



perfect in sensors.



POSICHRON®

Magnetostrictive
Position Sensors

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Applications that are described herein for any of these products are for illustrative purpose only. ASM makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

The Company and the Products



ASM is a leading company in the development and production of linear and angular position sensors. ASM sensors are used in industrial and commercial applications, where angle, inclination, displacement or position measurements are used to automate, test or monitor processes.

Innovative Technologies that solve your Measuring Requirements

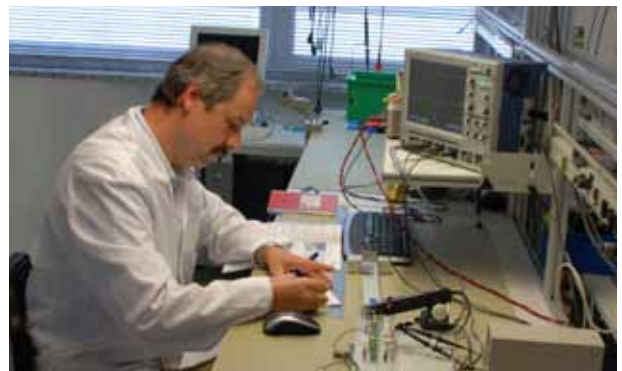
Our product range consists of various technologies to measure linear and rotative positions. With over 25 years of experience in the position sensor market, ASM offers innovative solutions for the most demanding applications.

ASM Products Represent Quality and Reliability

The quality and precision of our products ensures consistent productivity. Our continuous research and development in our laboratories as well as our DIN EN 9001:2000 certified quality management system guarantee these high standards.

ASM – Global Supplier of Position Sensors

ASM products are sold world-wide through sales offices, subsidiaries and a network of 50 distributors. With this global presence we ensure being close to our customers and provide quick product availability wherever ASM sensors are needed.




The Product Range

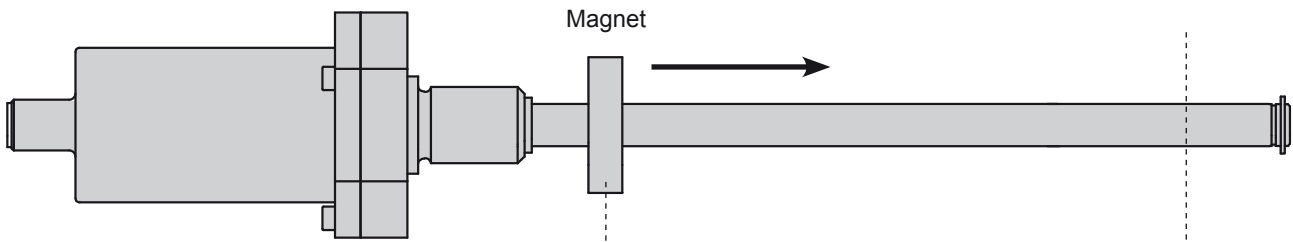
- **POSIWIRE®** Cable extension position sensors
- **POSITAPE®** Tape extension position sensors
- **POSICHRON®** Magnetostrictive Position Sensors
- **POSIMAG®** Magnetic Scale Position Sensors
- **POSIROT®** Magnetic Angle Sensors
- **POSITILT®** Magnetic Inclination Sensors
- **PRODIS®** Digital Process Displays



Selection Guide for POSICHRON® Position Sensors

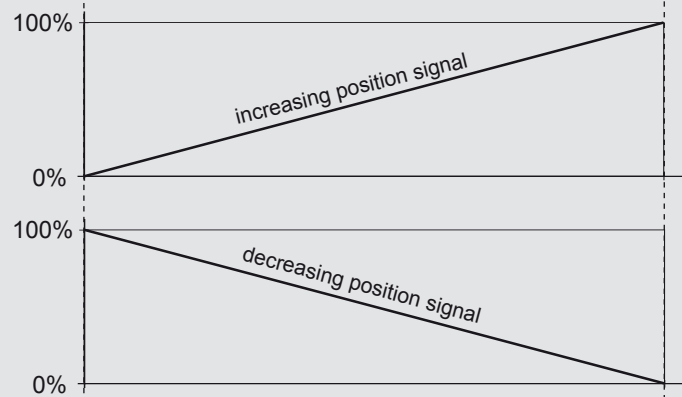
| Model | |  | | | | |
|---------------------------|--|--|--------------|--------|--------|--------------|
| | | PCQA22 | PCQA24 | PCQA23 | PCFP23 | PCFP24 |
| Selection features | | | | | | |
| Measurement range | | | | | | |
| 100 ... 5750 mm | | • | • | • | • | • |
| Outputs | | | | | | |
| Analog | | | | | | |
| 1 or 2 positions | | | | | | |
| Position and velocity | | | | | | |
| Scalable (PMU) | | • | • | | • | • |
| 0.5 ... 10 V | | U2 | | | | |
| 0.5 ... 4.5 V | | U8 | | | | |
| 4 ... 20 mA | | I1 | | | | |
| Synchronous serial | | SSI | • | • | • | • |
| CANopen | | CANOP | • | • | • | • |
| CAN SAE J1939 | | CANJ1939 | • | • | • | • |
| PROFIBUS-DP | | PROF2 | | • | | |
| Protection class | | IP64 | IP67 / IP69K | IP64 | IP64 | IP67 / IP69K |
| Application range | | | | | | |
| Industry | | • | • | • | • | • |
| Underwater | | | | | | |
| Hydraulic cylinder | | | | | | |
| Automation | | • | • | • | • | • |
| Mobile working machines | | | | | | |

POSICHRON® Analog Output Overview

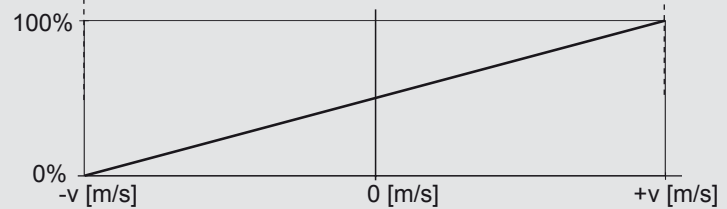


Analog 1 or 2 channel Configurable

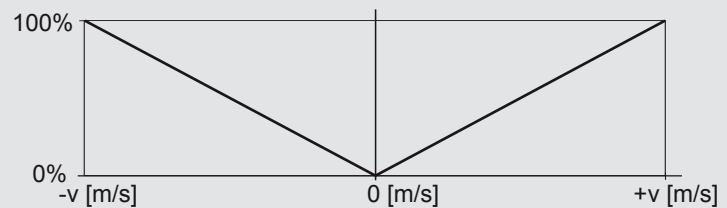
| | |
|----|-------------------------------|
| U2 | 0.5 ... 10 V / 10 ... 0.5 V |
| U8 | 0.5 ... 4.5 V / 4.5 ... 0.5 V |
| I1 | 4 ... 20 mA / 20 ... 4 mA |



Velocity output signal with direction detection



Centered velocity output signal without direction detection



POSICHRON® – The Functional Principle

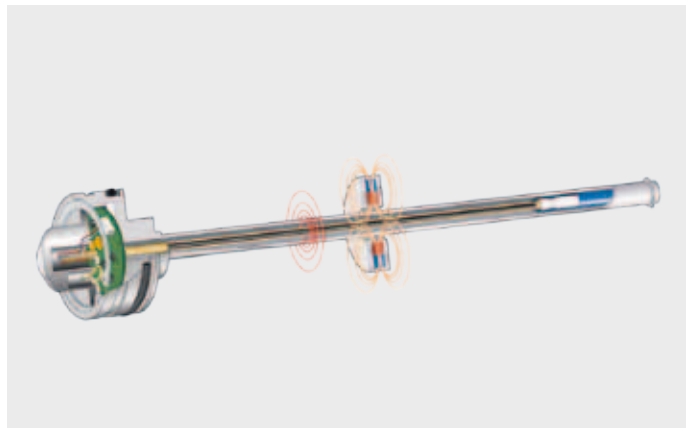
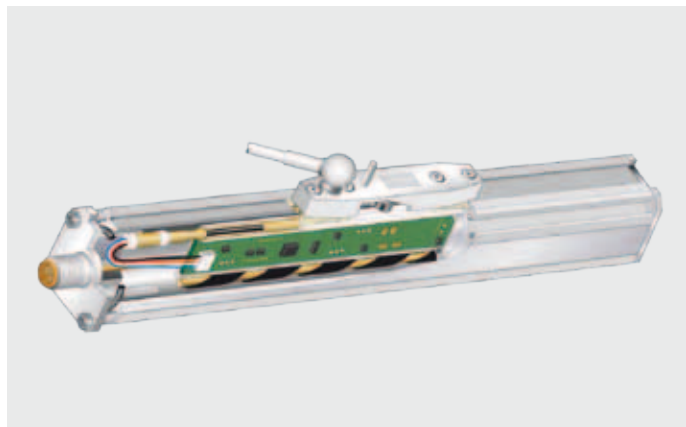
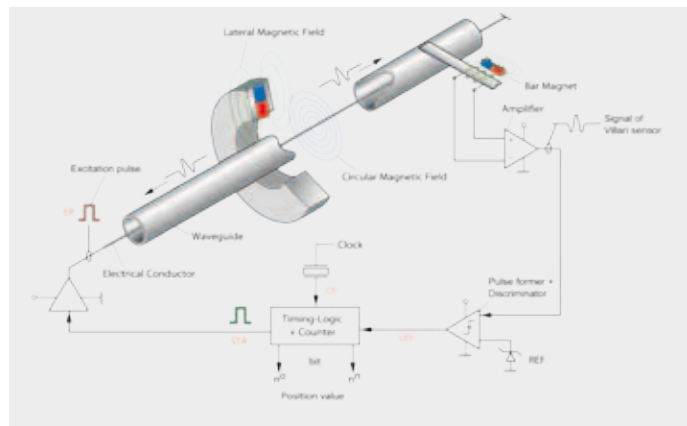
POSICHRON® is an absolute, contact-free and wear-free position measuring system. It is extremely rugged making it suitable even for applications where other measuring principles would fail. The availability of various constructions – rod, square profile and ultra-flat profile – means that the system can be adapted to suit all kinds of installation conditions.

The POSICHRON® linear measuring system consists of a magnetostrictive wave guide and a movable magnet for determining position. The measuring principle of POSICHRON® position sensors is based on two physical effects: the Wiedemann effect and the Villari effect.

To create the Wiedemann effect, a current impulse is sent through the POSICHRON® positional sensor's wave guide. This current impulse generates a circular magnetic field which propagates at the speed of light around the wave guide. If this circular magnetic field makes contact with the magnetic field of the position magnet which is moved lengthways, a torsional mechanical-elastic density wave is triggered at the overlap area of the two magnetic fields as a result of magnetostriction. This wave propagates in the wave guide at approx. 2800 m/s.

The sensor head of the POSICHRON® position sensor contains a detector which detects the arrival of this wave. The magneto-elastic Villari effect is used as the method of detection. The position between the detector coil and the magnet which can be moved lengthways along the POSICHRON® sensor is determined by measuring the time difference between the electrical induction current impulse and the voltage pulse generated via the Villari effect in the detector coil (time-of-flight principle).

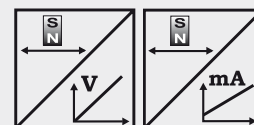
This time difference can be converted using various well-known methods into analog or digital output signals. The time-of-flight signals can however also be evaluated directly by commonly-available interface modules or counter and time-measuring devices.





POSICHRON® position sensor in square profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wire-free position magnet
- Contact-free
- Also available with guided position magnet
- Analog outputs



| Specifications | Output | Voltage Current |
|------------------|--|-------------------------------|
| | Resolution | Refer to output specification |
| 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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP64 (connector version: with mating connector only) | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 8 pin socket M12 / cable 2 m | |
| EMC, temperature | Refer to output specification | |

Order code mounting set (see page 22)

Order code position magnet/slider (see page 23)

Order code mating connecting cable (see page 77)

PCQA-BFS1

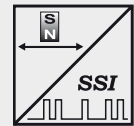
PCMAG ...

KAB-...M-M12/8F/G-LITZE



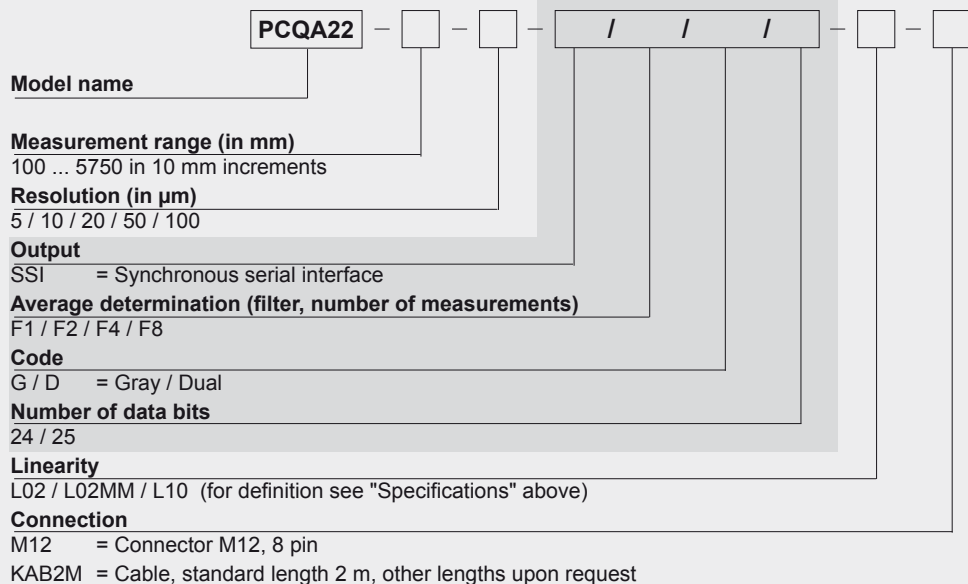
POSICHRON® position sensor in square profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wire-free position magnet
- Contact-free
- Also available with guided position magnet
- Synchronous serial interface (SSI)



| | | |
|-----------------------|-------------------------------|--|
| Specifications | Output | Synchronous serial interface (SSI) |
| | Resolution | 5, 10, 20, 50, 100 µm |
| | Sampling rate | Up to 500 Hz 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 | AlMgSi1 / Zn / V4A |
| | Protection class | IP64 (connector version: with mating connector only) |
| | Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| | Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| | Connection | 8 pin socket M12 / cable 2 m |
| EMC, temperature | Refer to output specification | |

Order Code PCQA22



Order code mounting set (see page 22)

PCQA-BFS1

Order code position magnet/slider (see page 23)

PCMAG ...

Order code mating connecting cable (see page 77)

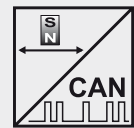
KAB-...M-M12/8F/G-LITZE

Order example: PCQA22 - 2500 - 5 - SSI/F8/G/24 - L10 - M12



POSICHRON® position sensor in square profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wire-free position magnet
- Contact-free
- Also available with guided position magnet
- 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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP64 (with mating connector only) | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 5 pin socket M12 | |
| EMC, temperature | Refer to output specification | |

Order Code PCQA22

Model name

Measurement range (in mm)

100 ... 5750 in 10 mm increments
Other ranges on request

Output

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

Linearity

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

Connection

M12A5 = Connector M12, 5 pin



Order code mounting set (see page 22)

PCQA-BFS1

Order code position magnet/slider (see page 23)

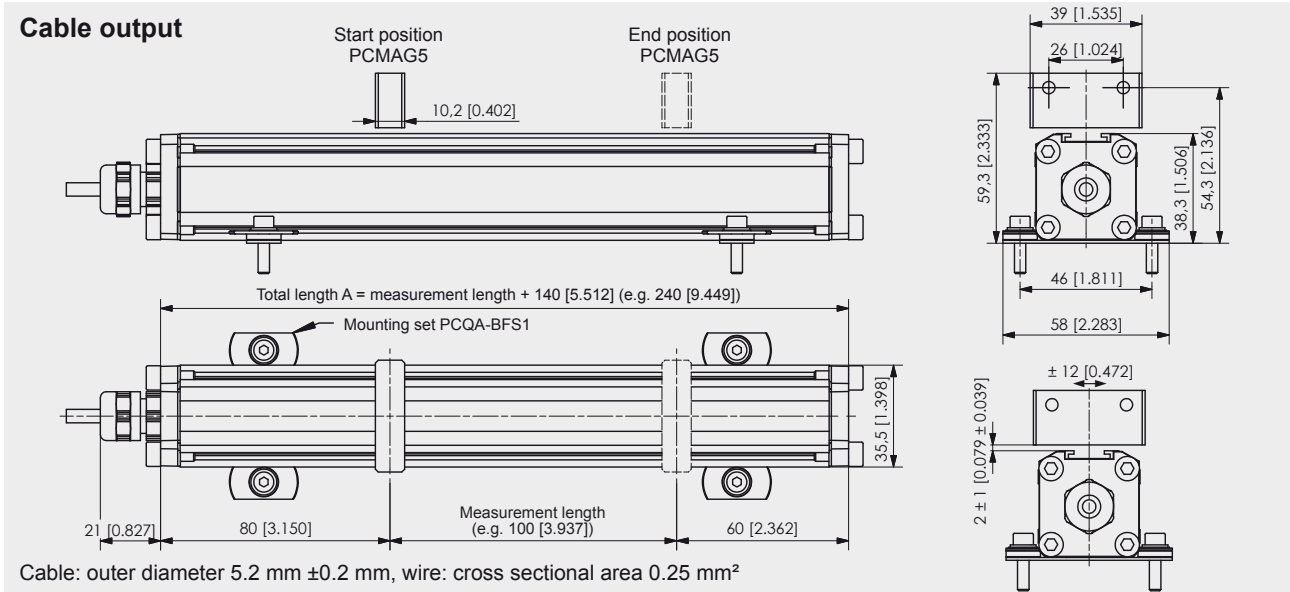
PCMAG ...

Order code bus cable (see page 79)

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

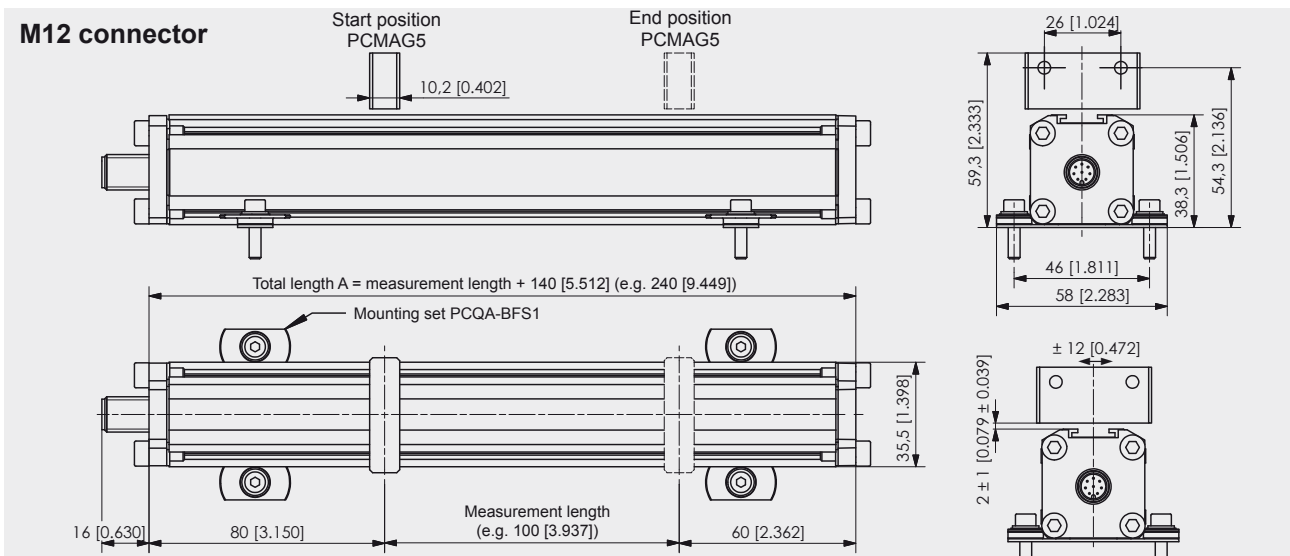
Order example: PCQA22 - 2000 - CANOP - L10 - M12A5

POSICHRON[®] PCQA22 Square Profile Housing

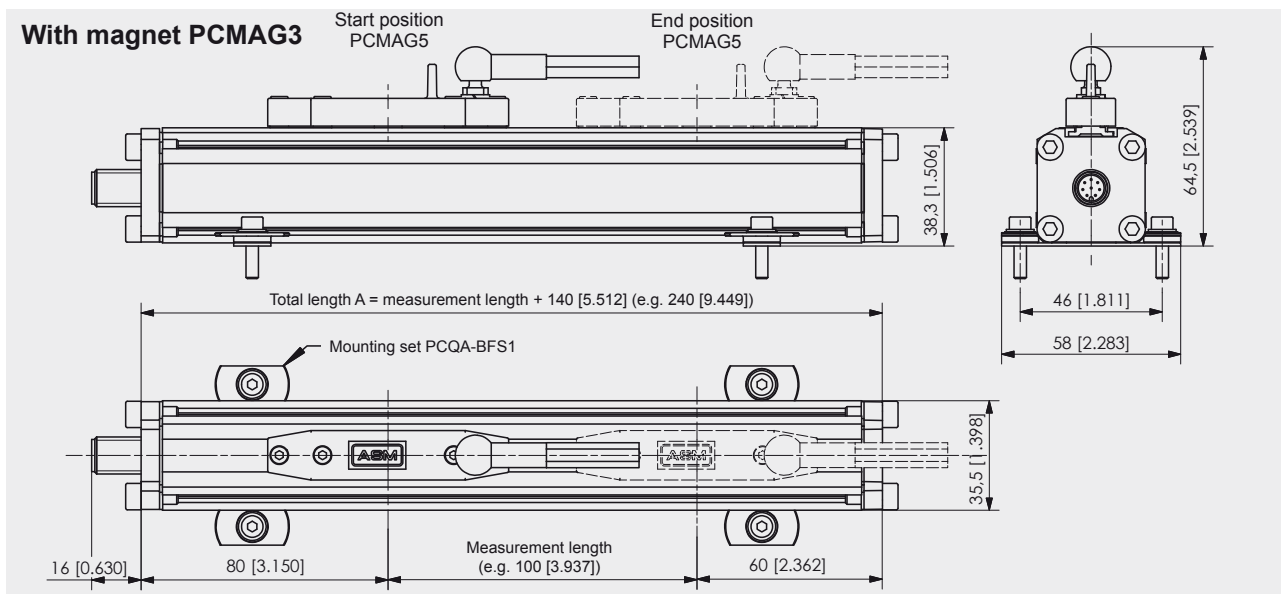


Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



POSICHRON®
PCQA22
Square Profile Housing



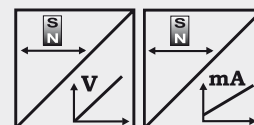
Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



POSICHRON® position sensor in square profile

- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wire-free position magnet
- Contact-free
- Also available with guided position magnet
- Analog output



| Specifications | Output | Voltage Current |
|------------------|--|-------------------------------|
| | Resolution | Refer to output specification |
| 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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP67/69K (connector version: with IP67/69K mating connector only) | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 8 pin socket M12 / cable 2 m (standard) | |
| EMC, temperature | Refer to output specification | |

Order code mounting set (see page 22)

Order code position magnet/slider (see page 23)

Order code mating connecting cable (see page 77)

PCQA-BFS1

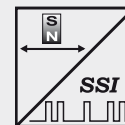
PCMAG ...

KAB-...M-M12/8F/G-LITZE



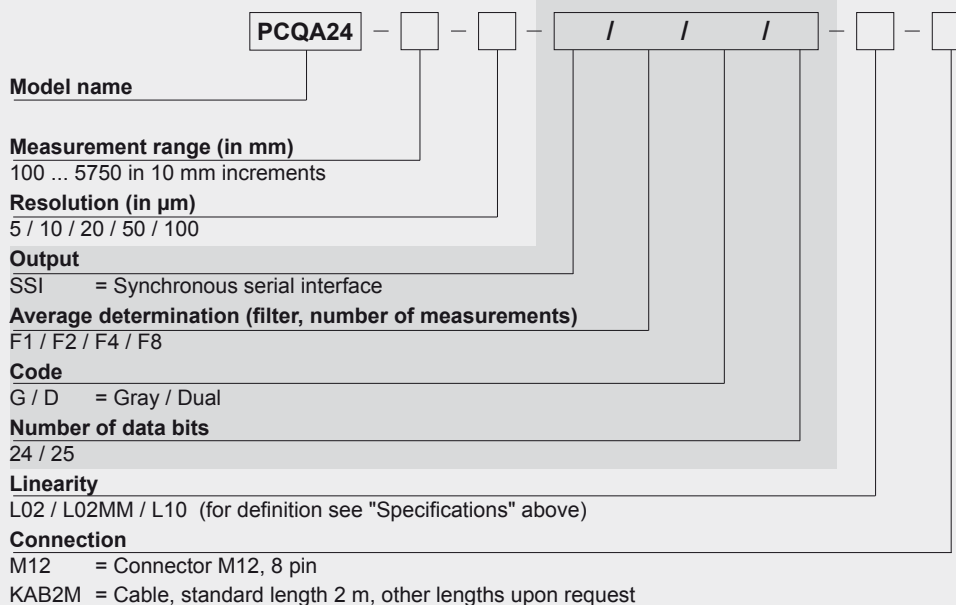
POSICHRON® position sensor in square profile

- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wire-free position magnet
- Contact-free
- Also available with guided position magnet
- 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 | | AlMgSi1 / Zn / V4A |
| Protection class | | IP67/69K (with mating connector only) |
| Shock | | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | | 8 pin socket / cable 2 m (standard) |
| EMC, temperature | | Refer to output specification |

Order Code PCQA24



Order code mounting set (see page 22)

PCQA-BFS1

Order code position magnet/slider (see page 23)

PCMAG ...

