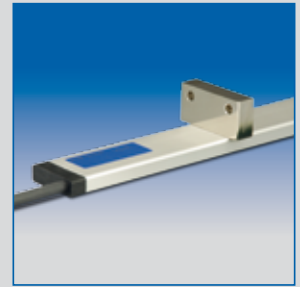




perfect in sensors.



magnetostrictive linear

Position sensors

compact ■ contactless ■ wear free

POSICHRON® series

POSICHRON® – Position Sensors

Contents



Contents	Page
The Company and the Products	3
Selection Guide for POSICHRON® Position Sensors	4/5
Analog Output Overview	6
POSICHRON® – The Functional Principle	7
PCQA22 Position sensor in square profile	8
PCQA24 Position sensor in square profile	14
PCFP23 Position sensor in flat profile	22
PCFP24 Position sensor in flat profile	28
PCFP25 Position sensor in ultra flat profile	34
PCRP21 Position sensor in round profile	40
PCRP32 Position sensor in stainless steel pressure housing	46
PCST24 Rod-style position sensor	52
PCST27 Rod-style position sensor	58
PCST25 Rod-style position sensor	64
O-ring sealing PCSTxx O-ring sealing for Rod-style position sensors	70
Magnets PCSTxx Magnets for Rod-style position sensors	71
Output Specifications	
U1, U2, U8 0 ... 10 V; 0.5 ... 10 V; 0.5 ... 4.5 V	76
I1 4 ... 20 mA	76
Description of output options	78
SSI Synchronous Serial Interface	79
CANOP CANopen-Bus	80
CANJ1939 CAN SAE J1939	81
Connector Cables	82/83
PRODIS®-ADC Digital process meter for analog sensors	84
PRODIS®-SSI Digital process meter for sensors with SSI output	86
Protection class according to EN 60529	90
ASM contact	91

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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, rotatory and angular positions. With over 33 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 9001:2008 certified quality management system guarantee these high standards.

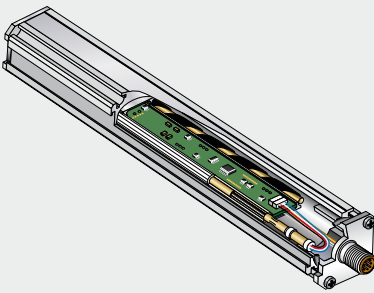
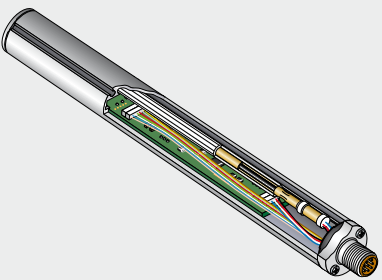
ASM – Global Supplier of Position Sensors

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 able to provide quick product availability wherever ASM sensors are needed.

The Product Range

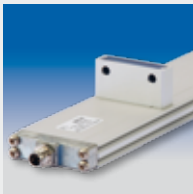
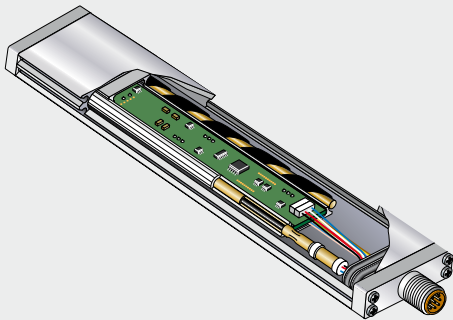
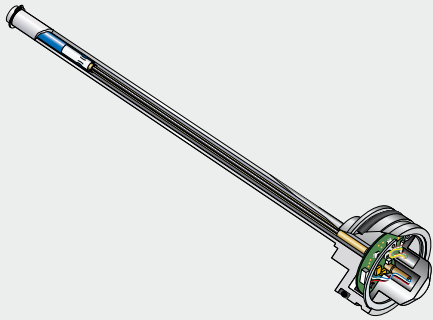
- **POSIWIRE®** Cable Extension Position Sensors
- **POSITAPE®** Tape Extension Position Sensors
- **POSICHRON®** Magnetostrictive Position Sensors
- **POSIMAG®** Magnetic Scale Position Sensors
- **POSIROT®** Magnetic Angle Sensors
- **POSITILT®** Inclination Sensors MEMS
- **PRODIS®** Digital Process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

Selection Guide for POSICHRON® Position Sensors

Selection features	Model			
				
	PCQA22	PCQA24	PCRP21	PCRP32
Measurement range				
100 ... 5750 mm	•	•	•	•
Analogausgänge¹⁾				
0 ... 10 V				
0.5 ... 10 V				
0.5 ... 4.5 V	•	•	•	•
4 ... 20 mA				
Digital outputs				
SSI	•	•	•	•
CANopen	•	•	•	•
CAN SAE J1939	•	•	•	•
Protection class				
Standard	IP64	IP67	IP64	IP68/IP69K
optional	–	IP67/IP69K*	–	–
Housing profile				
	square		round	
				

¹⁾ = 1 or 2 position magnets;
Position and velocity;
Scalable (PMU)

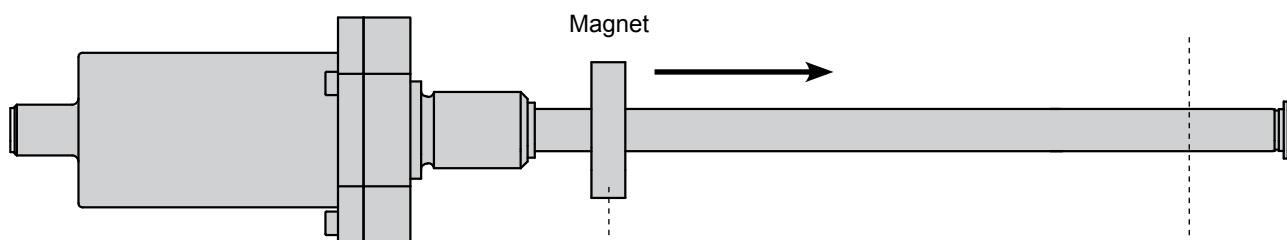


					
PCFP23	PCFP24	PCFP25	PCST24	PCST25	PCST27
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
•	•	•	•	•	•
IP64	IP67	IP64	IP67	IP67	IP68/IP69K
—	IP67/IP69K*	IP67	IP67/IP69K*	IP67/IP69K	—
flat			rod-style		
					

* = with the appropriate connector IP67/IP69K

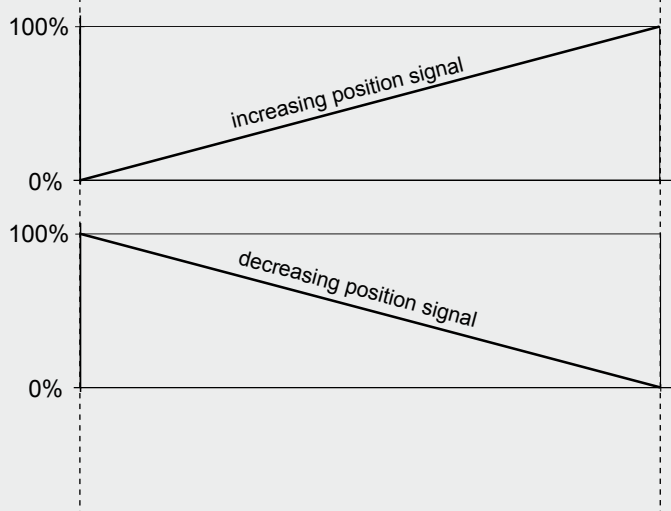
POSICHRON®

Analog Output Overview

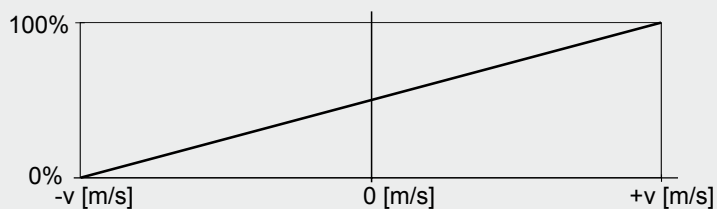


Analog 1 or 2 channel Configurable

U1	0 ... 10 V / 10 ... 0 V
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
(centred)



Centred velocity output signal
without direction detection



POSICHRON® – The Functional Principle

POSICHRON® is an absolute, contactless 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).

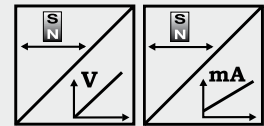
This time difference can be converted using various well-known methods into analog or digital output signals.





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
- Wear free position magnet
- Contactless
- 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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Connector M12, 8 pin / cable 2 m
EMC, temperature	Refer to output specification

**Order code PCQA22
1 channel**

PCQA22 - [] - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

M12 = Connector M12, 8 pin
KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 20)

PCQA-BFS1

PCQA22

Square Profile Housing with Analog Output

Order Code PCQA22

2 channel,
configurable

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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

M12 = Connector M12, 8 pin
KAB2M = Cable, standard length 2 m, other lengths upon request

1. Order example: PCQA22 - 1000 - I1 - P1A - P2D - L10 - M12

Square 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)

2. Order example: PCQA22 - 1000 - U2 - P1A - VZ1.0 - L10 - M12

Square 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)

Order code position magnet/slider (see page 21)

PCMAG ...

Order code mating connecting cable (see page 82)

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

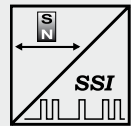
PCQA22

Square Profile Housing with SSI Output



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
- Wear free position magnet
- Contactless
- 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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Connector M12, 8 pin / cable 2 m
EMC, temperature	Refer to output specification

Order Code PCQA22

Model name	PCQA22 - [] - [] - [/ /] - [] - []
Measurement range (in mm)	100 ... 5750 (in 10 mm increments) other lengths upon request
Resolution (in µm)	5 / 10 / 20 / 50 / 100
Output	SSI = Synchronous serial interface
Code	G / D = Gray / Dual
Number of data bits	24 / 25
Linearity	L02 / L02MM / L10 (for definition see "Specifications" above)
Connection	M12 = Connector M12, 8 pin KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 20)

PCQA-BFS1

Order code position magnet/slider (see page 21)

PCMAG ...

Order code mating connecting cable (see page 82)

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

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

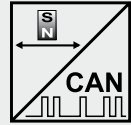
PCQA22

Square Profile Housing with CAN Output



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
- Wear free position magnet
- Contactless
- 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 (connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	5 pin socket M12
EMC, temperature	Refer to output specification

Order Code PCQA22

PCQA22 - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

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

Linearity

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

Connection

M12/CAN = Connector M12, 5 pin

Order code mounting set (see page 20)

PCQA-BFS1

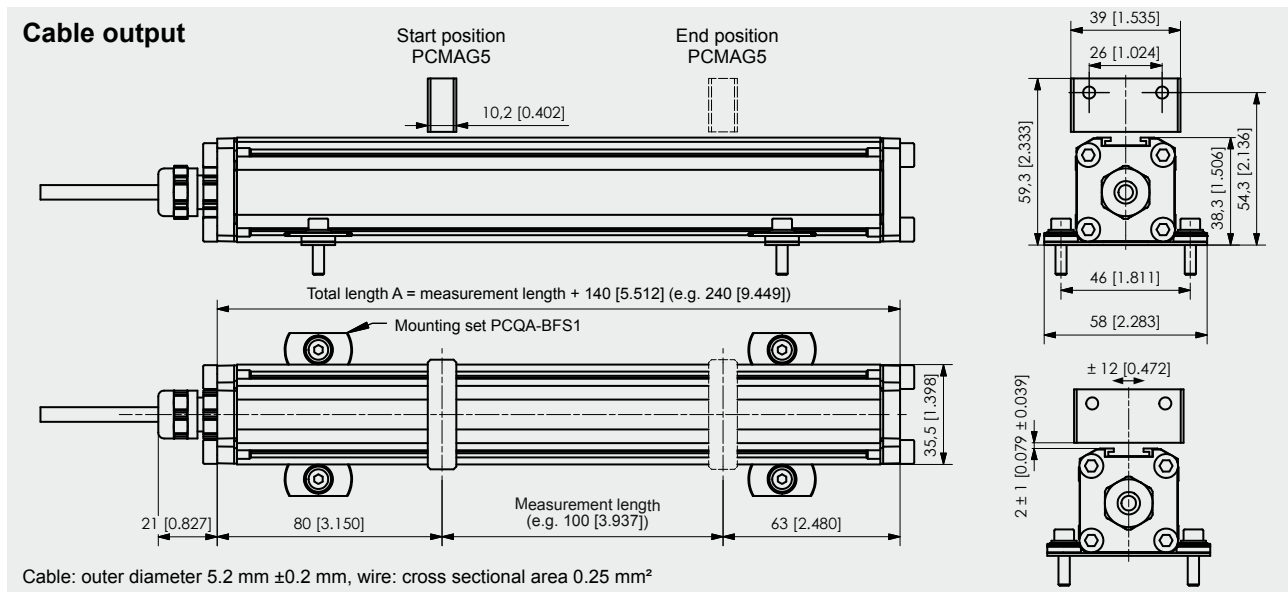
Order code position magnet/slider (see page 21)

PCMAG ...

Order code bus cable (see page 83)

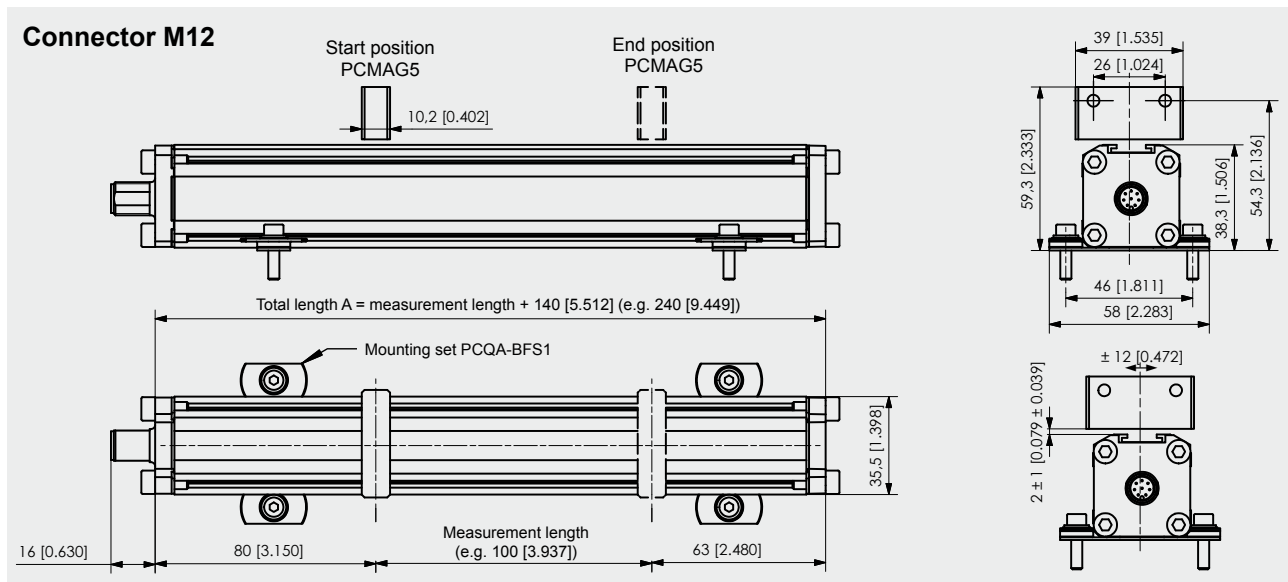
KAB-...M-M12/5F/G-M12/5M/G - CAN

Order example: PCQA22 - 2000 - CANOP - L10 - M12/CAN



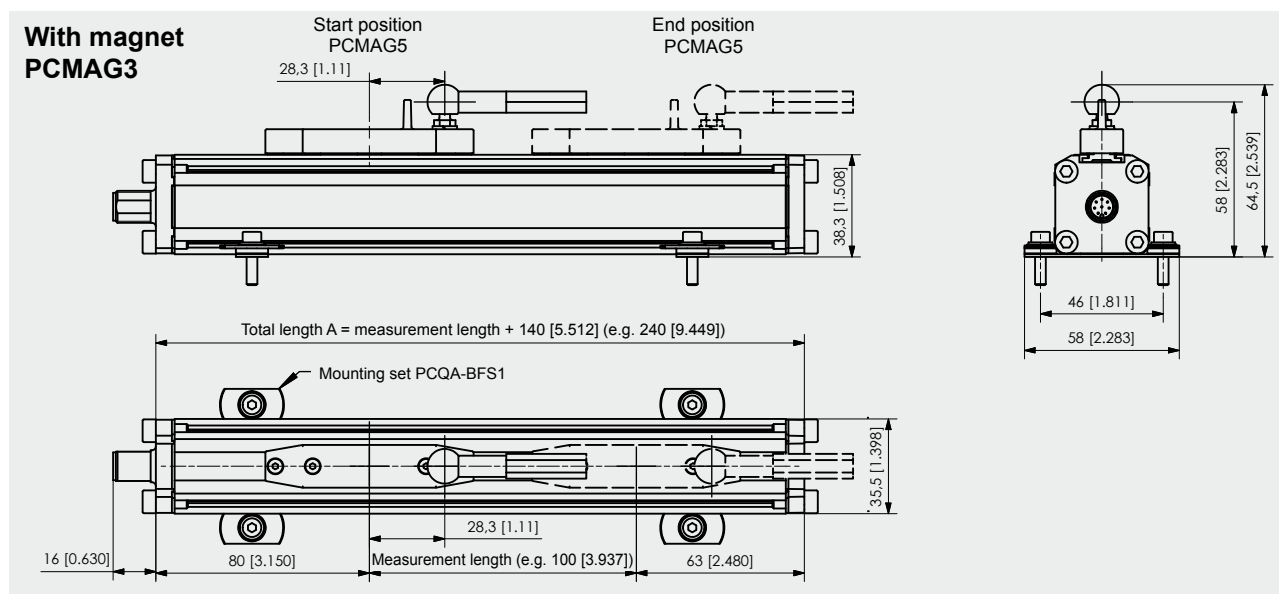
Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

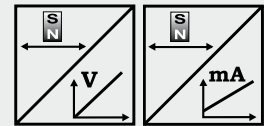
PCQA24

Square Profile Housing with Analog Output



POSICHRON® position sensor in square profile

- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wear free position magnet
- Contactless
- 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 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Connector M12, 8 pin / cable 2 m
EMC, temperature	Refer to output specification

Order code PCQA24 1 channel

PCQA24

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

M12 = Connector M12, 8 pin
KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 20)

PCQA-BFS1

PCQA24

Square Profile Housing with Analog Output

Order Code PCQA24

2 channel,
configurable

PCQA24

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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

M12 = Connector M12, 8 pin
KAB2M = Cable, standard length 2 m, other lengths upon request

1. Order example: PCQA24 - 1000 - I1 - P1A - P2D - L10 - M12

Square 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)

2. Order example: PCQA24 - 1000 - U1 - P1A - VZ1.0 - L10 - M12

Square 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)

Order code position magnet/slider (see page 21)

PCMAG ...

Order code mating connecting cable (see page 82)

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

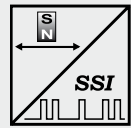
PCQA24

Square Profile Housing with SSI Output



POSICHRON® position sensor in square profile

- Protection class IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wear free position magnet
- Contactless
- 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 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	8 pin socket / cable 2 m
EMC, temperature	Refer to output specification

Order Code PCQA24

Model name	PCQA24 - [] - [] - [/] - [] - []
Measurement range (in mm)	100 ... 5750 (in 10 mm increments) other lengths upon request
Resolution (in µm)	5 / 10 / 20 / 50 / 100
Output	SSI = Synchronous serial interface
Code	G / D = Gray / Dual
Number of data bits	24 / 25
Linearity	L02 / L02MM / L10 (for definition see "Specifications" above)
Connection	M12 = Connector M12, 8 pin KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 20)

Order code position magnet/slider (see page 21)

Order code mating connecting cable (see page 82)

PCQA-BFS1

PCMAG ...

