2013

Description

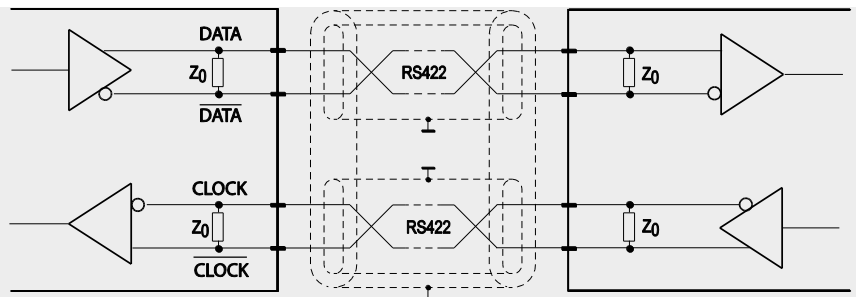
The data transmission takes place by means of the two signals CLOCK and DATA. The processing unit (PLC, microcomputer) sends pulse sequences which clock the data transmission at the required transfer rate. With the first falling edge of the pulse sequence the position of the sensor is recorded and stored. The following rising edges control the bit-by-bit transfer of the data word. After a delay time the next new position information can be transmitted.

Data format

(Train of 26 pulses)

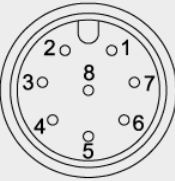


Recommended processing circuit



Transmission rate

Cable length	Baud rate	Note:
50 m	100-400 kHz	Extension of the cable length will reduce the maximum transmission rate. The signals $\overline{\text{CLOCK}}$ and $\overline{\text{DATA}}$ must be connected in a twisted pair cable, shielded in pairs, the pairs also commonly shielded.
100 m	100-300 kHz	

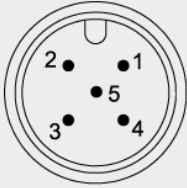
Signal wiring Connector M12, 8 pin	Signal	Connector pin no.	Cable color
 View to the sensor connector	Excitation +	1	white
	Excitation GND	2	brown
	CLOCK	3	green
	$\overline{\text{CLOCK}}$	4	yellow
	DATA	5	grey
	$\overline{\text{DATA}}$	6	pink
	-	7	blue
	-	8	red

Description

CANopen interface with process data for position and cam functions, programmable are preset, resolution, filtering and cam switching points.

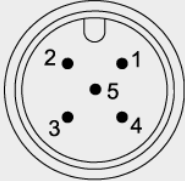
CANOP CANOP/R CANopen 	CAN specification	ISO 11898, Basic and Full CAN 2.0 B
	Communication profile	CANopen CiA 301 V 4.02, Slave
	Encoder profile	Encoder CiA 406 V 3.2
	Error Control	Node Guarding, Heartbeat, Emergency Message
	Node ID	Adjustable via LSS or via object dictionary
	PDO	4 TxPDO, 0 RxPDO, no linking, static mapping
	PDO Modes	Event-/Time triggered, Remote-request, Sync cyclic/acyclic
	SDO	1 Server, 0 Client
	CAM	8 cams
	Certified	yes
	Transmission rate	50 kBit to 1 MBit, adjustable via LSS or via object dictionary
	Nodes	127 max.
	Bus-Anschluss	M12 connector, 5 pin
	Integrated bus terminating resistor (optional)	120 Ω
	Bus, galvanic isolated	no

Specifications	Excitation voltage	18 ... 36 V DC 11 ... 36 V DC for measurement length <1m
	Excitation current	typical 20 mA at 24 V DC typical 40 mA at 12 V DC max. 80 mA
	Number of position magnets	1 ... 4
	Resolution	50 µm
	Measuring rate	1 kHz (asynchronous)
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Repeatability	1 LSB
	Operating temperature	-40 ... +85 °C
	Protection	Reverse polarity, short circuit
	Dielectric strength	500 V (V AC, 50 Hz, 1 min.)
	EMC	DIN EN 61326-1:2013

Signal wiring	Output signals	Connector pin no.
Connector M12, 5 pin  View to the sensor connector	Shield	1
	Excitation +	2
	GND	3
	CAN-H	4
	CAN-L	5

When using multiple magnets, the distance between two magnets must be min. 70 mm to identify the single magnets definitely.

CANJ1939 CANJ1939/R SAE J1939 	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 (optional)	120 Ω	
	Address	Default 247d, configurable	
NAME Fields	Arbitrary address capable	1	no
	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
Parameter Group Numbers (PGN)	Configuration data	PGN EF00h	Proprietary-A (PDU1 peer-to-peer)
	Process data	PGN FFnnh	Proprietary-B (PDU2 broadcast); nn Group Extension (PS) configurable
Specifications	Excitation voltage	18 ... 36 V DC 11 ... 36 V DC for measurement length <1m	
	Excitation current	20 mA typical at 24 V DC 40 mA typical at 12 V DC, max. 80 mA	
	Measuring rate	1 kHz (asynchronous)	
	Stability (temperature)	±50 x 10 ⁻⁶ /°C f.s. (typical)	
	Repeatability	1 LSB	
	Operating temperature	-40 ... 85°C	
	Protection	Reverse polarity, short circuit	
	Dielectric strength	500 V (V AC, 50 Hz, 1 min.)	
	EMV	DIN EN 61326-1:2013	

Signal wiring	Output signals	Connector pin no.
Connector M12, 5 pin  View to the sensor connector	Shield	1
	Excitation +	2
	GND	3
	CAN-H	4
	CAN-L	5

When using multiple magnets, the distance between two magnets must be min. 70 mm to identify the single magnets definitely.