Order code mating connecting cable (see page 77)

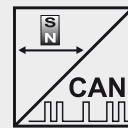
KAB-...M-M12/8F/G-LITZE

Order example: PCQA24 - 2500 - 10 - SSI/F8/G/24 - L10 - M12



POSICHRON® position sensor in square profile

- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wire-free position magnet
- Contact-free
- Also available with guided position magnet
- 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 | | AlMgSi1 / Zn / V4A |
| Protection class | | IP67/69K (with mating connector only) |
| Shock | | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | | 5 pin socket M12 |
| EMC, temperature | | Refer to output specification |

Order Code PCQA24

Model name PCQA24 - - - -

Measurement range (in mm)
100 ... 5750 in 10 mm increments
Other ranges on request

Output
CANOP = CANopen bus
CANOP/RT = CANopen bus with integrated terminating resistor
CANJ1939 = CAN SAE J1939

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

Connection
M12A5 = Connector M12, 5 pin

Order code mounting set (see page 22)

PCQA-BFS1

Order code position magnet/slider (see page 23)

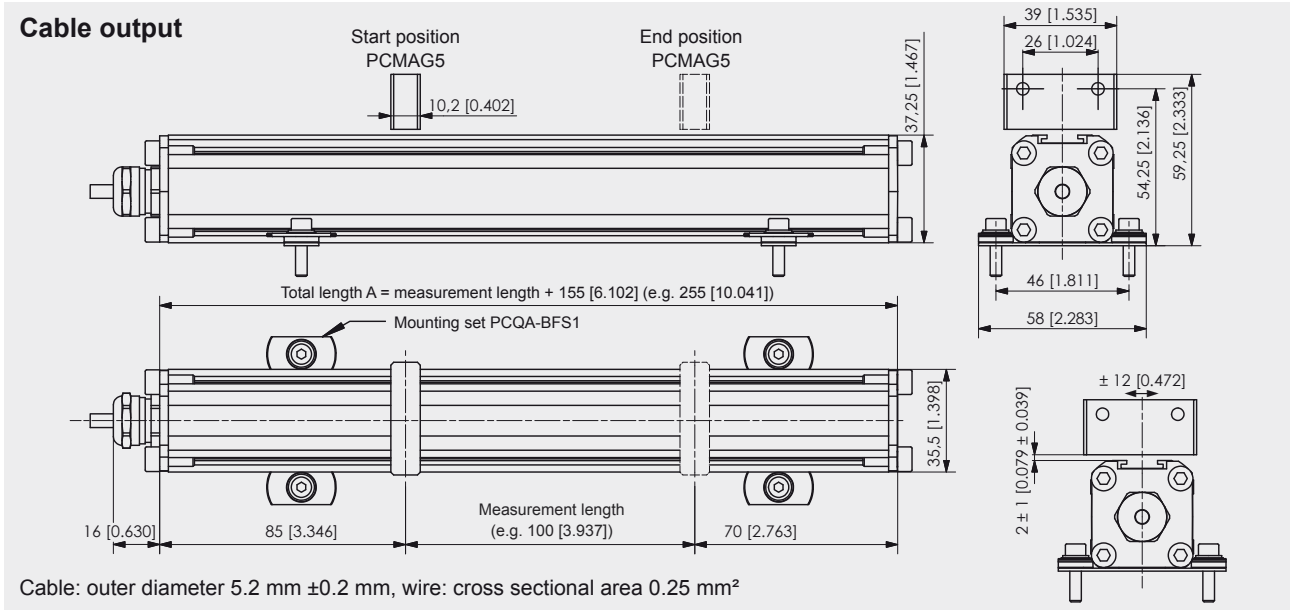
PCMAG ...

Order code bus cable (see page 79)

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

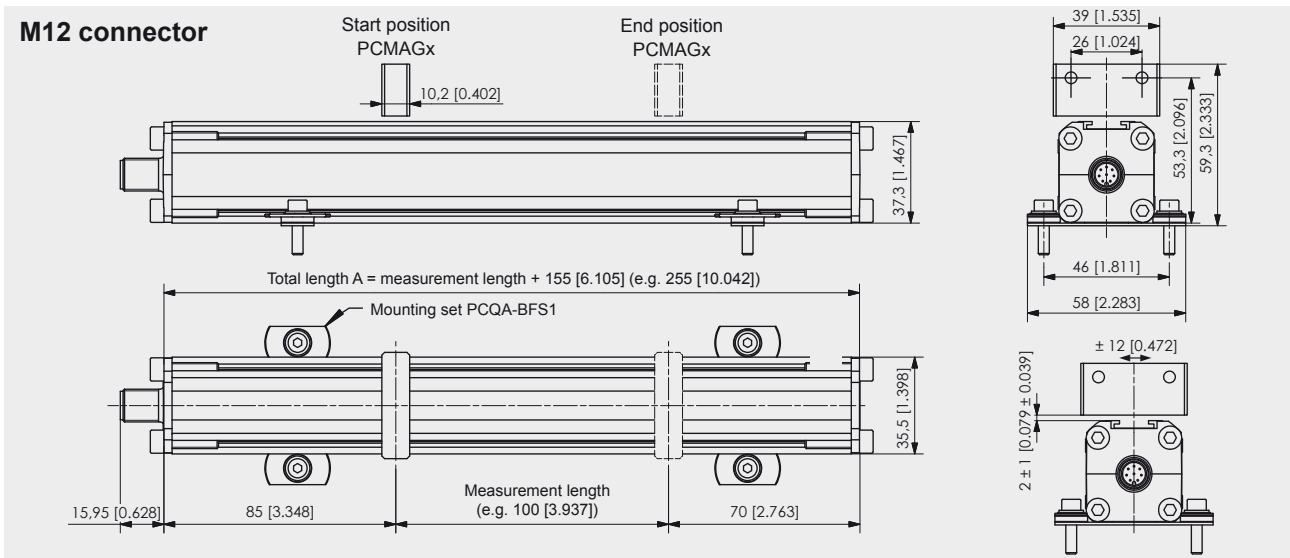
Order example: PCQA24 - 1000 - CANOP - L10 - M12A5

POSICHRON[®] PCQA24 Square Profile Housing

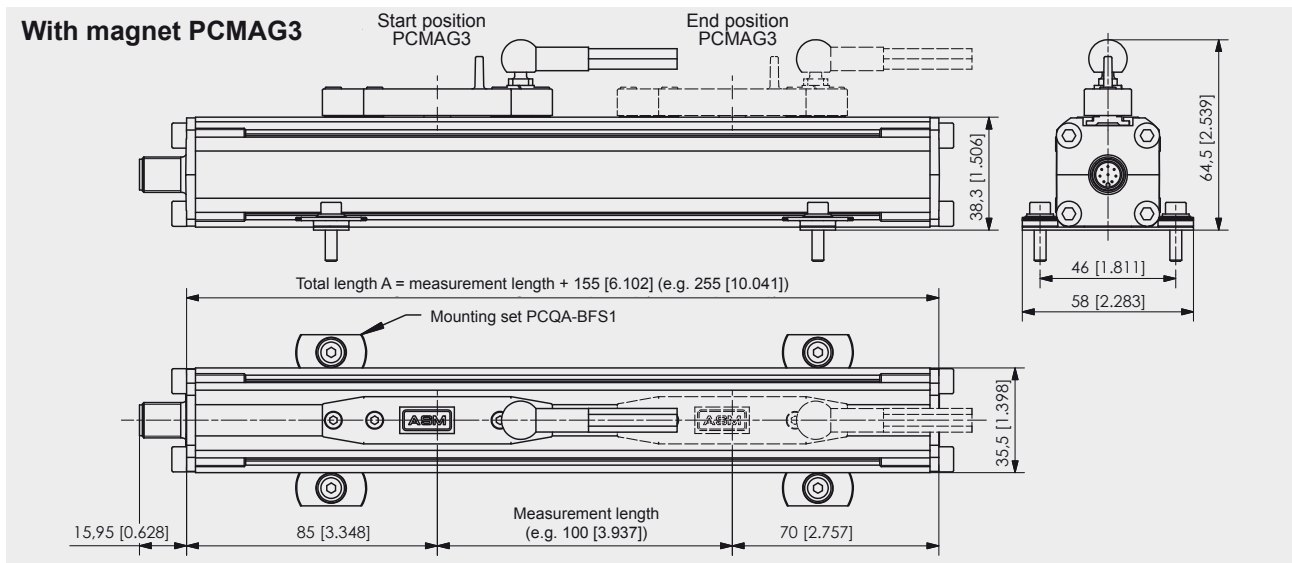


Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



POSICHRON[®]
PCQA24
Square Profile Housing



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



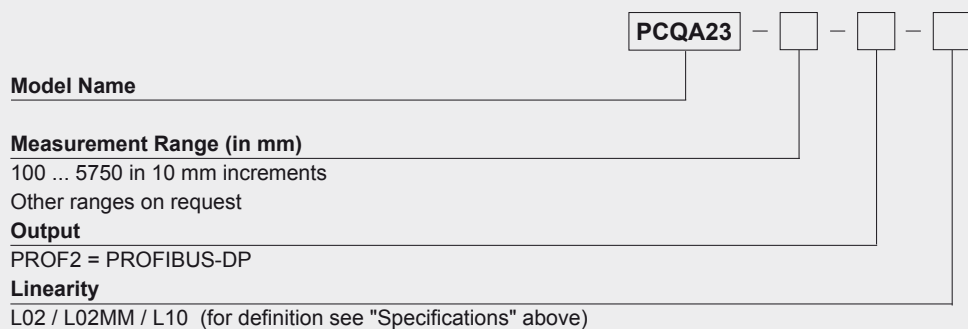
POSICHRON® position sensor in square profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wire-free position magnet
- Contact-free
- Also available with guided position magnet
- Multi-magnet operation
- Output PROFIBUS-DP



| | | |
|-----------------------|-------------------------------|--|
| Specifications | Output | PROFIBUS Profile for encoders, class 2 |
| | Resolution | Measurement increments of 5 ... 1000 µm |
| | Measurement response time | 0.75 to 3.5 ms, depending on the measurement range, number of position magnets, preset function |
| | 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 |
| | Measurement direction | Adjustable |
| | Number of position magnets | 1 ... 4 |
| | Housing material | AlMgSi1 / Zn / V4A |
| | Protection class | IP64 (with mating connectors only) |
| | Shock | EN60068-2-27:1993, 50 g/11 ms, 100 shocks |
| | Vibration | EN60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| | Connection | 2 x connector M12 round, 5 pin, B-coded 1 x connector M8 round, 3 pin |
| EMC, temperature | Refer to output specification | |

Order Code PCQA23



Order code mounting set (see page 22)

PCQA-BFS1

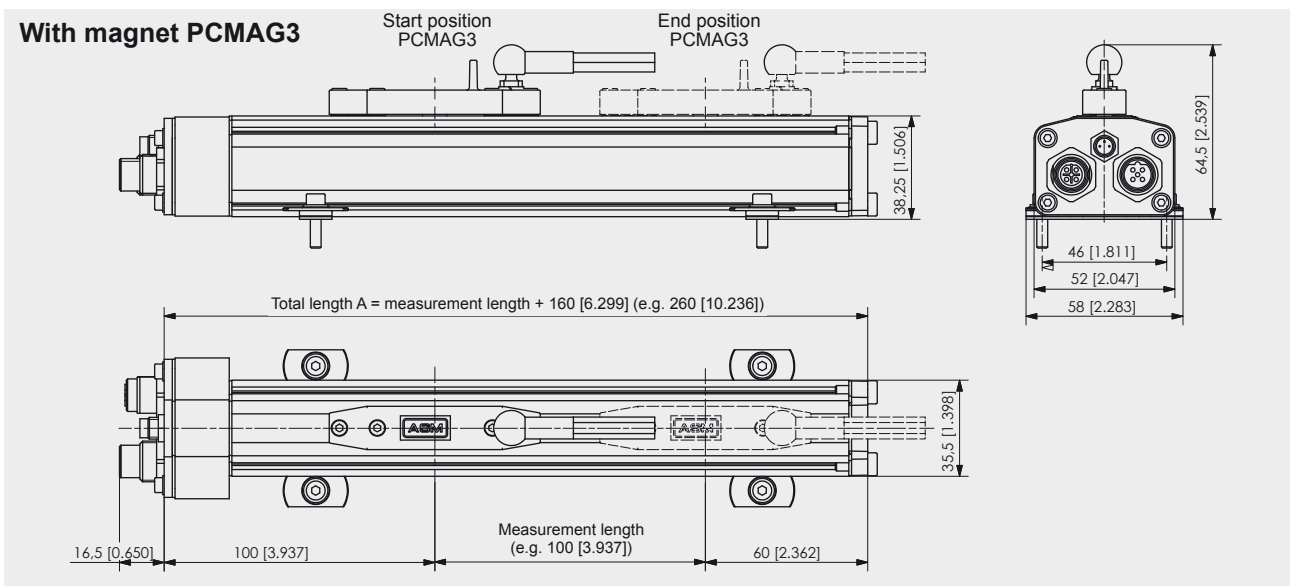
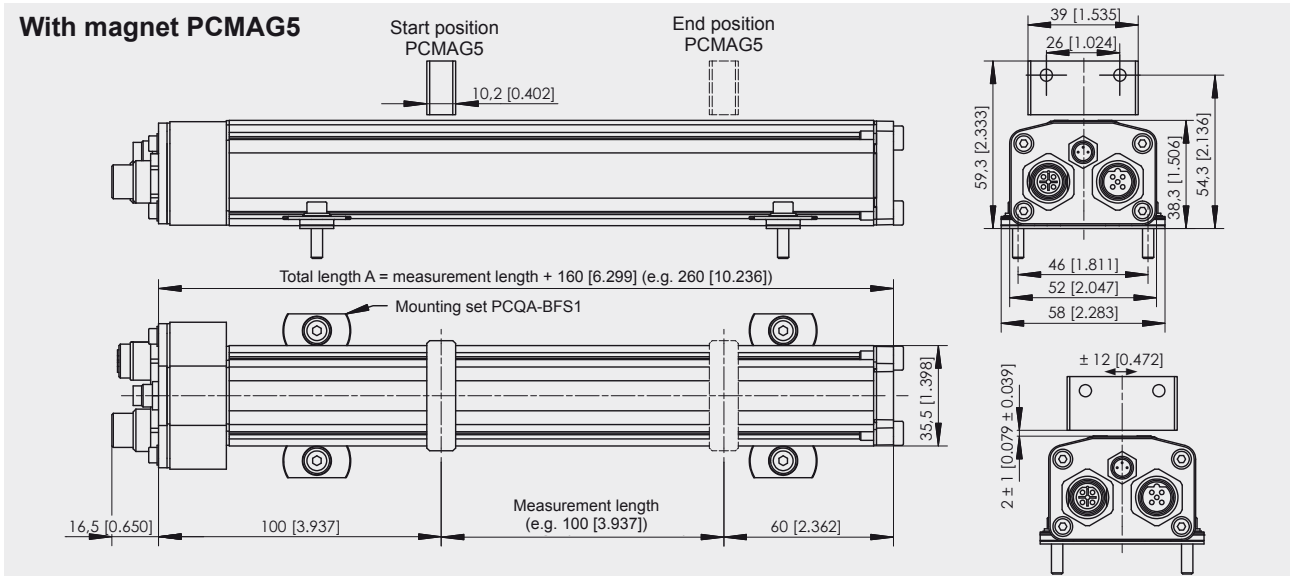
Order code position magnet (see page 23)

PCMAG ...

Order code mating cable set (see page 79)

KABS...-PCQA23-PROF-...M-LITZE

Order example: PCQA23 - 2000 - PROF2 - L02

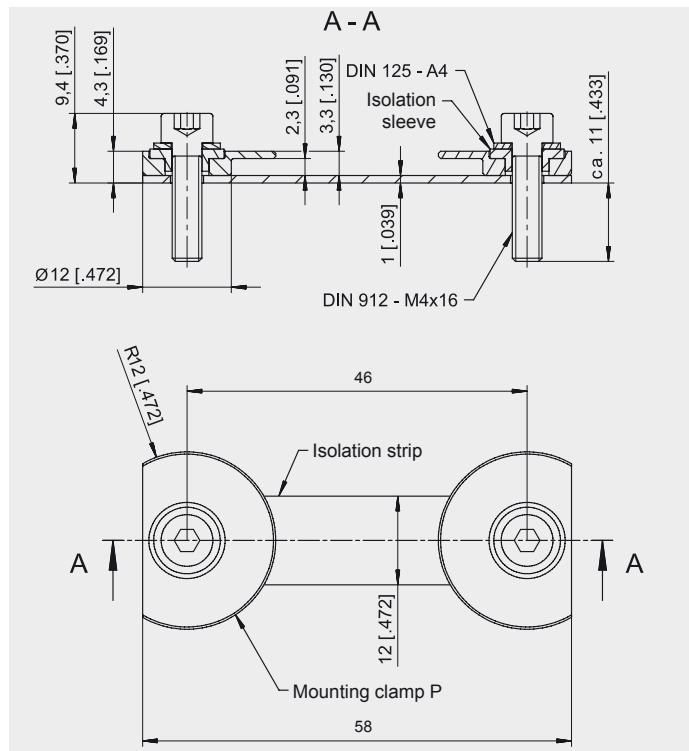


Dimensions in mm [inch]

Dimensions informative only.

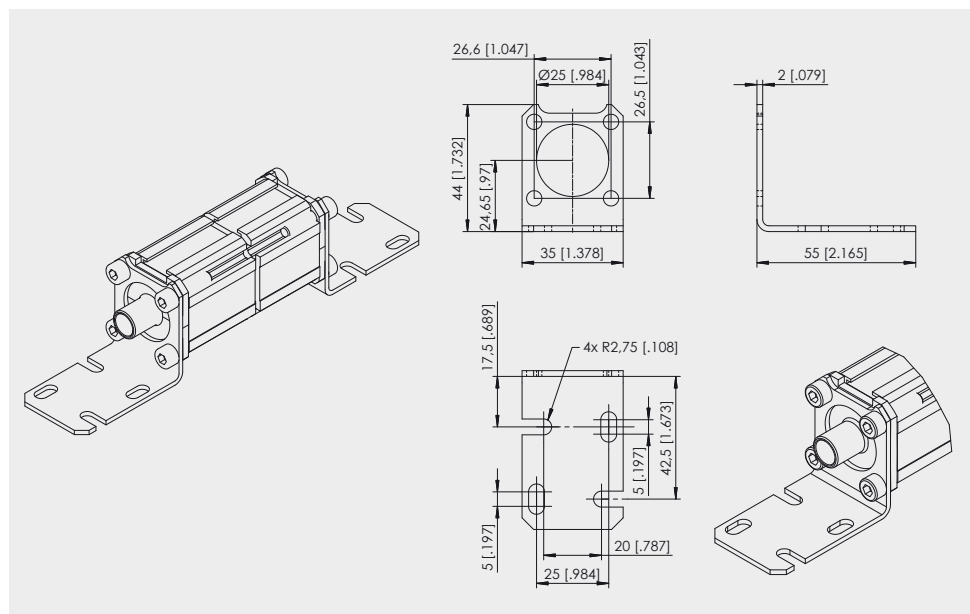
For guaranteed dimensions consult factory.

**Mounting set
 PCQA-BFS1 with
 mounting clamps**



**Option -BFW
 Mounting brackets
 for PCQA22 and
 PCQA24**

Note: The option -BFW can only be ordered with a new sensor, not separately! Applicable for sensor lengths up to 1000 mm.



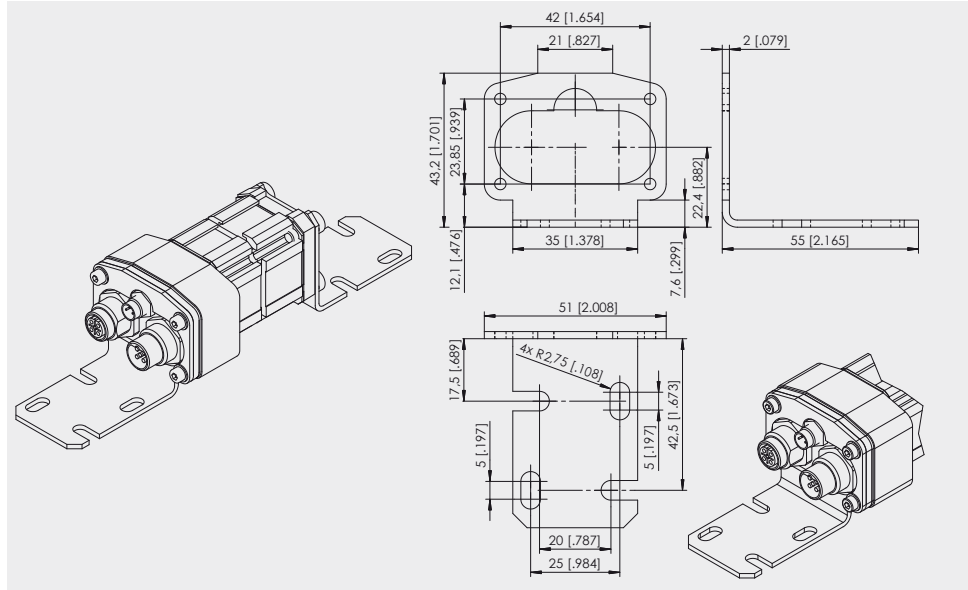
Dimensions in mm [inch]
 Dimensions informative only.
 For guaranteed dimensions consult factory.

Order example: PCQA24 - 1000 - STSP - L10 - M12 - BFW

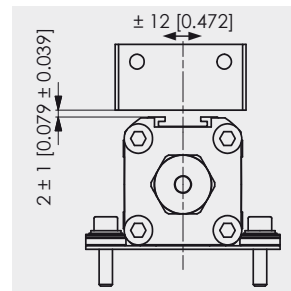
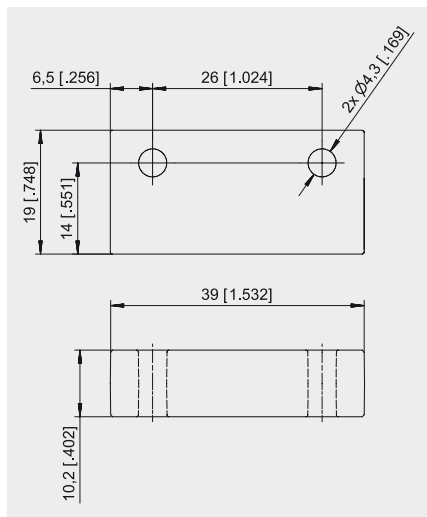
POSICHRON®
PCQA
Mounting Sets - Magnets



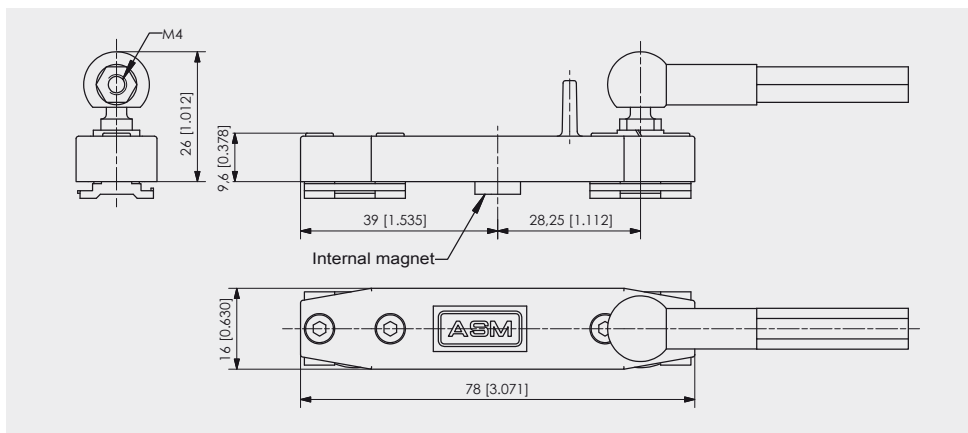
Option -BFW
Mounting brackets
for PCQA23



PCMAG5
Standard magnet



PCMAG3
Guided magnet
slider with internal
position magnet



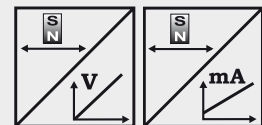
Dimensions in mm [inch]

Dimensions informative only.
 For guaranteed dimensions consult factory.



