POSICHRON®
PCST27
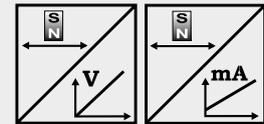Rod-Style Design with Analog Output

ASM®

POSICHRON® rod-style position sensor

- **For hydraulic cylinders, fluid level measurement**
- **Protection class IP68/IP69K, underwater capability**
- **Pressure-proof up to 15 bar**
- **Waterproof cable seal**
- **Measurement range 0 ... 100 to 0 ... 5750 mm**
- **Absolute position measurement**
- **Contactless**
- **Seawater-proof**
- **Analog output**

Specifications	Output	Voltage Current
	Resolution	Essentially infinite
	Sampling rate	Up to 1 kHz, depending on the measurement range
	Linearity	Ranges >500 mm: L10 = ±0.10 % f.s. L02 = ±0.02 % f.s. Ranges ≤500 mm: L10 = ±0.5 mm L02MM = ±0.2 mm
	Repeatability	±3 µm
	Housing material	Stainless steel 1.4404
	Mounting	Thread M18x1,5 / thread ¾ inch
	Working pressure	400 bar, other values on request
	Protection class	IP68/IP69K (permanent pressure-proof up to 15 bar)
	Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
	Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
	Connection	Cable 2 m
	EMC, temperature	Refer to output specification

Order code PCST27
1 channel

Model name —— PCST27 – ☐ – ☐ – ☐ – ☐ – ☐ – ☐

Mounting
M18   = Thread M18 x 1,5
Z3/4   = Thread ¾"-16UNF

Measurement range (in mm)
100 ... 5750 (in 10 mm increments)
other lengths upon request

Output
U1   = 0 ... 10 V signal conditioner
U1/H   = U1 with Alarm_HOLD (see page 16)
U2   = 0.5 ... 10 V signal conditioner
U2/U; U2/H   = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 16)
U8   = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H   = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 16)
I1   = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H   = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 16)

Function and characteristics output
P1A   = Position Magnet 1, increasing
P1D   = Position Magnet 1, decreasing
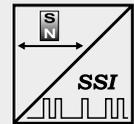PMU   = Start value, direction & end value adjustable by the customer

Linearity
L02 / L02MM / L10   (for definition see "Specifications" above)

Connection
KAB2M   = Cable, standard length 2 m, other lengths upon request

POSICHRON®
PCST27
Rod-Style Design with Analog Output

**Order code PCST27
2 channel,
configurable**

PCST27 – ☐ – ☐ – ☐ – ☐ – ☐ – ☐ – ☐

Model name

Mounting
M18 = Thread M18 x 1,5
Z3/4 = Thread ¾"-16UNF

Measurement range (in mm)
100 ... 5750 (in 10 mm increments)
other lengths upon request

Output
U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 16)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 16)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 16)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 16)

Function and characteristics output 1
P1A = Position magnet 1, increasing
P1D = Position magnet 1, decreasing
DA = Difference magnet 1/2, increasing (2 magnets required)
DD = Difference magnet 1/2, decreasing (2 magnets required)

Function and characteristics output 2
P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing   } 2 magnets required
DA = Difference magnet 1/2, increasing
DD = Difference magnet 1/2, decreasing

VZx.x = Velocity with direction detection (with 1 magnet only)

	VZx.x = Velocity 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

VAx.x = Velocity without direction detection (with 1 magnet only)

	VAx.x = Velocity 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

Linearity
L02 / L02MM / L10 (for definition see "Specifications" above)

Connection
KAB2M = Cable, standard length 2 m, other lengths upon request

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Order example: PCST27 - M18 - 1000 - U2 - P1A - VZ1.0 - L10 - KAB2M
Rod-Style Design, measurement range 1000 mm, 2 voltage outputs 0.5 ... 10 V (U2)
Output 1: Position magnet 1, increasing signal (P1A)
Output 2: Velocity magnet 1, -1 m/s ... 1 m/s for range 0.5 ... 10 V (VZ1.0)

Order code position magnet (see page 9-13)

PCSTMAG ...

POSICHRON®

PCST27
Rod-Style Design with SSI Output

ASM®

POSICHRON® rod-style position sensor

- **For hydraulic cylinders, fluid level measurement**
- **Protection class IP68/IP69K, underwater capability**
- **Pressure-proof up to 15 bar**
- **Waterproof cable seal**
- **Measurement range 0 ... 100 to 0 ... 5750 mm**
- **Absolute position measurement**
- **Contactless**
- **Seawater proof**
- **Synchronous serial interface (SSI)**

Specifications	Output	Synchronous serial interface (SSI)
	Resolution	5, 10, 20, 50, 100 µm
	Sampling rate	Up to 1 kHz, depending on the measurement range
	Linearity	Ranges >500 mm: L10 = ±0.10 % f.s. L02 = ±0.02 % f.s. Ranges ≤500 mm: L10 = ±0.5 mm L02MM = ±0.2 mm
	Repeatability	±3 µm
	Housing material	Stainless steel 1.4404
	Mounting	Thread M18x1,5 / thread ¾ inch
	Working pressure	400 bar, other values on request
	Protection class	IP68/IP69K (permanent pressure-proof up to 15 bar)
	Shock	EN 60068-2-27:2010, 50 g/11 ms, 100 shocks
	Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
	Connection	Cable 2 m
	EMC, temperature	Refer to output specification

Order code PCST27

PCST27 – ☐ – ☐ – ☐ – ☐ / ☐ / ☐ – ☐ – ☐

Model name

Mounting
M18 = Thread M18 x 1,5
Z3/4 = Thread ¾ "-16UNF

Measurement range (in mm)
100 ... 5750 (in 10 mm increments)
other lengths upon request

