



#### 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.<br>L02 = ±0.02 % f.s.<br>Ranges ≤500 mm: L10 = ±0.5 mm<br>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<br>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 22)

PCQA-BFS1

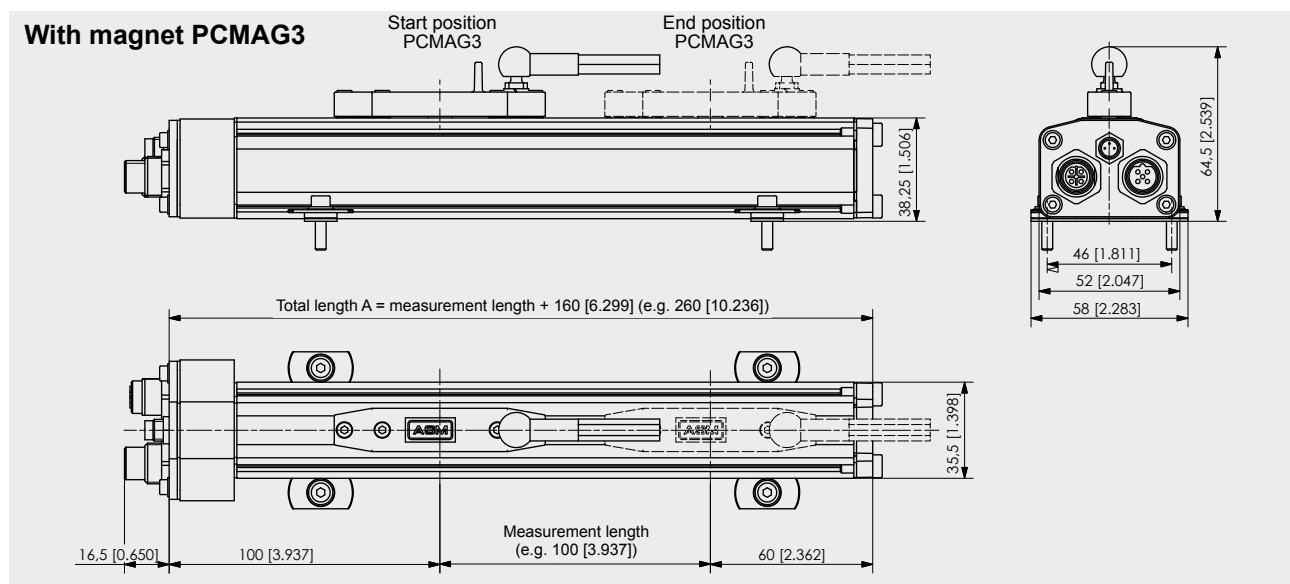
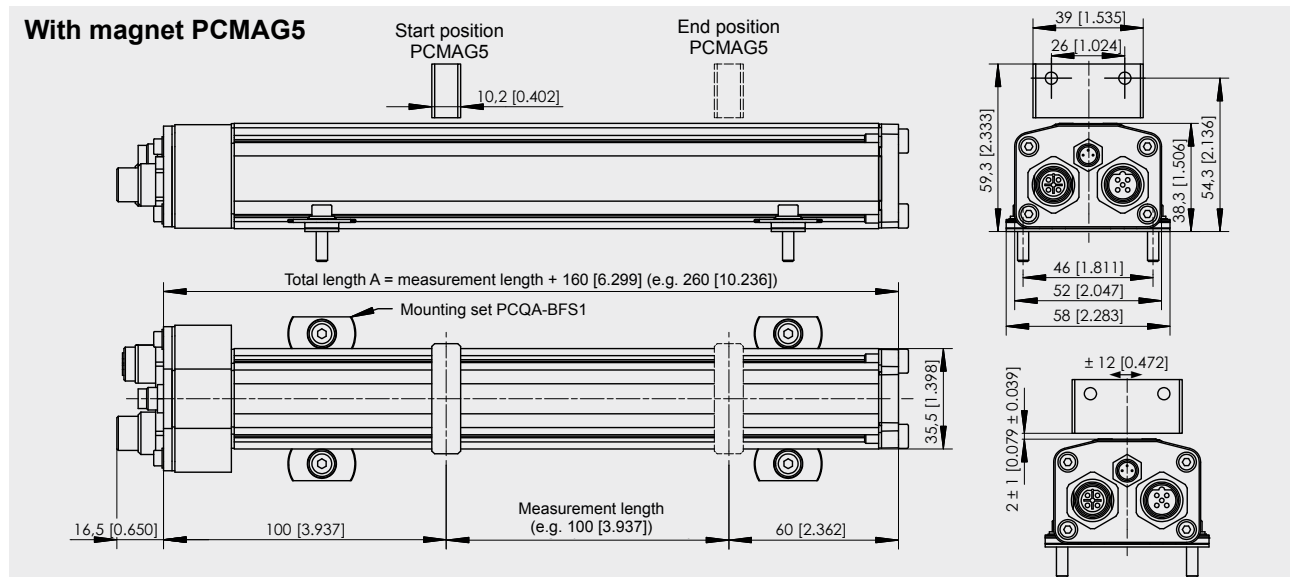
Order code position magnet (see page 23)