**POSICHRON® position sensor
Only 12 mm height and 36 mm width**

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contact-free
- Analog output
- Redundant version:
combination of 2 sensors
side by side



| Specifications | Output | Voltage Current |
|------------------|--|-------------------------------|
| | Resolution | Refer to output specification |
| 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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP64 | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 4 pin socket M8 / cable 2 m (standard) | |
| EMC, temperature | Refer to output specification | |

Order code mounting set (see page 34)

Order code position magnet (see page 35)

Order code connection cable (see page 78)

PCFP23-BFS1

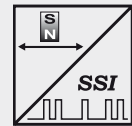
PCMAG5

KAB-...M-M8/4F/G-LITZE



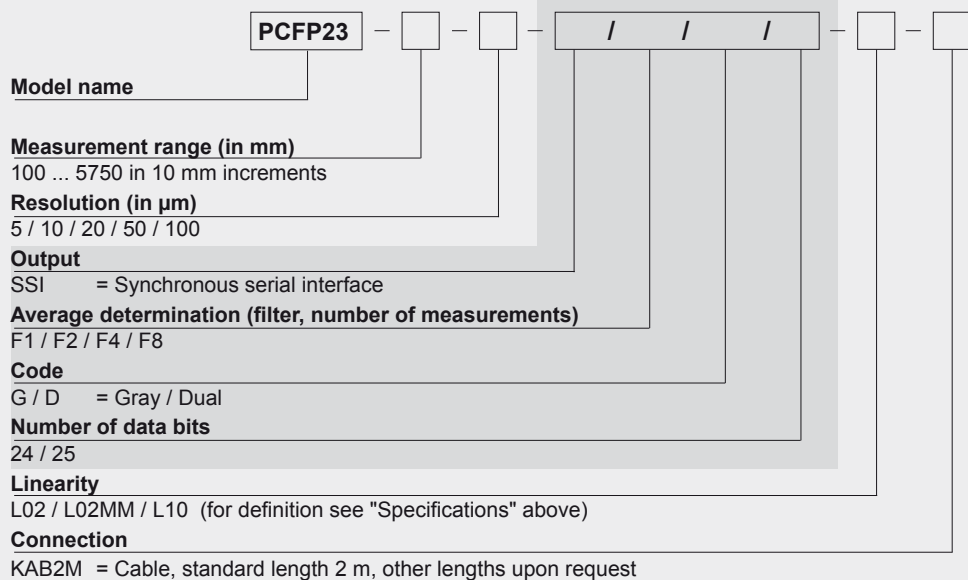
POSICHRON® position sensor with only 12 mm height and 43 mm width

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contact-free
- Large guiding tolerance
- Synchronous serial interface (SSI)
- Redundant version: combination of 2 sensors side by side



| Specifications | Output | Synchronous serial (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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP64 | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | Cable 2 m (standard) | |
| EMC, temperature | Refer to output specification | |

Order Code PCFP23



Order code mounting set (see page 34)

Order code position magnet (see page 35)

PCFP23-BFS1

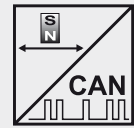
PCMAG5

Order example: PCFP23 - 2000 - 10 - SSI/F8/G/24 - L02 - KAB2M



POSICHRON® position sensor with only 12 mm height and 43 mm width

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contact-free
- Large guiding tolerance
- CANopen bus or CAN SAE J1939 output
- Redundant version: combination of 2 sensors side by side



| | | |
|-----------------------|-------------------------------|--|
| 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 | AlMgSi1 / Zn / V4A |
| | Protection class | IP64 |
| | Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| | Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| | Connection | Cable 0,3 m with 5-pin connector M12 |
| EMC, temperature | Refer to output specification | |

Order Code PCFP23



Model name

Measurement range (in mm)

100 ... 5750 in 10 mm increments
Other ranges on request

Output

- CANOP = CANopen bus
- CANOP/RT = CANopen bus with integrated terminating resistor
- CANJ1939 = CAN SAE J1939

Linearity

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

Connection

KAB0,3M-M12/CAN = Cable (length 0.3 m) with 5-pin M12 connector

Order code mounting set (see page @@)

PCQA-BFS1

Order code position magnet (see page @@)

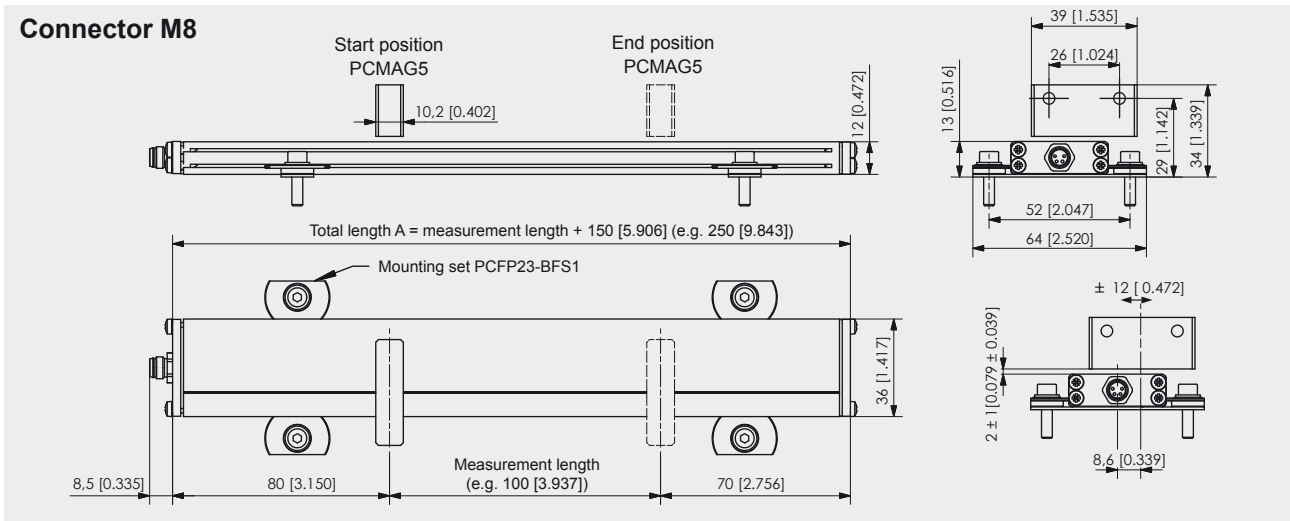
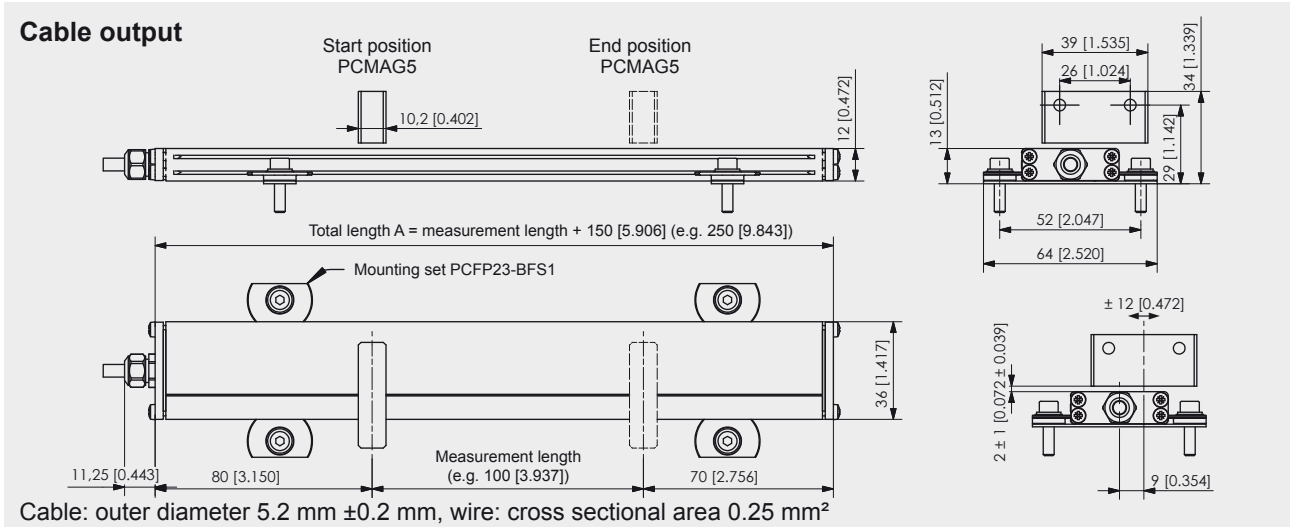
PCMAG ...

Order code bus cable (see page 79)

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

Order example: PCFP23 - 1000 - CANOP - L10 - KAB0,3M-M12/CAN

POSICHRON®
PCFP23
Flat Profile Housing



Dimensions in mm [inch]

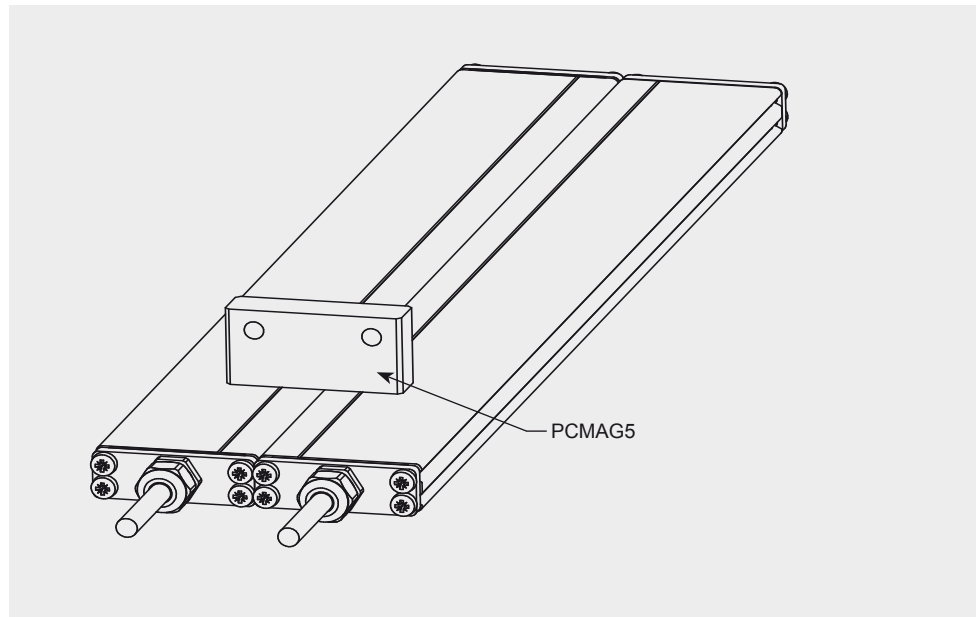
Dimensions informative only.

For guaranteed dimensions consult factory.

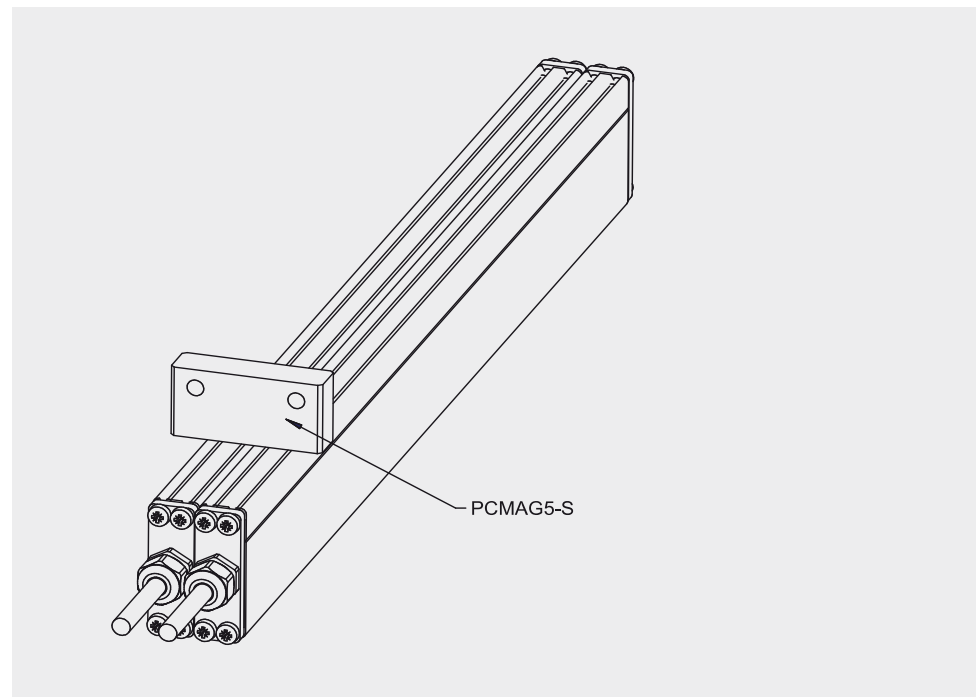
POSICHRON®
PCFP23
Redundant Version with 2 Sensors

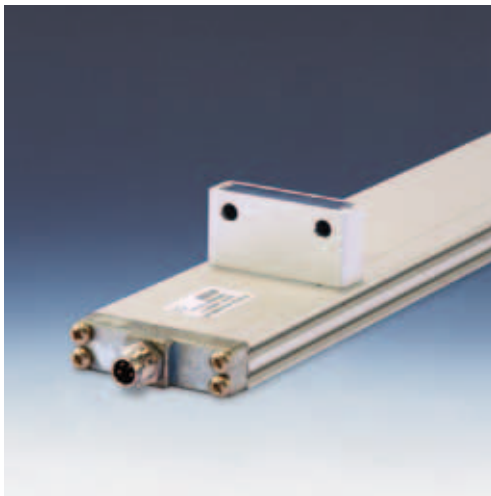


**Horizontal
arrangement**



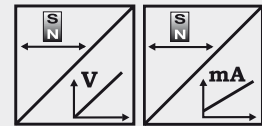
**Vertical
arrangement**





POSICHRON® position sensor
Only 12 mm height and 43 mm width

- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contact-free
- Large guiding tolerance
- Analog output



| Specifications | Output | Voltage Current |
|------------------|--|-------------------------------|
| | Resolution | Refer to output specification |
| 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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP67/69K (with IP67/69K mating connector only) | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 4 pin socket M8 / cable output 3 m | |
| EMC, temperature | Refer to output specification | |

Order code mounting set (see page 35)

Order code position magnet (see page 35)

Order code mating connecting cable (see page 78)

PCFP24-BFS1

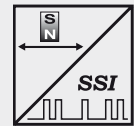
PCMAG5

KAB-...M-M8/4F/G-LITZE



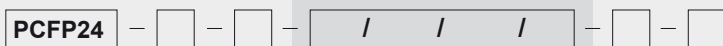
POSICHRON® position sensor
Only 12 mm height and 43 mm width

- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contact-free
- Large guiding tolerance
- Synchronous serial interface (SSI)



| | | |
|-----------------------|-------------------------------|--|
| Specifications | Output | Synchronous serial (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 | AlMgSi1 / Zn / V4A |
| | Protection class | IP67/69K (with IP67/69K mating connector only) |
| | Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| | Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| | Connection | Cable output 2 m |
| EMC, temperature | Refer to output specification | |

Order Code PCFP24



Model name

Measurement range (in mm)
 100 ... 5750 in 10 mm increments

Resolution (in µm)
 5 / 10 / 20 / 50 / 100

Output
 SSI = Synchronous serial interface

Average determination (filter, number of measurements)
 F1 / F2 / F4 / F8

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 mounting set (see page 35)

PCFP24-BFS1

Order code position magnet (see page 35)

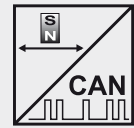
PCMAG5

Order example: PCFP24 - 2000 - 5 - SSI/F8/G/24 - L02 - KAB2M



POSICHRON® position sensor with only 12 mm height and 43 mm width

- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contact-free
- Large guiding tolerance
- CANopen bus or CAN SAE J1939 output
- Redundant version: combination of 2 sensors side by side



| 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 | | AlMgSi1 / Zn / V4A |
| Protection class | | IP64 |
| Shock | | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | | Cable 0,3 m with 5-pin connector M12 |
| EMC, temperature | | Refer to output specification |

Order Code PCFP24



Model name

Measurement range (in mm)

100 ... 5750 in 10 mm increments
Other ranges on request

Output

- CANOP = CANopen bus
- CANOP/RT = CANopen bus with integrated terminating resistor
- CANJ1939 = CAN SAE J1939

Linearity

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

Connection

KAB0,3M-M12/CAN = Cable (length 0.3 m) with 5-pin M12 connector

Order code mounting set (see page @@)

PCQA-BFS1

Order code position magnet (see page @@)

PCMAG ...

Order code bus cable (see page 79)

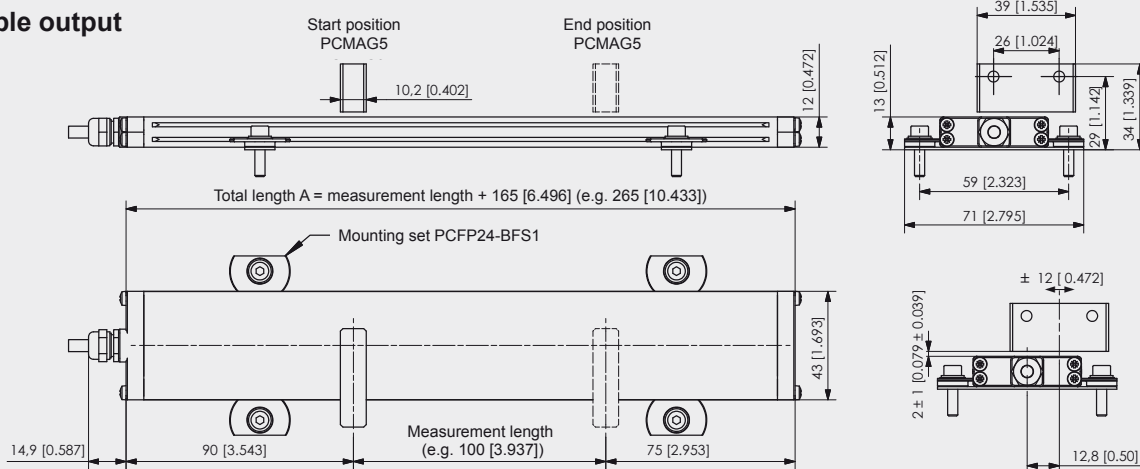
KAB-...M-M12/5F/G-M12/5M/G

Order example: PCFP24 - 1000 - CANOP - L10 - KAB0,3M-M12/CAN

POSICHRON[®] PCFP24 Flat Profile Housing

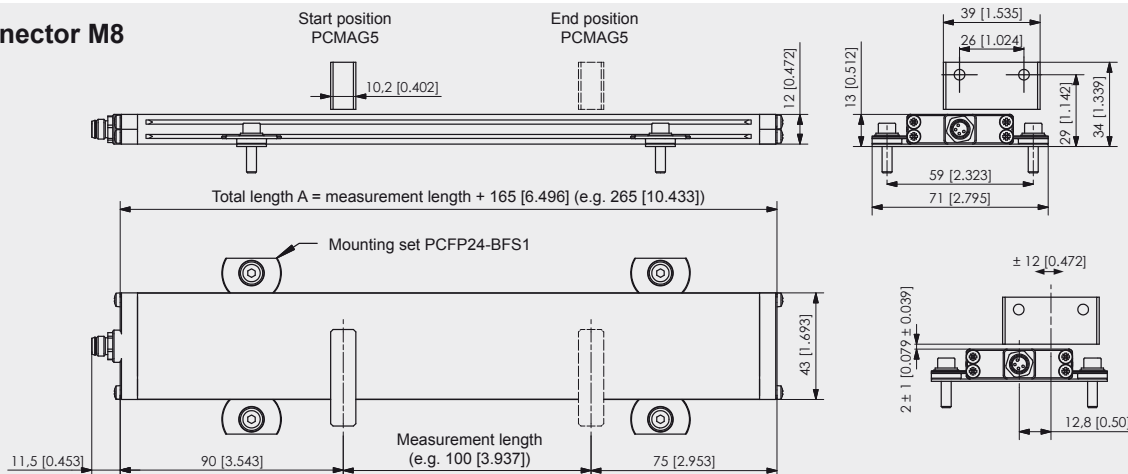


Cable output



Cable: outer diameter 5.2 mm ± 0.2 mm, wire: cross sectional area 0.25 mm²

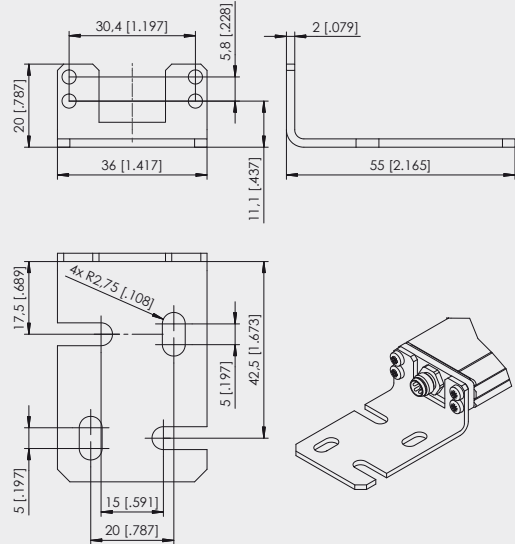
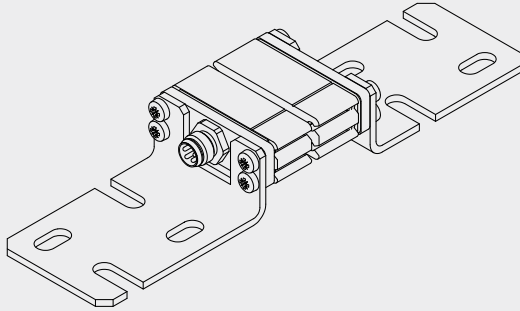
Connector M8



**Option -BFW
Mounting brackets**

Note: The option -BFW can only be ordered with a new sensor, not separately! Applicable for sensor lengths up to 1000 mm.

For PCFP23



Dimensions in mm [inch]

Dimensions informative only.

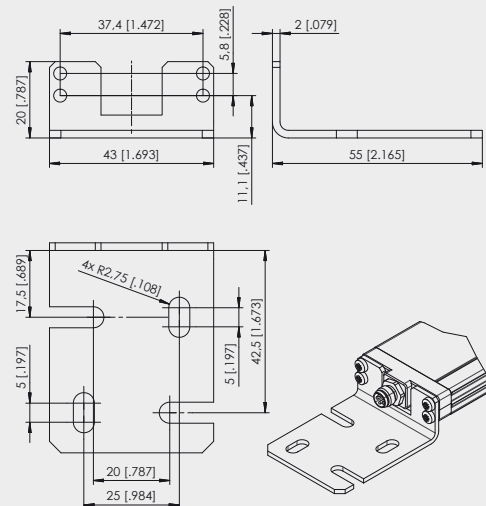
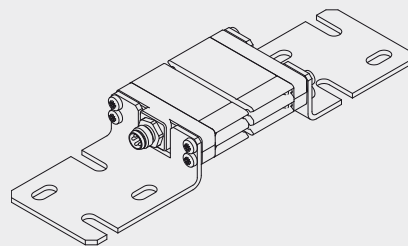
For guaranteed dimensions consult factory.

Order example: PCFP23 - 1000 - STSP - L02 - M8 - BFW

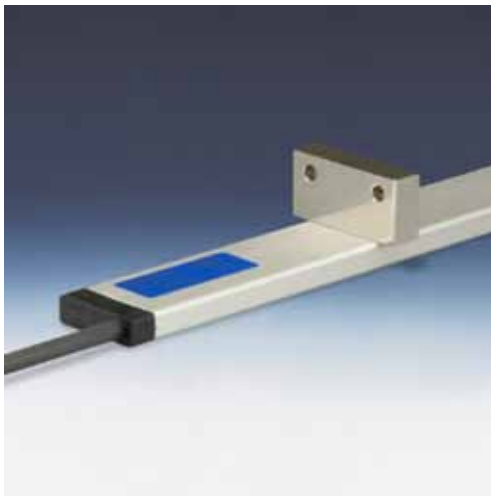
**Option -BFW
Mounting brackets**

Note: The option -BFW can only be ordered with a new sensor, not separately! Applicable for sensor lengths up to 1000 mm.