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

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

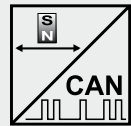
PCQA24

Square Profile Housing with CAN Output



POSICHRON® position sensor in square profile

- Protection class IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Easy installation with mounting brackets
- Wear free position magnet
- Contactless
- 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	P67 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	5 pin socket M12
EMC, temperature	Refer to output specification

Order Code PCQA24

Model name

Measurement range (in mm)

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

Output

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

Linearity

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

Connection

M12/CAN = Connector M12, 5 pin

PCQA24 - [] - [] - [] - []

Order code mounting set (see page 20)

PCQA-BFS1

Order code position magnet/slider (see page 21)

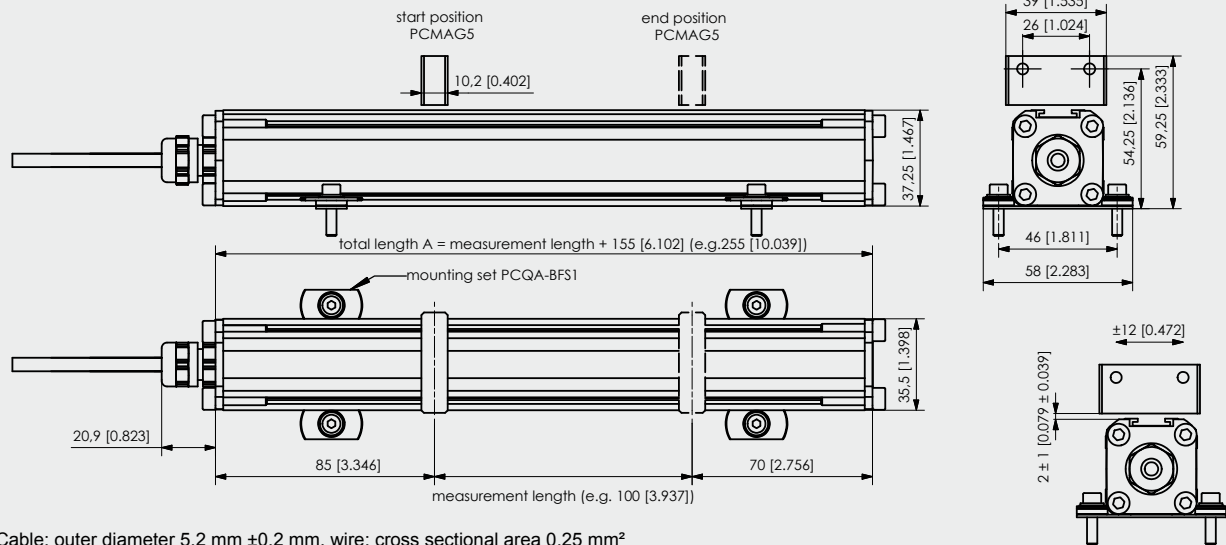
PCMAG ...

Order code bus cable (see page 83)

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

Order example: PCQA24 - 1000 - CANOP - L10 - M12/CAN

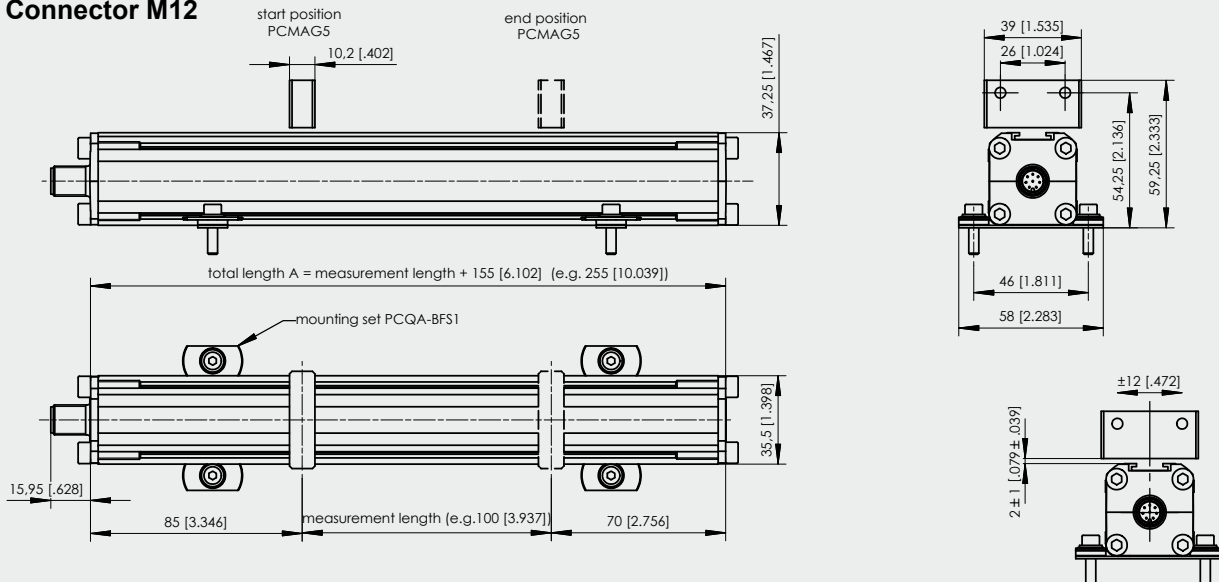
Cable output



Dimensions in mm [inch]

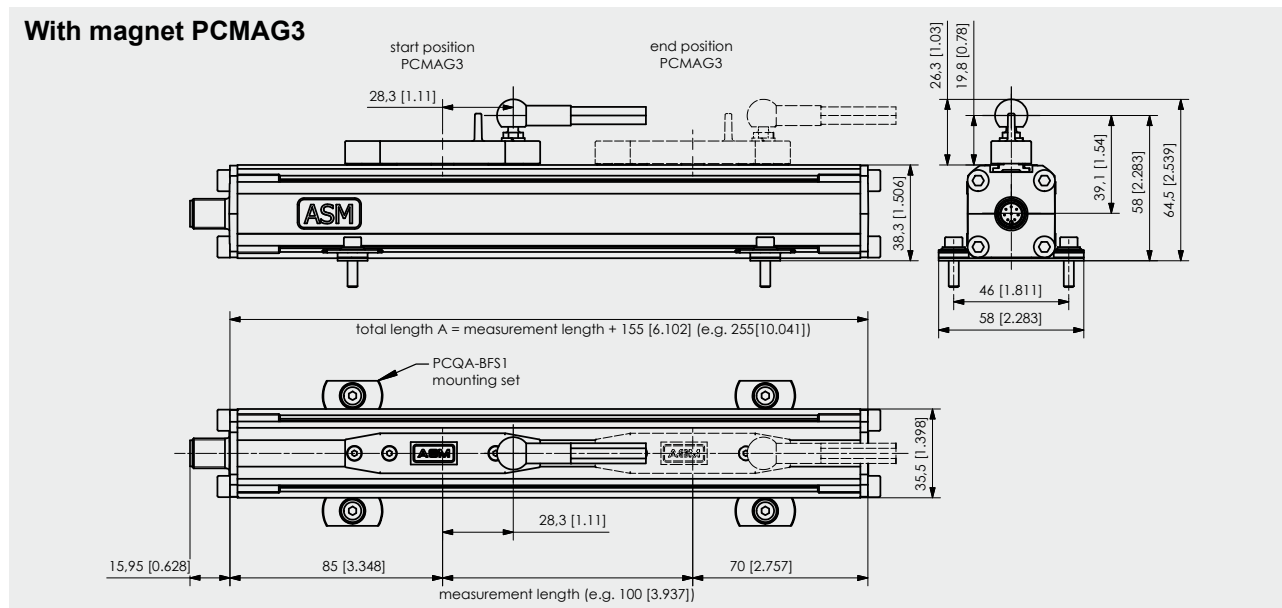
Dimensions informative only. For guaranteed dimensions consult factory.

Connector M12



Dimensions in mm [inch]

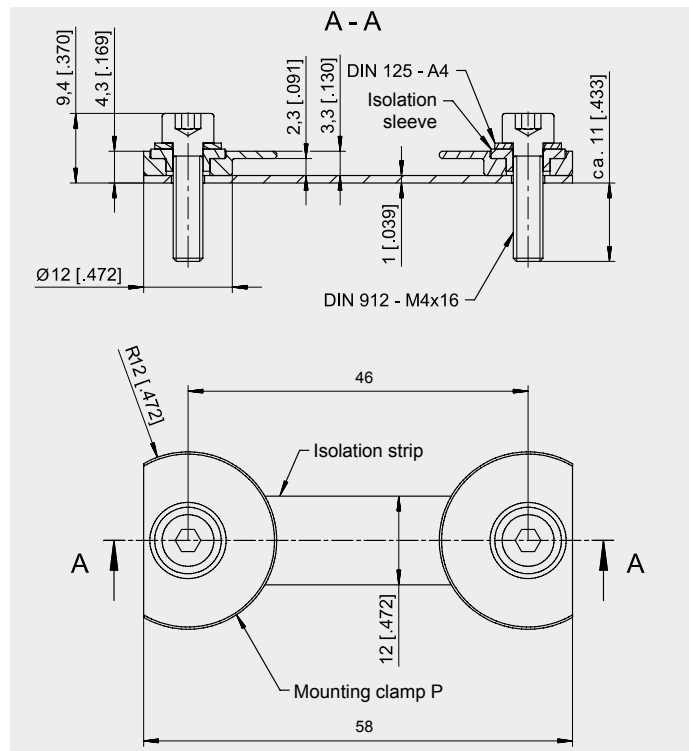
Dimensions informative only. For guaranteed dimensions consult factory.



Dimensions in mm [inch]

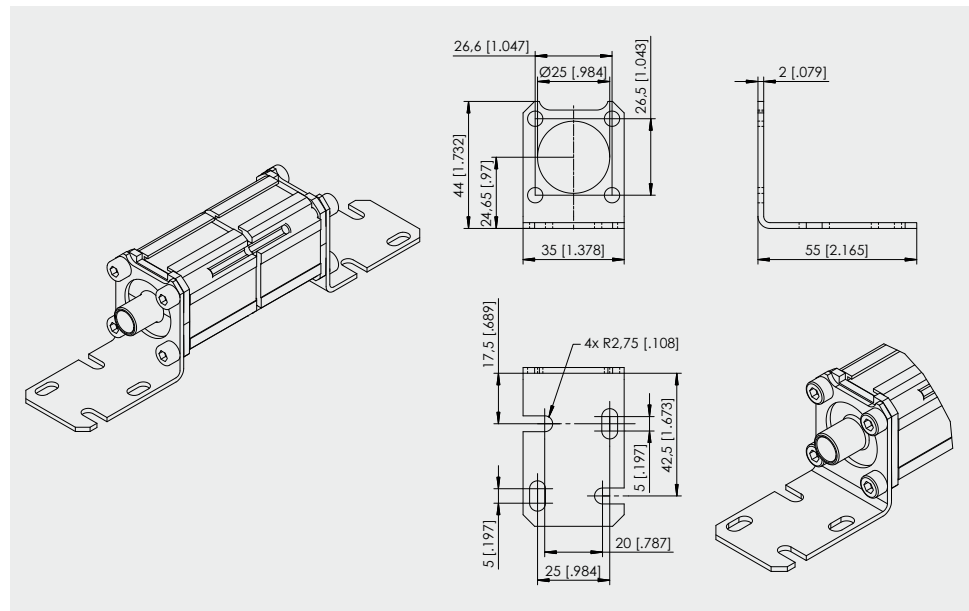
Dimensions informative only. For guaranteed dimensions consult factory.

**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.



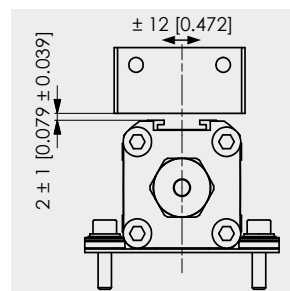
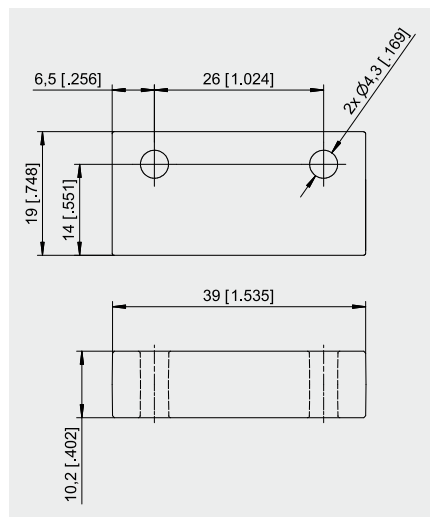
Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

Order example: PCQA24 - 1000 - U2 - P1A - L10 - M12 - BFW

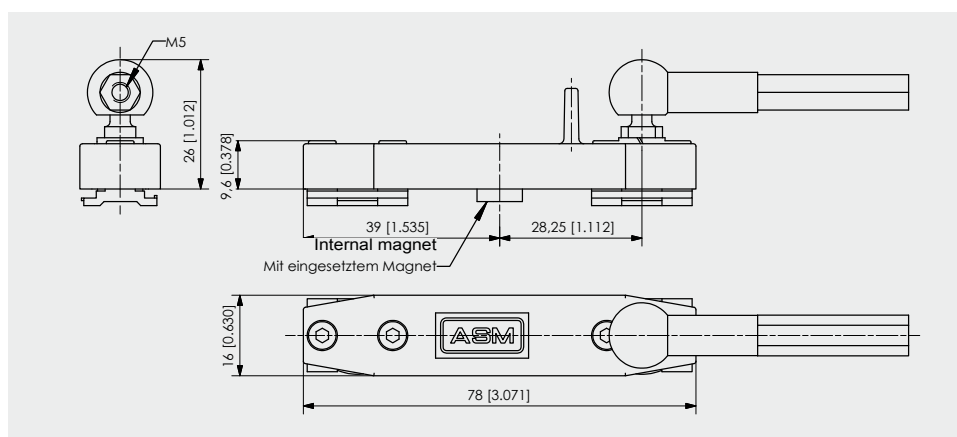
PCMAG5

Standard magnet



PCMAG3

Guided magnet
slider with internal
position magnet

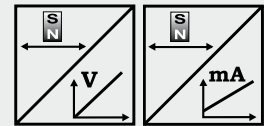


Dimensions in mm [inch]

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
- Contactless
- 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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	4 pin socket M8 / cable 2 m
EMC, temperature	Refer to output specification

Order code PCFP23
1 channel
PCFP23**Model name****Measurement range (in mm)**

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

Output

U1 = 0 ... 10 V signal conditioner
 U1/H = U1 with Alarm_HOLD (see page 78)
 U2 = 0.5 ... 10 V signal conditioner
 U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
 U8 = 0.5 ... 4.5 V signal conditioner
 U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
 I1 = 4 ... 20 mA signal conditioner (3 wire)
 I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

M8 = Connector M8, 4 pin
 KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 39)

PCFP23-BFS1

PCFP23

Flat Profile Housing with Analog Output

Order Code PCFP23

2 channel,
configurable

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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: PCFP23 - 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

3. Order example: PCFP23 - 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)

Order code position magnet (see page 39)

PCMAG5

Order code connection cable (see page 83)

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

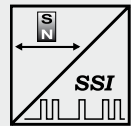
PCFP23

Flat Profile Housing with SSI Output



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
- Contactless
- Absolutely wear free and maintenance-free
- 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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order Code PCFP23

Model name	PCFP23 - [] - [] - [/] [/] - [] - []
Measurement range (in mm)	100 ... 5750 (in 10 mm increments) other lengths upon request
Resolution (in µm)	5 / 10 / 20 / 50 / 100
Output	SSI = Synchronous serial interface
Code	G / D = Gray / Dual
Number of data bits	24 / 25
Linearity	L02 / L02MM / L10 (for definition see "Specifications" above)
Connection	KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 39)

PCFP23-BFS1

Order code position magnet (see page 39)

PCMAG5

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

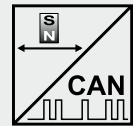
PCFP23

Flat Profile Housing with CAN Output



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
- Contactless
- Absolutely wear free and maintenance-free
- 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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 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

PCFP23 - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

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

Linearity

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

Connection

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

Order code mounting set (see page 39)

PCFP23-BFS1

Order code position magnet (see page 39)

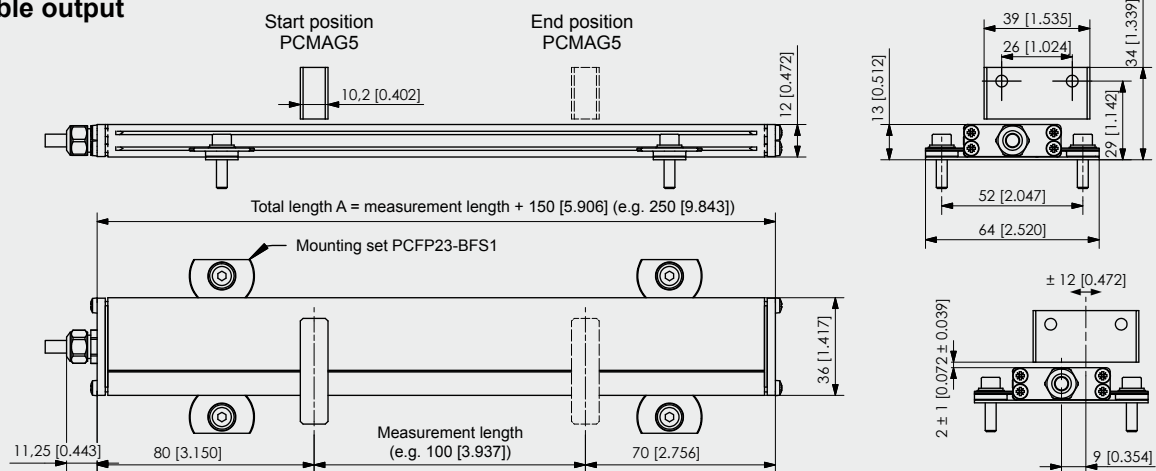
PCMAG ...