Resolution [in µm]
5 / 10 / 20 / 50 / 100

Output
SSI = Synchronous serial interface

Code
G / D = Gray / Dual

Number of data bits
24 / 25

Linearity
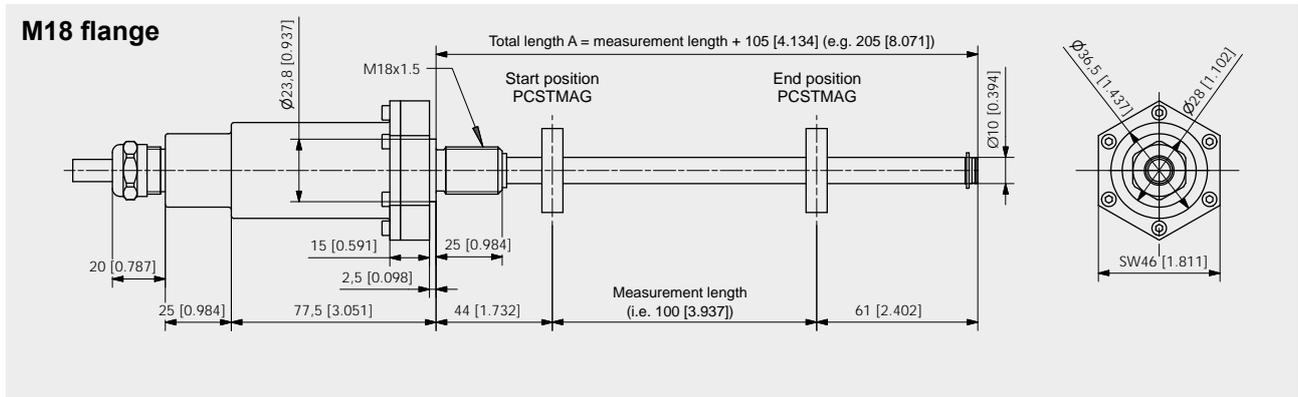L02 / L02MM / L10 (for definition see "Specifications" above)

Connection
KAB2M = Cable, standard length 2 m, other lengths upon request
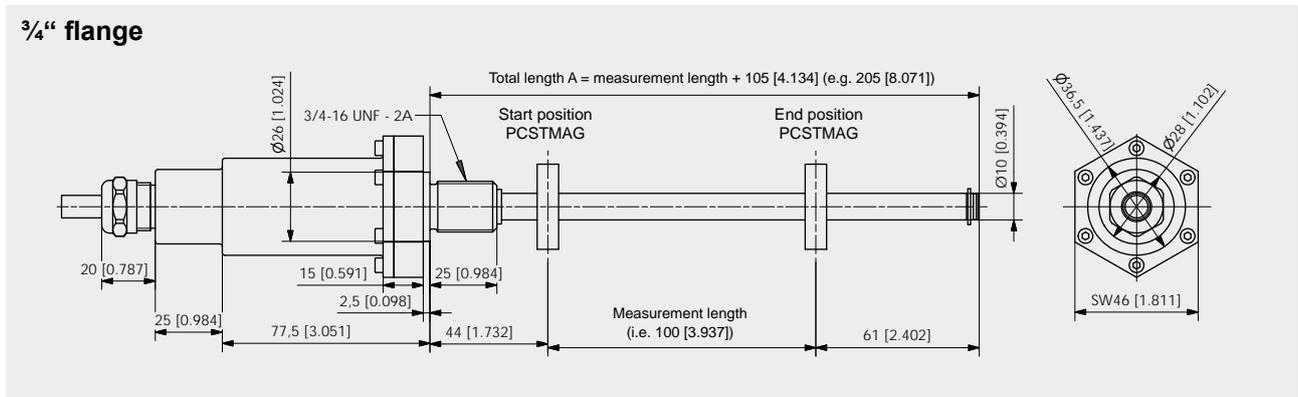
Order code position magnet (see page 9-13)

PCSTMAG ...

Order example: PCST27 - M18 - 1500 - 10 - SSI/G/24 - L02 - KAB2M

POSICHRON®

PCST27
Rod-Style Design with CAN Output

ASM®

POSICHRON® rod-style position sensor

- **For hydraulic cylinders, fluid level measurement**
- **Protection class IP68/IP69K, underwater capability**
- **Pressure-proof up to 15 bar**
- **Waterproof cable seal**
- **Measurement range 0 ... 100 to 0 ... 5750 mm**
- **Absolute position measurement**
- **Contactless**
- **Seawater proof**
- **CANopen bus or CAN SAE J1939 output**
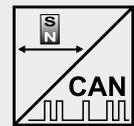
Specifications		
	Output	CANopen bus; CAN SAE J1939
	Resolution	50 µm
	Sampling rate	Up to 1 kHz, depending on the measurement range
	Linearity	Ranges >500 mm: L10 = ±0.10 % f.s. L02 = ±0.02 % f.s. Ranges ≤500 mm: L10 = ±0.5 mm L02MM = ±0.2 mm
	Repeatability	±3 µm
	Housing material	Stainless steel 1.4404
	Mounting	Thread M18x1,5 / thread ¾ inch
	Working pressure	400 bar, other values on request
	Protection class	IP68/IP69K (permanent pressure-proof up to 15 bar)
	Shock	EN 60068-2-27:2010, 50 g/11 ms, 100 shocks
	Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
	Connection	Cable 2 m
	EMC, temperature	Refer to output specification

Order code PCST27

PCST27 – ☐ – ☐ – ☐ – ☐ – ☐

Model name

Mounting
M18 = Thread M18 x 1,5
Z3/4 = Thread ¾ "-16UNF

Measurement range (in mm)
100 ... 5750 (in 10 mm increments)
other lengths upon request

Output
CANOP = CANopen bus
CANOP/R = CANopen-Bus with integrated terminating resistance
CANJ1939 = CAN SAE J1939

Linearity
L02 / L02MM / L10 (for definition see "Specifications" above)

Connection
KAB2M = Cable, standard length 2 m, other lengths upon request

Order code position magnet (see page 9-13) PCSTMAG ...

Order example: PCST27 - M18 - 2500 - CANOP - L10 - KAB2M

M18 flange

Ø23,8 [0.937]

M18x1.5

Total length A = measurement length + 105 [4.134] (e.g. 205 [8.071])

Start position
PCSTMAG

End position
PCSTMAG

Ø10 [0.394]

Ø36,5 [1.437]

Ø28 [1.102]

20 [0.787]

15 [0.591]

2,5 [0.098]

25 [0.984]

SW46 [1.811]

25 [0.984]

77,5 [3.051]

44 [1.732]

Measurement length
(i.e. 100 [3.937])

61 [2.402]

Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

¾" flange

Ø26 [1.024]

3/4-16 UNF - 2A

Total length A = measurement length + 105 [4.134] (e.g. 205 [8.071])

Start position
PCSTMAG

End position
PCSTMAG

Ø10 [0.394]

Ø36,5 [1.437]

Ø28 [1.102]

20 [0.787]

15 [0.591]

2,5 [0.098]

25 [0.984]

SW46 [1.811]

25 [0.984]

77,5 [3.051]

44 [1.732]

Measurement length
(i.e. 100 [3.937])

61 [2.402]

Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

With hydraulic tube as cable protector

M18x1,5
59 [2.323]
Ø23,8 [0.937]
M18x1,5
Total length A = measurement length + 105 [4.134] (e.g. 205 [8.071])
Start position PCSTMAG
End position PCSTMAG
Ø10 [0.394]
15 [0.591]
25 [0.984]
2,5 [0.098]
137,7 [5.421]
44 [1.732]
Measurement length (i.e. 100 [3.937])
61 [2.402]

Hydraulic tube as cable protector
(hydraulic tube not included in delivery).