PCMAG ...

Order code mating cable set (see page 79)

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

Order example: PCQA23 - 2000 - PROF2 - L02

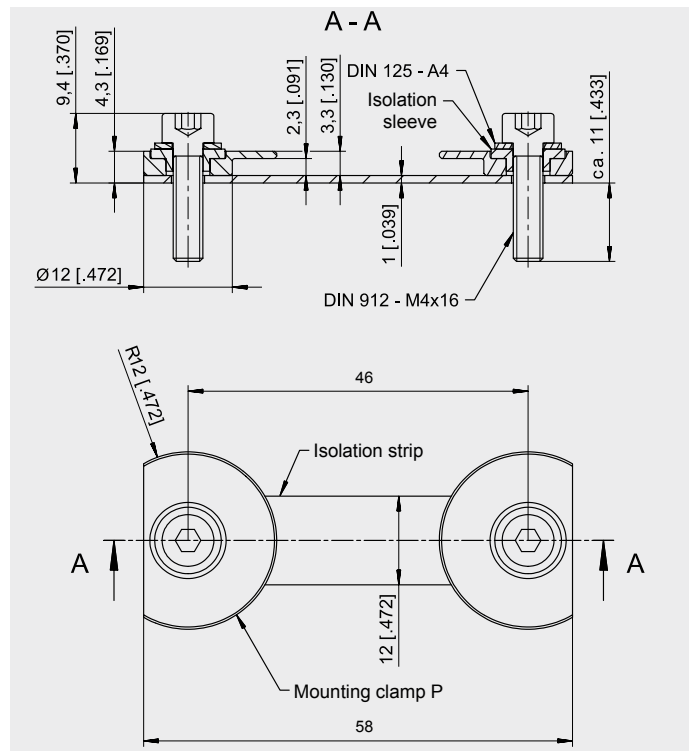


Dimensions in mm [inch]

Dimensions informative only.