Order code bus cable (see page 83)

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

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

Cable output

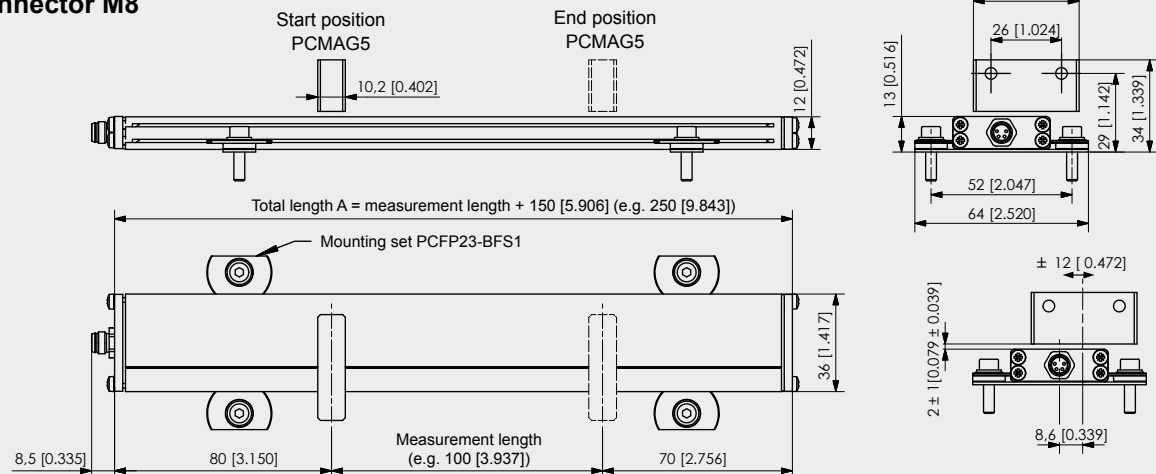


Cable: outer diameter 5.2 mm ± 0.2 mm, wire: cross sectional area 0.25 mm²

Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

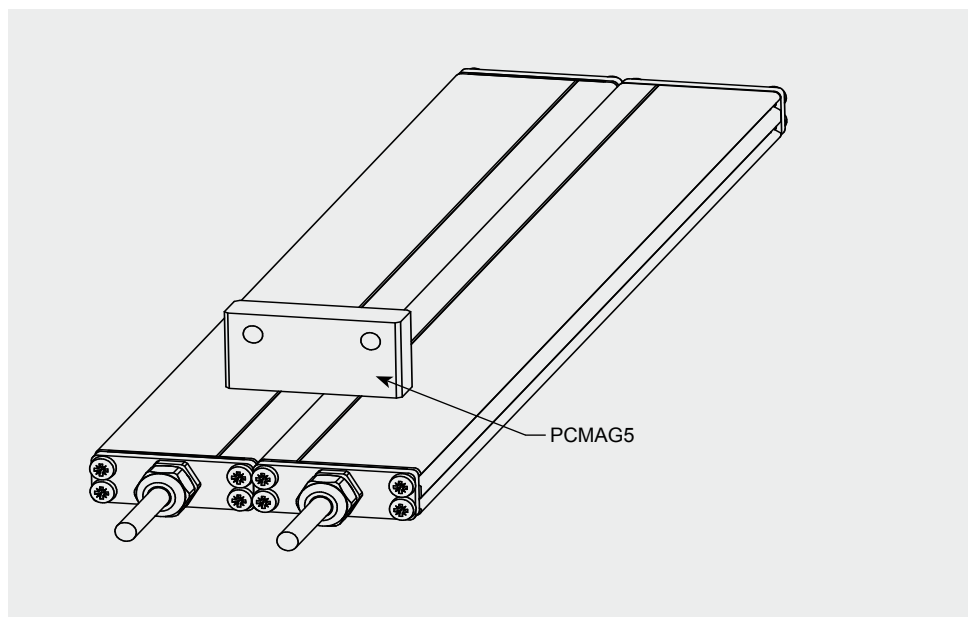
Connector M8



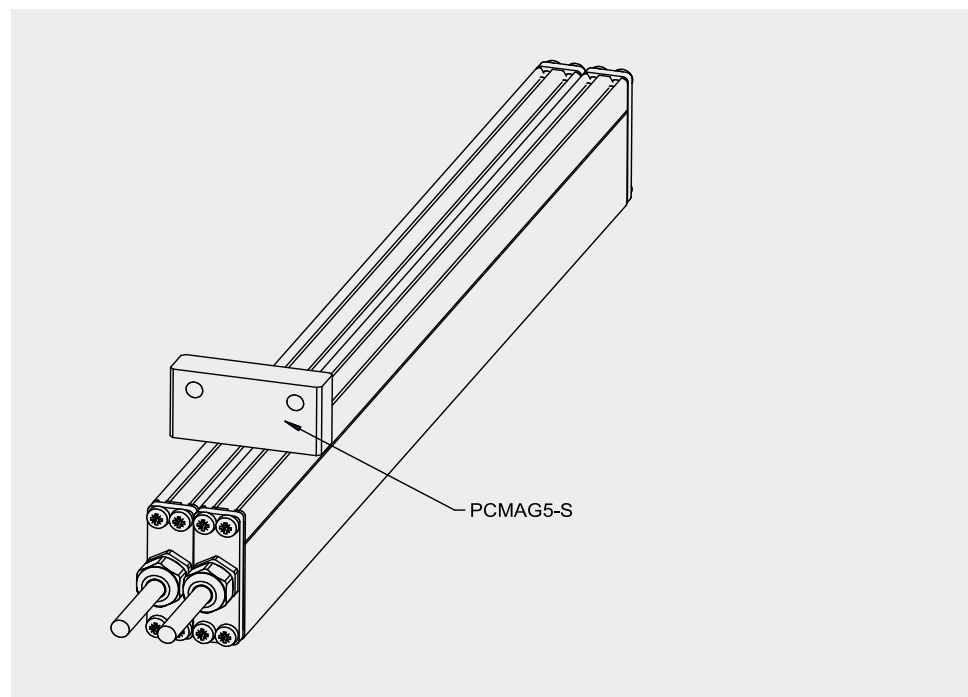
Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

**Horizontal
arrangement**



**Vertical
arrangement**



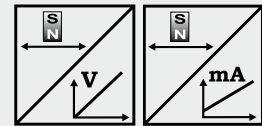
PCFP24

Flat Profile Housing with Analog Output



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

- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contactless
- Absolutely wear free and maintenance-free
- 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 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	4 pin socket M8 / cable 2 m
EMC, temperature	Refer to output specification

Order code PCFP24 1 channel

PCFP24 - [] - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

M8 = Connector M8, 4 pin
KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 39)

PCFP24-BFS1

PCFP24

Flat Profile Housing with Analog Output

Order Code PCFP24

2 channel,
configurable

PCFP24

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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: PCFP24 - 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)

2. Order example: PCFP24 - 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)

Order code position magnet (see page 39)

PCMAG5

Order code mating connecting cable (see page 83)

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

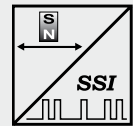
PCFP24

Flat Profile Housing with SSI Output



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

- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contactless
- Absolutely wear free and maintenance-free
- 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 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order Code PCFP24

PCFP24 - [] - [] - [/] [/] - [] - []

Model name

Measurement range (in mm)

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

Resolution (in µm)

5 / 10 / 20 / 50 / 100

Output

SSI = Synchronous serial interface

Code

G / D = Gray / Dual

Number of data bits

24 / 25

Linearity

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

Connection

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

Order code mounting set (see page 39)

PCFP24-BFS1

Order code position magnet (see page 39)

PCMAG5

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

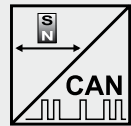
PCFP24

Flat Profile Housing with CAN Output



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

- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Ultra flat profile housing: only 12 mm high
- Easy installation with mounting brackets
- Contactless
- Absolutely wear free and maintenance-free
- 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	IP67 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 0,3 m with 5-pin connector M12
EMC, temperature	Refer to output specification

Order Code PCFP24

PCFP24 - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

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

Linearity

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

Connection

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

Order code mounting set (see page 39)

PCFP24-BFS1

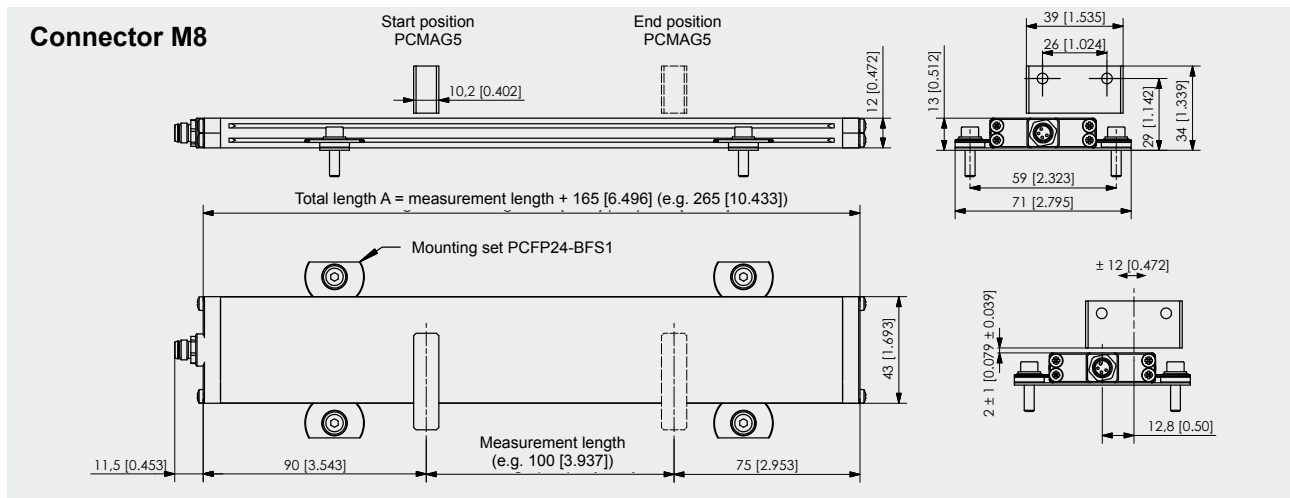
Order code position magnet (see page 39)

PCMAG5

Order code bus cable (see page 83)

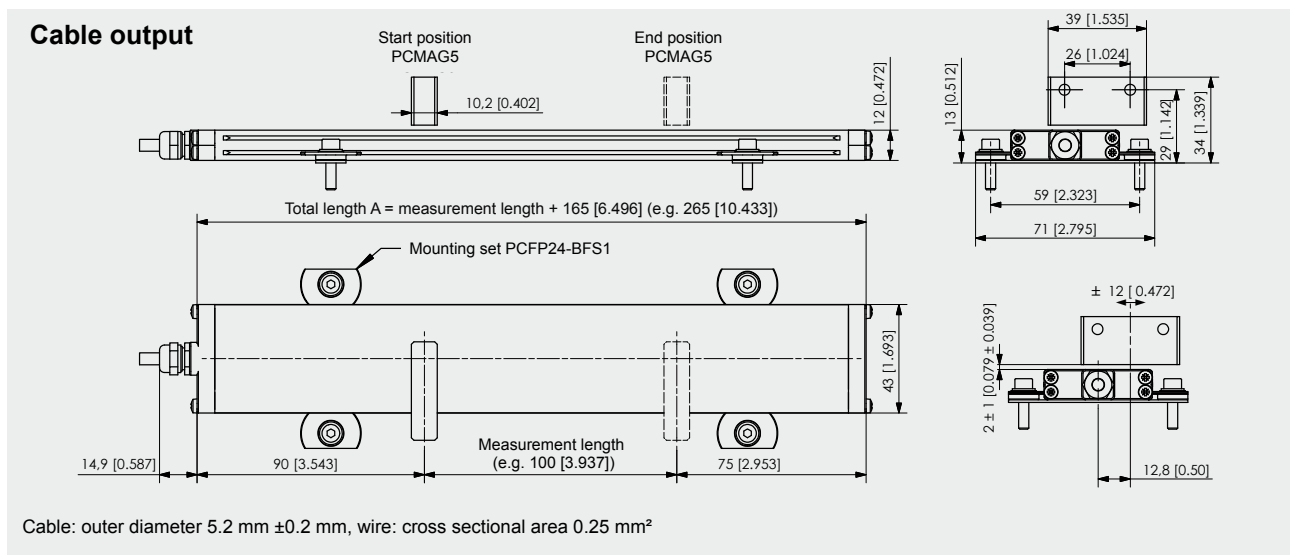
KAB-...M-M12/5F/G-M12/5M/G - CAN

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



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

PCFP24

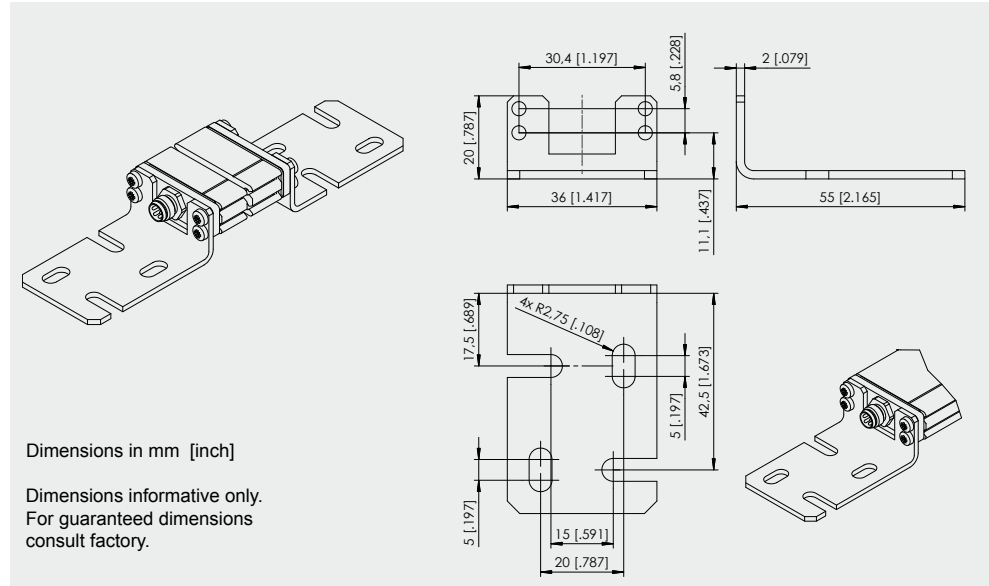
Flat Profile Housing

Option -BFW

Mounting brackets for
PCFP23

Note:

The option -BFW can only be ordered with a new sensor, not separately!
Applicable for sensor lengths up to 1000 mm. Not combinable with PCFP23-BFS1.



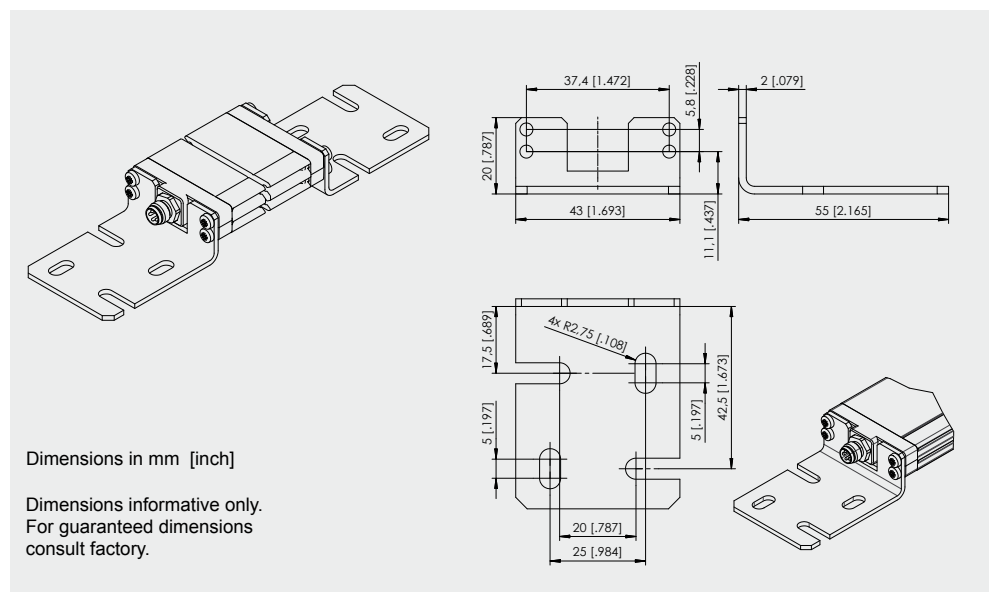
Order example: PCFP23 - 1000 - STSP - L02 - M8 - BFW

Option -BFW

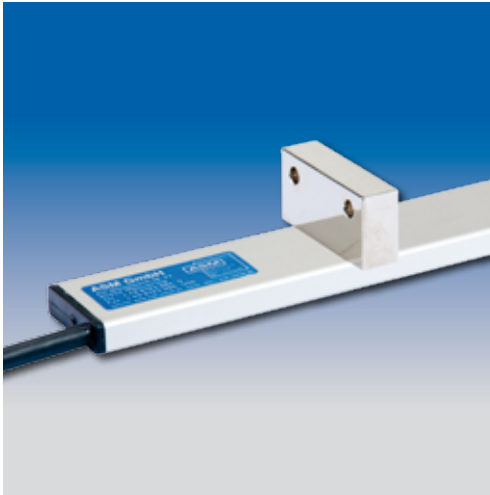
Mounting brackets for
PCFP24

Note:

The option -BFW can only be ordered with a new sensor, not separately!
Applicable for sensor lengths up to 1000 mm. Not combinable with PCFP24-BFS1.

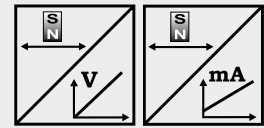


Order example: PCFP24 - 1000 - STSP - L02 - M8 - BFW



Ultra flat POSICHRON® position sensor

- Only 8 mm high and 28 mm wide
- Protection class up to IP67
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Absolutely wear free and maintenance-free
- Wide variety of mounting
- 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
Material	AlMgSi1 and plastic
Protection class	IP64 (optional IP67)
Connection	Cable 2 m
Shock	EN 60068-2-27:2010, 50 g/11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
EMC, temperature	Refer to output specification

Order code PCFP25 1 channel

PCFP25

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

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

Order code position magnet (see page 39)

PCFP25-BFS1

PCFP25

Ultra flat Profile Housing with analog Output

Order Code PCFP25

**2 channel,
configurable**

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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

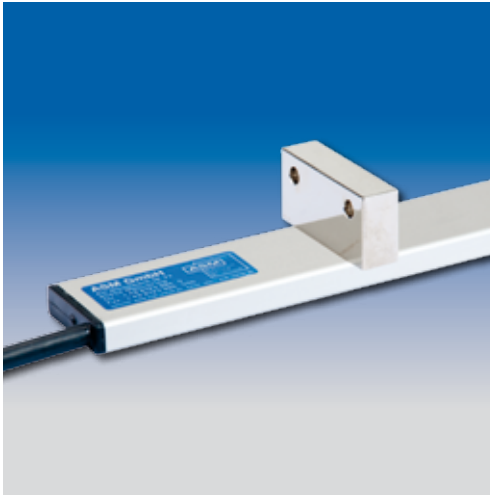
Flat profile, measurement range 1000 mm, 2 current outputs 4 ... 20 mA (I1)

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

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

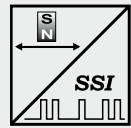
Order code position magnet (see page 39)

PCMAG5



Ultra flat POSICHRON® position sensor

- Only 8 mm high and 28 mm wide
- Protection class up to IP67
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Absolutely wear free 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	IP64 (optional IP67)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order Code PCFP24

PCFP25 - [] - [] - [/] [/] - [] - []

Model name

Measurement range (in mm)

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

Resolution (in µm)

5 / 10 / 20 / 50 / 100

Output

SSI = Synchronous serial interface

Code

G / D = Gray / Dual

Number of data bits

24 / 25

Linearity

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

Connection

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

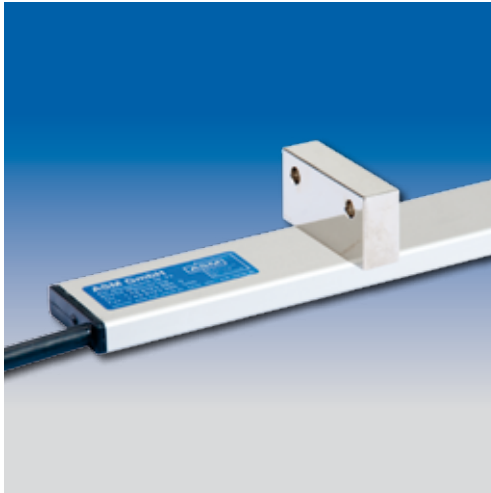
Order code mounting set (see page 39)

PCFP25-BFS1

Order code position magnet (see page 39)

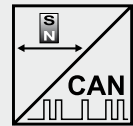
PCMAG5

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



Ultra flat POSICHRON® position sensor

- Only 8 mm high and 28 mm wide
- Protection class up to IP67
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Absolutely wear free 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	IP64 (optional IP67)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable (length 0.3 m) with 5-pin connector M12
EMC, temperature	Refer to output specification

Order Code PCFP25

PCFP25 - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

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

Linearity

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

Connection

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

Order code mounting set (see page 39)

PCFP25-BFS1

Order code position magnet (see page 39)