SW27 [1.063]
SW46 [1.811]

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

Mounting hole M18

⊥ 0,2[.008] A

15°±1°

R0,1+0,1[.004+.004]

Ra3,2

45°±5°

max. R0,4 [.016]

A

Effective diameter

Drive hole and pivot M18 x 1,5
according to ISO 6149

* Diameter of the plane area without marking ring

min. Ø26 [1.024]*

Ø19,8 +0,1 -0 [.780 +.004 -0]

max. 2 [.079]

2,4 +0,4 -0 [.094 +.016 -0]

F

26 +1 -0 [1.024 +.039 -0]

M18x1,5

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

Mounting hole ¾ Zoll

Ra3,2

⟋ 0,1[.004] A

15°±1°

⊥ 0,2 [.008] A

R0,1+0,1[.004+.004]

Ra3,2

45°±5°

max. R0,4 [.016]

A

Effective Diameter

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

min. Ø30 [1.181]

Ø20,6 +0,1 -0 [.811 +.004 -0]

max. 2 [.079]

2,5 +0,4 -0 [.098 +.016 -0]

H

26 +1 -0 [1.024 +.039 -0]

3/4-16 UNF-2B

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

POSICHRON®
PCST
O-ring sealing

ASM®

O-ring sealing (M18)

for:
PCST24-M18...
PCST25-M18...
PCST27-M18...

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

O-Ring   15,3 x 2,2
[.602 x .087]
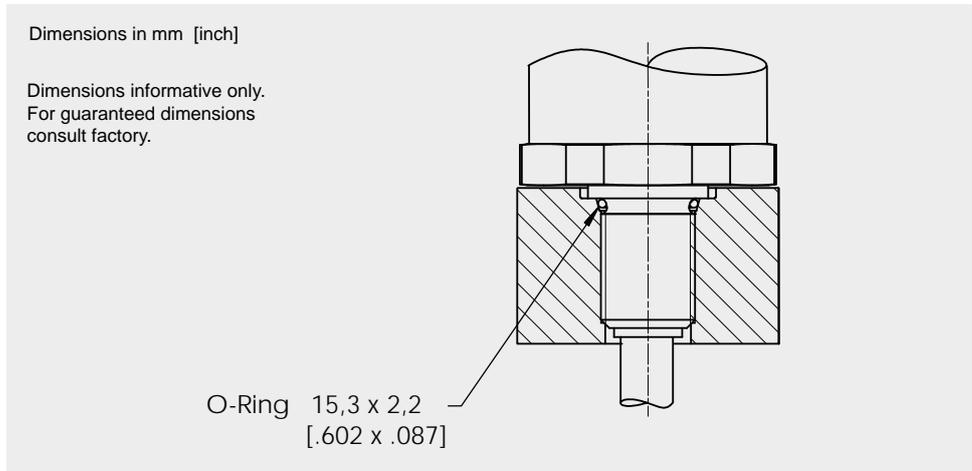
Order code O-ring M18

PCST-OR-M18

O-ring sealing (¾ Zoll)

for:
PCST24-Z3/4...
PCST25-Z3/4...
PCST27-Z3/4...

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

O-Ring 16,36 x 2,2
[.644 x .087]
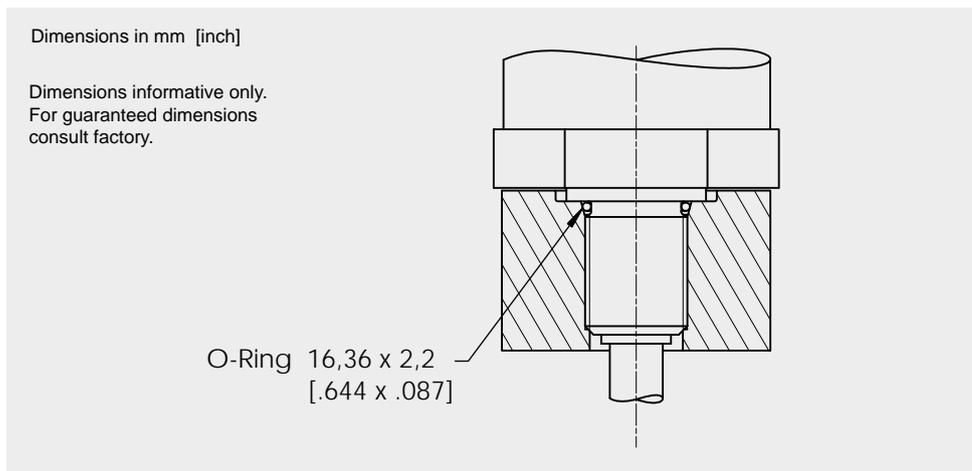
Order code O-ring ¾ inch

PCST-OR-Z3/4

O-ring sealing (Plug-in version)

for:
PCST25-SV...

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

Ø48 H7 ($^{+0,025}_{-0}$) [1.890 H7 ($^{+.001}_{-0}$)]

Example

Stützring

O-Ring

Ø48 H7 ($^{+0,025}_{-0}$) [1.890 H7 ($^{+.001}_{-0}$)]