For PCFP24

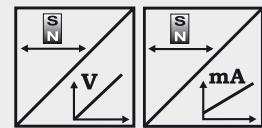


Order example: PCFP24 - 1000 - STSP - L02 - M8 - BFW



Ultra flat POSICHRON® position sensor

- Only 8 mm high and 28 mm wide
- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5500 mm
- Absolute position measurement
- No power supply for the position magnet
- Absolutely wear and maintenance free
- Wide variety of mounting
- Analog output



| Specifications | Output | Voltage Current 4 ... 20 mA |
|------------------|--|--------------------------------|
| | Resolution | Refer to output specification |
| 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 | ±0.1 mm, other values on request | |
| Material | AlMgSi1 and plastic | |
| Protection class | IP64 | |
| Connection | Cable, standard length 2 m | |
| Shock | EN 60068-2-27:1993, 50 g/11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| EMC, temperature | Refer to output specification | |

Order code mounting set (see page 41)

Order code position magnet (see page 41)

PCFP25-BFS1

PCMAG5

Order Code PCFP25

**1 or 2 channel,
configurable**

PCFP25

Model name

Measurement range (in mm)

100 ... 5500 in 10 mm increments

Output

U2 = 0.5 ... 10 V signal conditioner

U2/U, U2/H = U2 with AlarmLOW, U2 with AlarmHOLD (see page 77)

U8 = 0.5 ... 4.5 V signal conditioner

I1 = 4 ... 20 mA signal conditioner (3 wire)

I1/U, I1/H = I1 with AlarmLOW, I1 with AlarmHOLD (see page 77)

Function and characteristics output 1

P1A = Position magnet 1, increasing

P1D = Position magnet 1, decreasing

PMU = Start value, direction & end value adjustable by the customer (1 channel only)

DA = Difference magnet 1/2, increasing (2 magnets required)

DD = Difference magnet 1/2, decreasing (2 magnets required)

Function and characteristics output 2 (option)

P2A = Position magnet 2, increasing

P2D = Position magnet 2, decreasing

DA = Difference magnet 1/2, increasing

DD = Difference magnet 1/2, decreasing

} 2 magnets required

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

1. Order example: PCFP25 - 1000 - U2 - P1D - L10 - KAB2M

Flat profile, measurement range 1000 mm, 1 voltage output 0.5 ... 10 V (U2)

Output 1: Position magnet 1, decreasing signal (P1D)

Output 2: Not used

2. Order example: PCFP25 - 1000 - I1 - P1A - P2D - L10 - KAB2M

Flat profile, measurement range 1000 mm, 2 current outputs 4 ... 20 mA (I1)

Output 1: Position magnet 1, increasing signal (P1A)

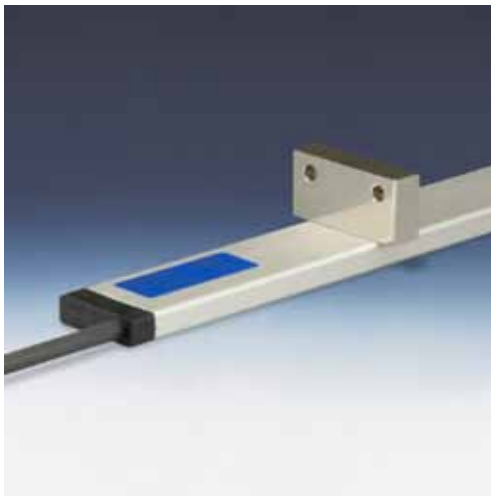
Output 2: Position magnet 2, decreasing signal (P2D)

3. Order example: PCFP25 - 1000 - U2 - P1A - VZ1.0 - L10 - KAB2M

Flat profile, measurement range 1000 mm, 2 voltage outputs 0.5 ... 10 V (U2)

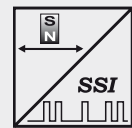
Output 1: Position magnet 1, increasing signal (P1A)

Output 2: Velocity magnet 1, -1 m/s ... 1 m/s for range 0.5 ... 10 V (VZ1.0)



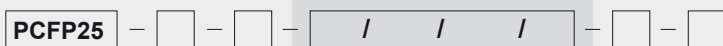
Ultra flat POSICHRON® position sensor

- Only 8 mm high and 28 mm wide
- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5500 mm
- Absolute position measurement
- No power supply for the position magnet
- Absolutely wear and maintenance free
- Wide variety of mounting
- Synchronous serial interface (SSI)



| | | |
|-----------------------|-------------------------------|--|
| Specifications | Output | Synchronous serial (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 | AlMgSi1 and plastic |
| | Protection class | IP67/69K (with IP67/69K mating connector only) |
| | Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| | Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| | Connection | Cable output 2 m |
| EMC, temperature | Refer to output specification | |

Order Code PCFP25



Model name

Measurement range (in mm)

100 ... 5750 in 10 mm increments

Resolution (in µm)

5 / 10 / 20 / 50 / 100

Output

SSI = Synchronous serial interface

Average determination (filter, number of measurements)

F1 / F2 / F4 / F8

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

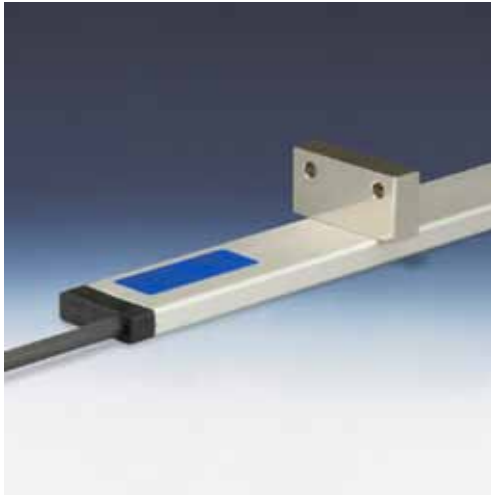
Order code mounting set (see page 35)

PCFP24-BFS1

Order code position magnet (see page 35)

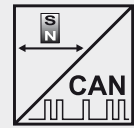
PCMAG5

Order example: PCFP25 - 2000 - 5 - SSI/F8/G/24 - L10 - KAB2M



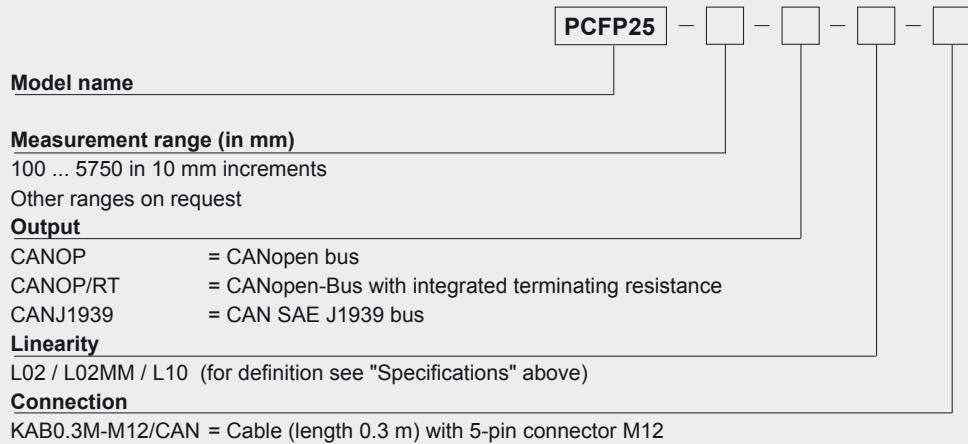
Ultra flat POSICHRON® position sensor

- Only 8 mm high and 28 mm wide
- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5500 mm
- Absolute position measurement
- No power supply for the position magnet
- Absolutely wear and maintenance free
- Wide variety of mounting
- 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 | AlMgSi1 and plastic |
| | Protection class | Up to IP65 (with mating connector only) |
| | Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| | Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| | Connection | Cable (length 0.3 m) with 5-pin connector M12 |
| EMC, temperature | Refer to output specification | |

Order Code PCFP25



Order code mounting set (see page 35)

PCFP25-BFS1

Order code position magnet (see page 47)

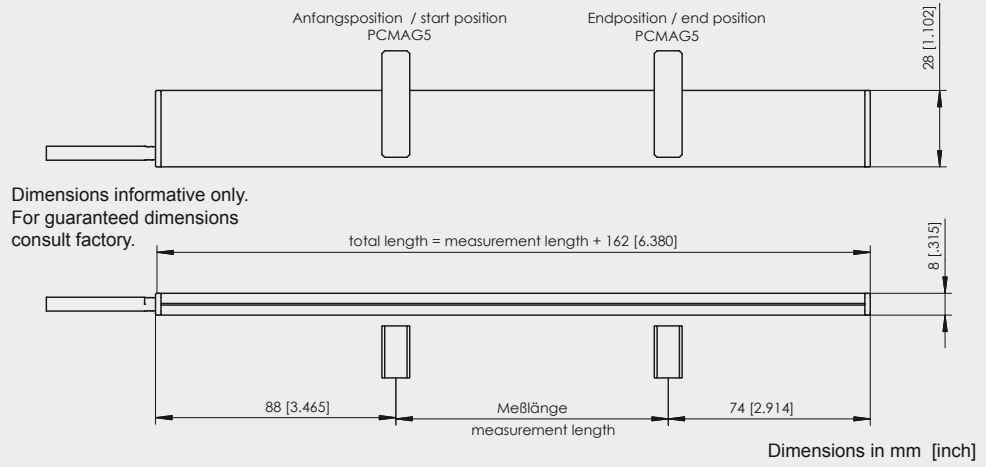
PCMAG5

Order code bus cable (see page 83)

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

Order example: PCFP25 - 2000 - CANOP - L10 - KAB0,3M-M12/CAN

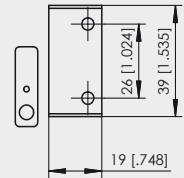
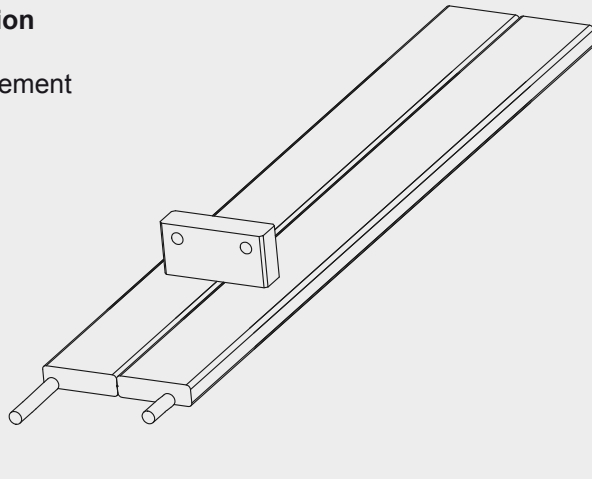
Outline drawing



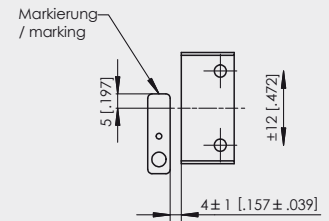
Dimensions informative only.
 For guaranteed dimensions
 consult factory.

Redundant version

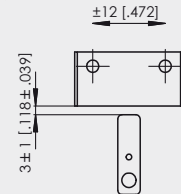
Horizontal arrangement



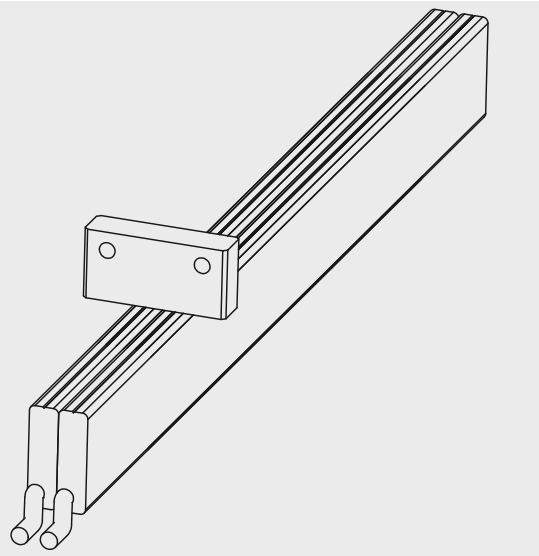
Dimensions in mm [inch]



alternative Magnetanordnung
 / alternative magnet position



Vertical arrangement

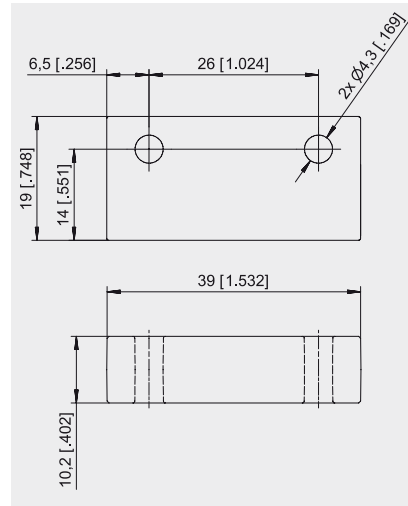
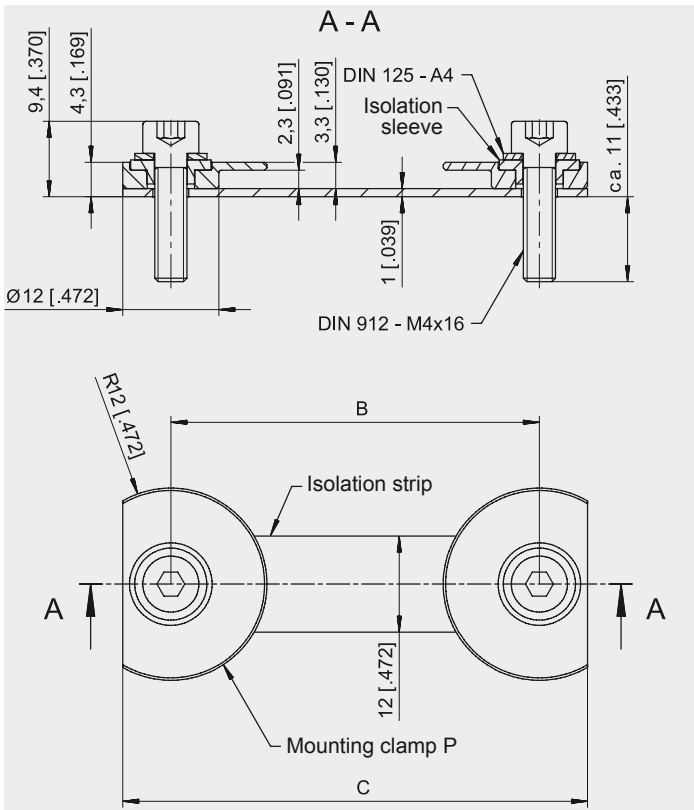


POSICHRON® PCFP Mounting Sets - Magnets



**Mounting set
PCFP23-BFS1 and
PCFP24-BFS1**

**PCMAG5
Standard magnet**

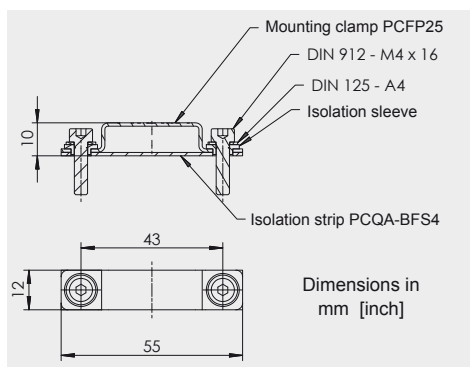


Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

| Dimensions BFS1 | POSICHRON Model | Dim. B [mm] | Dim. C [mm] |
|-----------------|-----------------|-------------|-------------|
| | PCFP23 | 52 | 64 |
| PCFP24 | 59 | 71 | |

**Mounting set
PCFP25-BFS1**

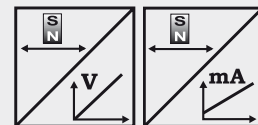


Dimensions in
mm [inch]



POSICHRON® position sensor in round profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Large guiding tolerance for the positioning magnet
- Analog output



| Specifications | Output | Voltage Current |
|------------------|--|-------------------------------|
| | Resolution | Refer to output specification |
| 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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP64 (with mating connector only) | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 8 pin socket M12 / cable 2 m | |
| EMC, temperature | Refer to output specification | |

Order code mounting set (see page 52)

Order code position magnets (see page 52)

Order code mating connecting cable (see page 82)

PCRP21-BFS4

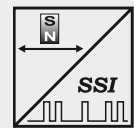
PCMAG ...

KAB-...M-M12/8F/G-LITZE



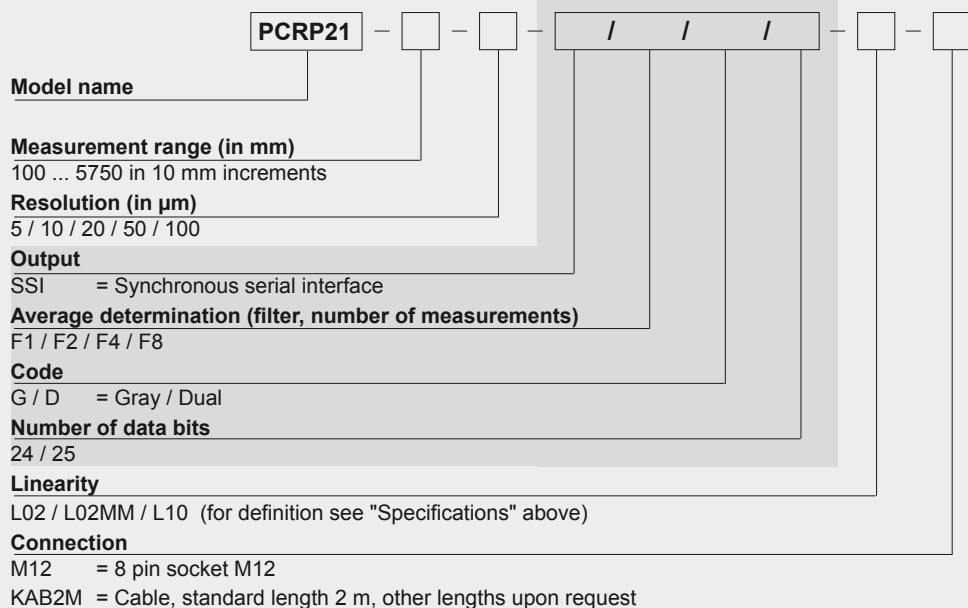
POSICHRON® position sensor in round profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Wear- and maintenance-free
- Superior shock and vibration resistance
- Large guiding tolerance for the positioning magnet
- 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 | AlMgSi1 / Zn / V4A | |
| Protection class | IP64 (with mating connector only) | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 8 pin socket M12 / cable 2 m | |
| EMC, temperature | Refer to output specification | |

Order Code PCR21



Order code mounting set (see page 47)

PCRP21-BFS4

Order code position magnets (see page 47)

PCMAG ...

Order code mating connecting cable (see page 77)

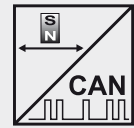
KAB-...M-M12/8F/G-LITZE

Order example: PCR21 - 1000 - 5 - SSI/F8/G/24 - L10 - M12



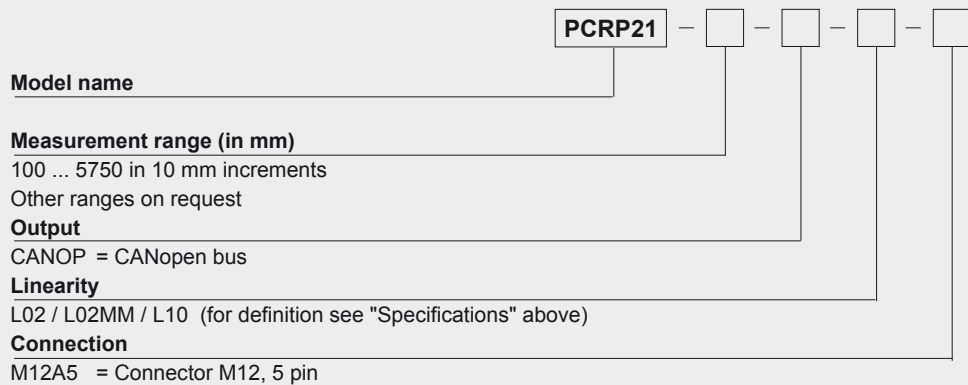
POSICHRON® position sensor in round profile

- Protection class up to IP65
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Large guiding tolerance for the positioning magnet
- CANopen bus



| Specifications | | |
|------------------|--|--|
| Output | | CANopen bus |
| 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 | | AlMgSi1 / Zn / V4A |
| Protection class | | Up to IP65 (with mating connector only) |
| Shock | | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | | 5 pin socket M12 |
| EMC, temperature | | Refer to output specification |

Order Code PCRP21



Order code mounting set (see page 47)

PCRP21-BFS4

Order code position magnet (see page 47)

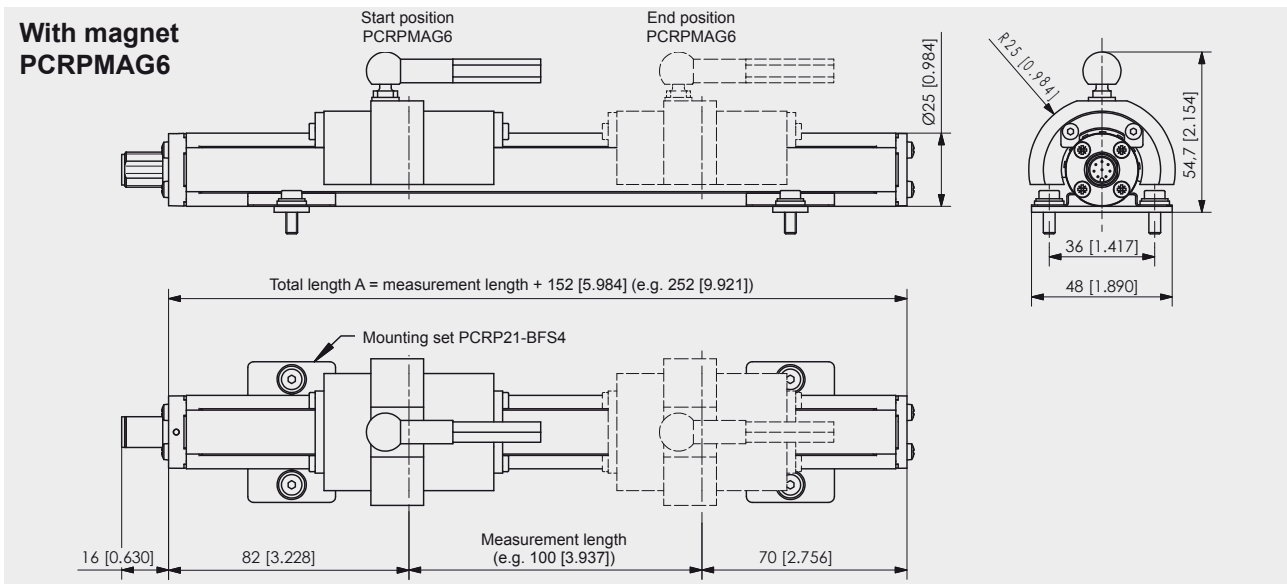
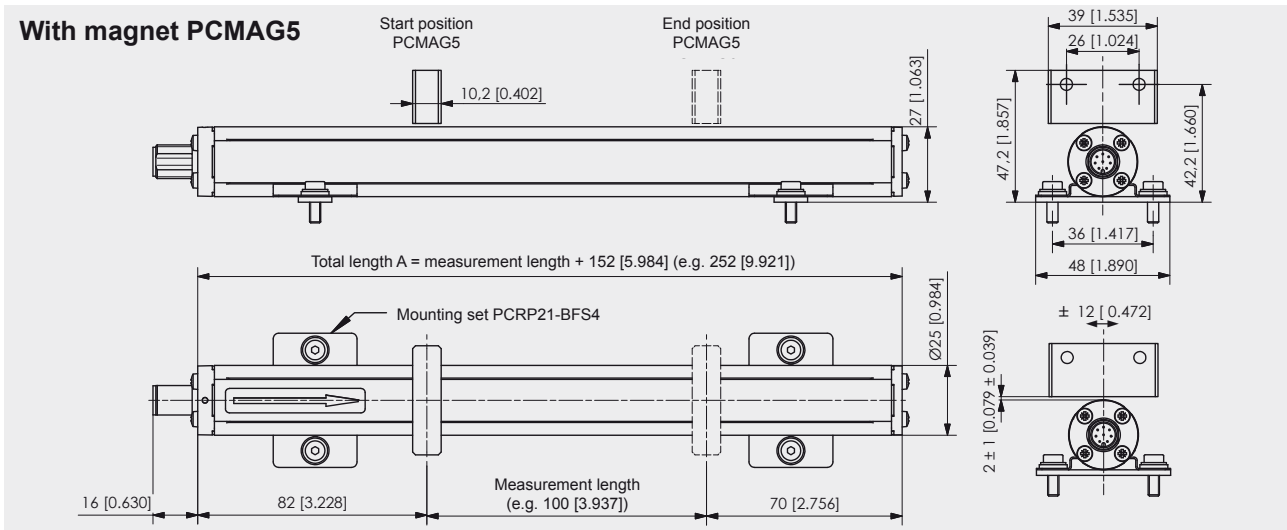
PCMAG ...