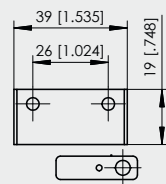
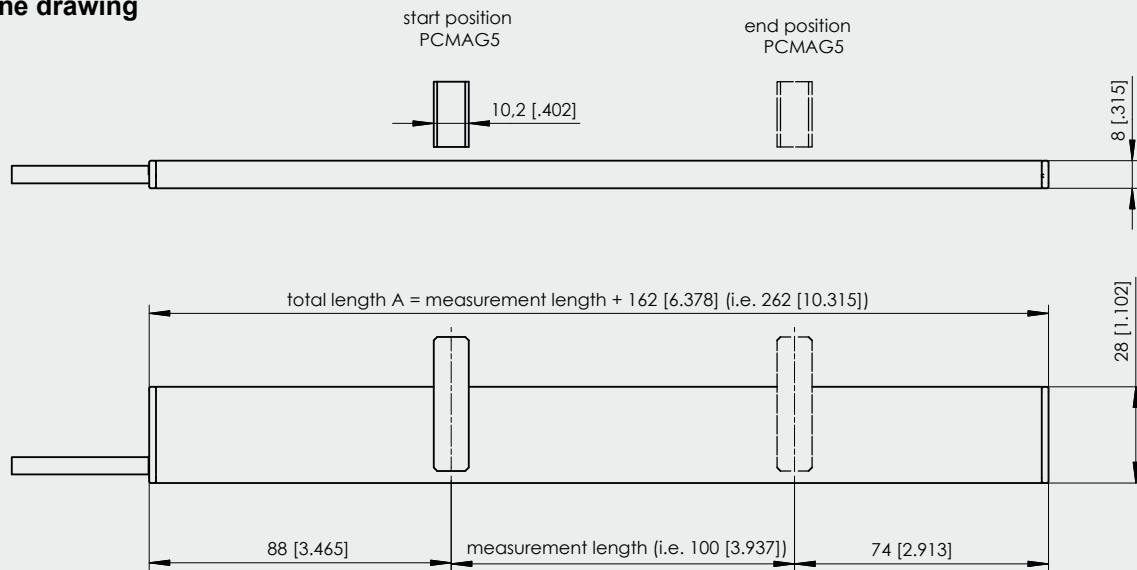
PCMAG5

Order code bus cable (see page 83)

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

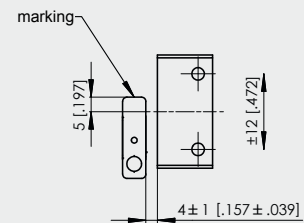
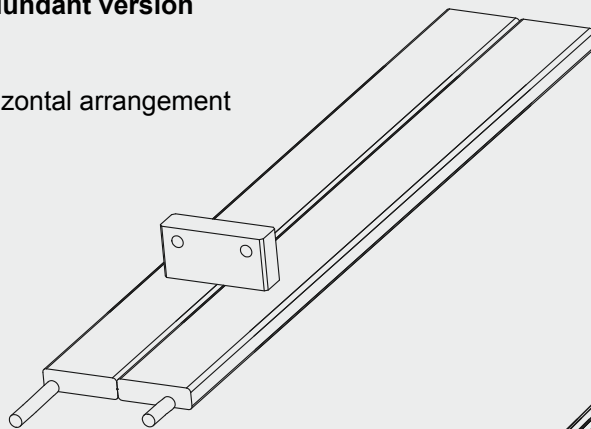
Order example: PCFP25 - 2000 - CANOP - L10 - KAB0,3M-M12/CAN

Outline drawing

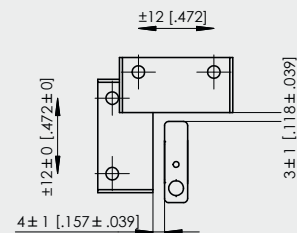


Redundant version

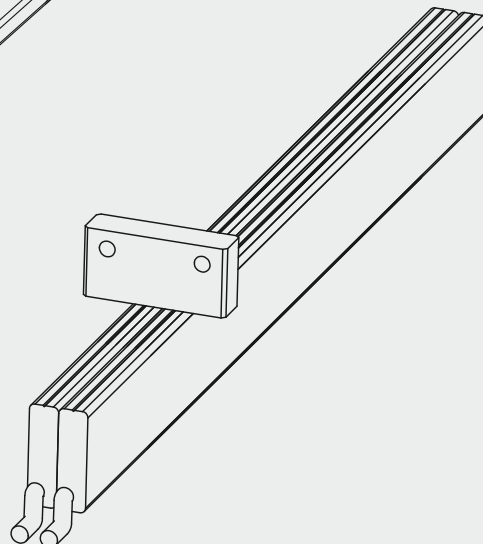
Horizontal arrangement



alternative magnet positions



Vertical arrangement

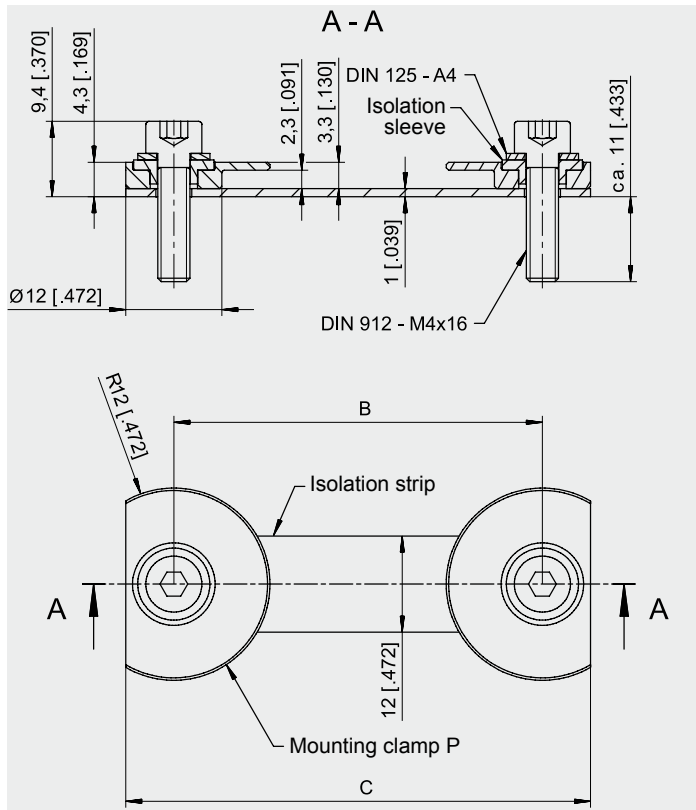


Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

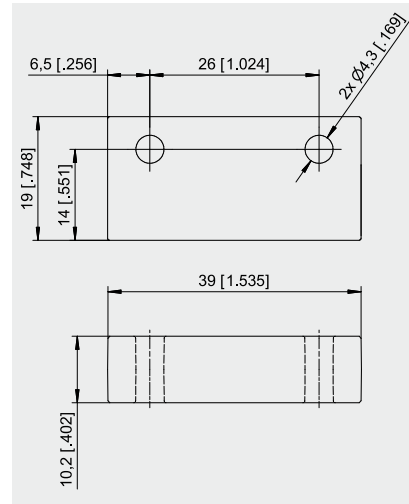
PCFP23-BFS1 and PCFP24-BFS1

Mounting set for PCFP23, PCFP24



PCMAG5

Standard magnet



Dimensions in mm [inch]

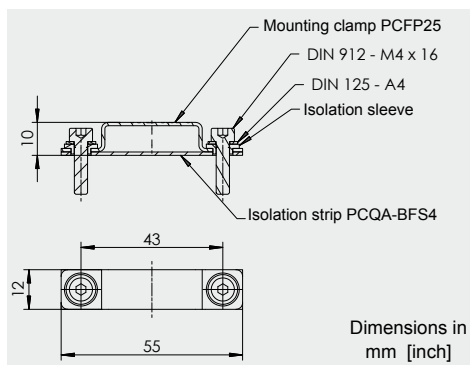
Dimensions informative only.
For guaranteed dimensions consult factory.

Dimensions BFS1

POSICHRON Model	Dim. B [mm]	Dim. C [mm]
PCFP23	52	64
PCFP24	59	71

PCFP25-BFS1

Mounting set for
PCFP25



Dimensions in
mm [inch]

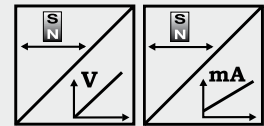
PCRP21

Round Profile Housing with Analog Output



POSICHRON® position sensor in round profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- Absolutely wearless and maintenance-free 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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Connector M12, 8 pin / cable 2 m
EMC, temperature	Refer to output specification

Order code PCRP21 1 channel

PCRP21 - [] - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

M12 = Connector M12, 8 pin
KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 51)

PCRP21-BFS4

PCRP21

Round Profile Housing with Analog Output

Order Code PCRP21

**2 channel,
configurable**

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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

M12 = Connector M12, 8 pin
KAB2M = Cable, standard length 2 m, other lengths upon request

1. Order example: PCRP21 - 1000 - U2 - P1D - L10 - M12

Round 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: PCRP21 - 1000 - I1 - P1A - P2D - L10 - M12

Round 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)

Order code position magnets (see page 51)

PCMAG ...

Order code mating connecting cable (see page 82)

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

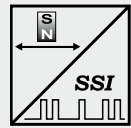
PCRP21

Round Profile Housing with SSI Output



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
- Absolutely wear free and maintenance-free
- 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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Connector M12, 8 pin / cable 2m
EMC, temperature	Refer to output specification

Order Code PCRP21

Model name	PCRP21 - [] - [] - [/] [/] - [] - []
Measurement range (in mm)	100 ... 5750 (in 10 mm increments) other lengths upon request
Resolution (in µm)	5 / 10 / 20 / 50 / 100
Output	SSI = Synchronous serial interface
Code	G / D = Gray / Dual
Number of data bits	24 / 25
Linearity	L02 / L02MM / L10 (for definition see "Specifications" above)
Connection	M12 = Connector M12, 8 pin KAB2M = Cable, standard length 2 m, other lengths upon request

Order code mounting set (see page 51)

PCRP21-BFS4

Order code position magnets (see page 51)

PCMAG ...

Order code mating connecting cable (see page 82)

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

Order example: PCRP21 - 1000 - 5 - SSI/G/24 - L10 - M12

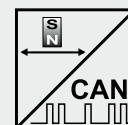
PCRP21

Round Profile Housing with CAN Output



POSICHRON® position sensor in round profile

- Protection class IP64
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- Absolutely wear free and maintenance-free
- CANopen bus



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 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	5 pin socket M12
EMC, temperature	Refer to output specification

Order Code PCRP21

PCRP21 - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

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

Linearity

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

Connection

M12/CAN = Connector M12, 5 pin

Order code mounting set (see page 51)

PCRP21-BFS4

Order code position magnet (see page 51)

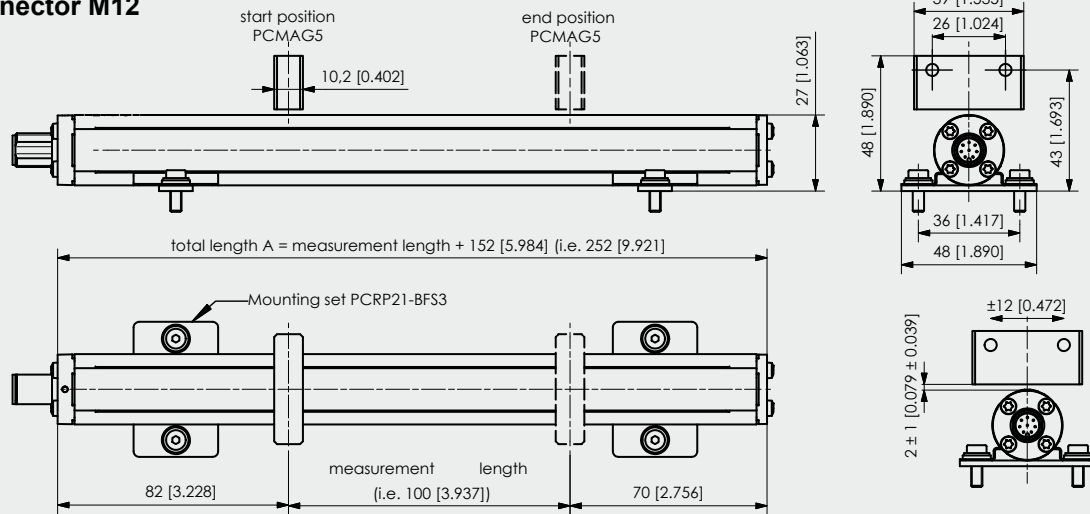
PCMAG ...

Order code bus cable (see page 83)

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

Order example: PCRP21 - 1000 - CANOP - L10 - M12/CAN

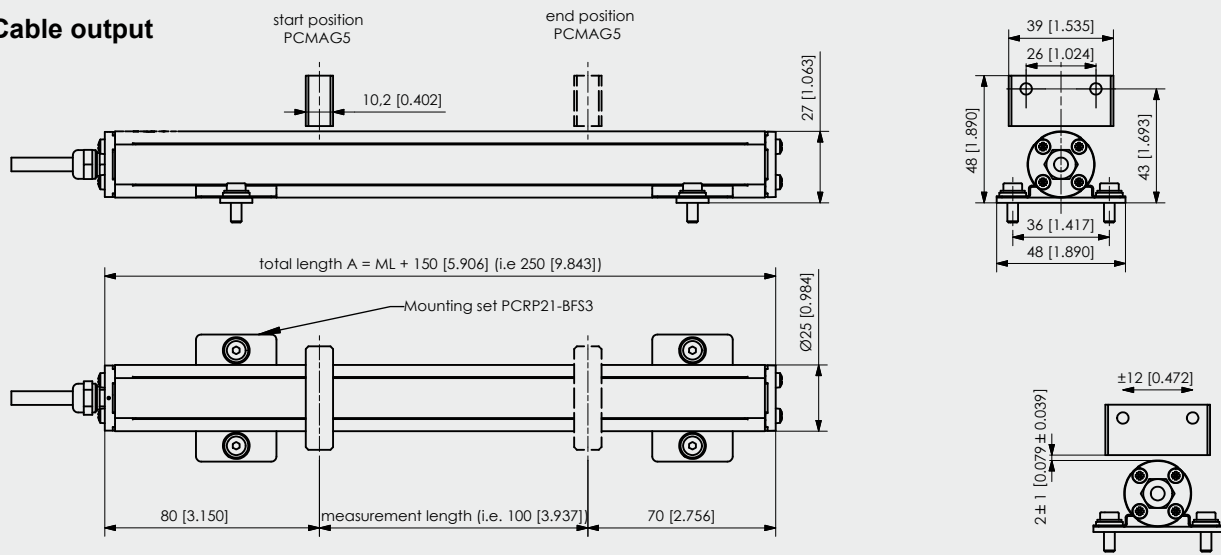
Connector M12



Dimensions in mm [inch]

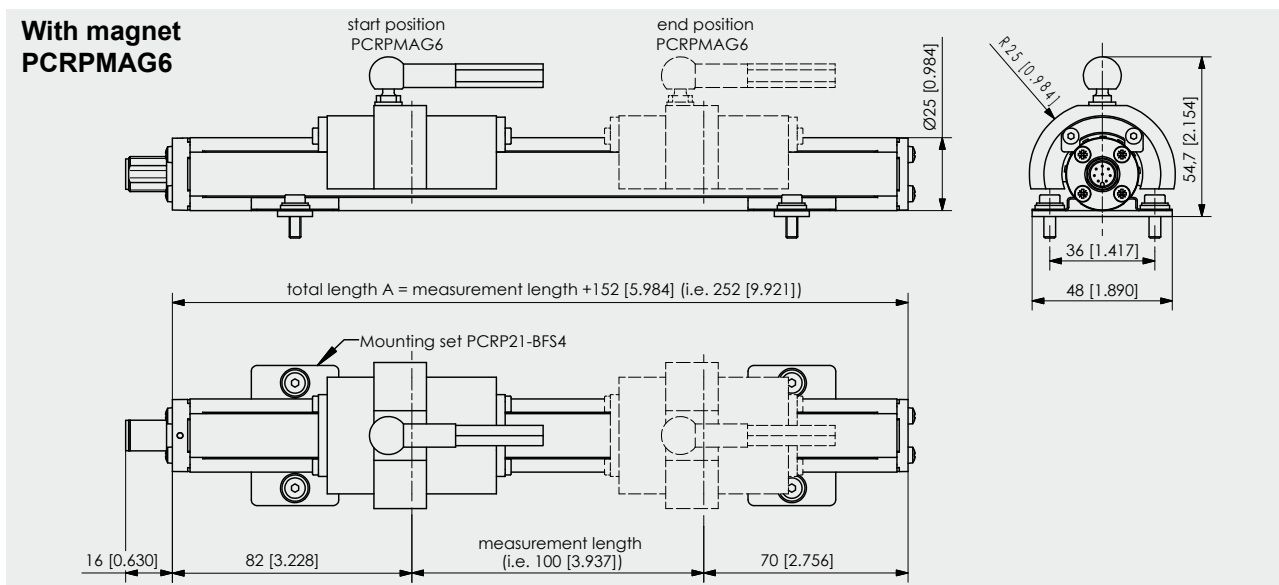
Dimensions informative only. For guaranteed dimensions consult factory.

Cable output



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

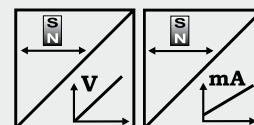
PCRP32

Round Profile Housing with Analog Output



POSICHRON® position sensor in a stainless steel pressure tube

- Protection class IP68/IP69K
- Underwater applications, permanent pressure-proof up to 15 bar
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- 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/IP69K (permanent pressure-proof up to 15 bar)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order code PCRP32 1 channel

PCRP32 - [] - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

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

Order code position magnet (see page 51)

PCMAG5

PCRP32

Round Profile Housing with Analog Output

Order Code PCRP32

**2 channel,
configurable**

Model name

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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: PCRP32 - 1000 - U2 - P1D - L02 - KAB2M

Round 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: PCRP32 - 1000 - I1 - P1A - P2D - L02 - KAB2M

Round 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)

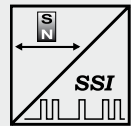
PCRP32

Round Profile Housing with SSI Output



POSICHRON® position sensor in a stainless steel pressure tube

- Protection class IP68/IP69K
- Underwater applications, permanent pressure-proof up to 15 bar
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- 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/IP69K (permanent pressure-proof up to 15 bar)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order Code PCRP32

PCRP32 - [] - [] - [] / [] / [] - [] - []

Model name

Measurement range (in mm)

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

Resolution (in µm)

5 / 10 / 20 / 50 / 100

Output

SSI = Synchronous serial interface

Code

G / D = Gray / Dual

Number of data bits

24 / 25

Linearity

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

Connection

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

Order code position magnet (see page 51)

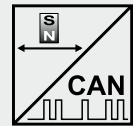
PCMAG5

Order example: PCRP32 - 2000 - 5 - SSI/G/24 - L02 - KAB2M



POSICHRON® position sensor in a stainless steel pressure tube

- Protection class IP68/IP69K
- Underwater applications, permanent pressure-proof up to 15 bar
- Measurement range 0 ... 100 bis 0 ... 5750 mm
- Absolute position measurement
- Contactless
- Seawater-proof
- CANopen bus or CAN SAE J1939 output



Specifications

Output	CANopen bus; CAN SAE J1939
Resolution	50 µm
Sampling rate	Up to 1 kHz, depending on the measurement range
Linearity	Ranges >500 mm: L10 = ±0.10 % f.s. L02 = ±0.02 % f.s. Ranges ≤500 mm: L10 = ±0.5 mm L02MM = ±0.2 mm
Repeatability	±3 µm
Housing material	Stainless steel 1.4404
Protection class	IP68/IP69K (permanent pressure-proof up to 15 bar)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order Code PCRP32

PCRP32 - [] - [] - [] - []

Model name

Measurement range (in mm)

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

Output

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

Linearity

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

Connection

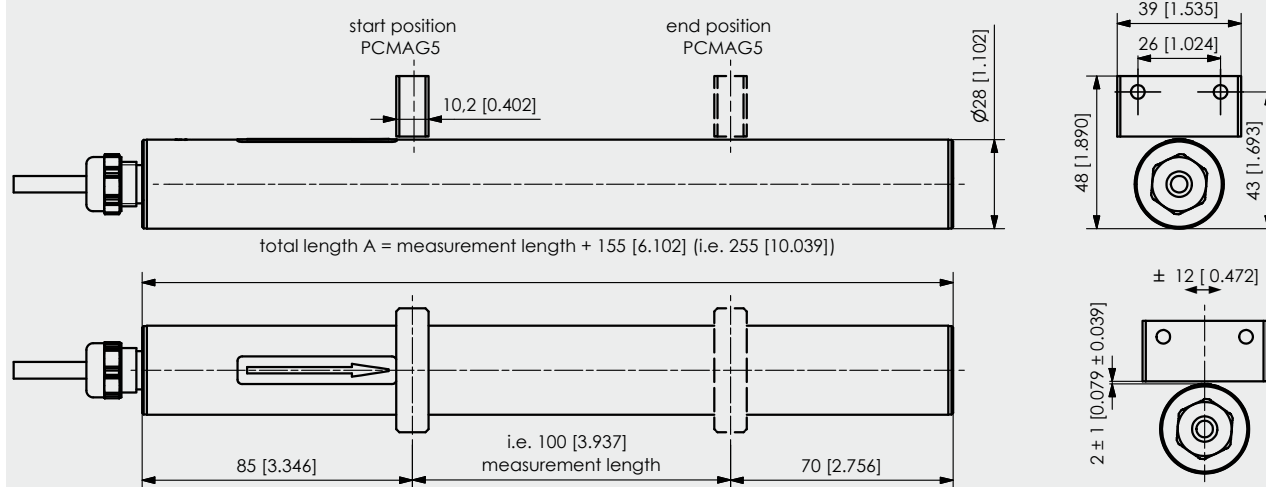
KAB2M = Cable, standard length 2 m, other lengths upon request