M5

Beispiel

Gewindestift

Stützring
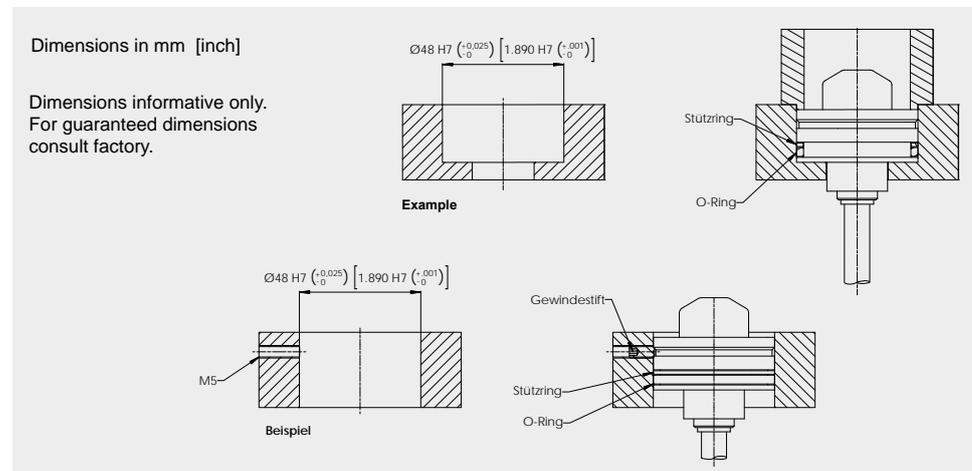
O-Ring

Order code O-ring Plug-in version

PCST-OR-SV

PCSTMAG1
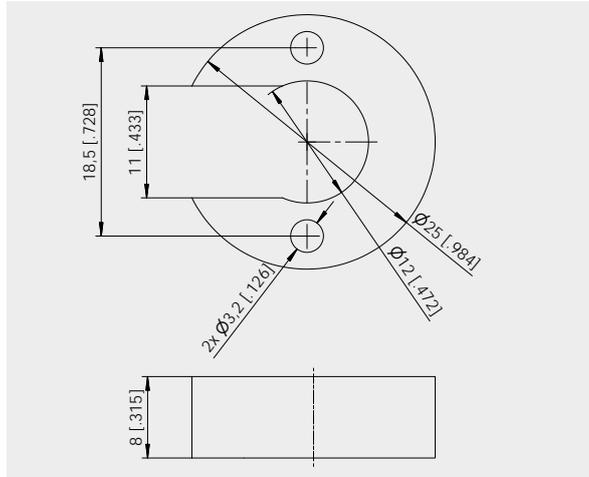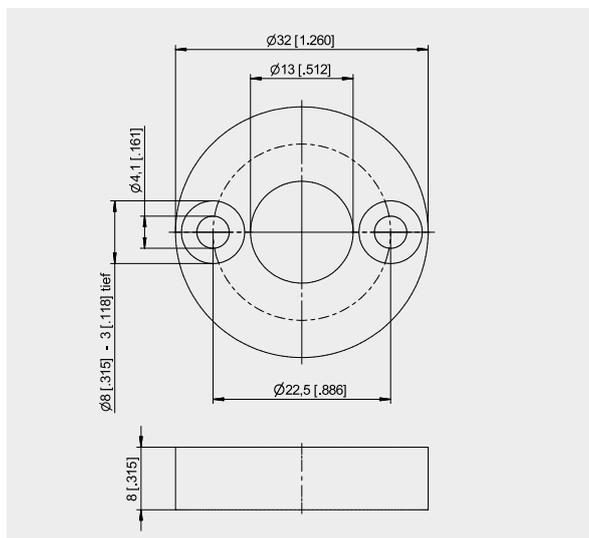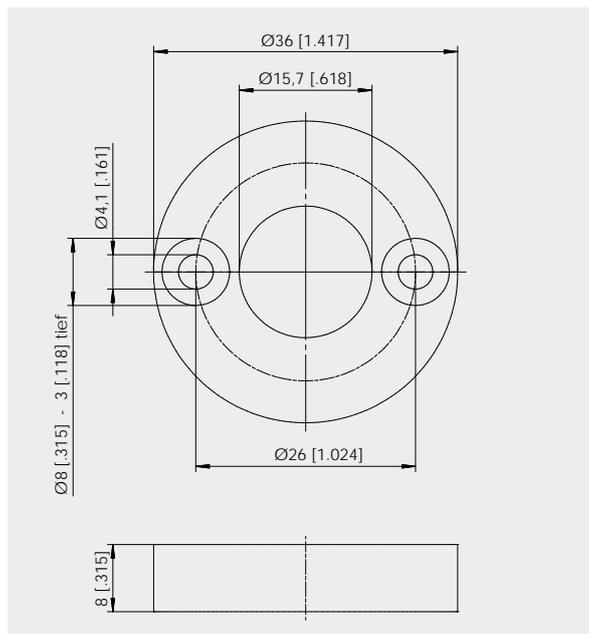
18,5 [.728]
11 [.433]
Ø25 [.984]
Ø12 [.472]
2x Ø3.2 [.126]
8 [.315]

PCSTMAG2

(standard)

Ø32 [1.260]
Ø13 [.512]
Ø4,1 [.161]
Ø8 [.315] - 3 [.118] tief
Ø22,5 [.886]
8 [.315]

PCSTMAG5

Ø36 [1.417]
Ø15,7 [.618]
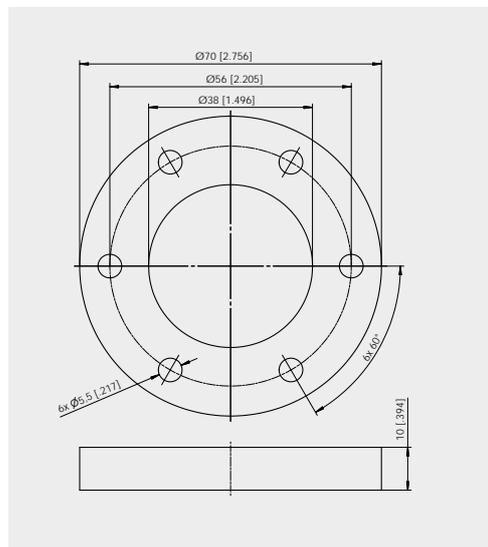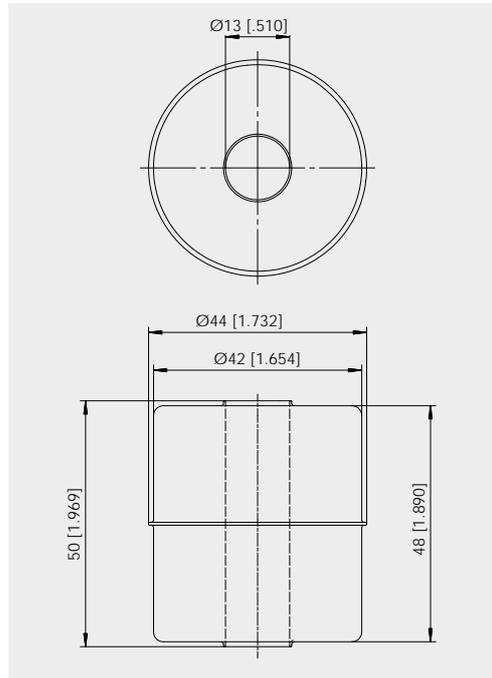Ø4,1 [.161]
Ø8 [.315] - 3 [.118] tief
Ø26 [1.024]
8 [.315]

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.
Other designs can be realized
on request.