Order code bus cable (see page 79)

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

Order example: PCRP21 - 1000 - CANOP - L10 - M12A5

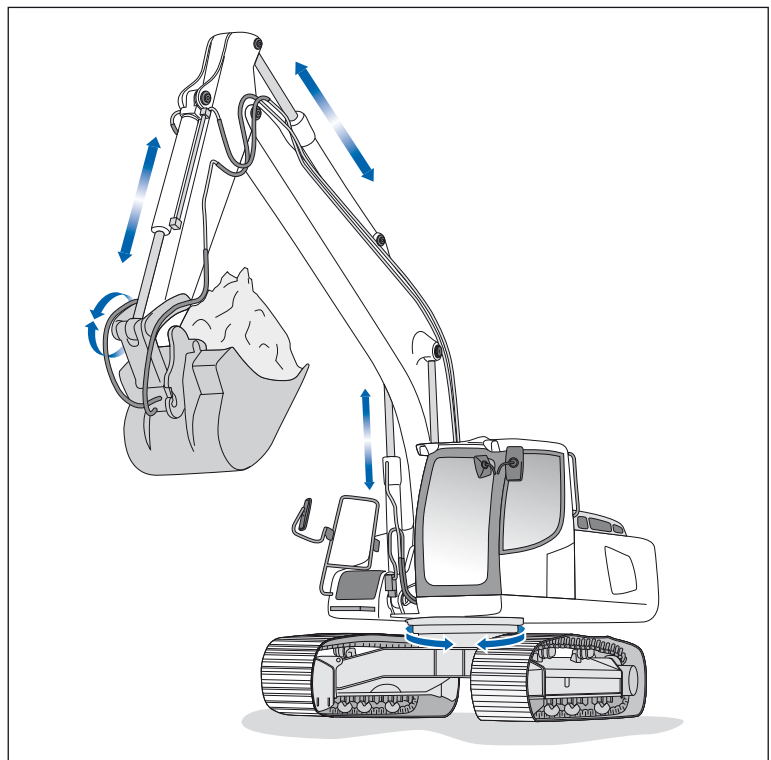
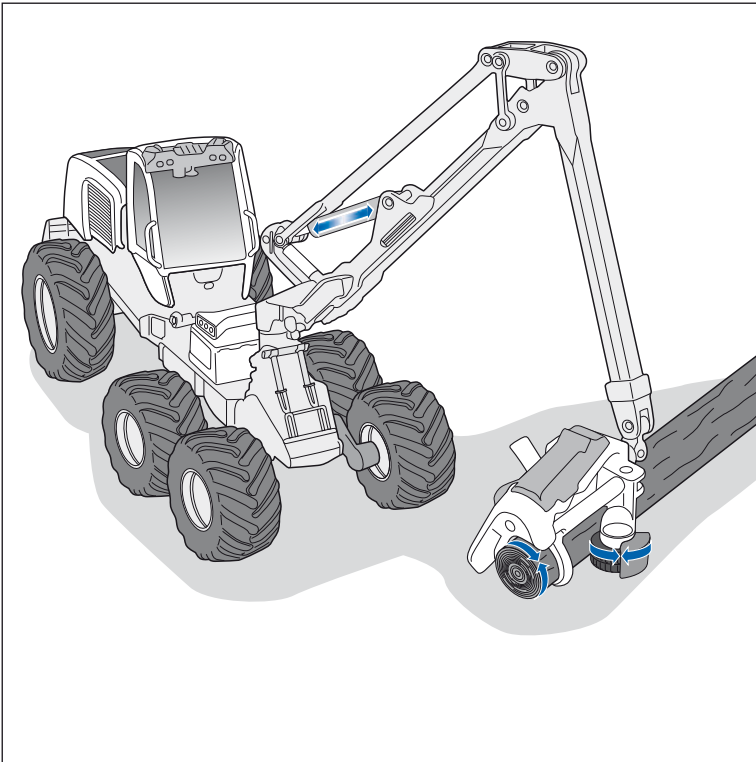
POSICHRON[®] PCRP21 Round Profile Housing



Dimensions in mm [inch]

Dimensions informative only.

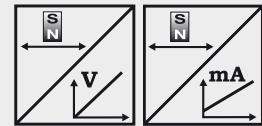
For guaranteed dimensions consult factory.





POSICHRON® position sensor in a stainless steel pressure tube

- Protection class IP67/69K, IP68
- Underwater applications, permanent pressure-proof up to 15 bar
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Seawater-proof
- Analog output



| Specifications | Output | Voltage Current |
|------------------|--|-------------------------------|
| | Resolution | Refer to output specification |
| 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 | |
| Protection class | IP68 (permanent pressure-proof up to 15 bar), IP67/69K | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | Cable 2 m | |
| EMC, temperature | Refer to output specification | |

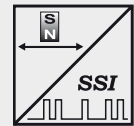
Order code position magnet (see page 47)

PCMAG5



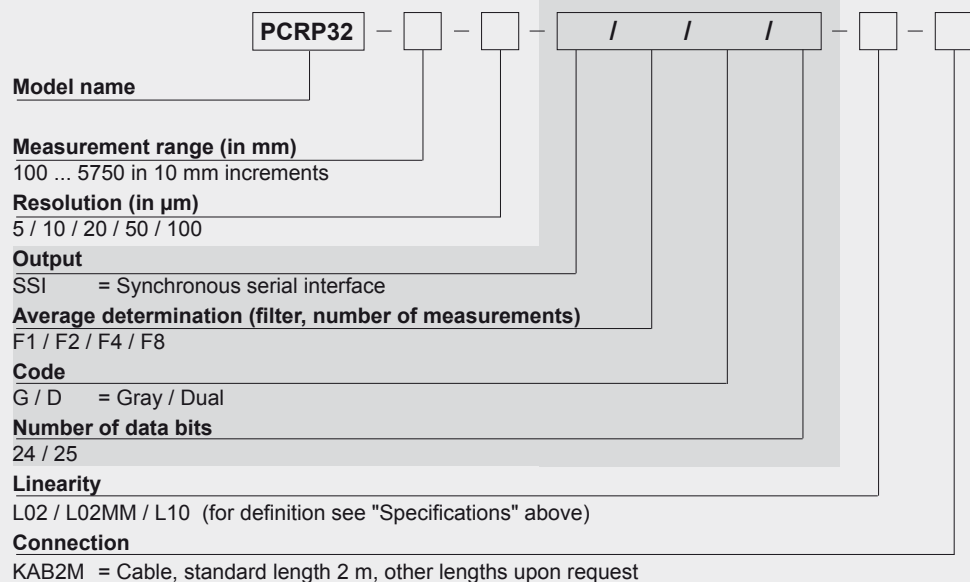
POSICHRON® position sensor in a stainless steel pressure tube

- Protection class IP67/69K, IP68
- Underwater applications, permanent pressure-proof up to 15 bar
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Seawater-proof
- Synchronous serial interface (SSI)



| Specifications | | |
|------------------|--|--|
| Output | Synchronous serial (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 | |
| Protection class | IP68 (permanent pressure-proof up to 15 bar), IP67/69K | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | Cable 2 m | |
| EMC, temperature | Refer to output specification | |

Order Code PCR32

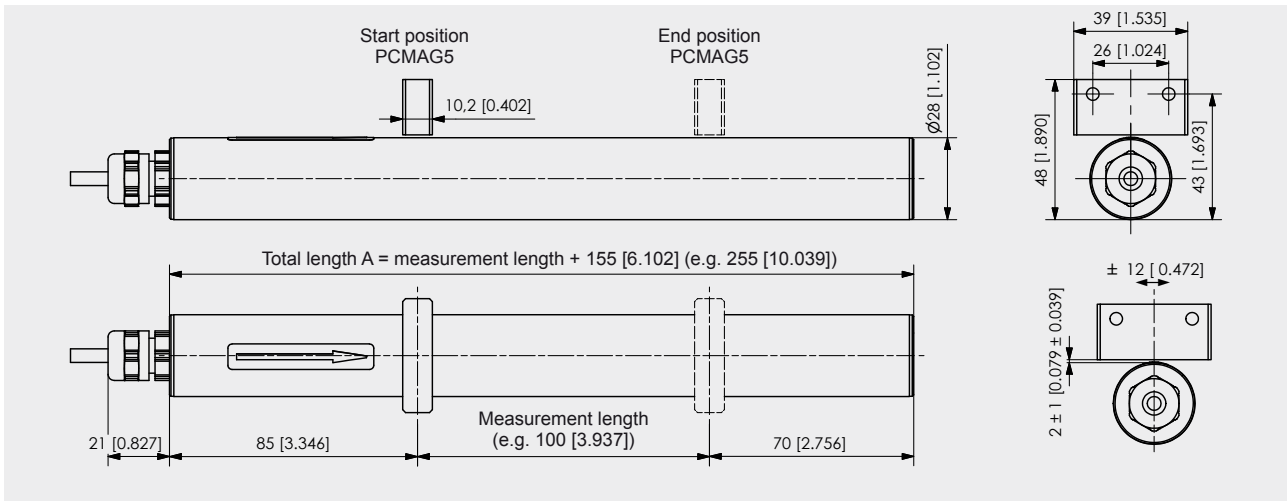


Order code position magnet (see page 47)

PCMAG5

Order example: PCR32 - 2000 - 5 - SSI/F8/G/24 - L02 - KAB2M

POSICHRON®
PCRP32
Round Profile Housing



Dimensions in mm [inch]

Dimensions informative only.

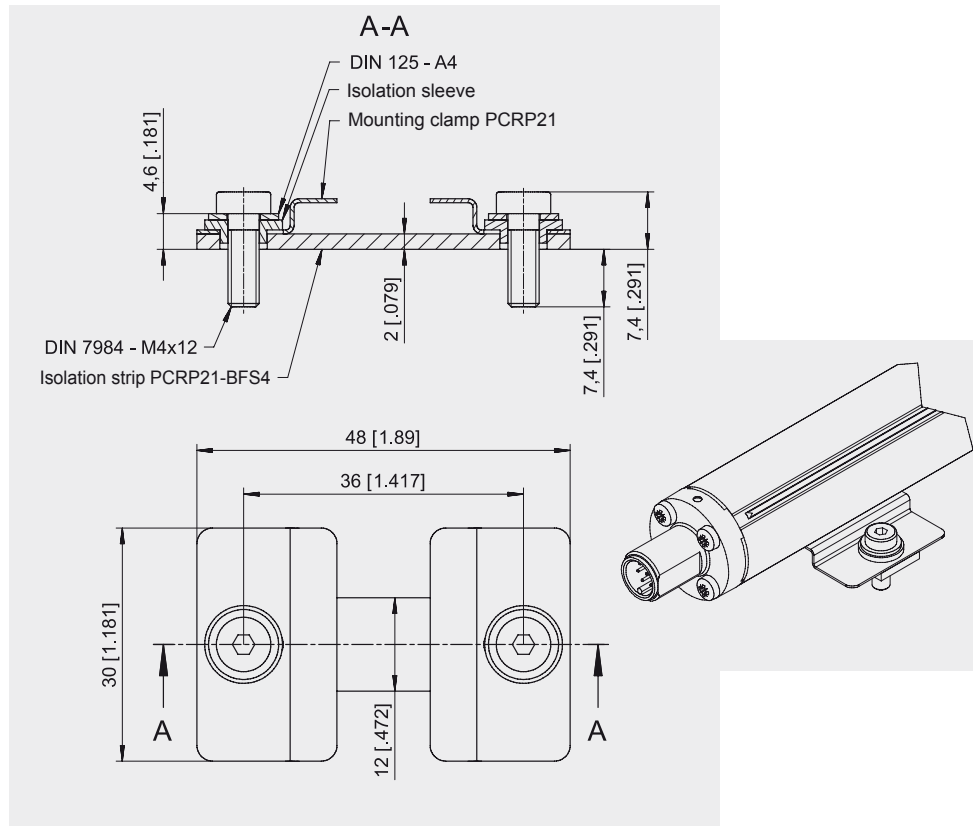
For guaranteed dimensions consult factory.

Other designs can be realized on request

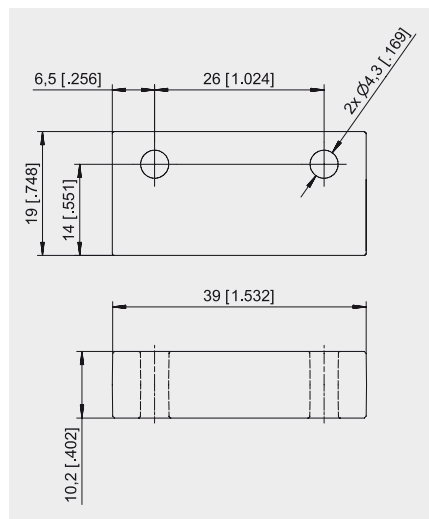
POSICHRON® PCRP Mounting set - Magnets



PCRP21-BFS4 Mounting set



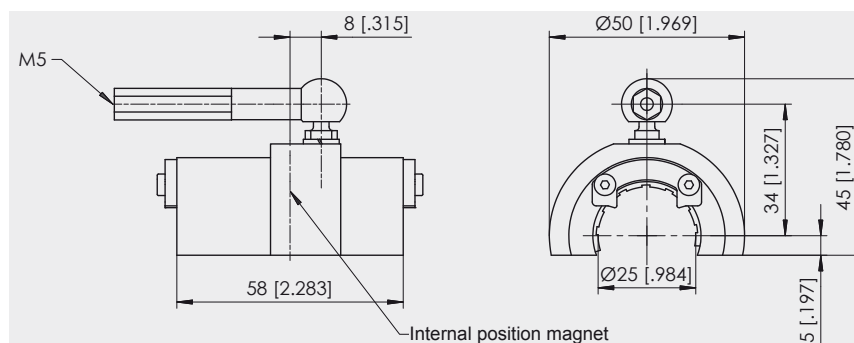
PCMAG5 Standard magnet



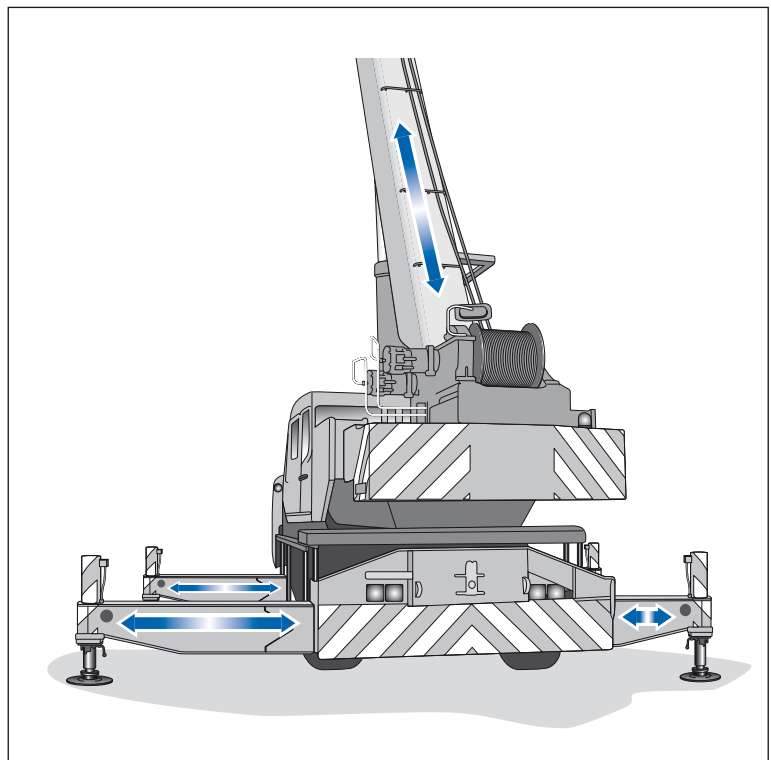
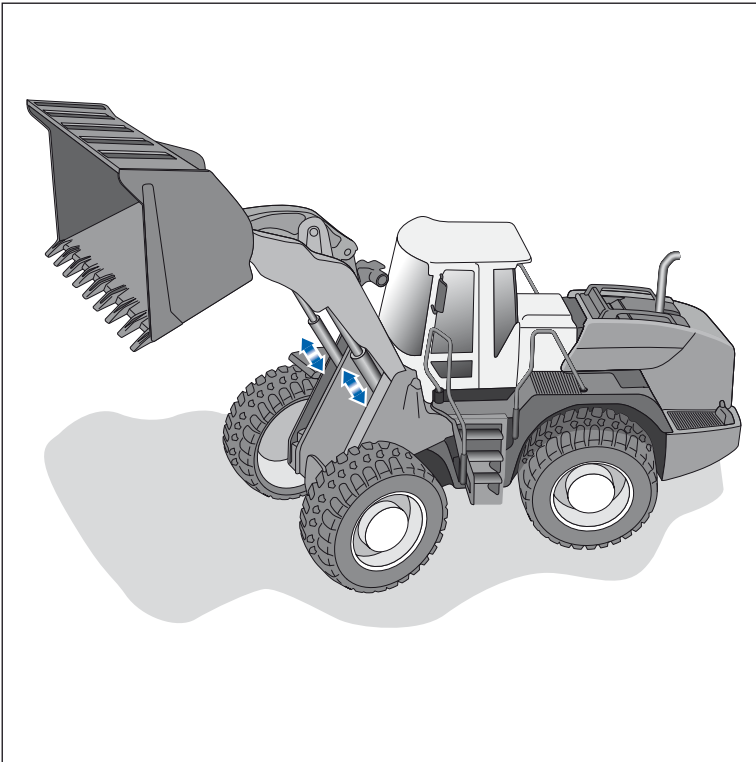
Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

PCRP21-MAG6 Guided magnet slider for PCRP21 with internal position magnet



Not to be used for a large number of operation cycles!

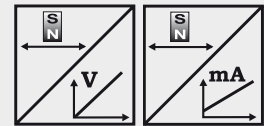


POSICHRON® PCST24 Rod-Style Design with Analog Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Replaceable electronics without leakage
- Analog output



| Specifications | Output | Voltage Current |
|--------------------------------|--|-------------------------------|
| | Resolution | Refer to output specification |
| 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 | Sensor rod: stainless steel 1.4404, head: AlMgSi | |
| Mounting | Thread M18x1,5 / thread ¾ inch | |
| Working pressure of sensor rod | 400 bar, other values on request | |
| Protection class | IP67/69K (with mating connector IP67/69K only) | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | 8 pin socket M12 | |
| EMC, temperature | Refer to output specification | |

Order code position magnet (see page 65)

Order code mating connecting cable (see page 77)

PCSTMAG ...

KAB- ...M-M12/8F/G-LITZE

POSICHRON® PCST24 Rod-Style Design with Analog Output



Order Code PCST24

1 or 2 channel,
configurable



Model name

Mounting

M18 = Thread M18 x 1,5
Z3/4 = Thread 3/4"-16UNF

Measurement range (in mm)

100 ... 5750 in 10 mm increments

Output

U2 = 0.5 ... 10 V signal conditioner
U2/U, U2/H = U2 with AlarmLOW, U2 with AlarmHOLD (see page 77)
U8 = 0.5 ... 4.5 V signal conditioner
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U, I1/H = I1 with AlarmLOW, I1 with AlarmHOLD (see page 77)

Function and characteristics output 1

P1A = Position magnet 1, increasing
P1D = Position magnet 1, decreasing
PMU = Start value, direction and end value adjustable by the customer (1 channel only)
DA = Difference magnet 1/2, increasing (2 magnets required)
DD = Difference magnet 1/2, decreasing (2 magnets required)

Function and characteristics output 2 (option)

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

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

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 (only with one magnet)

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 previous page, "Specifications")

Connection

M12 = Connector M12, 8 pin

1. Order example: PCST24 - M18 - 1000 - U2 - P1D - L10 - M12

Rod-style design, measurement range 1000 mm, 1 voltage output 0.5 ... 10 V (U2)
Output 1: Position magnet 1, decreasing signal (P1D)
Output 2: Not used

2. Order example: PCST24 - M18 - 1000 - I1 - P1A - P2D - L10 - M12

Rod-Style Design, measurement range 1000 mm, 2 current outputs 4 ... 20 mA (I1)
Output 1: Position magnet 1, increasing signal (P1A)
Output 2: Position magnet 2, decreasing signal (P2D)

3. Order example: PCST24 - M18 - 1000 - U2 - P1A - VZ1.0 - L10 - M12

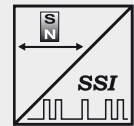
Rod-Style Design, measurement range 1000 mm, 2 voltage outputs 0.5 ... 10 V (U2)
Output 1: Position magnet 1, increasing signal (P1A)
Output 2: Velocity magnet 1, -1 m/s ... 1 m/s for range 0.5 ... 10 V (VZ1.0)

POSICHRON[®] PCST24 Rod-Style Design with SSI Output



POSICHRON[®] rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Replaceable electronics without leakage
- 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 | | Sensor rod: stainless steel 1.4404, head: AlMgSi |
| Mounting | | Thread M18x1,5 / thread ¾ inch |
| Working pressure of sensor rod | | 400 bar, other values on request |
| Protection class | | IP67/69K (with mating connector IP67/69K only) |
| Shock | | EN 60068-2-27:1993, 50 g/11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | | 8 pin socket M12 |
| EMC, temperature | | Refer to output specification |

Order Code PCST24



- Model name**
- Mounting**
M18 = Thread M18x1,5
Z3/4 = Thread ¾"-16 UNF
- Measurement range (in mm)**
100 ... 5750
- Resolution (in µm)**
5 / 10 / 20 / 50 / 100
- Output**
SSI = Synchronous serial interface
- Average determination (filter, number of measurements)**
F1 / F2 / F4 / F8
- Code**
G / D = Gray / Dual
- Number of data bits**
24 / 25
- Linearity**
L02 / L02MM / L10 (for definition see "Specifications" above)
- Connection**
M12 = Connector M12, 8 pin

Order code position magnet (see page 65)

PCSTMAG ...

Order code mating connecting cable (see page 77)

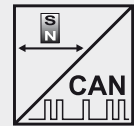
KAB- ...M-M12/8F/G-LITZE

Order example: PCQA24 - M18 - 2500 - 10 - SSI/F8/G/24 - L10 - M12



POSICHRON® rod-style position sensor

- Replaceable electronics without leakage
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- For hydraulic cylinders, fluid level measurement
- CANopen bus



| | | |
|-----------------------|--------------------------------|--|
| Specifications | Output | CANopen bus |
| | 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 | Sensor rod: stainless steel 1.4404, head: AlMgSi |
| | Mounting | Thread M18x1,5 / thread ¾ inch |
| | Working pressure of sensor rod | 400 bar, other values on request |
| | Protection class | IP67 (with mating connector IP67/69K only) |
| | Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| | Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| | Connection | 5 pin socket M12 |
| | EMC, temperature | Refer to output specification |

Order Code PCST24



Model Name

Mounting

- M18 = Thread M18x1,5
- Z3/4 = Thread ¾"-16 UNF

Measurement Range (in mm)

- 100 ... 5750 in 10 mm increments
- Other ranges on request

Output

- CANOP = CANopen bus

Linearity

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

Connection

- M12A5 = Connector M12, 5 pin

Order code position magnet (see page 65)

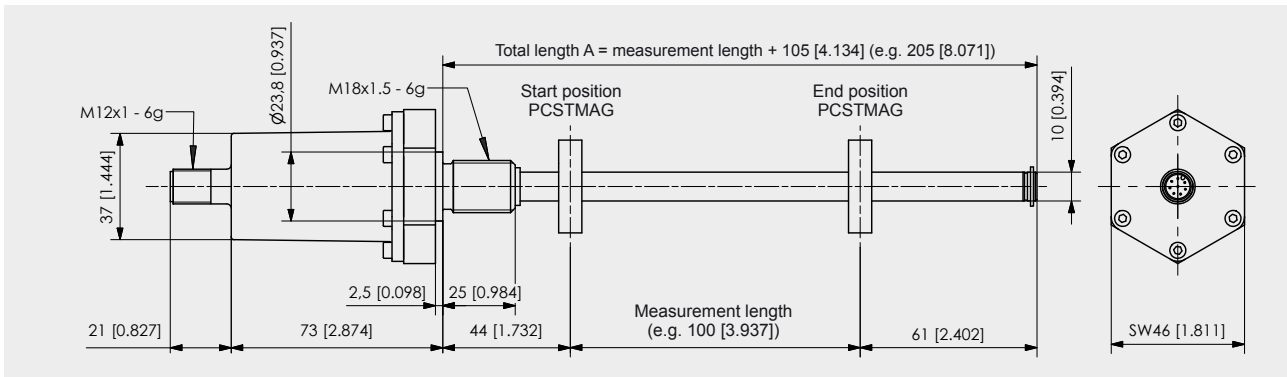
PCSTMAG ...

Order code mating connecting cable (see page 79)

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

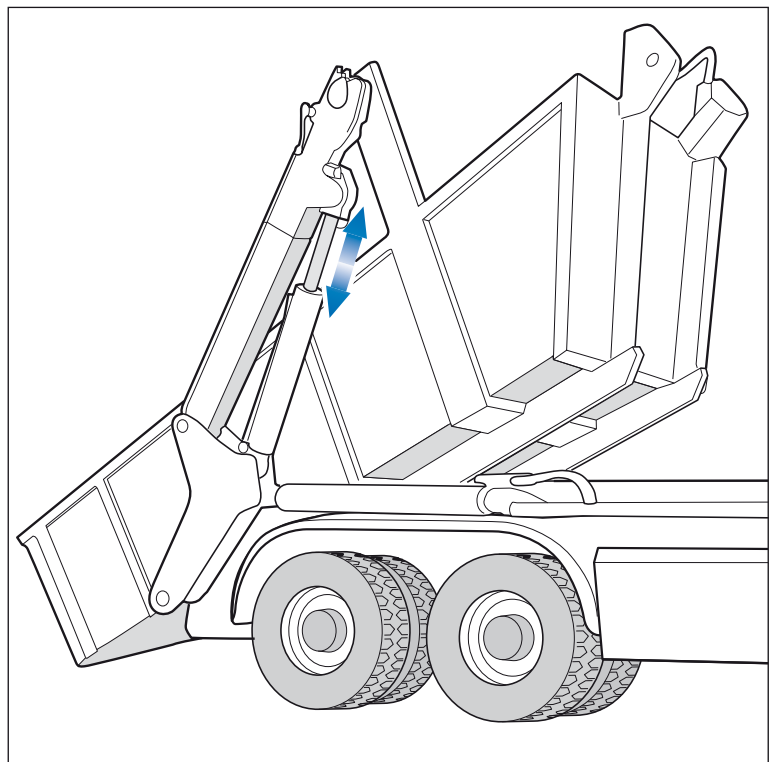
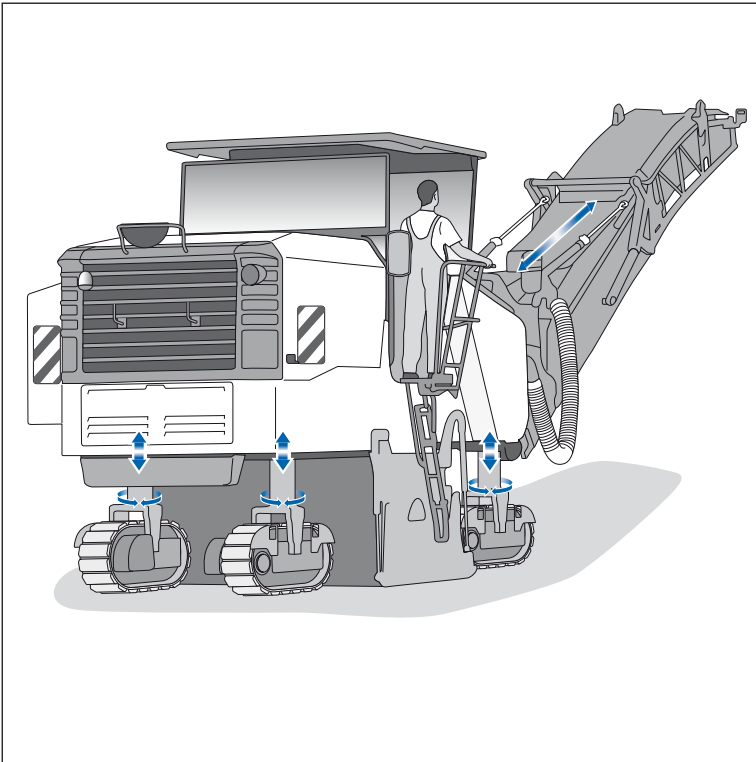
Order example: PCST24 - M18 - 2000 - CANOP - L10 - M12A5

POSICHRON®
PCST24
Rod-Style Design



Dimensions in mm [inch]

Dimensions informative only.
 For guaranteed dimensions consult factory.

