POSICHRON®
PCQA23
Square Profile Housing with Profibus 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**
- **Wire-free position magnet**
- **Contact-free**
- **Also available with guided position magnet**
- **Multi-magnet operation**
- **Output PROFIBUS-DP**

Specifications		
	Output	PROFIBUS Profile for encoders, class 2
	Resolution	Measurement increments of 5 ... 1000 µm
	Measurement response time	0.75 to 3.5 ms, depending on the measurement range, number of position magnets, preset function
	Linearity	Ranges >500 mm: L10 = ±0.10 % f.s. L02 = ±0.02 % f.s. Ranges ≤500 mm: L10 = ±0.5 mm L02MM = ±0.2 mm
	Repeatability	±3 µm
	Measurement direction	Adjustable
	Number of position magnets	1 ... 4
	Housing material	AlMgSi1 / Zn / V4A
	Protection class	IP64 (with mating connectors only)
	Shock	EN60068-2-27:1993, 50 g/11 ms, 100 shocks
	Vibration	EN60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles
	Connection	2 x connector M12 round, 5 pin, B-coded 1 x connector M8 round, 3 pin
	EMC, temperature	Refer to output specification

Order Code PCQA23

PCQA23 – □ – □ – □

Model Name

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

Output
PROF2 = PROFIBUS-DP

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

Order code mounting set (see page 3/4) **PCQA-BFS1**

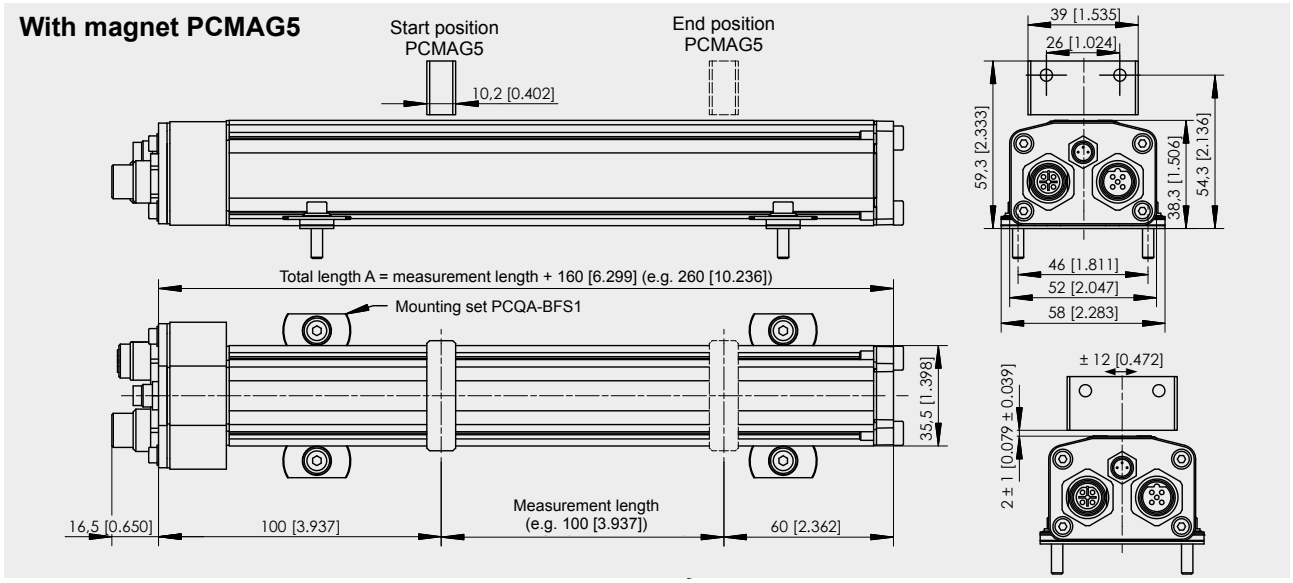
Order code position magnet (see page 4) **PCMAG ...**