PCSTMAG2-MH1

Ø20 $^{+0,3}_{-0,1}$
Ø13,6
18±0.2
Center of magnet

PCSTMAG2-MH2

Ø13 [0.512]
Ø18 [0.709]
20 [0.791]
10 [0.396]
Center of magnet

PCSTMAG2-MH3

Ø25,4 [1.000]
Ø13,5 [.531]
8 [.315]

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.
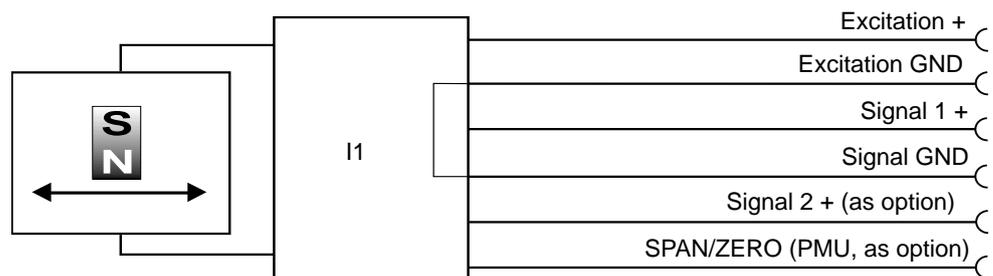Other designs can be realized on request

PCSTMAG2-G1

Ø10,5 [.413]

Ø2,8 [.110]

Ø21,4 [.843]

12 [.472]

Center of magnet

20 [.787]

27 [1.063]

R2 [.079]

Ø17,9 [.705]

Ø28 [1.102]

PCSTMAG2-G2

Ø10,5 [.413]

Ø3 [.118]

Ø30 [1.181]

Ø38 [1.496]

Ø34 [1.339]

O-Ring

12 [.472]

20 [.787]

27 [1.063]

Ø24 [.945]

Ø42 [1.654]
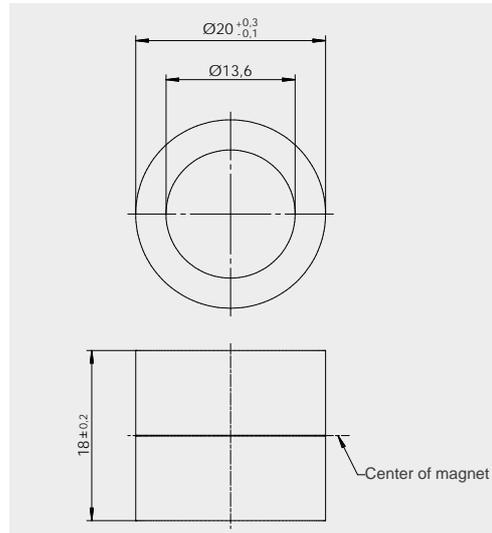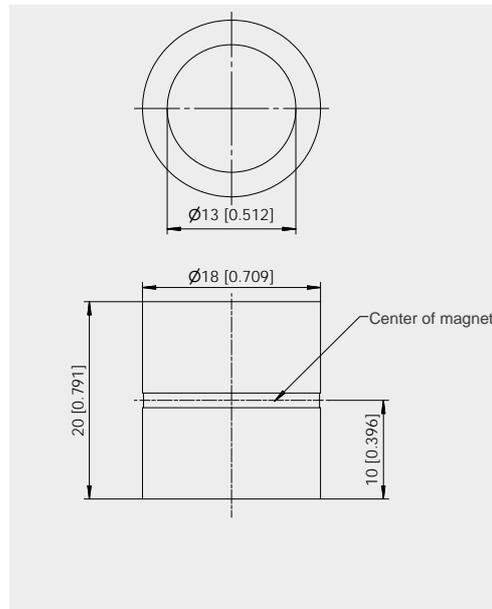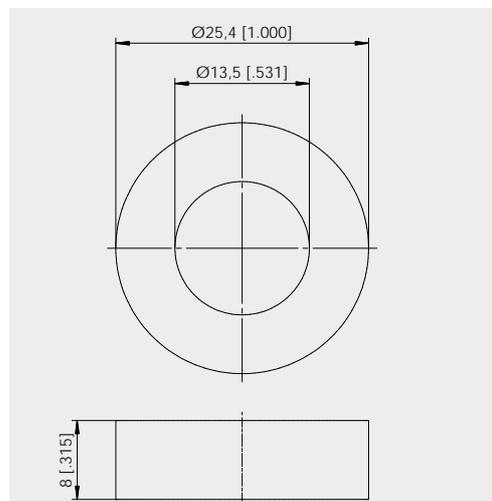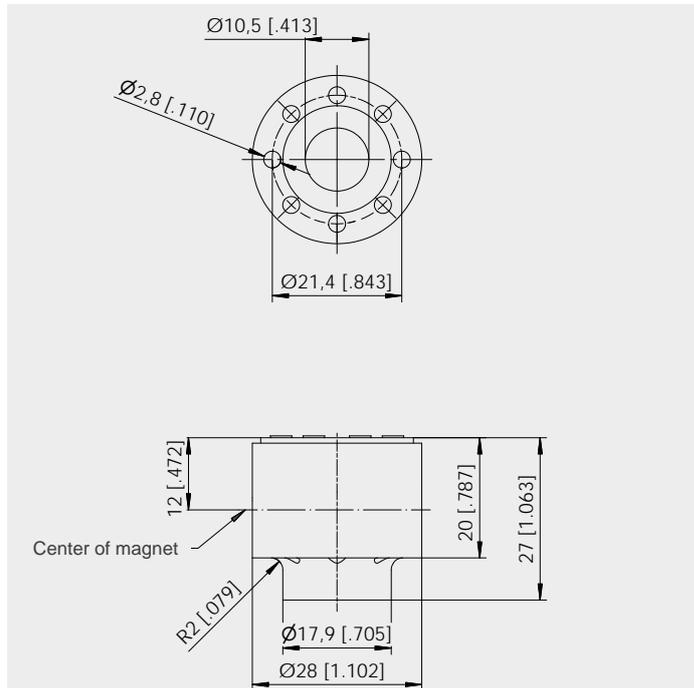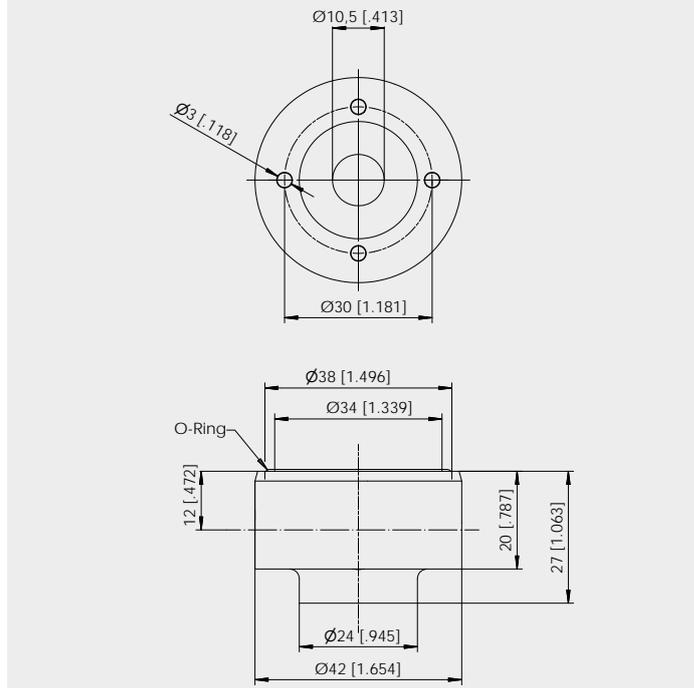
PCSTMAG2 - G1 / G2