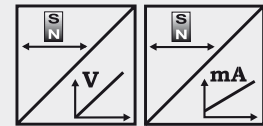


POSICHRON® PCST27 Rod-Style Design with Analog Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K, IP68, underwater capability
- Pressure-proof up to 15 bar
- Waterproof cable seal
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Seawater-proof
- Analog output
- EX version on request



| 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 (permanent pressure-proof up to 15 bar), IP67/69K | |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks | |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles | |
| Connection | Cable 2 m | |
| EMC, temperature | Refer to output specification | |

Order Code Position Magnet (see page 65)

PCSTMAG ...

POSICHRON® PCST27 Rod-Style Design with Analog Output



Order Code PCST27

1 or 2 channel,
configurable



Model name

Mounting

M18 = Thread M18 x 1,5
Z3/4 = Thread 3/4"-16UNF

Measurement range (in mm)

100 ... 5750 in 10 mm increments

Output

U2 = 0.5 ... 10 V signal conditioner
U2/U, U2/H = U2 with AlarmLOW, U2 with AlarmHOLD (see page 77)
U8 = 0.5 ... 4.5 V signal conditioner
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U, I1/H = I1 with AlarmLOW, I1 with AlarmHOLD (see page 77)

Function and characteristics output 1

P1A = Position magnet 1, increasing
P1D = Position magnet 1, decreasing
PMU = Start value, direction and end value adjustable by the customer (1 channel only)
DA = Difference magnet 1/2, increasing (2 magnets required)
DD = Difference magnet 1/2, decreasing (2 magnets required)

Function and characteristics output 2 (option)

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

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

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 (only with one magnet)

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 previous page, "Specifications")

Connection

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

1. Order example: PCST27 - M18 - 1000 - U2 - P1D - L10 - KAB2M

Rod-style design, measurement range 1000 mm, 1 voltage output 0.5 ... 10 V (U2)
Output 1: Position magnet 1, decreasing signal (P1D)
Output 2: Not used

2. Order example: PCST27 - M18 - 1000 - I1 - P1A - P2D - L10 - KAB2M

Rod-Style Design, measurement range 1000 mm, 2 current outputs 4 ... 20 mA (I1)
Output 1: Position magnet 1, increasing signal (P1A)
Output 2: Position magnet 2, decreasing signal (P2D)

3. Order example: PCST27 - M18 - 1000 - U2 - P1A - VZ1.0 - L10 - KAB2M

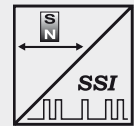
Rod-Style Design, measurement range 1000 mm, 2 voltage outputs 0.5 ... 10 V (U2)
Output 1: Position magnet 1, increasing signal (P1A)
Output 2: Velocity magnet 1, -1 m/s ... 1 m/s for range 0.5 ... 10 V (VZ1.0)

POSICHRON® PCST27 Rod-Style Design with SSI Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K, IP68, underwater capability
- Pressure-proof up to 15 bar
- Waterproof cable seal
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Seawater proof
- Synchronous serial interface (SSI)
- EX version on request



| 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 (permanent pressure-proof up to 15 bar), IP67/69K |
| Shock | | EN 60068-2-27:1993, 50 g/11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 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 M18x1,5
Z3/4 = Thread ¾" -16 UNF

Measurement range (in mm)
100 ... 5750 in 10 mm increments

Resolution (in µm)
5 / 10 / 20 / 50 / 100

Output
SSI = Synchronous serial interface

Average determination (filter: number of measurements)
F1 / F2 / F4 / F8

Code
G / D = Gray / Dual

Number of data bits
24 / 25

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

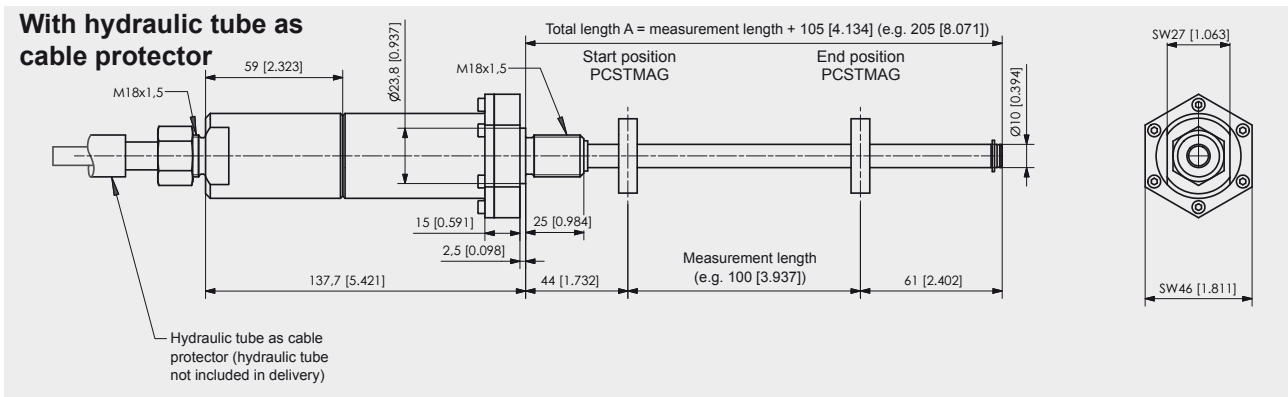
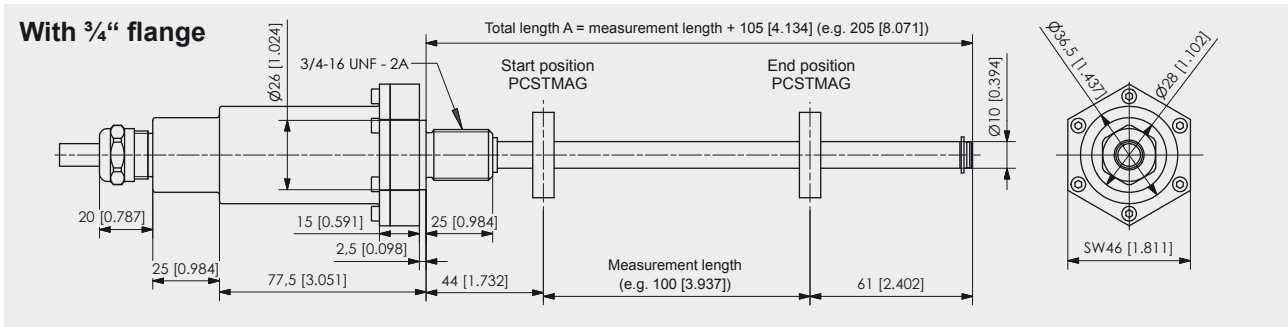
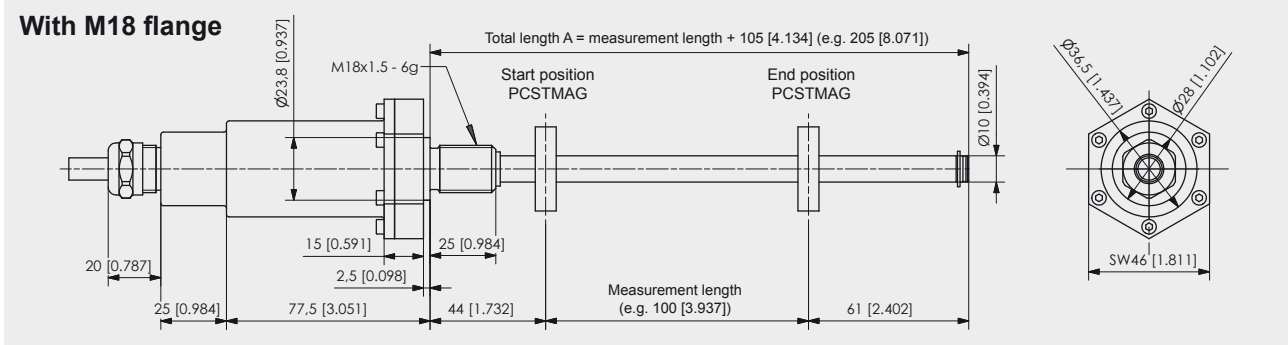
Connection
KAB2M = Cable, standard length 2 m, other lengths upon request

Order code position magnet (see page 65)

PCSTMAG ...

Order example: PCST27 - M18 - 1500 - 10 - SSI/F8/G/24 - L02 - KAB2M

POSICHRON® PCST27 Rod-Style Design



Dimensions in mm [inch]

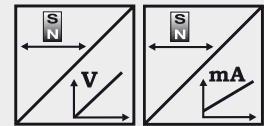
Dimensions informative only.
For guaranteed dimensions consult factory.

POSICHRON®
PCST25
Rod-Style Design with Analog Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Height of sensor head 16 mm max. incl. cable outlet
- Analog output



| Specifications | Output | Voltage Current |
|--------------------|------------|--|
| | Resolution | |
| 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 | | Sensor rod: stainless steel 1.4404, head: AlMgSi |
| Mounting | | Thread M18x1,5 / thread ¾ inch / plug-in mounting |
| Operating pressure | | 400 bar, other values on request |
| Protection class | | IP67/69K |
| Shock | | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | | Cable 2 m |
| EMC, temperature | | Refer to output specification |

Order code position magnet (see page 65)

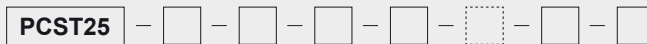
PCSTMAG ...

POSICHRON® PCST25 Rod-Style Design with Analog Output



Order Code PCST25

1 or 2 channel,
configurable



Model name

Mounting

- M18 = Thread M18 x 1,5
- Z3/4 = Thread 3/4"-16UNF
- SV = plug-in mounting

Measurement range (in mm)

100 ... 5750 in 10 mm increments

Output

- U2 = 0.5 ... 10 V signal conditioner
- U2/U, U2/H = U2 with AlarmLOW, U2 with AlarmHOLD (see page 77)
- U8 = 0.5 ... 4.5 V signal conditioner
- I1 = 4 ... 20 mA signal conditioner (3 wire)
- I1/U, I1/H = I1 with AlarmLOW, I1 with AlarmHOLD (see page 77)

Function and characteristics output 1

- P1A = Position magnet 1, increasing
- P1D = Position magnet 1, decreasing
- PMU = Start value, direction and end value adjustable by the customer (1 channel only)
- DA = Difference magnet 1/2, increasing (2 magnets required)
- DD = Difference magnet 1/2, decreasing (2 magnets required)

Function and characteristics output 2 (option)

- P2A = Position magnet 2, increasing
 - P2D = Position magnet 2, decreasing
 - DA = Difference magnet 1/2, increasing
 - DD = Difference magnet 1/2, decreasing
- } 2 magnets required

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

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 (only with one magnet)

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 previous page, "Specifications")

Connection

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

1. Order example: PCST25 - M18 - 1000 - U2 - P1D - L10 - KAB2M

Rod-style design, measurement range 1000 mm, 1 voltage output 0.5 ... 10 V (U2)
Output 1: Position magnet 1, decreasing signal (P1D)
Output 2: Not used

2. Order example: PCST25 - M18 - 1000 - I1 - P1A - P2D - L10 - KAB2M

Rod-Style Design, measurement range 1000 mm, 2 current outputs 4 ... 20 mA (I1)
Output 1: Position magnet 1, increasing signal (P1A)
Output 2: Position magnet 2, decreasing signal (P2D)

3. Order example: PCST25 - M18 - 1000 - U2 - P1A - VZ1.0 - L10 - KAB2M

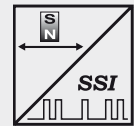
Rod-Style Design, measurement range 1000 mm, 2 voltage outputs 0.5 ... 10 V (U2)
Output 1: Position magnet 1, increasing signal (P1A)
Output 2: Velocity magnet 1, -1 m/s ... 1 m/s for range 0,5 ... 10 V (VZ1.0)

POSICHRON® PCST25 Rod-Style Design with SSI Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Height of sensor head 16 mm max. incl. cable outlet
- Synchronous serial interface (SSI)



| Specifications | | |
|------------------|--|--|
| Output | | Synchronous serial interface (SSI) |
| Resolution | | 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 | | Sensor rod: stainless steel 1.4404, head: AlMgSi |
| Mounting | | Thread M18x1,5 / thread ¾ inch / plug-in mounting |
| Working pressure | | 400 bar, other values on request |
| Protection class | | IP67/69K |
| Shock | | EN 60068-2-27:1993, 50 g/11 ms, 100 shocks |
| Vibration | | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | | Cable 2 m |
| EMC, temperature | | Refer to output specification |

Order Code PCST25



Model name

Mounting

M18 = Thread M18x1,5
Z3/4 = Thread ¾ "-16 UNF
SV = Plug-in version

Measurement range (in mm)

100 ... 5750 in 10 mm increments

Resolution (in µm)

50 / 100

Output

SSI = Synchronous serial interface

Average determination (filter: number of measurements)

F1 / F2 / F4 / F8

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 71)

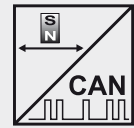
PCSTMAG ...

Order example: PCST25 - M18 - 1500 - 50 - SSI/F8/G/24 - L02 - KAB2M



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Height of sensor head 16 mm max. incl. cable outlet
- CANopen output or CAN SAE J1939 output



| | | |
|-----------------------|---|--|
| Specifications | Output | CANopen; 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 | Sensor rod: stainless steel 1.4404, head: AlMgSi |
| | Mounting | Thread M18x1,5 / thread ¾ inch / plug-in mounting |
| | Working pressure | 400 bar, other values on request |
| | Protection class | IP67/69K |
| | Shock | EN 60068-2-27:1993, 50 g/11 ms, 100 shocks |
| | Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | Cable (length 0.3 m) with 5-pin connector M12 | |
| EMC, temperature | Refer to output specification | |

Order code PCST25



Model name

Mounting

- M18 = Thread M18 x 1,5
- Z3/4 = Thread ¾ "-16UNF
- SV = Plug-in version

Measurement range (in mm)

100 ... 5750 in 10 mm increments
Other ranges on request

Output

- CANOP = CANopen bus
- CANOP/RT = CANopen bus with integrated terminating resistor
- CANJ1939 = CAN SAE J1939

Linearity

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

Connection

KAB0,3M-M12/CAN = Cable (length 0.3 m) with 5-pin connector M12

Order code position magnet (see page 71)

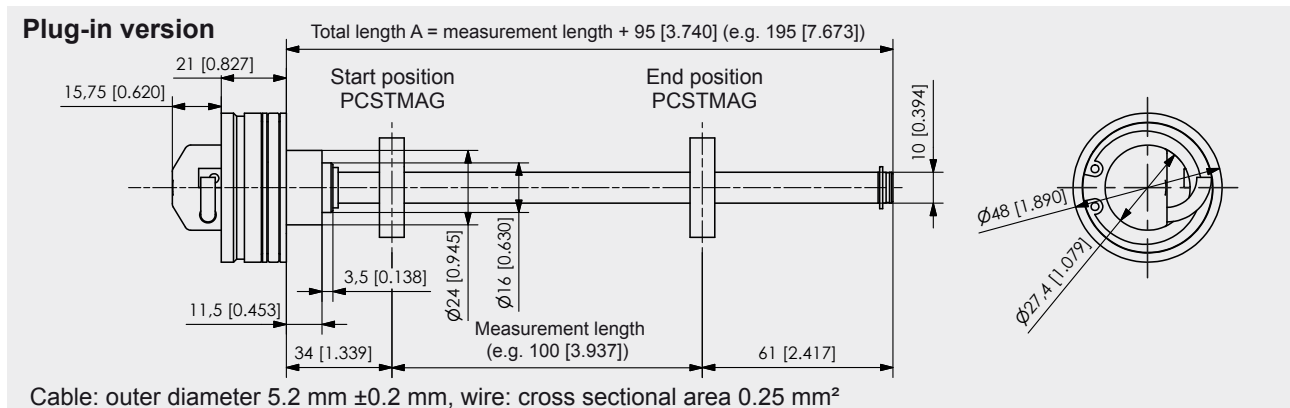
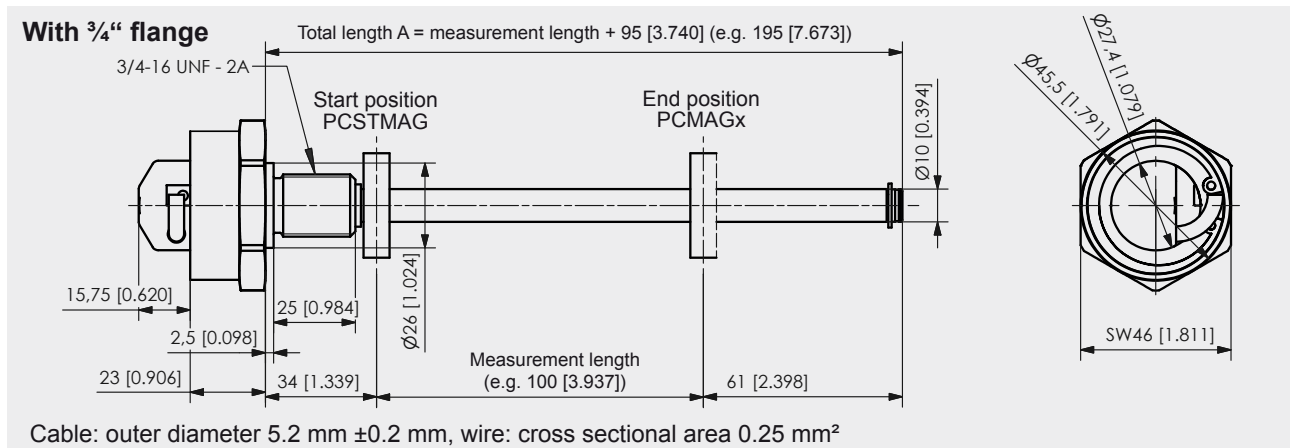
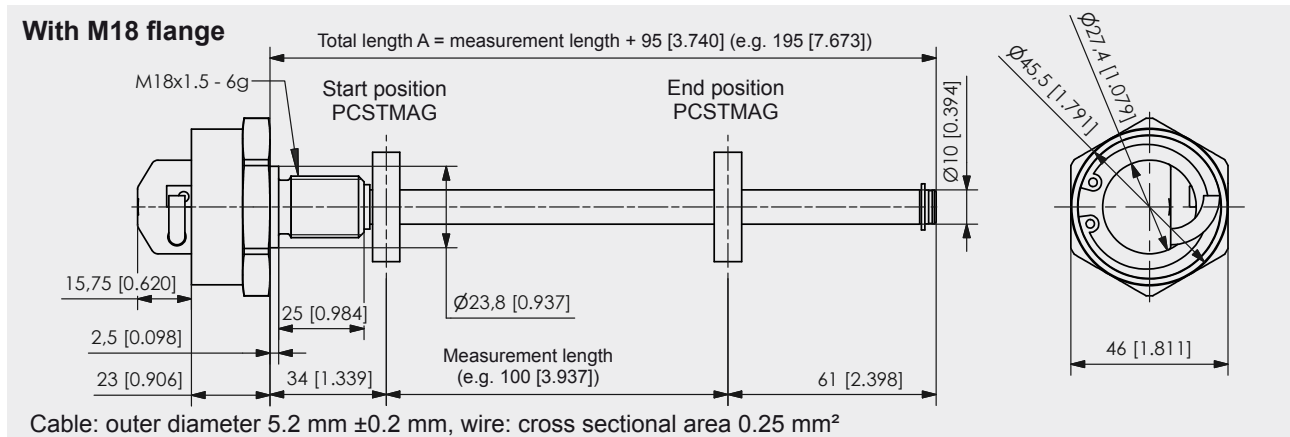
PCSTMAG ...

Order code bus cable (see page 83)

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

Order example: PCST25 - M18 - 2500 - CANOP - L10 - KAB0,3M-M12/CAN

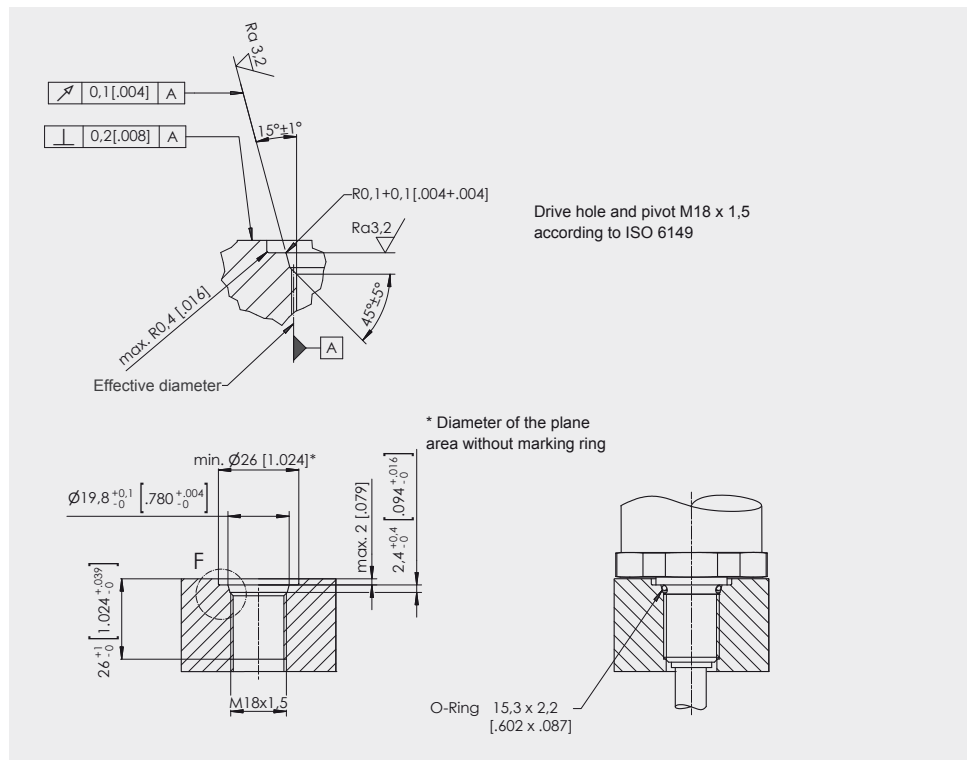
POSICHRON[®] PCST25 Rod-Style Design



Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

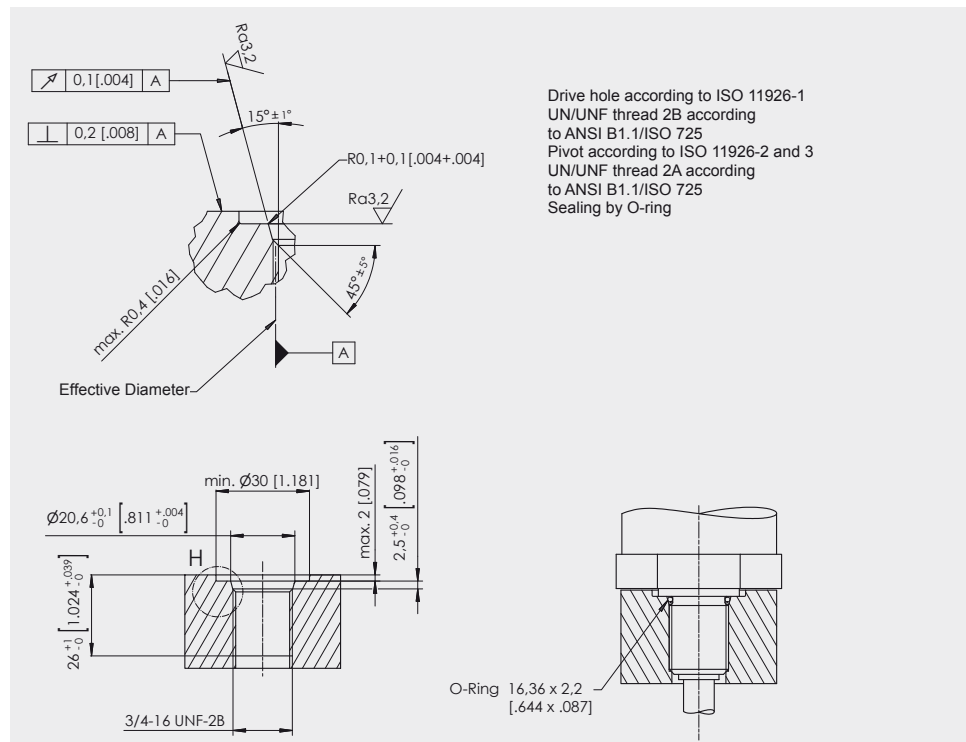
Mounting hole
M18



Dimensions in mm [inch]

Dimensions informative only.
 For guaranteed dimensions consult factory.