Order code position magnet (see page 51)

PCMAG5

Order example: PCRP32 - 2000 - CANOP - L10 - KAB2M

Cable output



Dimensions in mm [inch]

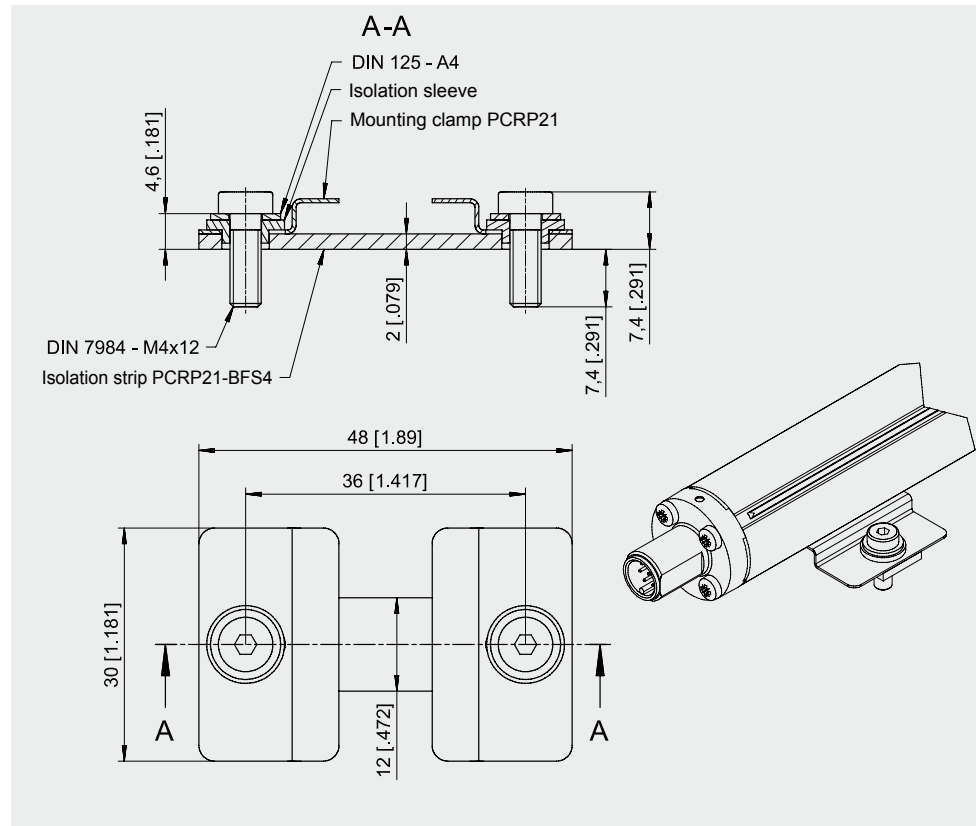
Dimensions informative only. For guaranteed dimensions consult factory.

PCRP

Mounting set - Magnets

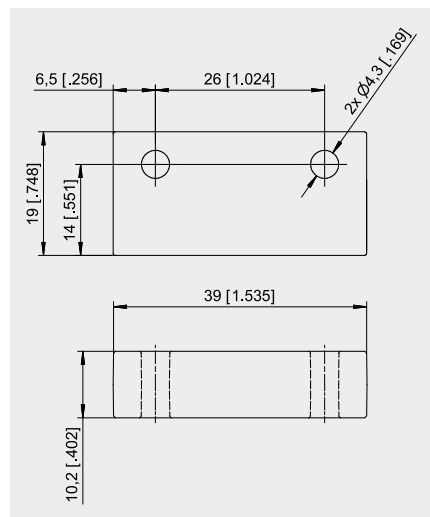
PCRP21-BFS4

Mounting set for
PCRP21



PCMAG5

Standard magnet

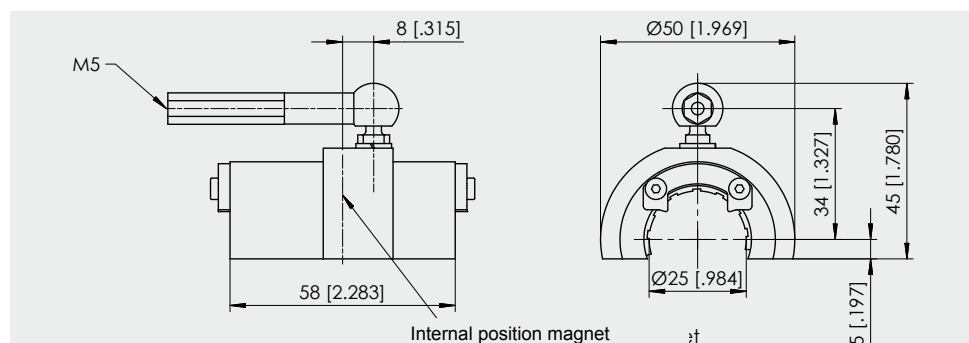


Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

PCRPMAG6

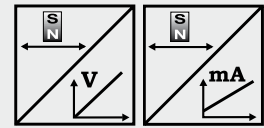
Guided magnet slider
for PCRP21 with internal
position magnet



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

PCST24**Rod-Style Design with Analog Output****POSICHRON® rod-style position sensor**

- For hydraulic cylinders, fluid level measurement
- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- 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 μ m
Housing material	Sensor rod: stainless steel 1.4404, head: AlMgSi
Mounting	Thread M18x1,5 / thread $\frac{3}{4}$ inch
Working pressure of sensor rod	400 bar, other values on request
Protection class	IP67 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	8 pin socket M12, cable 2 m
EMC, temperature	Refer to output specification

**Order code PCST24
1 channel****Model name****PCST24****Mounting**

M18 = Thread M18x1,5

Z3/4 = Thread $\frac{3}{4}$ "-16 UNF**Measurement range (in mm)**

100 ... 5750 (in 10 mm increments)

other lengths upon request

Output

U1 = 0 ... 10 V signal conditioner

U1/H = U1 with Alarm_HOLD (see page 78)

U2 = 0.5 ... 10 V signal conditioner

U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)

U8 = 0.5 ... 4.5 V signal conditioner

U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)

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

I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

P1A = Position Magnet 1, increasing

P1D = Position Magnet 1, decreasing

PMU = Start value, direction & end value adjustable by the customer

Linearity

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

Connection

M12 = Connector M12, 8 pin

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

PCST24

Rod-Style Design with Analog Output

Order code PCST24

2 channel,
configurable

Model name	PCST24	-		-		-		-		-		-	
Mounting													
M18	= Thread M18 x 1,5												
Z3/4	= Thread 3/4"-16UNF												
Measurement range (in mm)													
100 ... 5750	(in 10 mm increments)												
other lengths upon request													
Output													
U1	= 0 ... 10 V signal conditioner												
U1/H	= U1 with Alarm_HOLD (see page 78)												
U2	= 0.5 ... 10 V signal conditioner												
U2/U; U2/H	= U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)												
U8	= 0.5 ... 4.5 V signal conditioner												
U8/U; U8/H	= U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)												
I1	= 4 ... 20 mA signal conditioner (3 wire)												
I1/U; I1/H	= I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)												
Function and characteristics output 1													
P1A	= Position magnet 1, increasing												
P1D	= Position magnet 1, decreasing												
DA	= Difference magnet 1/2, increasing (2 magnets required)												
DD	= Difference magnet 1/2, decreasing (2 magnets required)												
Function and characteristics output 2													
P2A	= Position magnet 2, increasing												
P2D	= Position magnet 2, decreasing												
DA	= Difference magnet 1/2, increasing												
DD	= Difference magnet 1/2, decreasing												
} 2 magnets required													
VZx.x	= Velocity <u>with</u> 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 <u>without</u> 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													
M12	= Connector M12, 8 pin												
KAB2M	= Cable, standard length 2 m, other lengths upon request												

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

Order code position magnet (see page 71)

PCSTMAG ...

Order code mating connecting cable (see page 82)

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

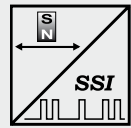
PCST24

Rod-Style Design with SSI Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- 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 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g/11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	8 pin socket M12, cable 2 m
EMC, temperature	Refer to output specification

Order code PCST24

PCST24

Model name

Mounting

M18 = Thread M18 x 1,5

Z3/4 = Thread ¾"-16UNF

Measurement range (in mm)

100 ... 5750 (in 10 mm increments)

other lengths upon request

Resolution [in µm]

5 / 10 / 20 / 50 / 100

Output

SSI = Synchronous serial interface

Code

G / D = Gray / Dual

Number of data bits

24 / 25

Linearity

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

Connection

M12 = Connector M12, 8 pin

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

Order code position magnet (see page 71)

PCSTMAG ...

Order code mating connecting cable (see page 82)

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

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

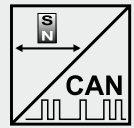
PCST24

Rod-Style Design with CAN Output



POSICHRON® rod-style position sensor

- Replaceable electronics without leakage
- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- For hydraulic cylinders, fluid level measurement
- 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	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 (optional IP67/IP69K; connector version: with mating connector only)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	5 pin socket M12
EMC, temperature	Refer to output specification

Order code PCST24

PCST24 - [] - [] - [] - [] - []

Model name

Mounting

M18 = Thread M18 x 1,5

Z3/4 = Thread ¾ "-16UNF

Measurement range (in mm)

100 ... 5750 (in 10 mm increments)

other lengths upon request

Output

CANOP = CANopen bus

CANOP/R = CANopen bus with integrated terminating resistance

CANJ1939 = CAN SAE J1939

Linearity

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

Connection

M12/CAN = Connector M12, 5 pin

Order code position magnet (see page 71)

PCSTMAG ...

Order code mating connecting cable (see page 83)

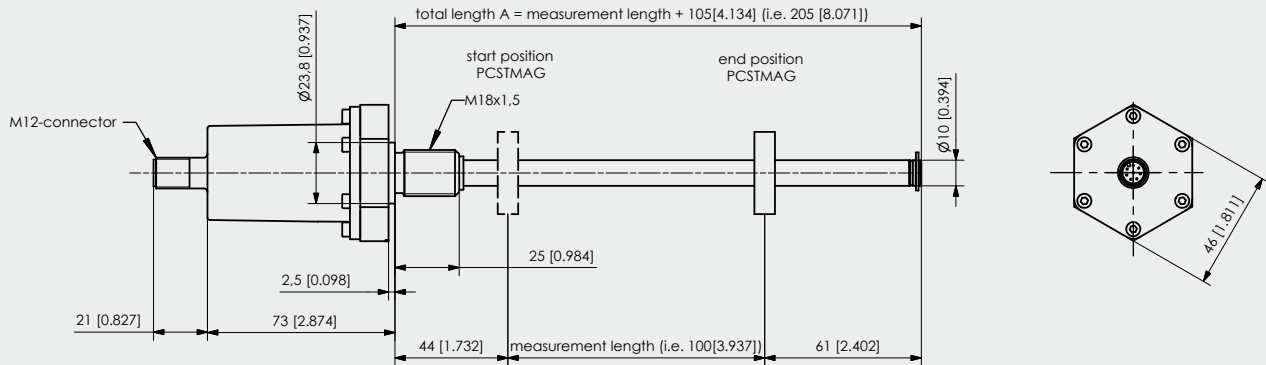
KAB- ...M-M12/5F/G-M12/5M/G - CAN

Order example: PCST24 - M18 - 2000 - CANOP - L10 - M12/CAN

PCST24

Rod-Style Design, M18 flange

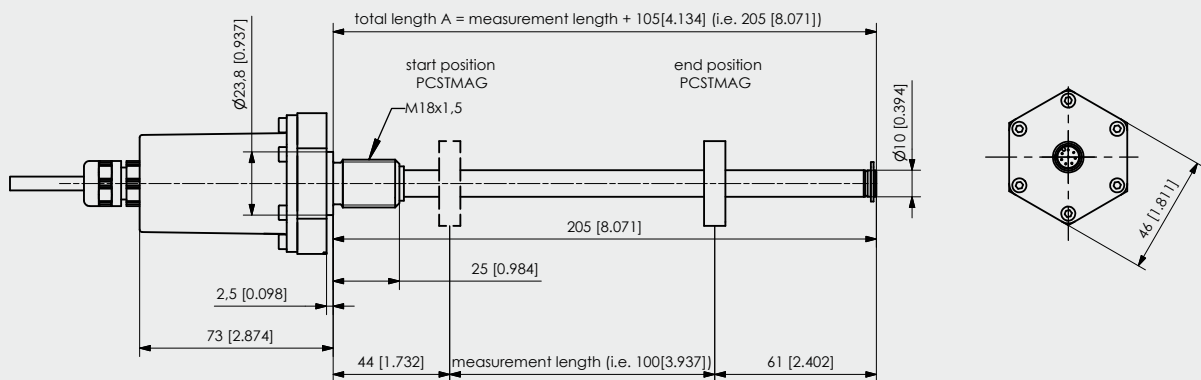
Connector M12



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

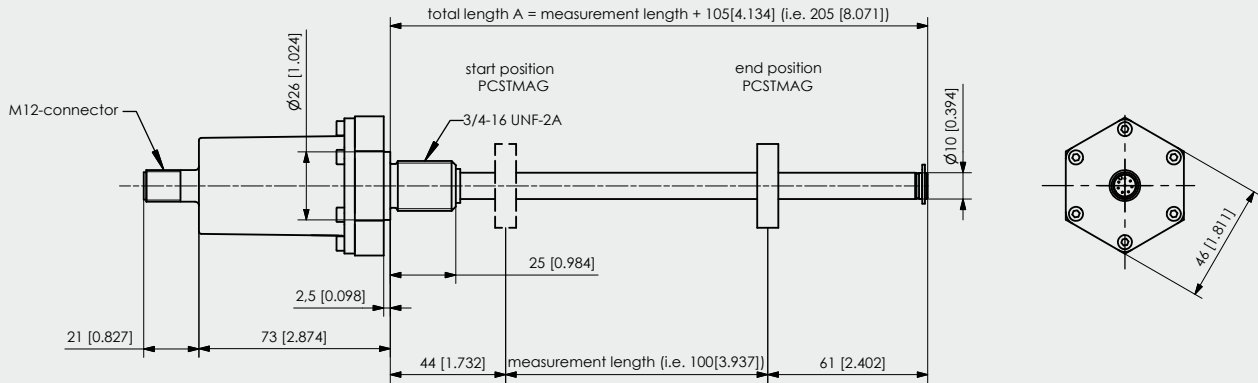
Cable output



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

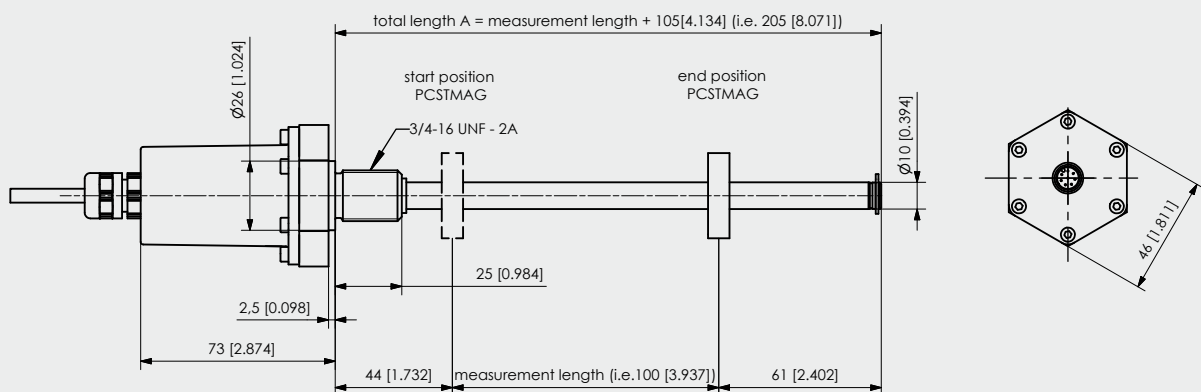
Connector M12



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

Cable output

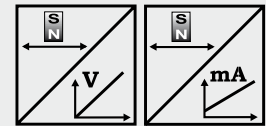


Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

**POSICHRON® rod-style position sensor**

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

**Specifications**

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

**Order code PCST27
1 channel****Model name****PCST27****Mounting**

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

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
 U1/H = U1 with Alarm_HOLD (see page 78)
 U2 = 0.5 ... 10 V signal conditioner
 U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
 U8 = 0.5 ... 4.5 V signal conditioner
 U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
 I1 = 4 ... 20 mA signal conditioner (3 wire)
 I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

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

Linearity

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

Connection

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

PCST27

Rod-Style Design with Analog Output

Order code PCST27

2 channel,
configurable

Model name	PCST27	-		-		-		-		-		-		-		-	
Mounting																	
M18	= Thread M18 x 1,5																
Z3/4	= Thread 3/4"-16UNF																
Measurement range (in mm)																	
100 ... 5750	(in 10 mm increments)																
other lengths upon request																	
Output																	
U1	= 0 ... 10 V signal conditioner																
U1/H	= U1 with Alarm_HOLD (see page 78)																
U2	= 0.5 ... 10 V signal conditioner																
U2/U; U2/H	= U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)																
U8	= 0.5 ... 4.5 V signal conditioner																
U8/U; U8/H	= U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)																
I1	= 4 ... 20 mA signal conditioner (3 wire)																
I1/U; I1/H	= I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)																
Function and characteristics output 1																	
P1A	= Position magnet 1, increasing																
P1D	= Position magnet 1, decreasing																
DA	= Difference magnet 1/2, increasing (2 magnets required)																
DD	= Difference magnet 1/2, decreasing (2 magnets required)																
Function and characteristics output 2																	
P2A	= Position magnet 2, increasing																
P2D	= Position magnet 2, decreasing																
DA	= Difference magnet 1/2, increasing																
DD	= Difference magnet 1/2, decreasing																
} 2 magnets required																	
VZx.x	= Velocity <u>with</u> direction detection (with 1 magnet only)																
VZx.x = Velocity in steps of 0.1 m/s																	
<u>Example: VZ1.5</u> towards start position 0 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 <u>without</u> direction detection (with 1 magnet only)																
VAx.x = Velocity in steps of 0.1 m/s																	
<u>Example: VA1.5</u> towards start position 0 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																	

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

Rod-Style Design, measurement range 1000 mm, 2 voltage outputs 0.5 ... 10 V (U2)

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

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

Order code position magnet (see page 71)

PCSTMAG ...

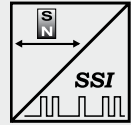
PCST27

Rod-Style Design with SSI Output



POSICHRON® rod-style position sensor

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



Specifications

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

Order code PCST27

PCST27 - [] - [] - [] - [] / [] - [] - []

Model name

Mounting

M18 = Thread M18 x 1,5

Z3/4 = Thread ¾"-16UNF

Measurement range (in mm)

100 ... 5750 (in 10 mm increments)

other lengths upon request

Resolution [in µm]

5 / 10 / 20 / 50 / 100

Output

SSI = Synchronous serial interface

Code

G / D = Gray / Dual

Number of data bits

24 / 25

Linearity

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

Connection

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

Order code position magnet (see page 71)

PCSTMAG ...