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.

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.
Other designs can be realized on request

PCSTMAG7
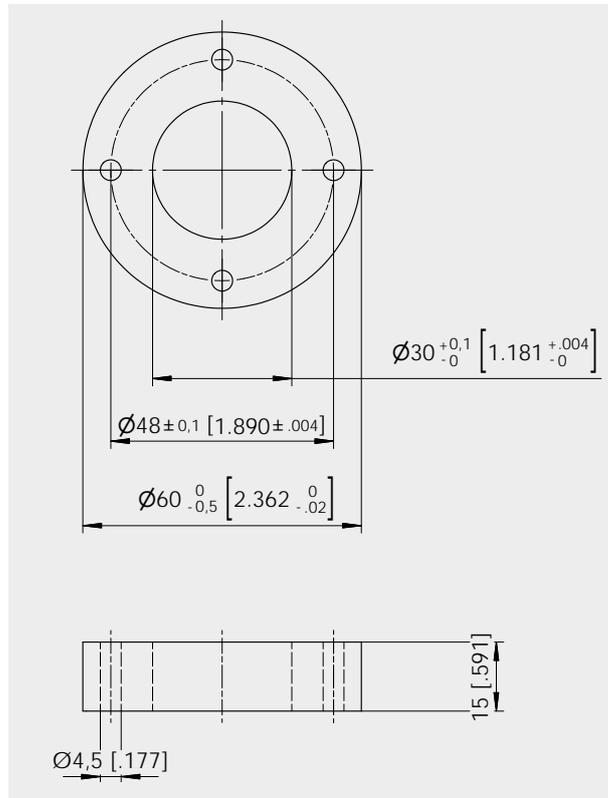
$\varnothing 30 {}^{+0,1}_{-0} \left[1.181 {}^{+.004}_{-0} \right]$

$\varnothing 48 \pm 0,1 \left[1.890 \pm .004 \right]$

$\varnothing 60 {}^{0}_{-0,5} \left[2.362 {}^{0}_{-.02} \right]$

15 [.591]

$\varnothing 4,5 \, [.177]$

PCSTMAG4

Ø70 [2.756]

Ø56 [2.205]

Ø38 [1.496]

6x Ø5,5 [.217]

6x 90°

10 [.394]

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 ≥0,75 g/cm^3)

Material: 1.4404

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

PCSTMAG6
(float, continuous pressure up to 30 bar, for media with a specific gravity of ≥0,7 g/cm^3)

Material: 1.4571
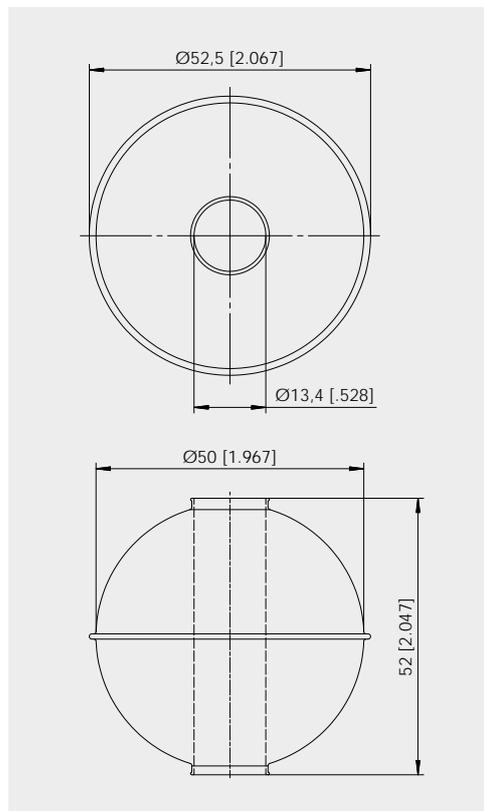
Note: Dependent on the design the available measurement range is reduced of 25 mm on both ends!

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.
Other designs can be realized on request

U1, U2, U8
Voltage output

Excitation voltage	**U1**: 18 ... 36 V DC; **U2**: 18 ... 36 V DC; **U8**: 10 ... 36 V
Excitation current	Typ. 35 mA, 80 mA max.
Output voltage	**U1:** 0 ... 10 V DC; **U2:** 0.5 ... 10 V DC; **U8:** 0.5 ... 4.5 V DC
Output current	2 mA max.
Output load	> 5 kΩ
Resolution	16 bit f.s., min. 10 µm
Stability (temperature)	$\pm 50 \times 10^{-6}$ / °C f.s.
Protection	Reverse polarity, short circuit
Output noise	0.5 mV$_{RMS}$
Operating temperature	-40 ... +85 °C
EMC	EN 61326-1:2013

Signal diagram

Excitation +
Excitation GND
Signal 1 +
Signal GND
Signal 2 + (as option)
SPAN/ZERO (PMU, as option)

I1
Current output (3 wire)