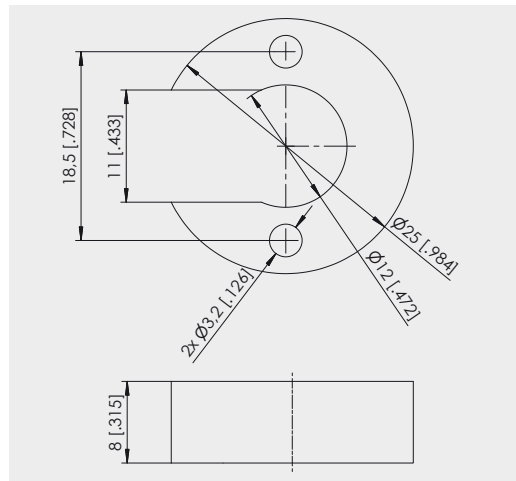
Mounting hole
3/4 inch



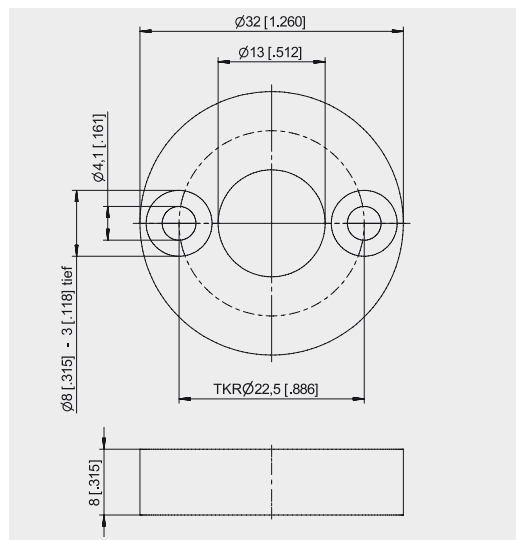
Dimensions in mm [inch]

Dimensions informative only.
 For guaranteed dimensions consult factory.

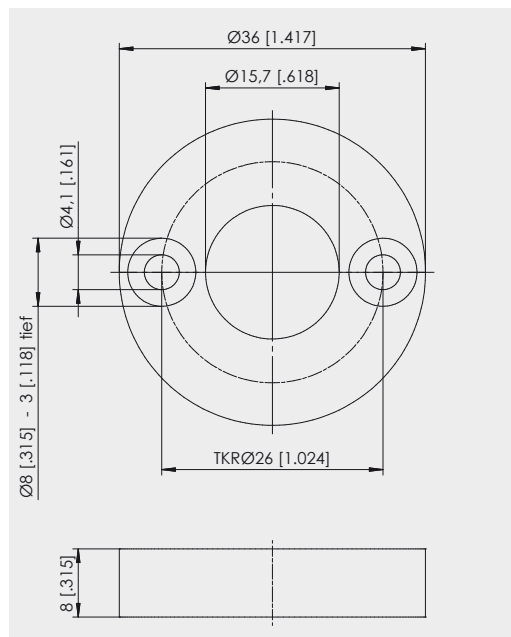
PCSTMAG1



PCSTMAG2
 (standard)



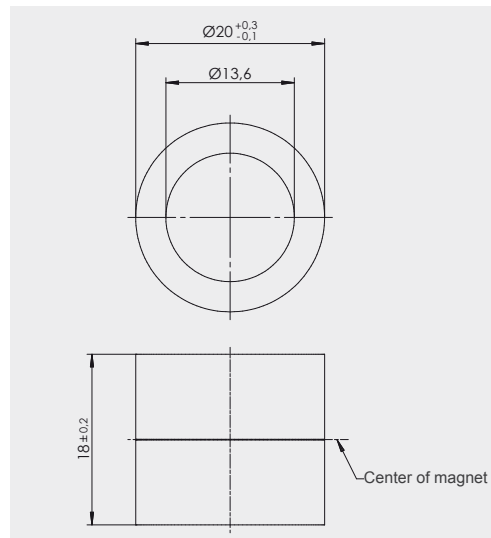
PCSTMAG5



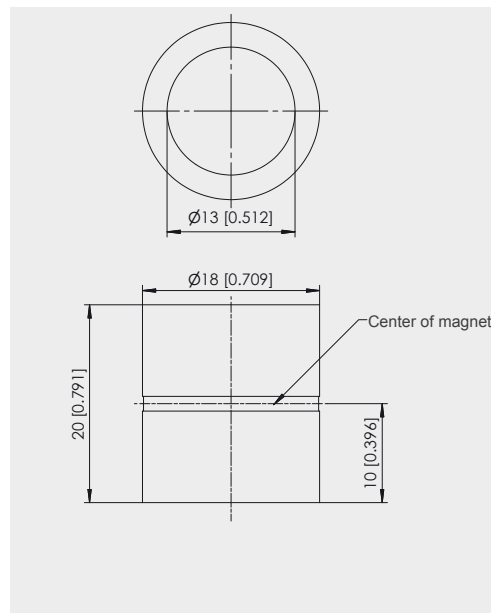
Dimensions in mm [inch]

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

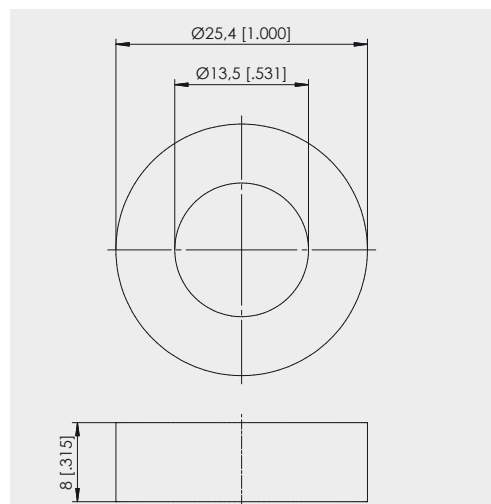
PCSTMAG2-MH1



PCSTMAG2-MH2



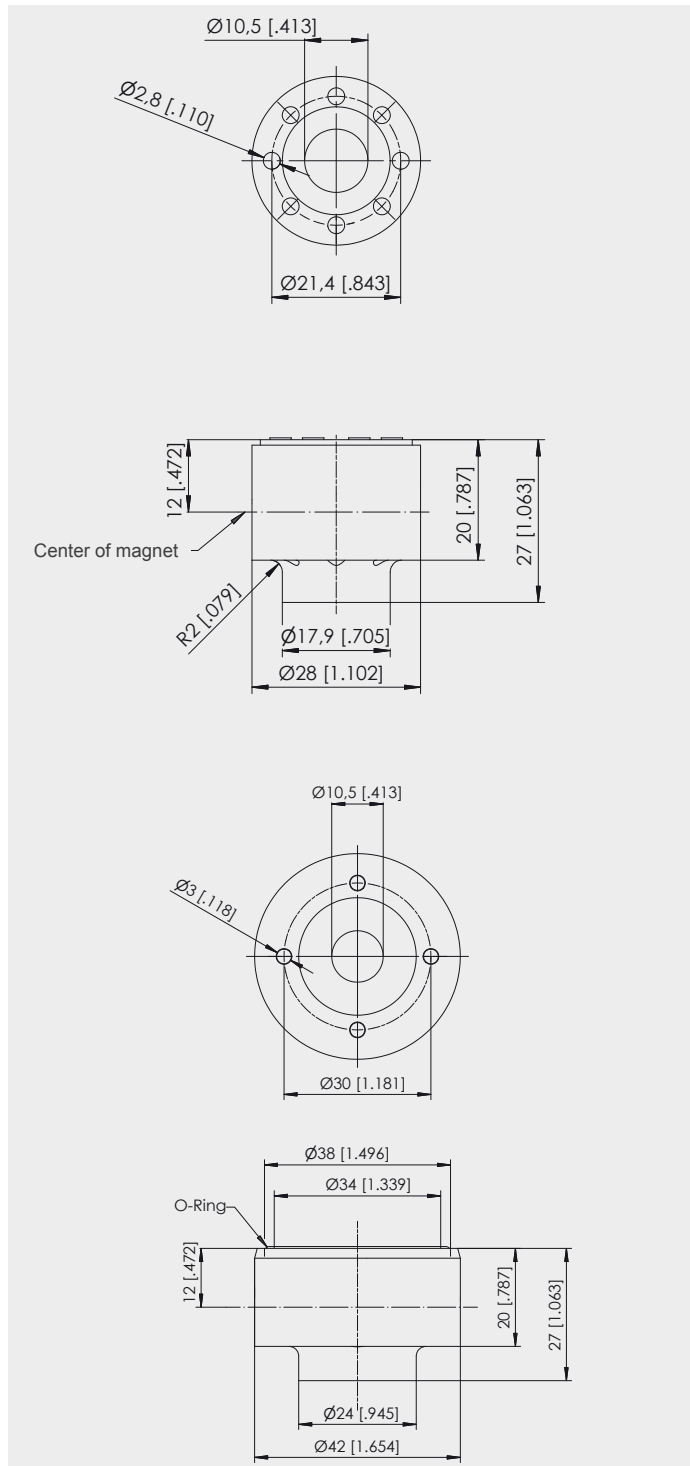
PCSTMAG2-MH3



Dimensions in mm [inch]

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

PCSTMAG2-G1



PCSTMAG2-G2

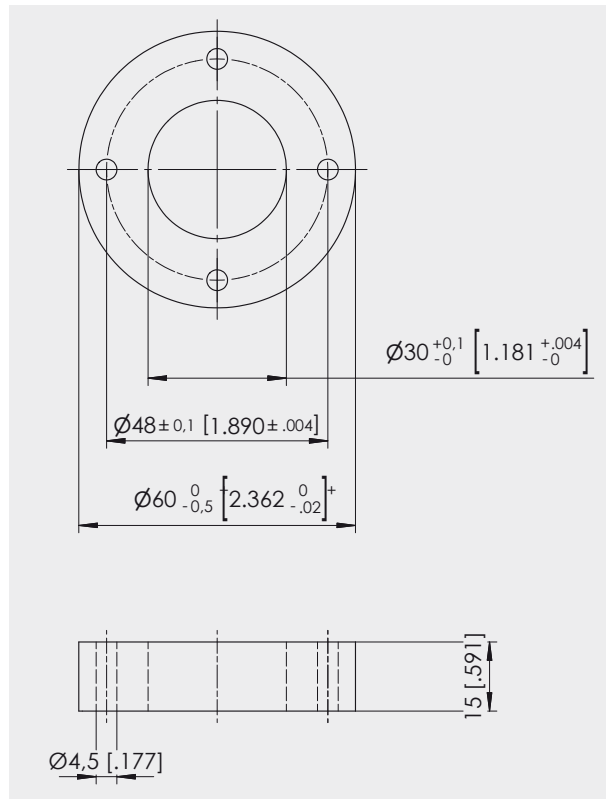
PCSTMAG2 - G1 / G2

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.

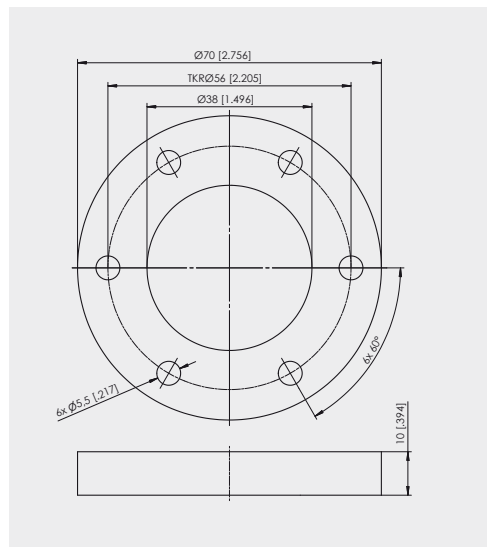
Dimensions in mm [inch]

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

PCSTMAG7



PCSTMAG4



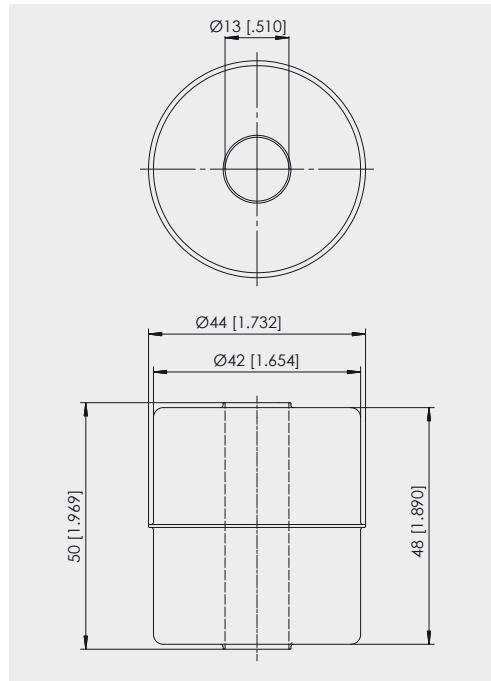
Dimensions in mm [inch]

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

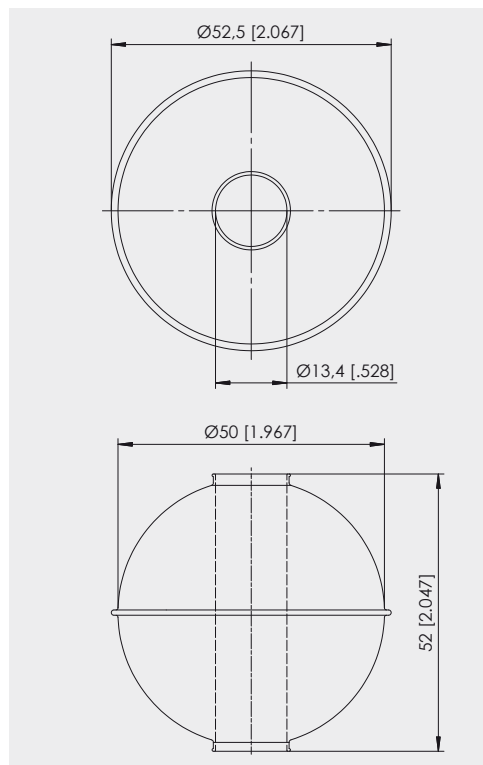


Note: Dependent on the design the available measurement range is reduced of 25 mm on both ends!

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

POSICHRON®

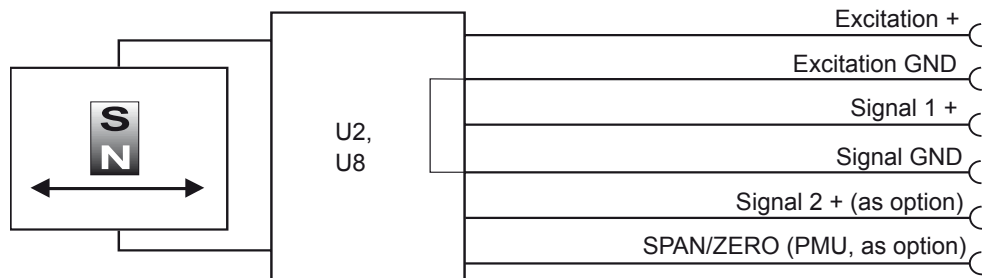
Output Specification U2, U8 and I1

Configurable, 1 or 2 channels



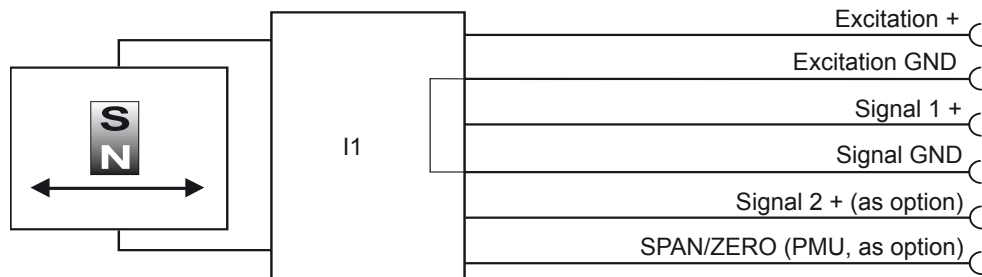
| | | |
|--|----------------------------|---|
| Signal conditioner U2, U8 Voltage output | Excitation voltage | U2: 18 ... 27 V DC; U8: 10 ... 36 V |
| | Excitation current | Typ. 35 mA, 80 mA max. |
| | Output voltage | U2: 0.5 ... 10 V; U8: 0.5 ... 4.5 V |
| | Output current | 2 mA max. |
| | Output load | > 5 kΩ |
| | Resolution | 16 bit |
| | Stability (temperature) | $\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s. |
| | Protection | Reverse polarity, short circuit |
| | Output noise | 0.5 mV _{RMS} |
| | Operating temperature | -40 ... +85 °C |
| Immunity to interference (EMC) | According to EN 61326:2004 | |

Signal diagram



| | | |
|---|--------------------------------|---|
| Signal conditioner I1 Current output (3 wire) | Excitation voltage | 18 ... 27 V DC |
| | 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 |
| | Stability (temperature) | $\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s. |
| | Protection | Reverse polarity, short circuit |
| | Output noise | 0.5 mV _{RMS} |
| | Operating temperature | -40 ... +85 °C |
| | Immunity to interference (EMC) | According to EN 61326:2004 |

Signal diagram



| Signal wiring | Output sigals U2, U8, I1 | Connector pin | Cable output, wire color (not for PCST27 and PCRP32) |
|---------------|-------------------------------|---------------|---|
| | Excitation + | 1 | white |
| | Excitation GND | 2 | brown |
| | Signal 1 + | 3 | green |
| | Signal GND | 4 | yellow |
| | Signal 2 + (as option *) | 5 | grey |
| | SPAN/ZERO (PMU **, as option) | 6 | pink |

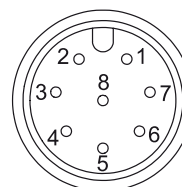
* When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely.

** Description page 59

Connection

Mating connector

View to
sensor
connector



CONN-M12-8M

Option - PMU for analog output 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 1 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 when the sensor is switched on.

Diagnostic signal on error for U2 and I1

The analog signal output in case of error

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

Standard (w/o marking): Alarm_HIGH:

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

Option /U: Alarm_LOW:

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

Option /H: Alarm_HOLD:

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

Option F1/F2/F4/F8 for SSI output

Filter function of the SSI interface

The option „Filter“ Fn calculates the floating average over a sample of measurement values. With the sample size the settling time of the measured value will be extended. Suitable sample sizes are 2, 4 and 8.

Error signal for SSI output

If the sensor cannot detect a magnet the position value will assume the maximum value (0xFFFFFFFF)

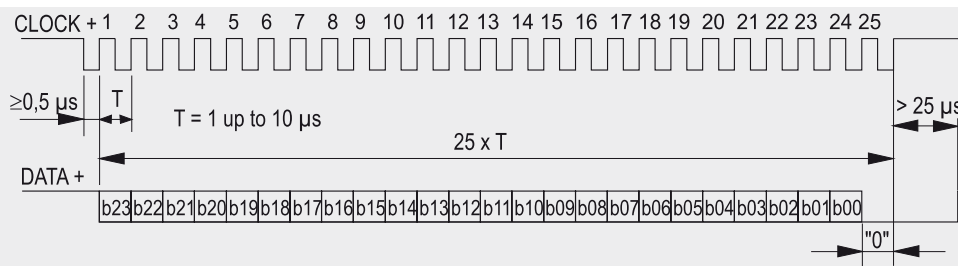
POSICHRON® Output Specification SSI



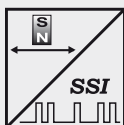
Description

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)

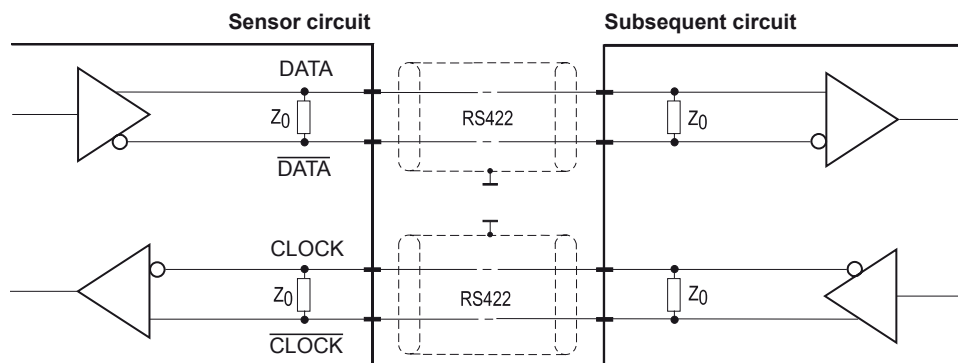


Synchronous serial interface SSI



| | |
|------------------------------|---|
| Output | RS422 |
| Excitation voltage | 18 ... 27 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 |
| Filter | Average determination, see page 59 |
| Stability (temperature) | ±50 x 10 ⁻⁶ / °C f.s. |
| Operating temperature | -40 ... +85 °C |
| Immunity to interference EMC | According to EN 61326:2004 |

Signal diagram



| 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, common shielded.

Signal wiring

| Signal name | Connector pin | Cable output color (not for PCST27 and PCR32) |
|----------------|---------------|--|
| Excitation + | 1 | white |
| Excitation GND | 2 | brown |
| CLOCK | 3 | green |
| CLOCK | 4 | yellow |
| DATA | 5 | grey |
| DATA | 6 | pink |

View to sensor connector



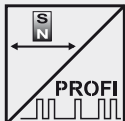
CONN-M12-8M

Filter option F1/F2/F4/F8 and error indication see page 77.

POSICHRON® Output Specification PROFIBUS-DP



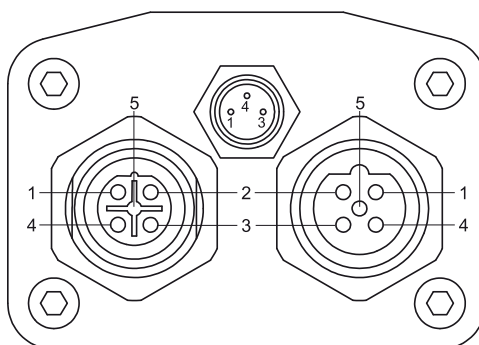
Profibus-Interface PROF2



| | |
|----------------------------|---|
| Device profile | PROFIBUS profile for encoders class 2, following |
| Transmission rate | 12 MBaud max. |
| Device master file | ASMQ0715.GSD |
| DP functions | SYNC, FREEZE |
| DP diagnostics | Error position marker |
| Slave address | 1 ... 125, adjustable by the Profibus Service |
| Slave default address | 125 |
| Measurement direction | Adjustable, common for all position markers |
| Preset | Adjustable, individual or common |
| Resolution | Measurement steps 5 ... 1000 µm, adjustable |
| Number of position magnets | 1 ... 4 |
| Excitation voltage | 22 ... 27 V DC, residual ripple 10 mV _{PP} |
| Excitation current | Typ. 100 mA |
| Measurement cycle time | 0.75 ms to 3.5 ms, depending on the measurement range, the number of position magnets and used features |
| Operation temperature | -40 ... +85 °C |
| Stability (temperature) | ±50 x 10 ⁻⁶ / °C f.s. |

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

Mating connectors



View to sensor
connectors


| Signal wiring | Connector pin | | Signal name bus / cable color | | Signal name excitation / cable color | |
|---------------|---------------|----------------|-------------------------------|-----------|--------------------------------------|-------|
| | 1 | VP +5 V output | | | +24 V | Brown |
| 2 | A | Green | | | | |
| 3 | Data GND | | | 0 V (GND) | Blue | |
| 4 | B | Red | | Shield | Black | |
| 5 | Shield | | | | | |

POSICHRON® Output Specification CANopen



Description

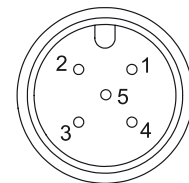
CANopen interface with process data for position and cam functions, programmable are preset, resolution, filtering and cam switching points.

| 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 | 2 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 | As option (output CANOP/RT) |
| Bus, galvanic isolated | No | |
| Specifications | Excitation voltage | 8 ... 36 V DC |
| | Excitation current | Typ. 30 mA for 24 V, max. 100 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 | 1 kV (V AC, 50 Hz, 1 min.) |
| | Environment - EMC Automation | EN 61326:2004 |

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

| Signal wiring / connection | Signal name | Connector pin (color) |
|-----------------------------------|--------------|-----------------------|
| | Shield | 1 (grey) |
| | Excitation + | 2 (white) |
| | GND | 3 (brown) |
| | CAN-H | 4 (green) |
| | CAN-L | 5 (yellow) |

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 termination resistor | 120 Ω |
| | Address | Default 247d, configurable |

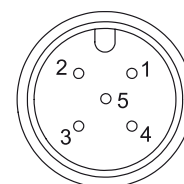
| | | | |
|--------------------|---------------------------|-------------|----------------------|
| NAME Fields | Arbitrary address capable | 1 | Yes |
| | Industry group | 0 | Global |
| | Vehicle system | 7Fh (127d) | Non specific |
| | Vehicle system instance | 0 | |
| | Function | FFh (255d) | Non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

| | | | |
|--------------------------------------|--------------------|-----------|--|
| 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 | 8 ... 36 V DC |
| | Excitation current | Typ. 20/40 mA for 24/12 V, max. 100 mA |
| | Measuring rate | 1 kHz (asynchronous) |
| | Stability (temperature) | ±50 x 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 | EN 61326-1:2006-10 |

| Signal wiring / connection | Signal name | Connector pin no. |
|----------------------------|--------------|-------------------|
| | Shield | 1 |
| | Excitation + | 2 |
| | GND | 3 |
| | CAN-H | 4 |
| | CAN-L | 5 |

View to sensor connector



POSICHRON® Accessories Connector Cables



Connector cable for POSICHRON® position sensors
8 pin M12

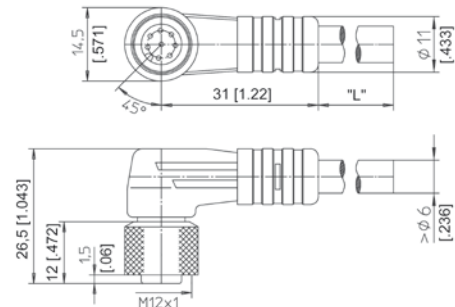
The 8-lead shielded cable is supplied with a mating 8-pin 90° M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m. Wire: cross sectional area 0.25 mm².