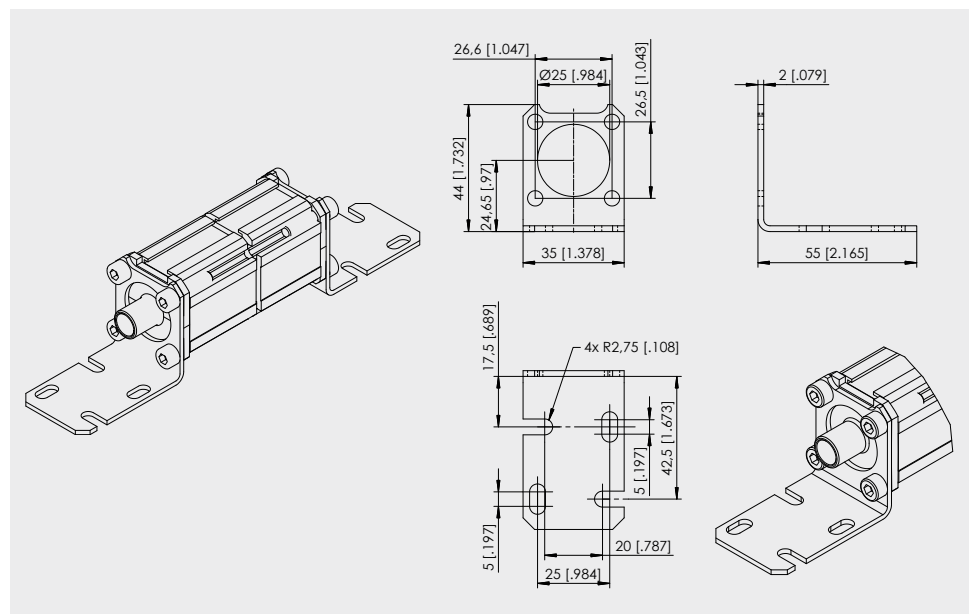
For guaranteed dimensions consult factory.

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



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

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



Dimensions in mm [inch]

Dimensions informative only.

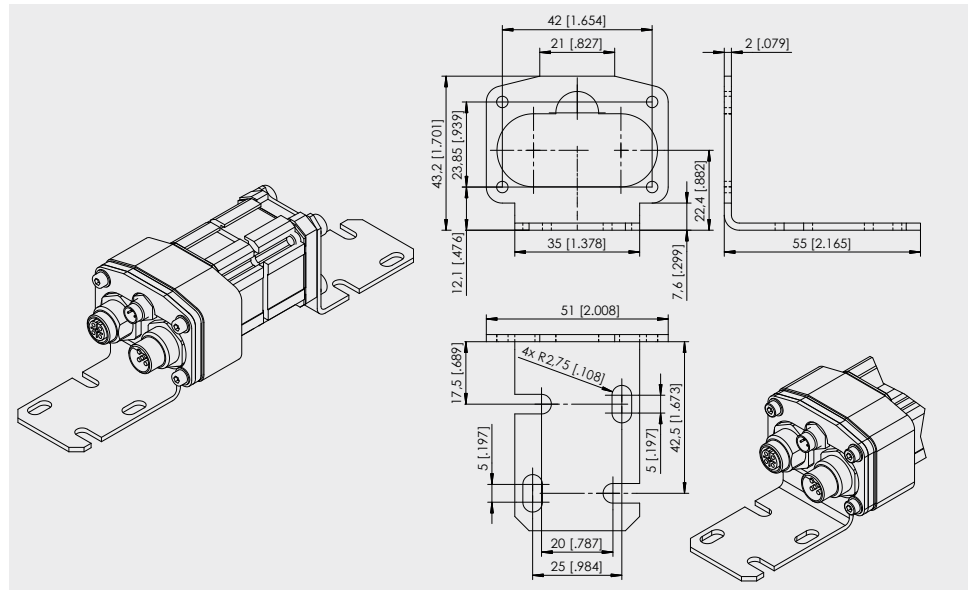
For guaranteed dimensions consult factory.

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

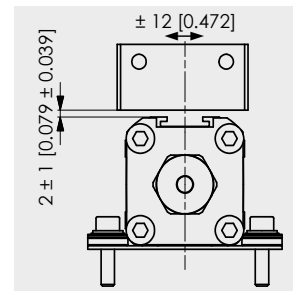
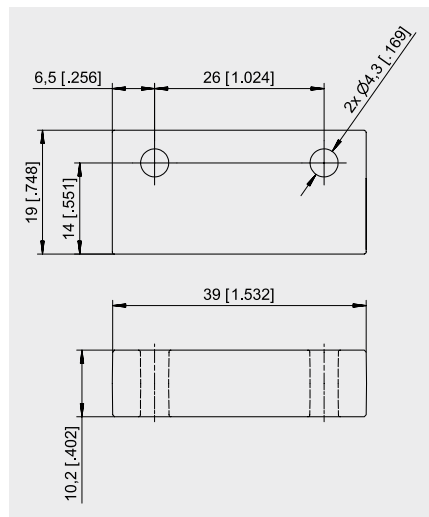
# POSICHRON® PCQA Mounting Sets - Magnets