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

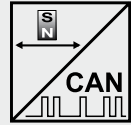
PCST27

Rod-Style Design with CAN Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class IP68/IP69K, underwater capability
- Pressure-proof up to 15 bar
- Waterproof cable seal
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- Seawater proof
- CANopen bus or
CAN SAE J1939 output



Specifications

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

Order code PCST27

PCST27 - [] - [] - [] - [] - []

Model name

Mounting

M18 = Thread M18 x 1,5

Z3/4 = Thread ¾ "-16UNF

Measurement range (in mm)

100 ... 5750 (in 10 mm increments)

other lengths upon request

Output

CANOP = CANopen bus

CANOP/R = CANopen-Bus with integrated terminating resistance

CANJ1939 = CAN SAE J1939

Linearity

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

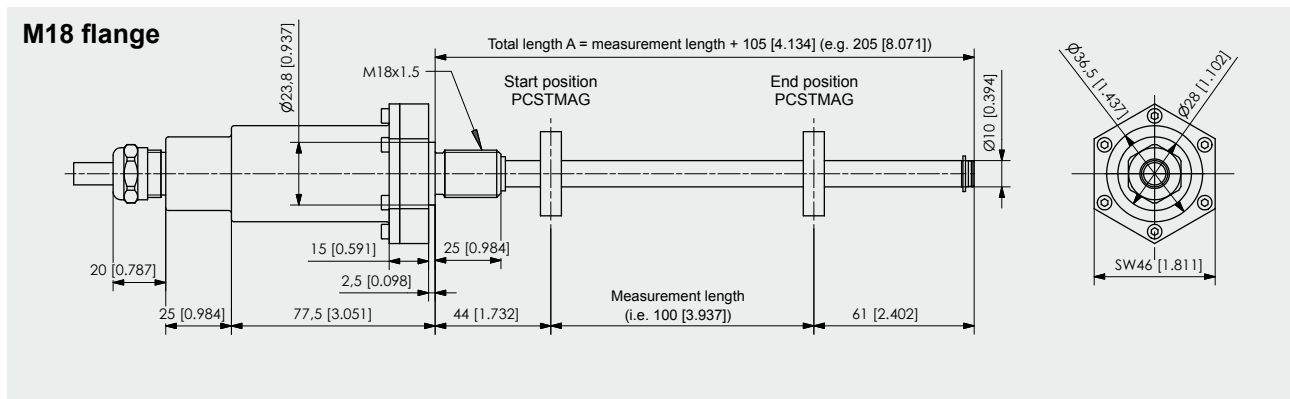
Connection

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

Order code position magnet (see page 71)

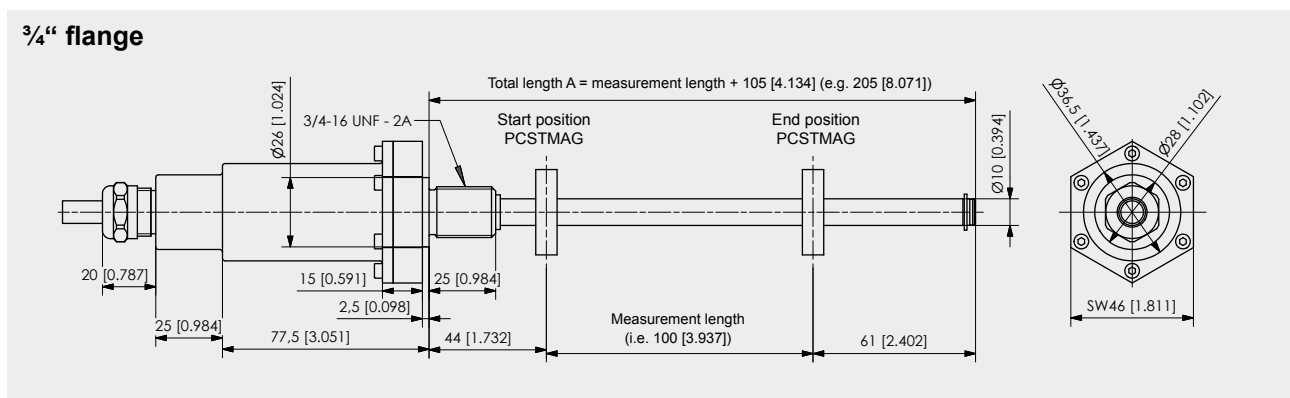
PCSTMAG ...

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



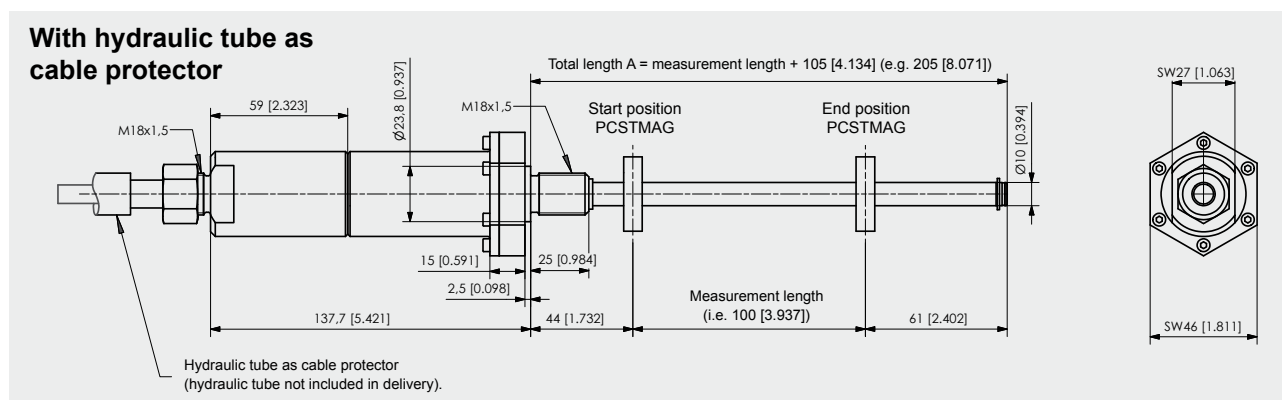
Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



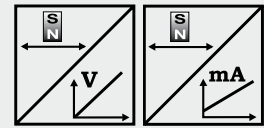
PCST25

Rod-Style Design with Analog Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- 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 / plug-in mounting
Operating pressure	400 bar, other values on request
Protection class	IP67 (optional IP67/IP69K)
Shock	EN 60068-2-27:2010, 50 g 11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order code PCST25 1 channel

Model name

PCST25

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 lengths upon request

Output

U1 = 0 ... 10 V signal conditioner

U1/H = U1 with Alarm_HOLD (see page 78)

U2 = 0.5 ... 10 V signal conditioner

U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)

U8 = 0.5 ... 4.5 V signal conditioner

U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)

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

I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output

P1A = Position Magnet 1, increasing

P1D = Position Magnet 1, decreasing

PMU = Start value, direction & end value adjustable by the customer

Linearity

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

Connection

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

PCST25

Rod-Style Design with Analog Output

Order code PCST25

2 channel,
configurable

Model name

Mounting

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

Measurement range (in mm)

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

Output

U1 = 0 ... 10 V signal conditioner
U1/H = U1 with Alarm_HOLD (see page 78)
U2 = 0.5 ... 10 V signal conditioner
U2/U; U2/H = U2 with Alarm_LOW; U2 with Alarm_HOLD (see page 78)
U8 = 0.5 ... 4.5 V signal conditioner
U8/U; U8/H = U8 with Alarm_LOW; U8 with Alarm_HOLD (see page 78)
I1 = 4 ... 20 mA signal conditioner (3 wire)
I1/U; I1/H = I1 with Alarm_LOW; I1 with Alarm_HOLD (see page 78)

Function and characteristics output 1

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

Function and characteristics output 2

P2A = Position magnet 2, increasing
P2D = Position magnet 2, decreasing
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

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)

Order code position magnet (see page 71)

PCSTMAG ...

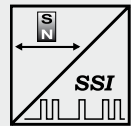
PCST25

Rod-Style Design with SSI Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- 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 / plug-in mounting
Working pressure	400 bar, other values on request
Protection class	IP67 (optional IP67/IP69K)
Shock	EN 60068-2-27:2010, 50 g/11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable 2 m
EMC, temperature	Refer to output specification

Order code PCST25

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 lengths upon request

Resolution [in µm]

5 / 10 / 20 / 50 / 100

Output

SSI = Synchronous serial interface

Code

G / D = Gray / Dual

Number of data bits

24 / 25

Linearity

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

Connection

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

Order code position magnet (see page 71)

PCSTMAG ...

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

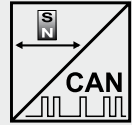
PCST25

Rod-Style Design with CAN Output



POSICHRON® rod-style position sensor

- For hydraulic cylinders, fluid level measurement
- Protection class up to IP67/IP69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contactless
- CAN Output 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	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 (optional IP67/IP69K)
Shock	EN 60068-2-27:2010, 50 g/11 ms, 100 shocks
Vibration	EN 60068-2-6:2008, 20 g 10 Hz-2 kHz, 10 cycles
Connection	Cable (length 0.3 m) with 5-pin connector M12
EMC, temperature	Refer to output specification

Order code PCST25

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/R = 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

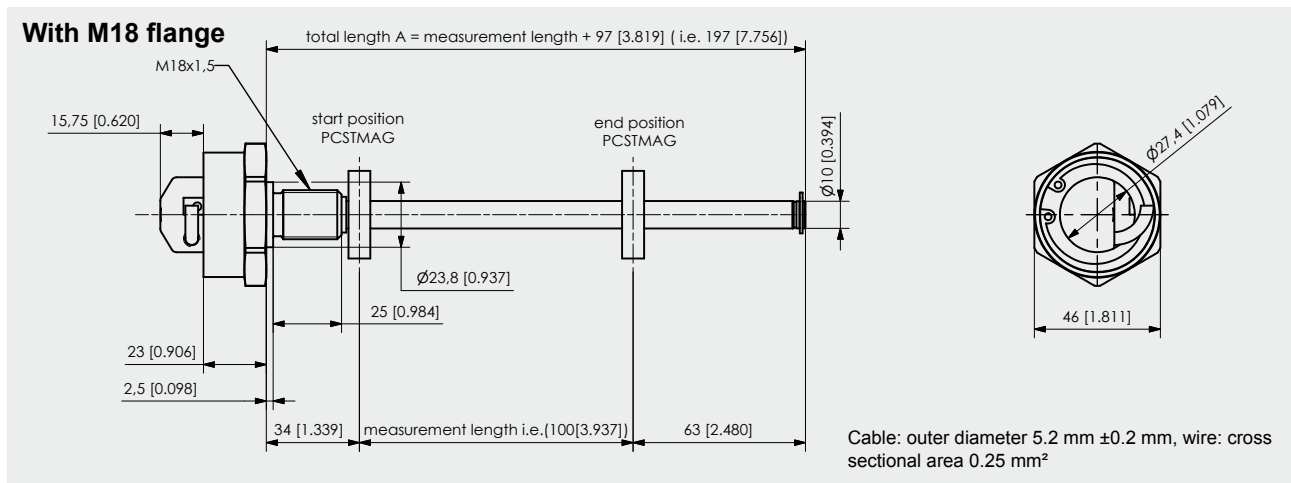
Order code position magnet (see page 71)

PCSTMAG ...

Order code bus cable (see page 83)

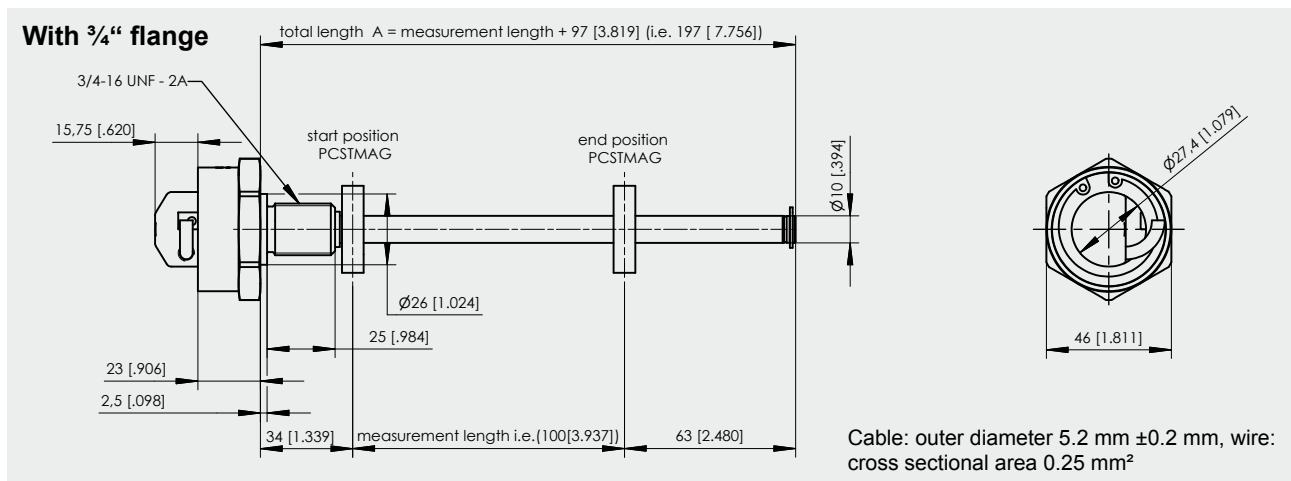
KAB- ...M-M12/5F/G-M12/5M/G - CAN

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



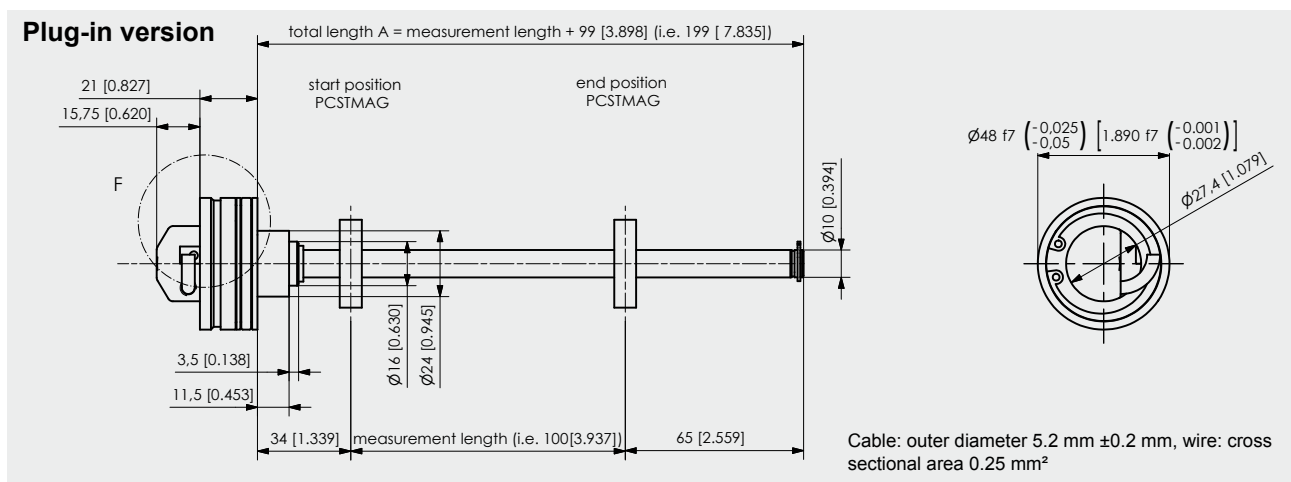
Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.



Dimensions in mm [inch]

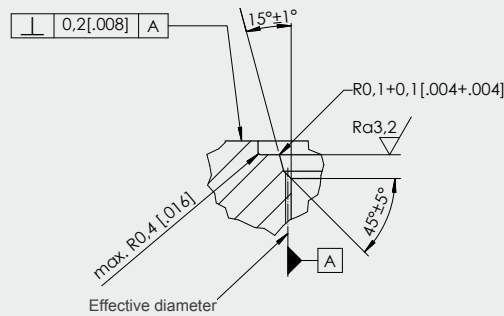
Dimensions informative only. For guaranteed dimensions consult factory.



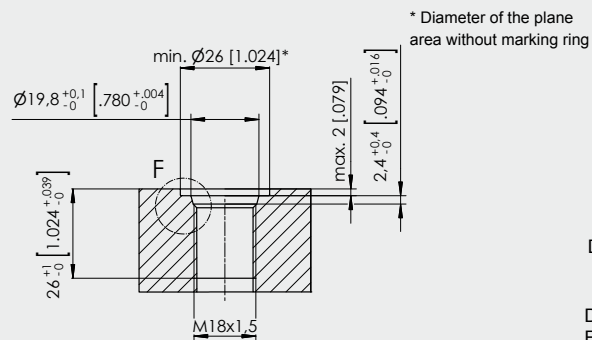
Dimensions in mm [inch]

Dimensions informative only. For guaranteed dimensions consult factory.

Mounting hole M18



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

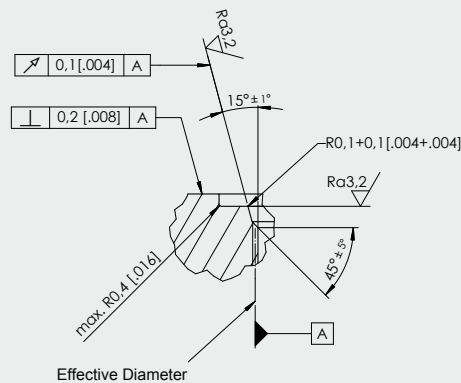


* Diameter of the plane
area without marking ring

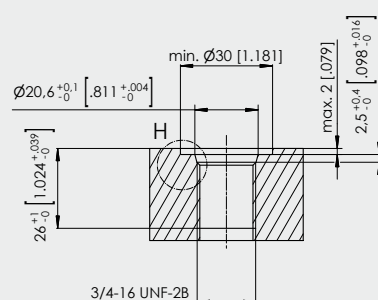
Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

Mounting hole ¾ Zoll



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



Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

**O-ring sealing
(M18)**

for:

PCST24-M18...

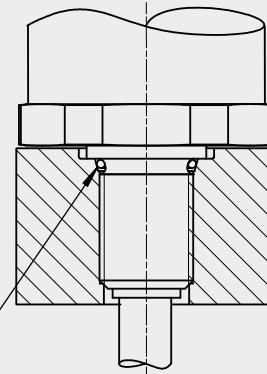
PCST25-M18...

PCST27-M18...

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

O-Ring 15,3 x 2,2
[.602 x .087]



Order code O-ring M18

PCST-OR-M18

**O-ring sealing
(¾ Zoll)**

for:

PCST24-Z3/4...

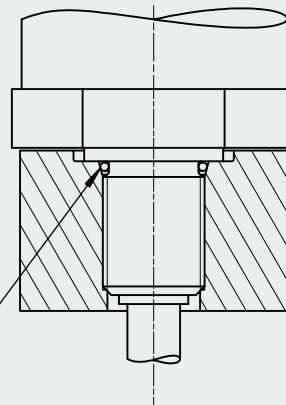
PCST25-Z3/4...

PCST27-Z3/4...

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

O-Ring 16,36 x 2,2
[.644 x .087]



Order code O-ring ¾ inch

PCST-OR-Z3/4

**O-ring sealing
(Plug-in version)**

for:

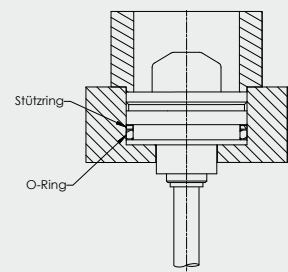
PCST25-SV...

Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions
consult factory.