Order code:

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

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

Length in m



Connector cable for POSICHRON® position sensors
8 pin M12

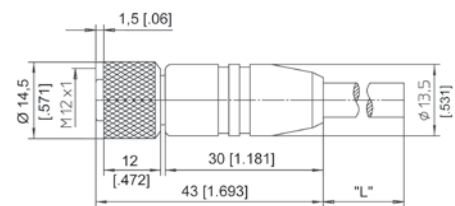
The 8-lead shielded cable is supplied with a mating 8-pin M12 connector at one end and 8 wires at the other end. Available lengths are 2, 5 and 10 m. Wire: cross sectional area 0.25 mm².

Order code:

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

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

Length in m



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

Connector cable for POSICHRON® position sensors
4 pin M8

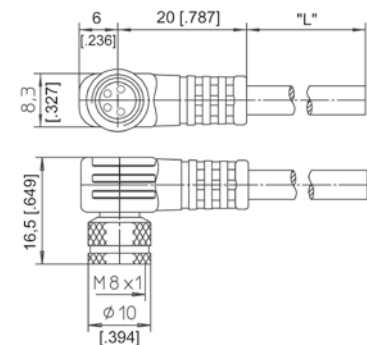
The 4-lead shielded cable is supplied with a mating 4-pin 90° M8 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m. Wire: cross sectional area 0.14 mm².

Order code:

KAB - XM - M8/4F/W - LITZE

IP69K: KAB - XM - M8/4F/W/69K - LITZE

Length in m



Connector cable for POSICHRON® position sensors
4 pin M8

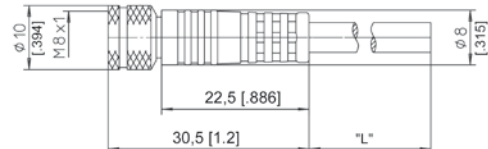
The 4-lead shielded cable is supplied with a mating 4-pin M8 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m. Wire: cross sectional area 0.14 mm².

Order code:

KAB - XM - M8/4F/G - LITZE

IP69K: KAB - XM - M8/4F/G/69K - LITZE

Length in m



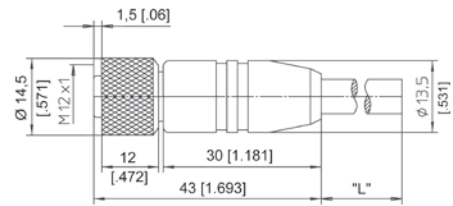
| Connector cable wiring - M8, 4 pin | Connector pin / cable color | | | |
|------------------------------------|-----------------------------|-------|------|-------|
| | 1 | 2 | 3 | 4 |
| | Brown | White | Blue | Black |

POSICHRON® Accessories Connector Cables



Connector/bus cable for POSICHRON® position sensors
5 pin M12
CAN bus/DeviceNet

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.



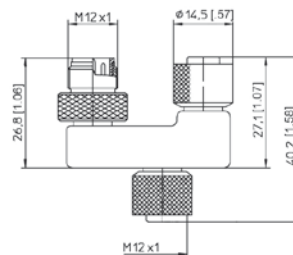
Order code:

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

Length in m ↑

T-piece for bus cable
5 pin M12
CAN bus/DeviceNet

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



Terminating resistance
5 pin M12
CAN bus/DeviceNet

KAB - RTERM - M12/5M/G



Cable set for POSICHRON® position sensors PROFIBUS

The cable set consists of one cable each of the following type :

Cable set 1: Bus input, bus output, sensor excitation

Cable set 2: Bus input, terminating resistor, sensor excitation

Available lengths are 2, 5 and 10 m

Order Code:

KABS1-PCQA23-PROF-XM-LITZE

Length in m ↑

KABS2-PCQA23-PROF-XM-LITZE

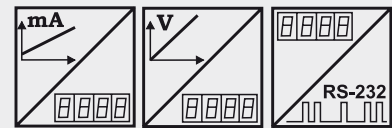
Length in m ↑

Separate cables on request.

PRODIS® PD-ADC Digital Process Meter for analog Sensors



- For POSICHRON® position sensors with analog Output:
Voltage 0 ... 10 V
Current 0/4 ... 20 mA
- Integrated sensor supply
- 6-digit LED display
- RS-232 interface
- Optional 4 comparator Output
- Easy programming



Description

PRODIS-ADC is designed for use with analog position sensors to display angles and displacements. A high resolution A/D converter processes signals from sensors with voltage or current output.

The meter is programmable to display values within preset start/end range or values in units as inches, mm or degrees. A tare function or programming lock can be activated with two control terminals.

Sensor excitation is supplied by the meter. With four membrane keys all parameters can be programmed for the special applications. Optional comparator functions with 4 NPN open-collector Output are available, additional 2 of them have relay output.

| Specification | | |
|----------------------------|--------------|---|
| Display | | 6-digit, 7-segment LED, height 14 mm, decimal point programmable |
| Counting rate | | 1 ... 25/s programmable |
| Measurement accuracy | | ±0.05 % f.s. |
| Excitation voltage/current | | 24 V DC ±10%/150 mA, residual ripple 1% _{pp} ; 85-250 V AC, 50-60 Hz/180 mA max. |
| Sensor excitation | | 24 V DC/300 mA; voltage divider 5 V/10 mA |
| Input | | Two channels, each for: Voltage 10V; U1; U2; U3; max. 24V Current I1, load 100 Ω, I _{max} <30 mA Voltage divider R _{min} =500 Ω, 0 ... 5 V One input or the difference between both inputs can be chosen by programming |
| Control input | | 2 control inputs 24 V, active low |
| Comparator Output (option) | Relay NPN | 250 V AC/5 A, 30 V DC/5 A 24 V max./50 mA to GND |
| Connection | | Terminal strip 12 pole, excitation 3 pole |
| Temperature coefficient | | ±20 x 10 ⁻⁶ / °C |
| Operating temperature | | -10...+40 °C |
| Storage temperature | | -20...+85 °C |

Order Code PRODIS-ADC

Model Name

Excitation Voltage

24VDC = 24 V DC

230VAC = 85...250 V AC

Options

REL2 = Comparator

DT = Desktop version

PD-ADC

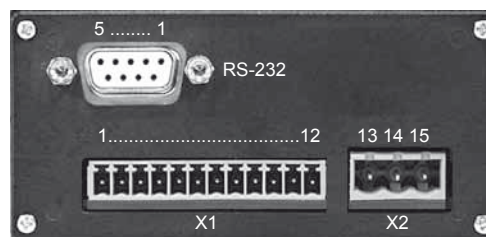
Order example: PD - ADC - 24VDC - REL2

PRODIS® PD-ADC Digital Process Meter for analog Sensors



| | | | |
|--|---|---|-----------------------------|
| Specifications (continuation) | Weight | 24 V DC: approx. 250 g; 230 V AC: approx. 400 g | |
| | Protection class | Front IP60, rear IP40 | |
| | Humidity | Max. 80 % R. H., non condensing | |
| | Safety of equipment | Directive 73/23/EWG: DIN EN61010:2002-03 | |
| | Electromagnetic compatibility, EMC | Directive 89/336/EWG | |
| Programmable parameters / value range | Value range offset, limit values | -999999 to +999999 | |
| | Divisor, multiplier | 0 to 999999 | |
| | Other programmable parameters | Decimal point position, display brightness | |
| | Control input terminals | Key lock, display value hold, tare function | |
| Wiring basic unit | Signals | Connector X1 pin no. | Connector X2 pin no. |
| | Sensor excitation +U _B 24 V | 1 | |
| | Sensor excitation 0 V (GND) | 2 | |
| | Control input terminal 1: tare function | 3 | |
| | Control input terminal 2: programming lock | 4 | |
| | Voltage input terminal 0 ... 10 V, channel 1 | 5 | |
| | Voltage input terminal 0 ... 10 V, channel 2 | 6 | |
| | Current input terminal 0/4 ... 20 mA, channel 1 | 7 | |
| | Current input terminal 0/4 ... 20 mA, channel 2 | 8 | |
| | Voltage divider input terminal, channel 1 | 9 | |
| | Voltage divider input terminal, channel 2 | 10 | |
| | Reference voltage 5 V for voltage divider | 11 | |
| | GND | 12 | |
| | PD-ADC-24VDC Excitation +24 V | | 13 |
| | Excitation 0 V (GND) | | 14 |
| | PD-ADC-230VAC Excitation | | 13, 15 |
| | Protective ground | | 14 |

Rear view without
comparator Output



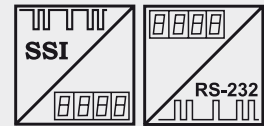
| | | | |
|-------------------------|-------------------|---|-----------------------|
| RS-232 interface | Level | RS-232: ±8 V, galvanically isolated | |
| | Data format | 1 start bit, 8 data bits, 1 stop bit, no parity | |
| | Transmission rate | 9600 Baud | |
| | Signals | Connector X3, Pin No. | D-Sub, Pin No. |
| | TxD | 17 | 2 |
| RxD | 16 | 3 | |
| GND | 18 | 5 | |

For rear view with comparator Output and outline drawings see pages 86 and 87.

PRODIS® PD-SSI Digital Process Meter for Sensors with SSI output



- For POSICHRON® position sensors with SSI output
- Integrated sensor supply
- 6-digit LED display
- RS-232 interface
- Easy programming



Description

PRODIS-SSI is designed for use with SSI position sensors to display angle and displacement. Via the CLOCK lines, a sequence of pulses will be transmitted, the input DATA lines will read the sensor's serial bit sequence. The meter is programmable to display values within preset start/end range or values in units as inches, mm or degrees. A tare function or programming lock can be activated with two control terminals.

Sensor excitation is supplied by the meter. With four membrane keys, all parameters can be programmed for the special applications.

| Specifications | | |
|----------------------------|---|--|
| Display | 6-digit, 7-segment LED, 14 mm high, decimal point programmable | |
| Sampling rate | 100/s | |
| Excitation voltage/current | 24 V DC $\pm 10\%$ /150 mA, residual ripple 1% _{pp} ; 85-250 V AC, 50-60 Hz/180 mA max. | |
| Sensor excitation | 24 V DC/300 mA or 5 V DC/800 mA | |
| Inputs | DATA, $\overline{\text{DATA}}$ (RS422) | |
| Output | CLOCK, $\overline{\text{CLOCK}}$ (RS422) | |
| Control inputs | 2 control inputs 24 V, active low | |
| Connection | Terminal strip 12-pole, excitation 3-pole | |
| Operating temperature | -10 ... +40 °C | |
| Storage temperature | -20 ... +85 °C | |
| Weight | 24 V DC: approx. 250 g; 230 V AC: approx. 400 g | |

Order Code PRODIS-SSI

Model name

Excitation Voltage

24VDC = 24 V DC

230VAC = 85...250 V AC

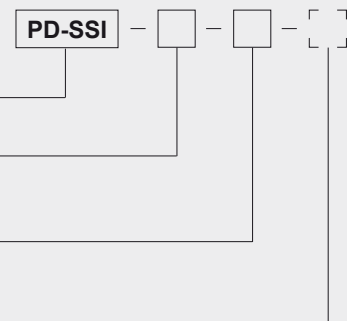
Sensor Excitation

G24V = 24 V DC

G5V = 5 V DC

Options

DT = Desktop version



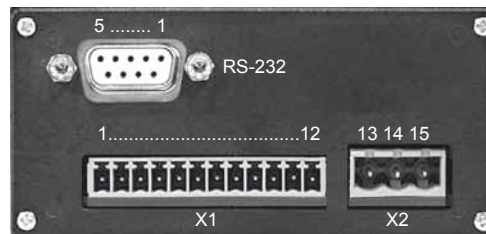
Order example: PD - SSI - 230VAC - G24V

PRODIS® PD-SSI Digital Process Meter for Sensors with SSI output



| | | | |
|--|---|--|-----------------------------|
| Specifications (continuation) | Protection class | Front IP60, back IP40 | |
| | Humidity | Max. 80 % r.h., non condensing | |
| | Safety of equipment | Directive 73/23/EWG: DIN EN61010:2002-03 | |
| | Electromagnetic compatibility, EMC | Directive 89/336/EWG | |
| Programmable Parameters / Value range | Value range offset | -999999 to +999999 | |
| | Divisor, multiplier | 0 to 999999 | |
| | Other programmable parameters | Decimal point position, display brightness | |
| | Programmable SSI parameters | Gray/dual code, sign, sampling rate, data format | |
| | Control inputs | Key lock, display value hold, tare function | |
| Wiring basic unit | Signals | Connector X1 pin no. | Connector X2 pin no. |
| | Sensor excitation +U _B (24 V or 5 V) | 1 | |
| | Sensor excitation 0 V (GND) | 2 | |
| | Control input 1: tare function | 3 | |
| | Control input 2: programming lock | 4 | |
| | Not used | 5 / 6 | |
| | Output CLOCK | 7 | |
| | Output $\overline{\text{CLOCK}}$ | 8 | |
| | Input DATA | 9 | |
| | Input $\overline{\text{DATA}}$ | 10 | |
| | Do not connect! | 11 | |
| | GND | 12 | |
| | PD-SSI-24VDC Excitation +24 V | | 13 |
| | Excitation 0 V (GND) | | 14 |
| | PD-SSI-230VAC Excitation | | 13, 15 |
| Protective ground | | 14 | |

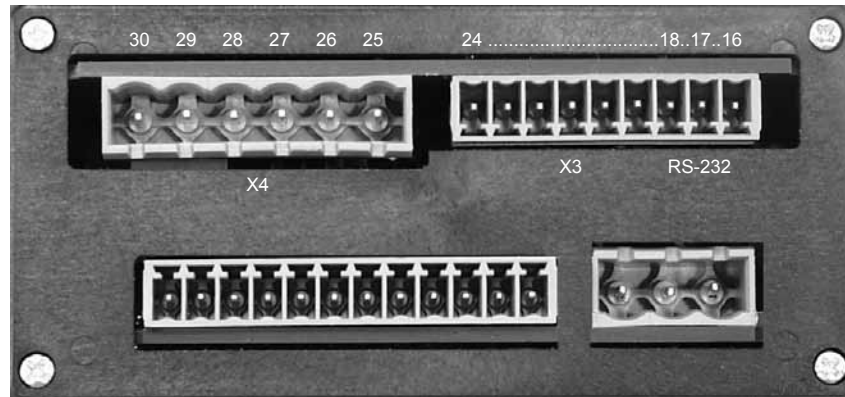
Rear view without comparator Output



| | | | |
|-------------------------|-------------------|---|-----------------------|
| RS-232 interface | Level | RS-232: ±8 V, galvanically isolated | |
| | Data format | 1 start bit, 8 data bits, 1 stop bit, no parity | |
| | Transmission rate | 4800 / 9600 / 19200 / 115200 Baud | |
| | Signals | Connector X3, pin no. | D-Sub, pin no. |
| | TxD | 17 | 2 |
| | RxD | 16 | 3 |
| GND | 18 | 5 | |

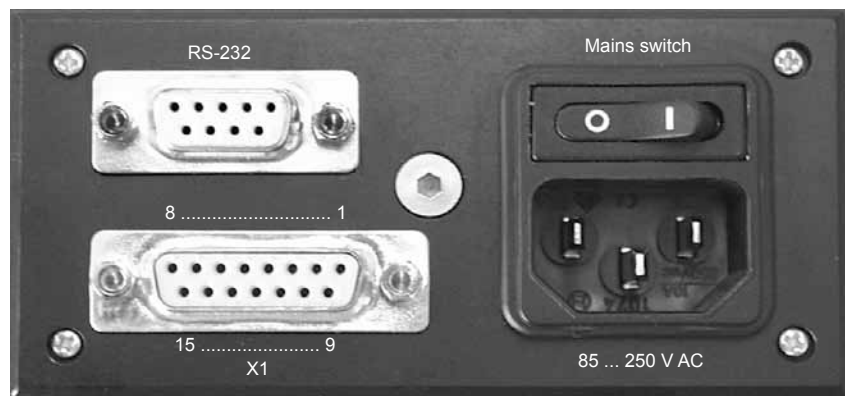
Outline drawings see the following pages.

Rear view with comparator Output



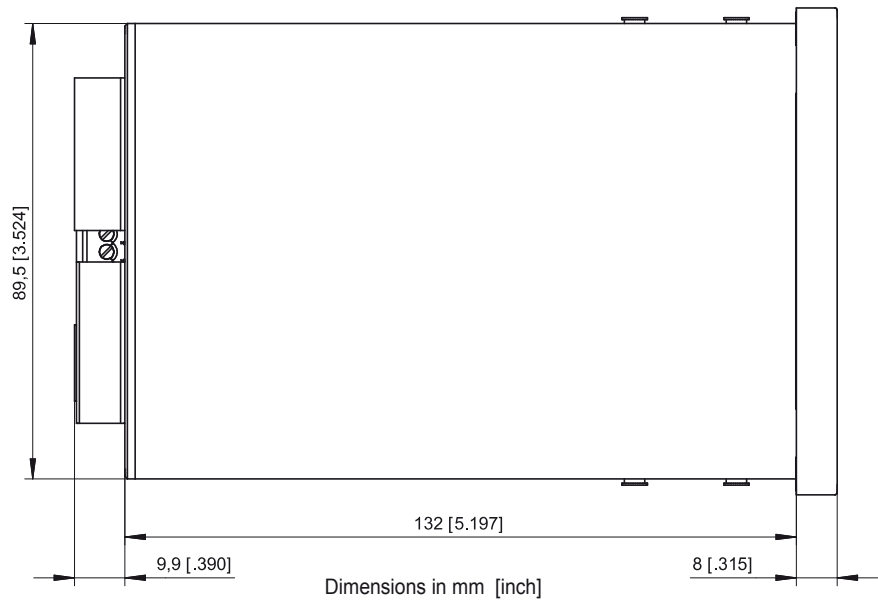
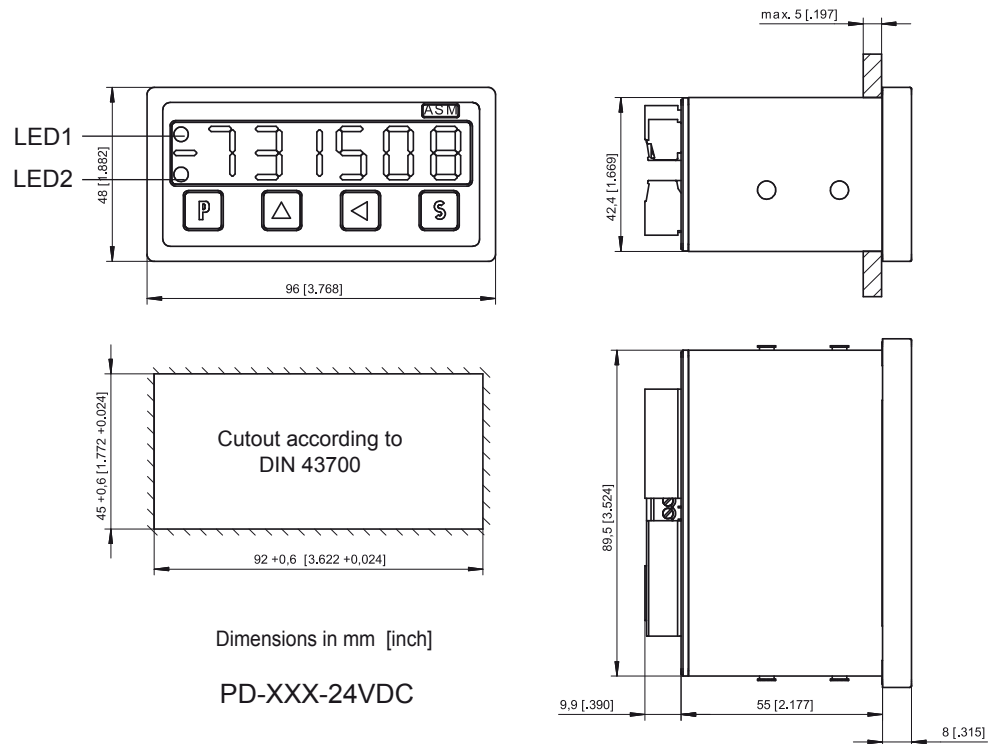
| Comparator function (option) | Comparator | Comparator output | | | |
|------------------------------|---------------------------|----------------------|---------|----------------------|------|
| | NPN Collector | Connector X3 pin no. | Relay | Connector X4 pin no. | LED |
| Comparator 1 | NPN1 | 20 | Relay 1 | 25 | LED1 |
| | | | NO | | |
| Comparator 2 | NPN2 | 21 | Relay 2 | 28 | LED2 |
| | | | NO | | |
| Comparator 3 | NPN3 | 22 | | | |
| Comparator 4 | NPN4 | 23 | | | |
| | NPN GND | 24 | | | |
| | NPN U _B (+24V) | 19 | | | |

Desktop version (option)



Wiring of connector X1 see table at page 85 (PD-ADC) resp. page 87 (PD-SSI).

Outline drawing



PD-XXX-230VAC

Dimensions informative only.
 For guaranteed dimensions
 consult factory.



ASSEMBLY
perfect in sensors.

POSIWIRE®
Cable Actuated
Position Sensors WS



ASSEMBLY
perfect in sensors.

POSITAPE®
Tape Actuated
Position Sensors

Ultra Compact Design

Heavy Duty Models

Large Measurement Ranges



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POSIMAG®
Magnetic Scale Position Sensors



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perfect in sensors.

POSIROT®
Magnetic Angle Sensors

POSIROT®
Magnetic Angle Encoders

POSITILT®
Magnetic Inclinometers

• Please send me detailed information/catalog on the following products:

- POSIWIRE® / WS® Cable Extension Position Sensors
- POSITAPE® / WB® Tape Extension Position Sensors
- POSIMAG® Magnetic Scale Position Sensors
- POSIROT®/POSITILT® Magnetic Angle Sensors and Inclinometers

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Company: _____

Mr./Ms.: _____

Department: _____

Street: _____

City: _____

Tel. / Fax: _____

e-mail: _____

Website: _____

Protection classes according to EN 60529



| 2nd char. numeral: Protection against ingress of water 1st char.numeral: Protection against solid foreign objects | | | | | | | | | |
|---|---------------|------------------------------------|----------------|-----------------|------------|---------------------|---------------------|----------------------|-------|
| Protection against ... | Non protected | Falling water drops vertical / 15° | Spraying water | Splashing water | Water jets | Powerful water jets | Temporary immersion | Continuous Immersion | |
| IEC 529 DIN 40050 | IP .. 0 | IP .. 1 | IP .. 2 | IP .. 3 | IP .. 4 | IP .. 5 | IP .. 6 | IP .. 8 | |
| IP 0 .. Non protected | IP 00 | | | | | | | | |
| IP 1 .. Solid foreign objects diameter ≥ 50 mm | IP 10 | IP 11 | IP 12 | | | | | | |
| IP 2 .. Solid foreign objects diameter ≥ 12,5 mm | IP 20 | IP 21 | IP 22 | IP 23 | | | | | |
| IP 3 .. Solid foreign objects diameter ≥ 2,5 mm | IP 30 | IP 31 | IP 32 | IP 33 | IP 34 | | | | |
| IP 4 .. Solid foreign objects diameter ≥ 1 mm | IP 40 | IP 41 | IP 42 | IP 43 | IP 44 | | | | |
| IP 5 .. Dust-protected | IP 50 | | IP 52 | IP 53 | IP 54 | IP 55 | IP 56 | | |
| IP 6 .. Dust-tight | IP 60 | | | | IP 64 | IP 65 | IP 66 | IP 67 | IP 68 |

* Depth and duration of immersion must be specified!

IP69K - Water at high pressure / steam jet cleaning

Note: IP67/IP69K does not include IP68



perfect in sensors.

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