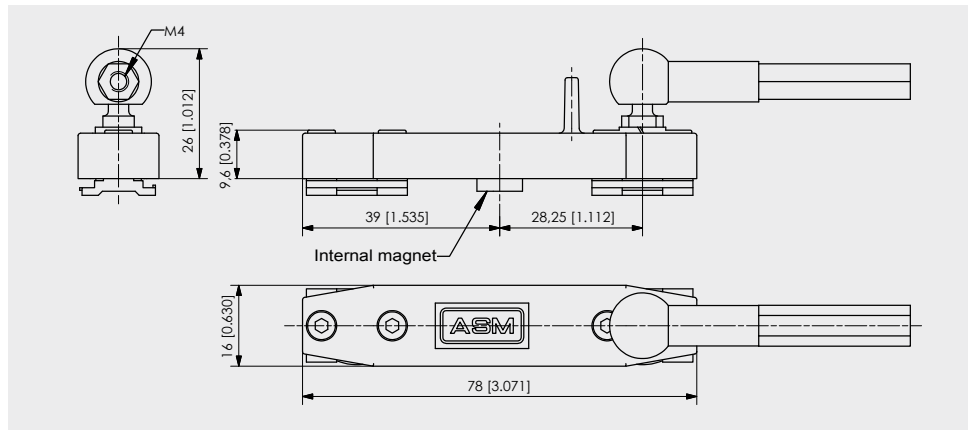
## Option -BFW Mounting brackets for PCQA23 (continuation)



## PCMAG5 Standard magnet



## PCMAG3 Guided magnet slider with internal position magnet



Dimensions in mm [inch]

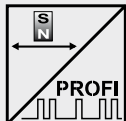
Dimensions informative only.  
For guaranteed dimensions consult factory.

# POSICHRON®

## Output Specification PROFIBUS-DP



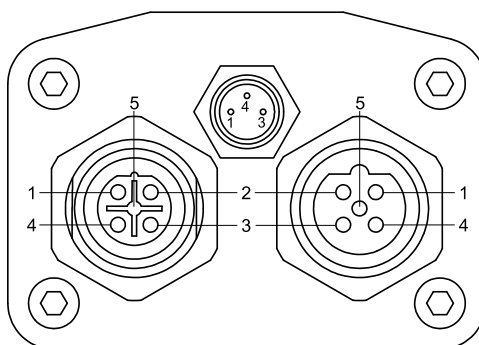
### Profibus-Interface PROF2



|                            |                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------|
| 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 <sub>pp</sub>                                                     |
| 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 <sup>-6</sup> / °C f.s.                                                                        |

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

### Mating connectors



View to sensor  
connectors

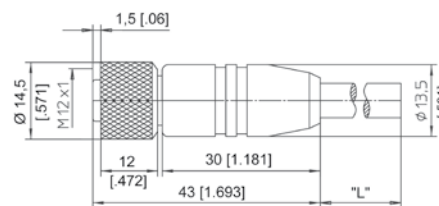
| Signal wiring | Connector pin | Signal name bus / cable color |       | Signal name excitation / cable color |       |
|---------------|---------------|-------------------------------|-------|--------------------------------------|-------|
|               | 1             | VP +5 V output          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

# POSICHRON® Accessories Connector Cables



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

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

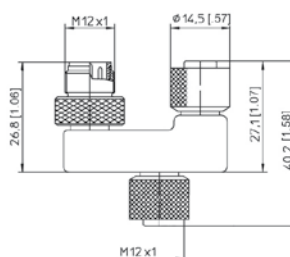


Order code:

**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.