Excitation voltage	18 ... 36 V DC (10 ... 36 V for R$_L$ ≤250Ω)
Excitation current	Typ. 60 mA, 80 mA max.
Load resistor	350 Ω max.
Output current	4 ... 20 mA, 30 mA max (at failure)
Resolution	16 bit f.s., min. 10 µm
Stability (temperature)	$\pm 50 \times 10^{-6}$ / °C f.s.
Protection	Reverse polarity, short circuit
Output noise	0.5 mV$_{RMS}$
Operating temperature	-40 ... +85 °C
EMC	EN 61326-1:2013

Signal diagram

Excitation +
Excitation GND
Signal 1 +
Signal GND
Signal 2 + (as option)
SPAN/ZERO (PMU, as option)

POSICHRON®
Output Specification U2, U8 and I1
Configurable, 1 or 2 channels

Connector M12, 8-pin
Signal wiring

Signal	Plug connection	Cable connection (not for PCST27, PCRP32!)
Excitation +	1	white
Excitation GND	2	brown
Signal 1 +	3	green
Signal GND	4	yellow
Signal 2 + (optional*)	5	grey
SPAN/ZERO (PMU** only, optional)	6	pink

View to the sensor connector
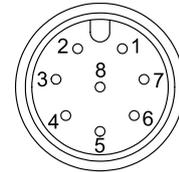
* When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely.   ** Description page 16

Connector M12, 5-pin
Signal wiring

Signal	Plug connection
Excitation +	1
Signal 1 +	2
GND	3
Signal 2 + (optional*)	4
PMU** (optional)	5

View to the sensor connector
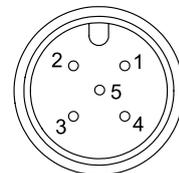
* When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely.   ** Description page 16

Connector M8, 4-pin
Signal wiring

Signal	Plug connection
Excitation +	1
Excitation GND	2
Signal +	3
PMU** (optional)	4

View to the sensor connector
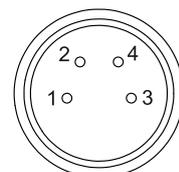
* When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely.   ** Description page 16

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.

Diagnostic on analog outputs

Behaviour of the analog signal output in case of error

In case of error (magnet missing or outside the measuring range) 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	$U_{out} \geq 10,5$ V	—	keeps last valid state (Order code **U1/H**)
U2	$U_{out} \geq 10,5$ V	$U_{out} < 0,25$ V (Order code **U2/U**)	keeps last valid state (Order code **U2/H**)
U8	$U_{out} \geq 10$ V	$U_{out} < 0,25$ V (Order code **U8/U**)	keeps last valid state (Order code **U8/H**)
I1	$I_{out} \geq 21$ mA	1,5 ... 2 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 assume the maximum value (0xFFFFFFFF).
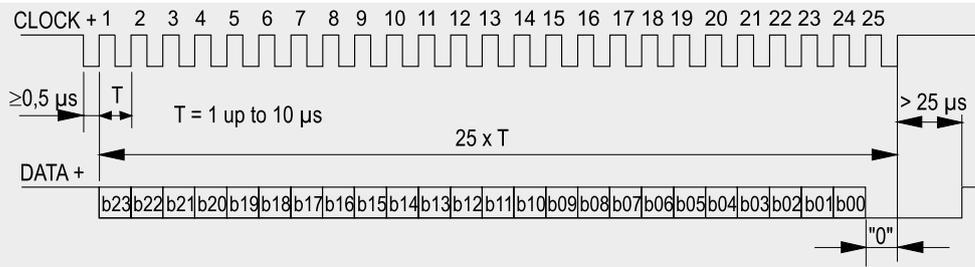
POSICHRON®
Output Specification SSI
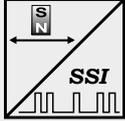
Synchronous serial interface SSI	Output	RS422
	Excitation voltage	10 ... 36 V DC, residual ripple 10 mV$_{SS}$
	Excitation current	Typ. 80 mA, 150 mA max.
	Clock frequency	100 kHz ... 1 MHz
	Code	Gray code, dual code
	Resolution	≥ 5 µm
	Delay between pulse trains	>25 µs
	Stability (temperature)	±50 x 10^{-6} / °C f.s.
	Operating temperature	-40 ... +85 °C
	EMC	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 transwithted.

Data format
(Train of 26 pulses)

CLOCK + 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

≥0,5 µs   T   T = 1 up to 10 µs   25 x T   > 25 µs

DATA +

b23 b22 b21 b20 b19 b18 b17 b16 b15 b14 b13 b12 b11 b10 b09 b08 b07 b06 b05 b04 b03 b02 b01 b00   "0"

Signal diagram

Sensor circuit | Subsequent circuit

DATA
Z_0 RS422 Z_0
$\overline{DATA}$

CLOCK
Z_0 RS422 Z_0
$\overline{CLOCK}$
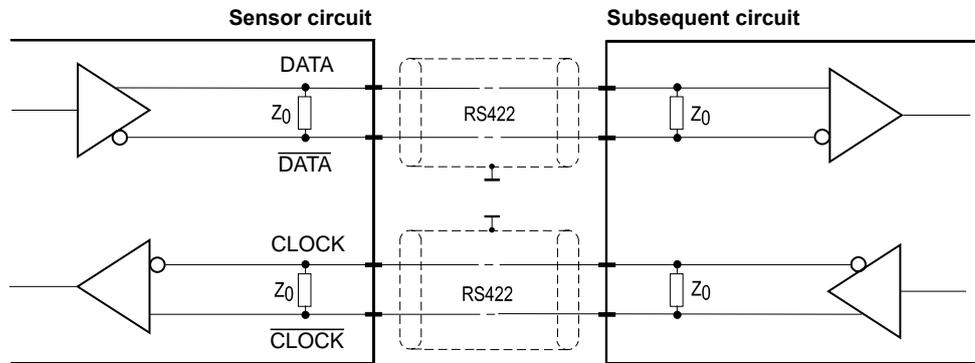
Cable length	Baud rate
50 m	100-1000 kHz
100 m	100-300 kHz

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

Signal wiring

Signal	Plug connection	Cable connection (not for PCST27, PCRP32)
Excitation +	1	white
Excitation GND	2	brown
CLOCK	3	green
$\overline{CLOCK}$	4	yellow
DATA	5	grey
$\overline{DATA}$	6	pink

View to sensor connector
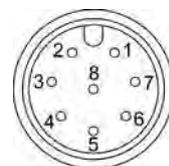
Error indication see page 16.