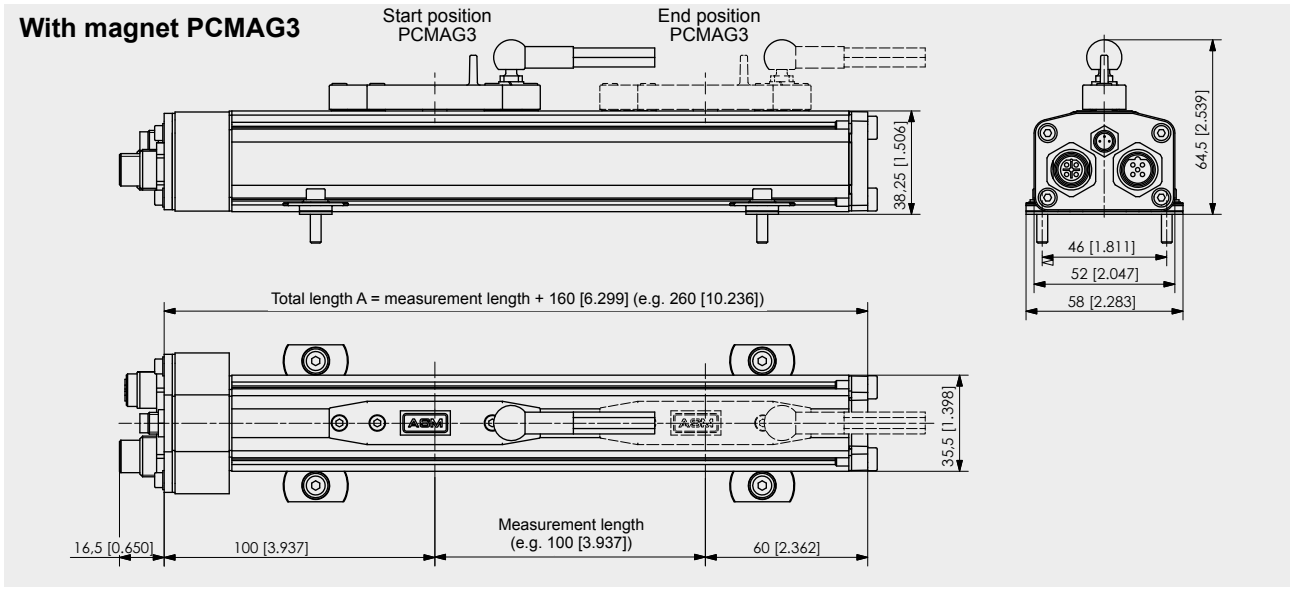
Order code mating cable set (see page 6) **KABS...-PCQA23-PROF-...M-LITZE**

Order example: PCQA23 - 2000 - PROF2 - L02

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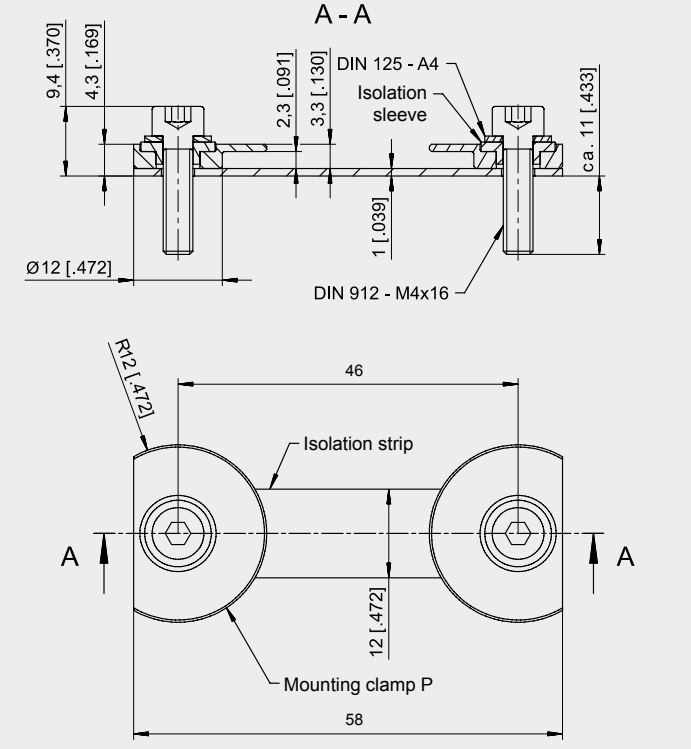


Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

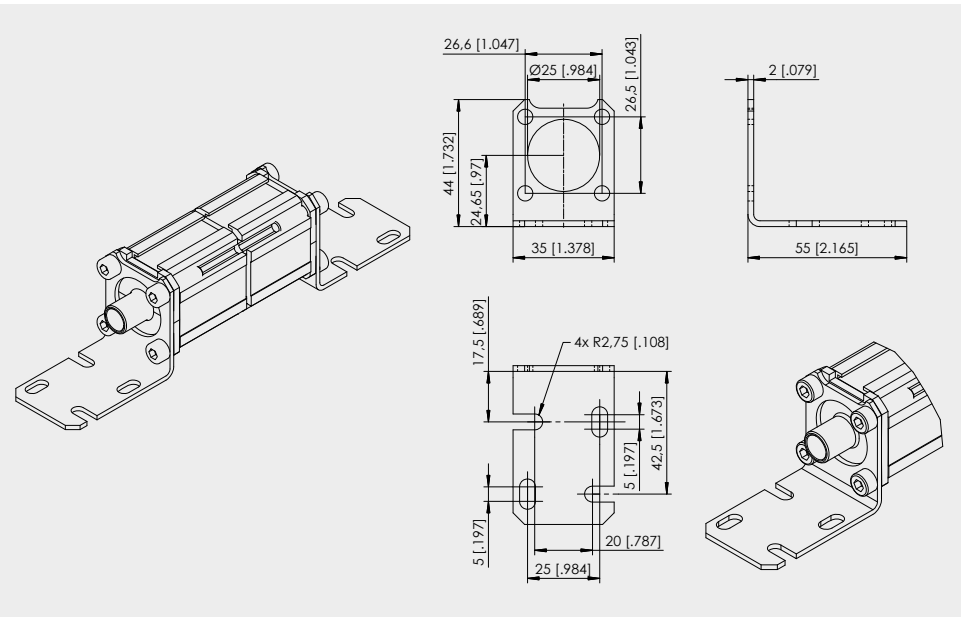
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Mounting set PCQA-BFS1 with mounting clamps



Option -BFW Mounting brackets for PCQA22 and PCQA24

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



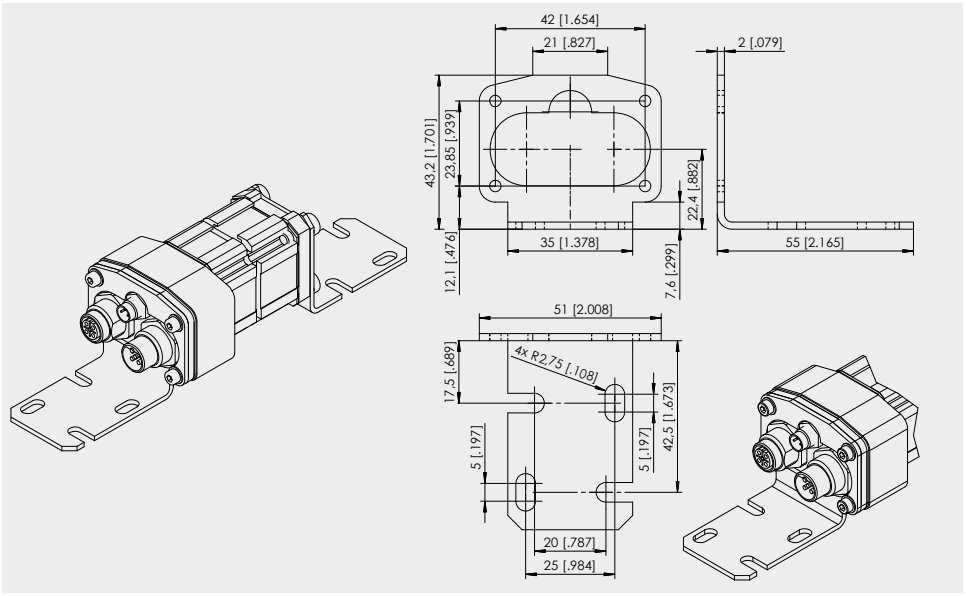
Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