Ø48 H7 $\begin{smallmatrix} +0,025 \\ -0 \end{smallmatrix}$ [1.890 H7 $\begin{smallmatrix} +.001 \\ -0 \end{smallmatrix}$]

Example



Ø48 H7 $\begin{smallmatrix} +0,025 \\ -0 \end{smallmatrix}$ [1.890 H7 $\begin{smallmatrix} +.001 \\ -0 \end{smallmatrix}$]

M5

Beispiel

Gewindestift

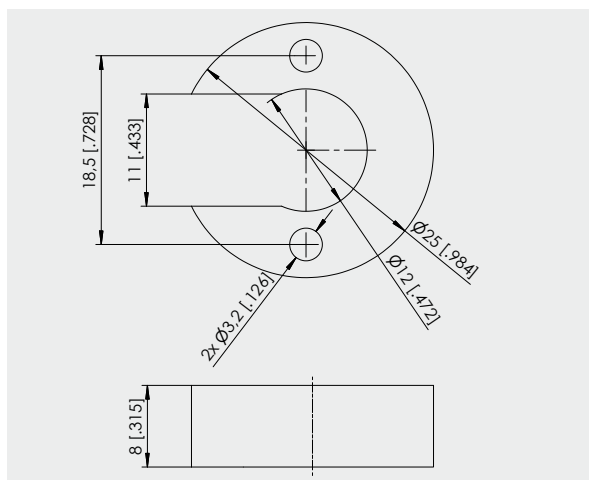
Stützring

O-Ring

Order code O-ring Plug-in version

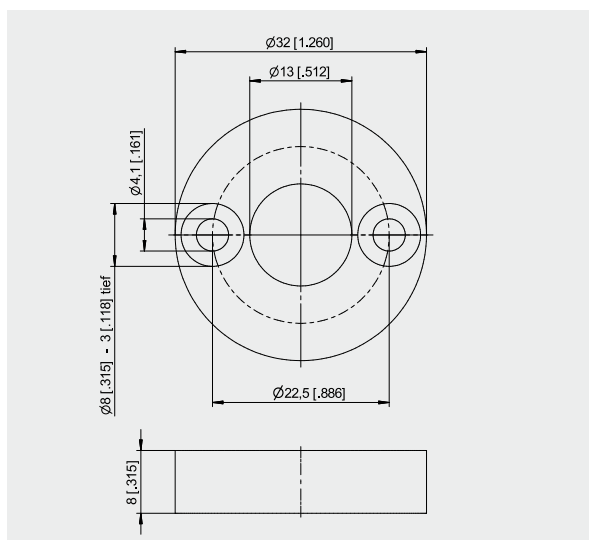
PCST-OR-SV

PCSTMAG1

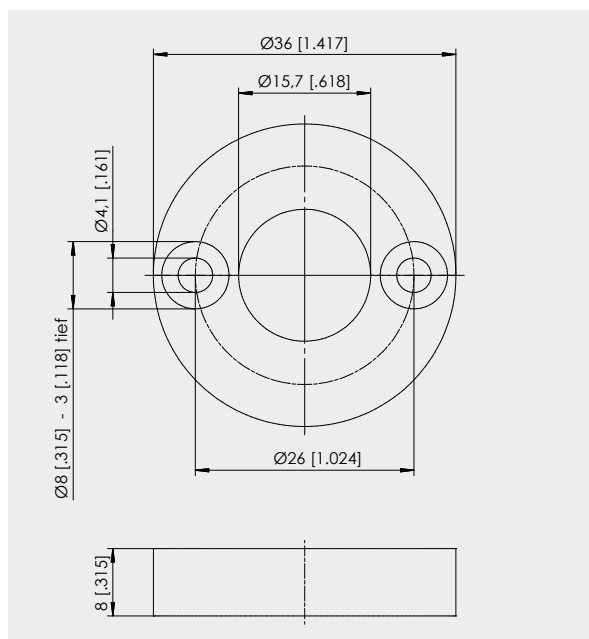


PCSTMAG2

(standard)



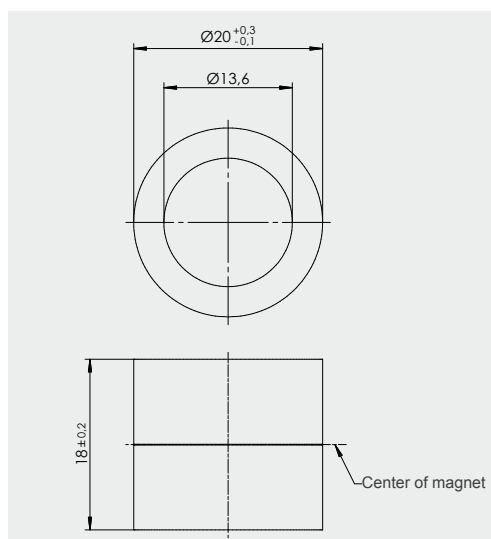
PCSTMAG5



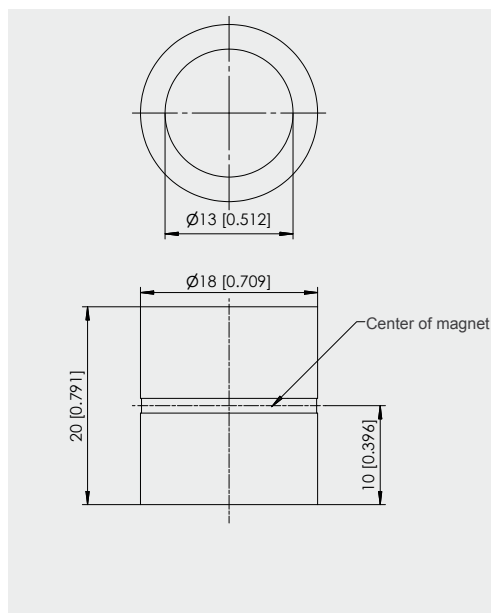
Dimensions in mm [inch]

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

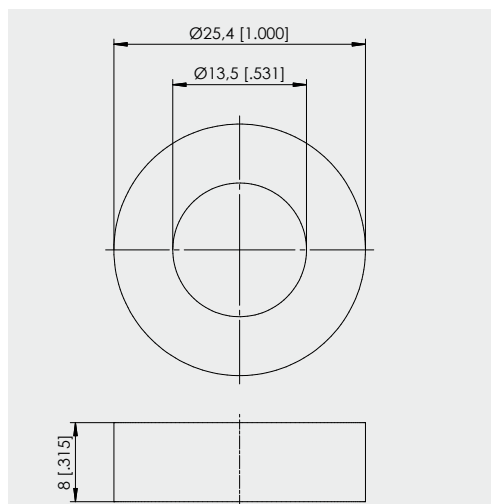
PCSTMAG2-MH1



PCSTMAG2-MH2



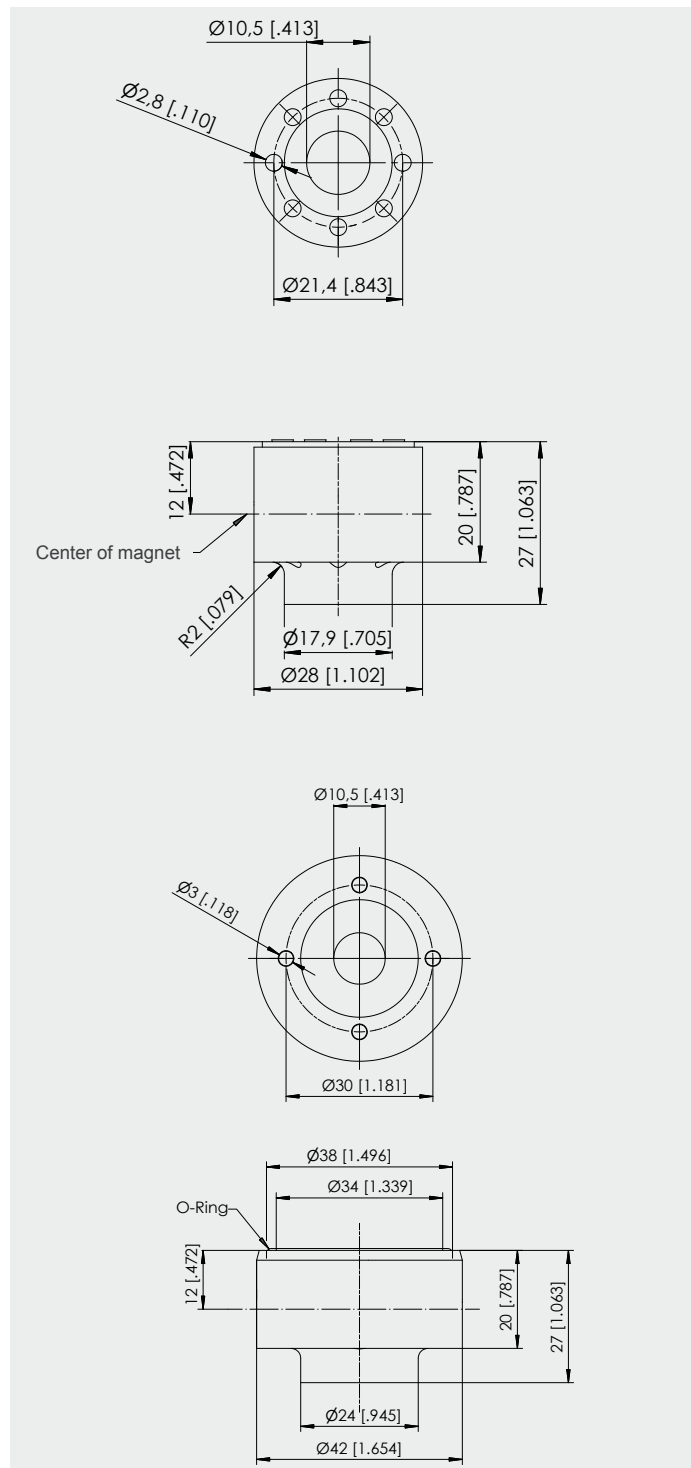
PCSTMAG2-MH3



Dimensions in mm [inch]

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

PCSTMAG2-G1



PCSTMAG2-G2

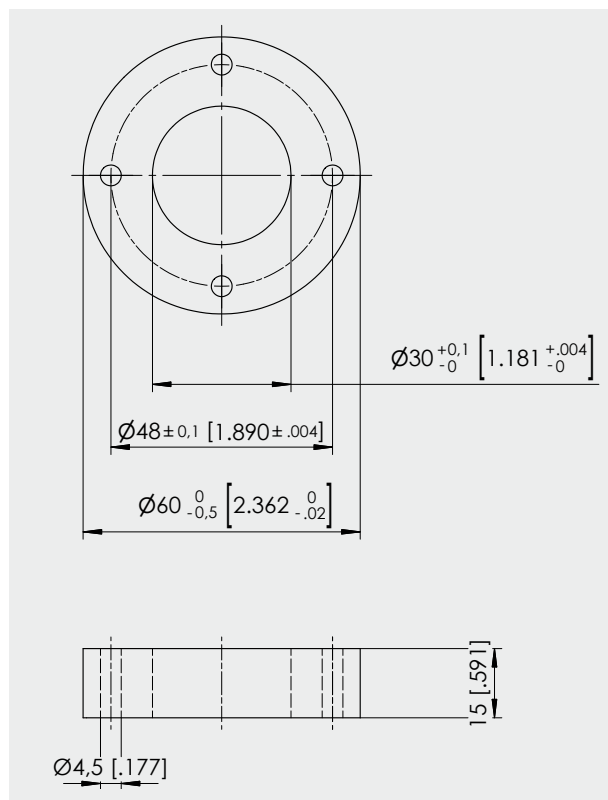
PCSTMAG2 - G1 / G2

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.

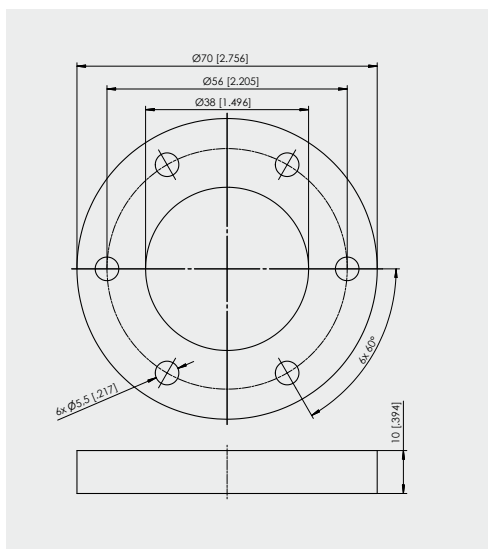
Dimensions in mm [inch]

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

PCSTMAG7



PCSTMAG4



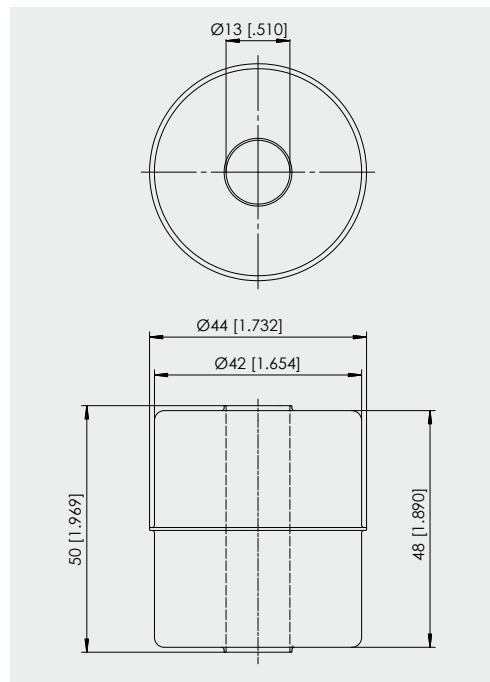
Dimensions in mm [inch]

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

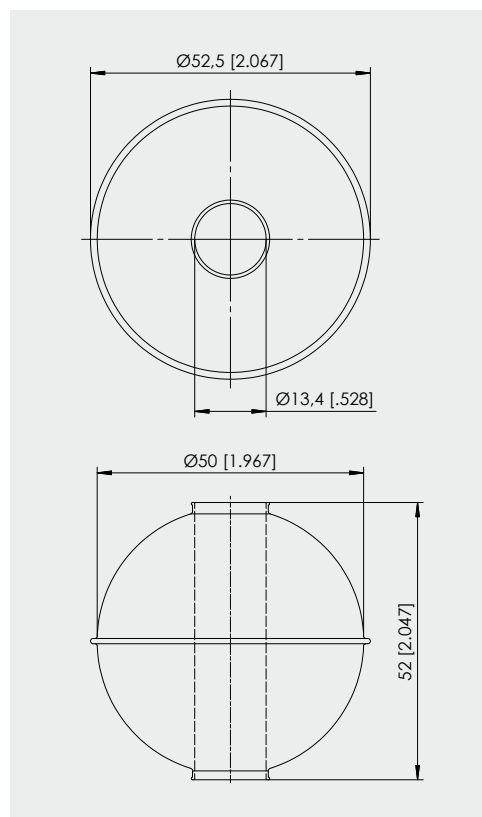


Note: Dependent on the design the available measurement range is reduced of 25 mm on both ends!

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!

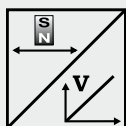
Dimensions in mm [inch]

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

Output Specification U2, U8 and I1

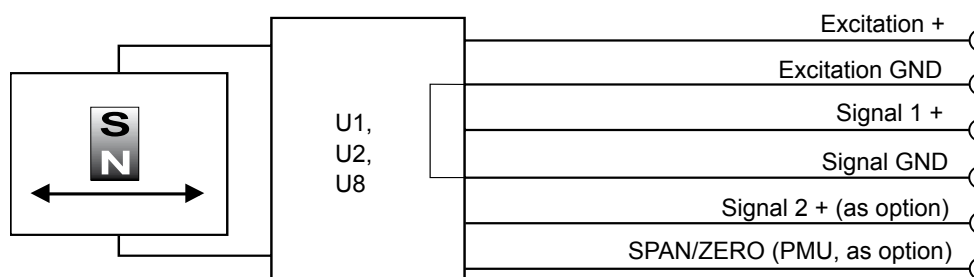
Configurable, 1 or 2 channels

U1, U2, U8 Voltage output

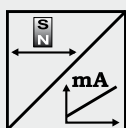


Excitation voltage	U1: 18 ... 36 V DC; U2: 18 ... 36 V DC; U8: 10 ... 36 V
Excitation current	Typ. 23 mA at 24 V DC, typ. 46 mA at 12 V DC, max. 80 mA
Output voltage	U1: 0 ... 10 V DC; U2: 0.5 ... 10 V DC; U8: 0.5 ... 4.5 V DC
Output current	2 mA max.
Output load	> 5 kΩ
Resolution	16 bit f.s., min. 10 μm
Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
Protection	Reverse polarity, short circuit
Output noise	0.5 mV _{RMS}
Operating temperature	-40 ... +85 °C
EMC	EN 61326-1:2013

Signal diagram

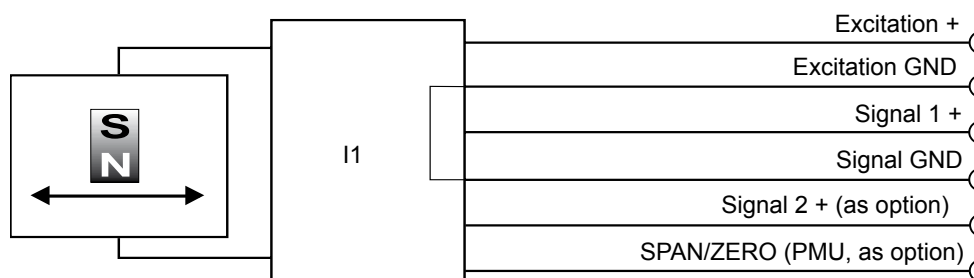


I1 Current output (3 wire)



Excitation voltage	18 ... 36 V DC (10 ... 36 V for R _L ≤ 250Ω)
Excitation current	Typ. 36 mA at 24 V DC, typ. 66 mA at 12 V DC, max. 100 mA
Load resistor	350 Ω max.
Output current	4 ... 20 mA, 30 mA max (at failure)
Resolution	16 bit f.s., min. 10 μm
Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
Protection	Reverse polarity, short circuit
Output noise	0.5 mV _{RMS}
Operating temperature	-40 ... +85 °C
EMC	EN 61326-1:2013

Signal diagram



Output Specification U2, U8 and I1

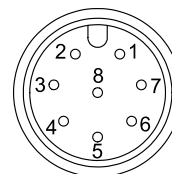
Configurable, 1 or 2 channels

Connector M12, 8-pin

Signal wiring

Signal	Plug connection	Cable connection
Excitation +	1	white
Excitation GND	2	brown
Signal 1 +	3	green
Signal GND	4	yellow
Signal 2 + (optional*)	5	grey
SPAN/ZERO (PMU** only, optional)	6	pink

View to the
sensor connector



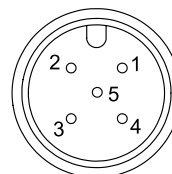
* When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely. ** Description page 78

Connector M12, 5-pin

Signal wiring

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

View to the
sensor connector



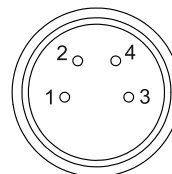
* When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely. ** Description page 78

Connector M8, 4-pin

Signal wiring

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

View to the
sensor connector



* When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely. ** Description page 78

Description of Output Options**Option - PMU for analog output U1, U2, U8 and I1**

Programming of the start and end value by the customer:

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

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

Diagnostic on analog outputs**Behaviour of the analog signal output in case of error**

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

Alarm_HIGH

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

Alarm_LOW

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

Alarm_HOLD

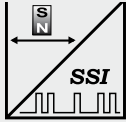
The output voltage resp. the output current will keep the last valid state.