POSICHRON®
Output Specification CANopen

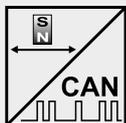|	
Description	CANopen interface with process data for position and cam functions, programmable are preset, resolution, filtering and cam switching points.

Interface CANOP		
	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 rates	50 kBaud to 1 MBaud, adjustable via LSS or via object dictionary
	Nodes	127 max.
	Bus connection	M12 connector, 5 pins
	Integrated bus terminating resistor	120 Ω (option)
	Bus, galvanic isolated	No

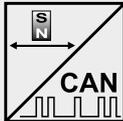| **Specifications**		
	Excitation voltage	18 ... 36 V DC
	Excitation current	Typ. 20 mA for 24 V, max. 80 mA
	Number of position magnets	1 ... 4
	Resolution	50 µm
	Measuring rate	1 kHz (asynchronous)
	Stability (temperature)	$\pm 50 \times 10^{-6}$ / °C f.s.
	Repeatability	1 LSB
	Operating temperature	-40 ... +85 °C
	Protection	Reverse polarity, short circuit
	Dielectric strength	500 V (V AC, 50 Hz, 1 min.)
	EMC	EN 61326-1:2013

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

Signal wiring	Signal	Plug connection
	Shield	1
	Excitation +	2
	GND	3
	CAN-H	4
	CAN-L	5

View to sensor connector

POSICHRON®
Output Specification CAN SAE J1939

Interface 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 temination resistor	120 Ω (option)
	Address	Default 247d, configurable

NAME Fields	Arbitrary address capable	0	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
	Excitation current	Typ. 20 mA for 24 V, max. 80 mA
	Measuring rate	1 kHz (asynchronous)
	Stability (temperature)	$\pm 50 \times 10^{-6}$ / °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	EN 61326-1:2013

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

Signal wiring	Signal	Plug connection
	Shield	1
	Excitation +	2
	GND	3
	CAN-H	4
	CAN-L	5

View to sensor connector

POSICHRON®
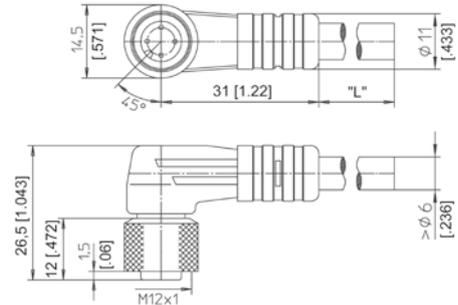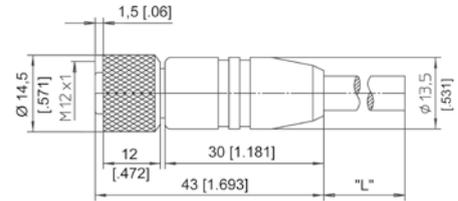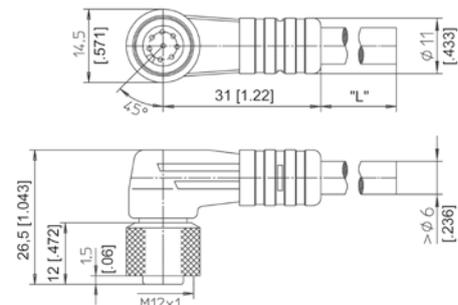## Accessories
Connector Cables

Connector cable M12, 5-pin
shielded

The 5-lead shielded cable is supplied with a mating 5-pin 90° M12 connector at one end and 5 wires at the other end. Available lengths are 2 m, 5 m and 10 m. Wire: cross sectional area 0.34 mm².

Order code:

KAB - XM - M12/5F/W - LITZE

IP69K: | KAB - XM - M12/5F/W/69K - LITZE |

Length in m

Connector cable M12, 5-pin
shielded

The 5-lead shielded cable is supplied with a mating 5-pin M12 connector at one end and 5 wires at the other end. Available lengths are 2 m, 5 m and 10 m. Wire: cross sectional area 0.34 mm².

Order code:

KAB - XM - M12/5F/G - LITZE

IP69K: | KAB - XM - M12/5F/G/69K - LITZE |

Length in m

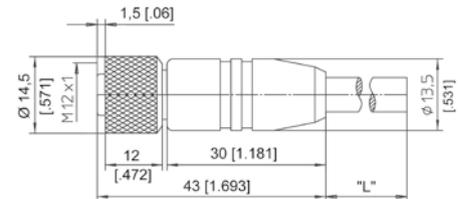| Signal wiring M12, 5-pin	Plug connection / Cable connection				
	1	2	3	4	5
	brown	white	blue	black	grey

Connector cable M12, 8-pin
shielded

The 8-lead shielded 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. Wire: cross sectional area 0.25 mm².

Order code:

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

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

Length in m

Connector cable M12, 8-pin
shielded

The 8-lead shielded 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. Wire: cross sectional area 0.25 mm².

Order code:

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

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

Length in m

Signal wiring M12, 8-pin	Plug connection / Cable connection							
	1	2	3	4	5	6	7	8
	white	brown	green	yellow	grey	pink	blue	red

**Connector/bus cable
M12, 5-pin
CAN bus**
shielded

The 5-lead shielded cable is supplied with a female 5-pin M12 connector at one end and a male 5-pin M12 connector at the other end. Available lengths are 0.3 m, 2 m, 5 m and 10 m.
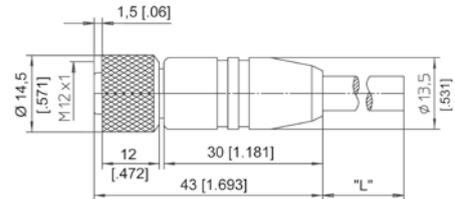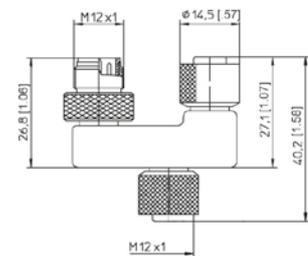
Order code:

KAB - XM - M12/5F/G - M12/5M/G - CAN

IP69K: KAB - XM - M12/5F/G/69K - M12/5M/G/69K - CAN

Length in m

**T-piece for bus cable
M12, 5-pin
CAN bus**

Order code:

KAB - TCONN - M12/5M - 2M12/5F - CAN

**Terminating
resistance
M12, 5-pin
CAN bus**

Order code:

KAB - RTERM - M12/5M/G - CAN