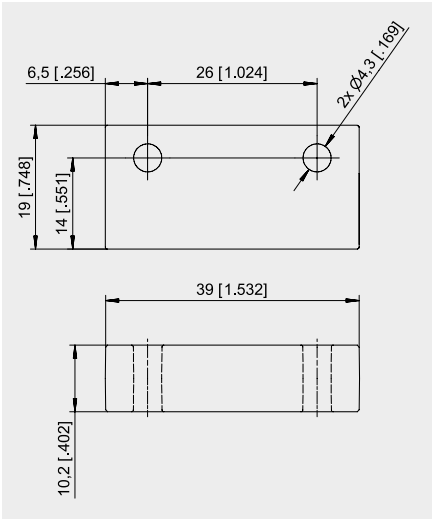
Order example: PCQA24 - 1000 - STSP - L10 - M12 - BFW

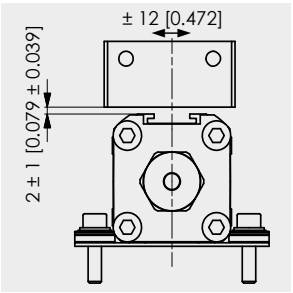
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Option -BFW
Mounting brackets for PCQA23

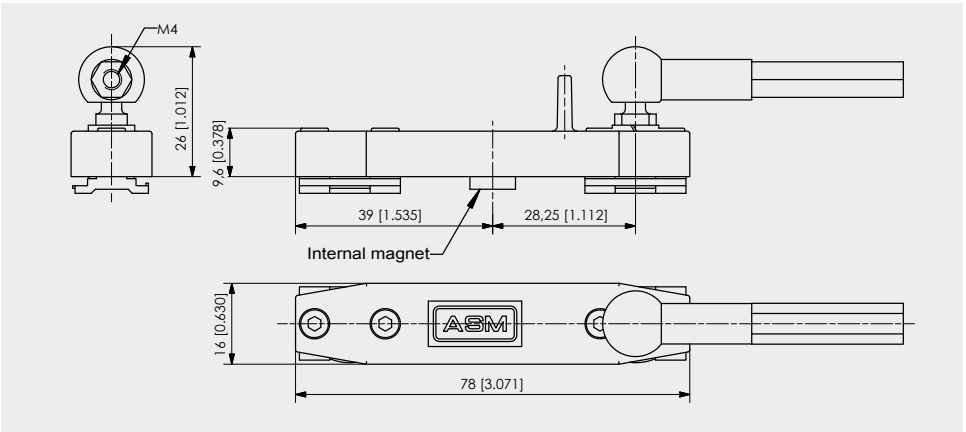


PCMAG5
Standard magnet





PCMAG3
Guided magnet slider with internal position magnet



Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

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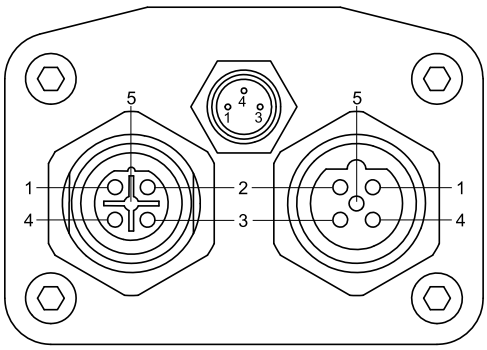
POSICHRON®
Output Specification PROFIBUS-DP

Profibus-Interface PROF2

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

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

Mating connectors



View to sensor connectors

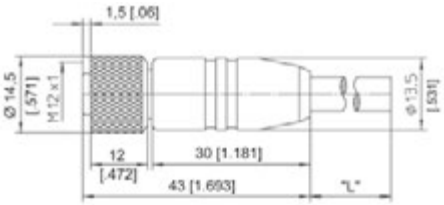
Signal wiring

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

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

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



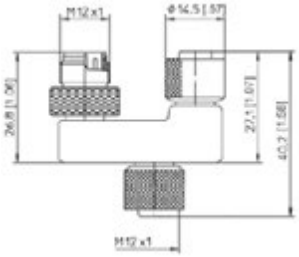
Order code:

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

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

Length in m

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



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

Terminating resistance
5 pin M12
CAN bus/DeviceNet



KAB - RTERM - M12/5M/G

Cable set for POSICHRON® position sensors
PROFIBUS

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

Cable set 1: Bus input, bus output, sensor excitation
Cable set 2: Bus input, terminating resistor, sensor excitation

Available lengths are 2, 5 and 10 m

Order Code:

KABS1-PCQA23-PROF-XM-LITZE

Length in m

KABS2-PCQA23-PROF-XM-LITZE

Length in m

Separate cables on request.

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