	Alarm_HIGH (standard)	Alarm_LOW (.../U)	Alarm_HOLD (.../H)
U1	$U_{out} \geq 10,5 \text{ V}$	—	keeps last valid state (Order code U1/H)
U2	$U_{out} \geq 10,5 \text{ V}$	$U_{out} < 0,25 \text{ V}$ (Order code U2/U)	keeps last valid state (Order code U2/H)
U8	$U_{out} \geq 10 \text{ V}$	$U_{out} < 0,25 \text{ V}$ (Order code U8/U)	keeps last valid state (Order code U8/H)
I1	$I_{out} \geq 21 \text{ mA}$	$1,5 \dots 2 \text{ mA}$ (Order code I1/U)	keeps last valid state (Order code I1/H)

Error signal for SSI output

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

Synchronous serial interface SSI

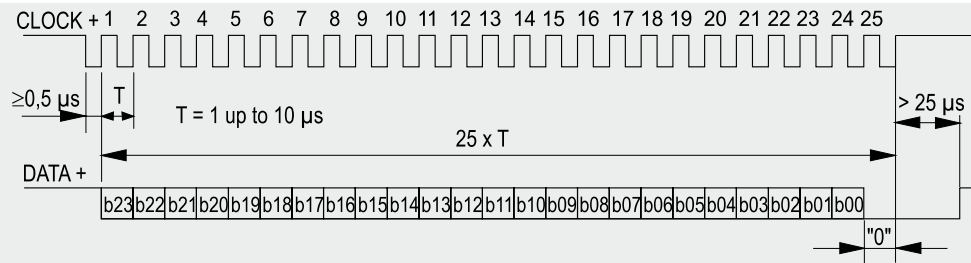


Output	RS422
Excitation voltage	10 ... 36 V DC, residual ripple 10 mV _{SS}
Excitation current	Typ. 22 mA at 24 V DC, typ. 46 mA at 12 V DC, 150 mA max.
Clock frequency	100 kHz ... 1 MHz
Code	Gray code, dual code
Resolution	≥ 5 μm
Delay between pulse trains	>25 μs
Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
Operating temperature	-40 ... +85 °C
EMC	EN 61326-1:2013

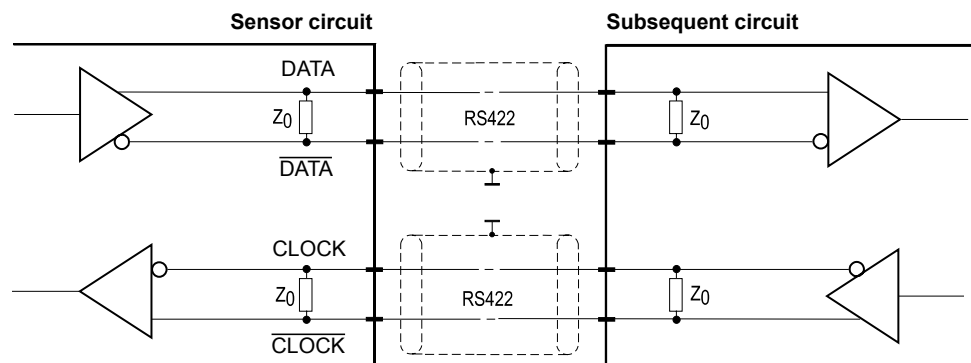
Description

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

Data format (Train of 26 pulses)



Signal diagram



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

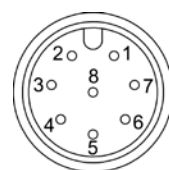
Note:

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	Plug connection	Cable connection
Excitation +	1	white
Excitation GND	2	brown
CLOCK	3	green
CLOCK	4	yellow
DATA	5	grey
DATA	6	pink

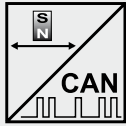
View to sensor connector



Error indication see page 78.

Description

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

Interface CANOP

Communication profile	CANopen CiA 301 V 4.02, Slave
Encoder profile	Encoder CiA 406 V 3.2
Error Control	Node Guarding, Heartbeat, Emergency Message
Node ID	Adjustable via LSS or via object dictionary
PDO	4 TxPDO, 0 RxPDO, no linking, static mapping
PDO Modes	Event-/Time triggered, Remote-request, Sync cyclic/acyclic
SDO	1 server, 0 client
CAM	8 cams
Certified	Yes
Transmission rates	50 kBaud to 1 MBaud, adjustable via LSS or via object dictionary
Nodes	127 max.
Bus connection	M12 connector, 5 pins
Integrated bus terminating resistor	120 Ω (option)
Bus, galvanic isolated	No

Specifications

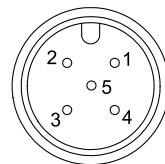
Excitation voltage	18 ... 36 V DC
Excitation current	Typ. 20 mA for 24 V, max. 80 mA
Number of position magnets	1 ... 4
Resolution	50 μm
Measuring rate	1 kHz (asynchronous)
Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
Repeatability	1 LSB
Operating temperature	-40 ... +85 °C
Protection	Reverse polarity,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

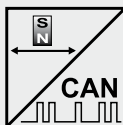
When using multiple magnets the distance between two magnets must be min. 70 mm to identify the single magnets definitely.

Signal wiring

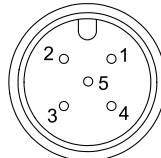
Signal	Plug connection
Shield	1
Excitation +	2
GND	3
CAN-H	4
CAN-L	5

View to sensor connector



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 (option)	
	Address	Default 247d, configurable	
NAME Fields	Arbitrary address capable	0	No
	Industry group	0	Global
	Vehicle system	7Fh (127d)	Non specific
	Vehicle system instance	0	
	Function	FFh (255d)	Non specific
	Function instance	0	
	ECU instance	0	
	Manufacturer	145h (325d)	Manufacturer ID
	Identity number	0nnn	Serial number 21 bit
Parameter Group Numbers (PGN)	Configuration data	PGN EF00h	Proprietary-A (PDU1 peer-to-peer)
	Process data	PGN FFnnh	Proprietary-B (PDU2 broadcast); nn Group Extension (PS) configurable
Specifications	Excitation voltage	18 ... 36 V DC	
	Excitation current	Typ. 20 mA for 24 V, max. 80 mA	
	Measuring rate	1 kHz (asynchronous)	
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.	
	Repeatability	1 LSB	
	Operating temperature	-40 ... +85 °C	
	Protection	Reverse polarity, short circuit	
	Dielectric strength	500 V (V AC, 50 Hz, 1 min.)	
	EMC	EN 61326-1:2013	

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

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

POSICHRON® Accessories Connector Cables



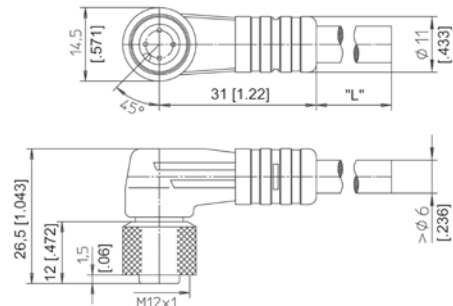
Connector cable M12, 5-pin shielded

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

Order code:

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

Length in m



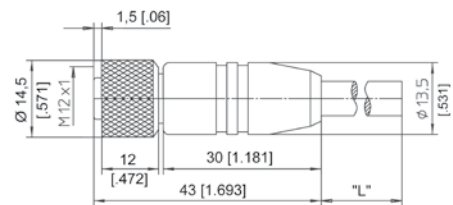
Connector cable M12, 5-pin shielded

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

Order code:

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

Length in m



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

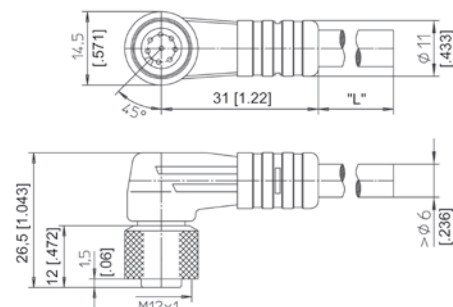
Connector cable M12, 8-pin shielded

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

Order code:

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

Length in m



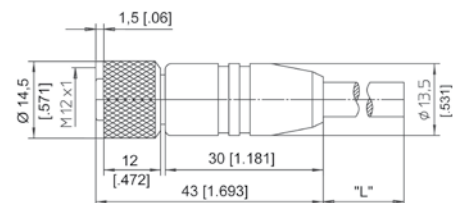
Connector cable M12, 8-pin shielded

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

Order code:

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

Length in m



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

POSICHRON® Accessories Connector Cables



Connector cable M8, 4-pin shielded

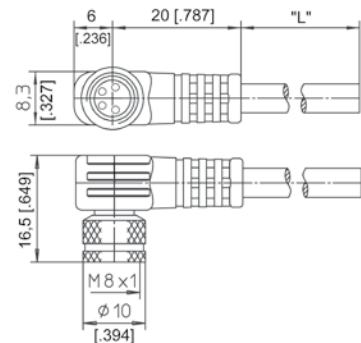
The 4-lead shielded cable is supplied with a mating 4-pin 90° M8 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m. Wire: cross sectional area 0.14 mm².

Order code:

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

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

Length in m



Connector cable M8, 4-pin shielded

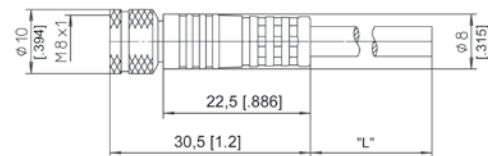
The 4-lead shielded cable is supplied with a mating 4-pin M8 connector at one end and 4 wires at the other end. Available lengths are 2, 5 and 10 m. Wire: cross sectional area 0.14 mm².

Order code:

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

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

Length in m



Signal wiring M8, 4-pin	Plug connection / Cable connection			
	1	2	3	4
	brown	white	blue	black

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

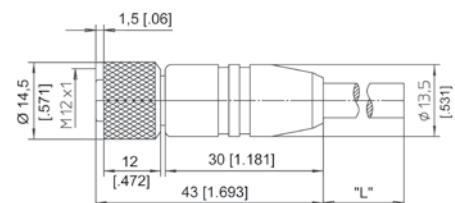
The 5-lead shielded cable is supplied with a female 5-pin M12 connector at one end and a male 5-pin M12 connector at the other end. Available lengths are 0.3 m, 2 m, 5 m and 10 m.

Order code:

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

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

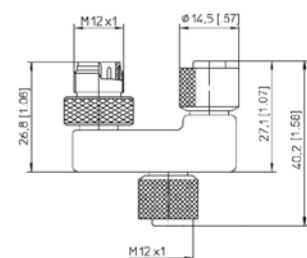
Length in m



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

Order code:

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



Terminating resistance M12, 5-pin CAN bus

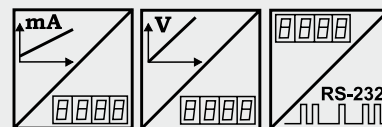
Order code:

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





- For POSICHRON® position sensors with analog Output:
Voltage 0 ... 10 V
Current 0 ... 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 0 ... 10V; max. 24V Current 0 ... 20 mA, load 100 Ω, $I_{max} < 30$ mA 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
Weight	24 V DC: approx. 250 g; 230 V AC: approx. 400 g

Order Code PRODIS-ADC

Model Name

Excitation Voltage

24VDC = 24 V DC

230VAC = 85...250 V AC

Options

REL2 = Comparator

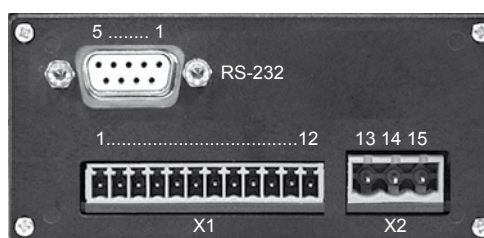
DT = Desktop version

PD-ADC

Order example: PD - ADC - 24VDC - REL2

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 2006/95/EWG:	DIN EN61010-1:2010
	Electromagnetic compatibility, EMC	Directive 2004/108/EWG:	DIN EN61326-1:2013
Programmable parameters / value range	Value range offset, liwith 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 ... 20 mA, channel 1	7	
	Current input terminal 0 ... 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

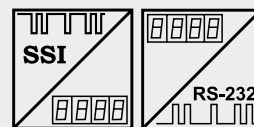


RS-232 interface	Level	RS-232: ± 8 V, galvanically isolated	
	Data format	1 start bit, 8 data bits, 1 stop bit, no parity	
	Transmission rate	9600 Baud	
	Signals	Connector X3, Pin No.	D-Sub, Pin No.
	TxD	17	2
	RxD	16	3
	GND	18	5

For rear view with comparator Output and outline drawings see pages 88 and 89.



- 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

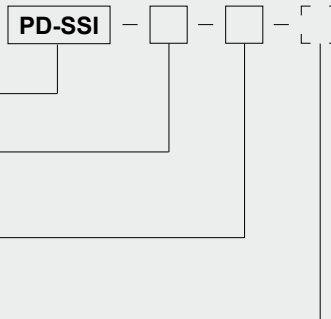
Sensor Excitation

G24V = 24 V DC

G5V = 5 V DC

Options

DT = Desktop version

**Order example: PD - SSI - 230VAC - G24V**

PD-SSI

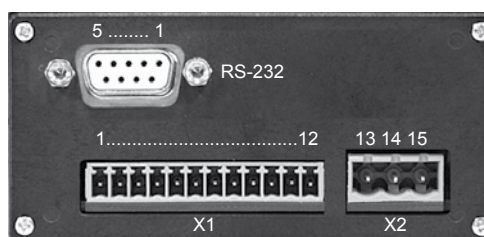
Digital Process Meter for Sensors with SSI output

Specifications (continuation)	Protection class	Front IP60, back IP40
	Humidity	Max. 80 % r.h., non condensing
	Safety of equipment	Directive 2006/95/EWG: DIN EN61010-1:2010
	Electromagnetic compatibility, EMC	Directive 2004/108/EWG: DIN EN61326-1:2006

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



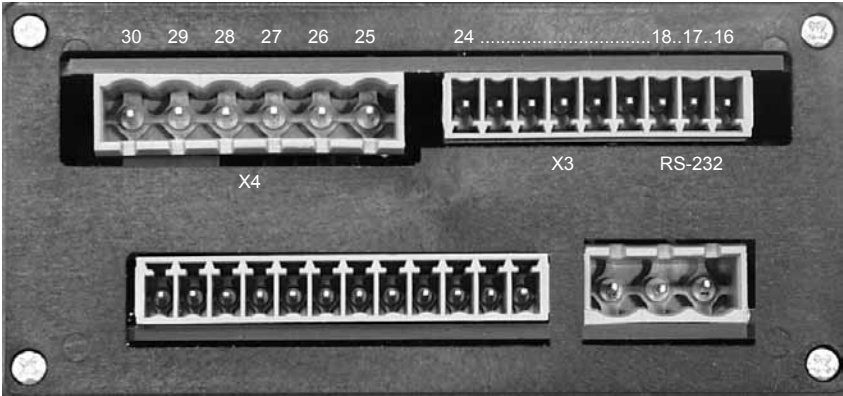
RS-232 interface	Level	RS-232: ± 8 V, galvanically isolated	
	Data format	1 start bit, 8 data bits, 1 stop bit, no parity	
	Transmission rate	4800 / 9600 / 19200 / 115200 Baud	
	Signals	Connector X3, pin no.	D-Sub, pin no.
	TxD	17	2
	RxD	16	3
	GND	18	5

Outline drawings see the following pages.

PRODIS®
Digital Process Meter

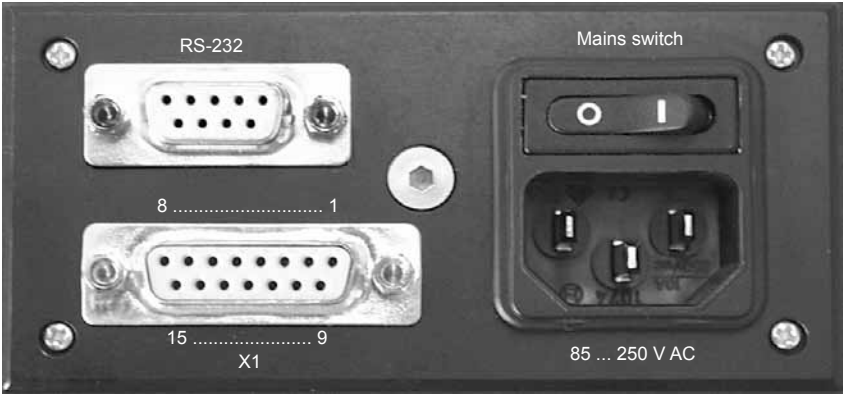


Rear view with
comparator Output



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)

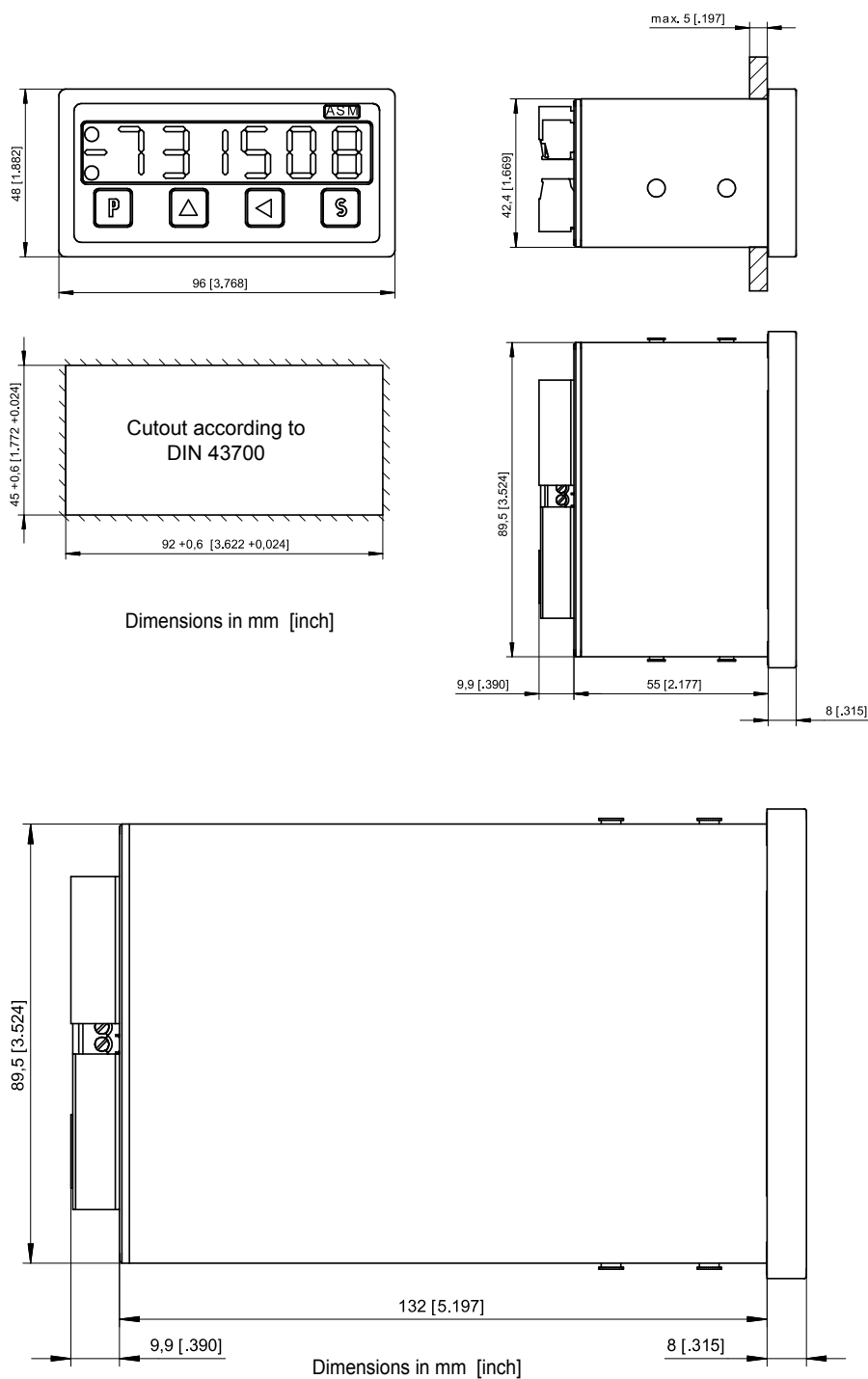


Wiring of connector X1 see table at page 85 (PD-ADC) resp. page 87 (PD-SSI).

PRODIS® Digitale Prozessanzeige



Outline drawing



PD-XXX-230VAC

Dimensions informative only.
For guaranteed dimensions consult factory.

Protection class according to DIN 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
DIN EN 60529	IP .. 0	IP .. 1	IP .. 2	IP .. 3	IP .. 4	IP .. 5	IP .. 6	IP .. 7	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



Contact us



Do you have questions regarding ASM products? Would you like to receive detailed product information sent to you or do you wish to discuss sensor solutions for your application directly with us? We are happy to assist and are looking forward to your inquiry.

You can contact us by phone, e-mail or fax request.
(for contact information see back cover)

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