POSICHRON®
PCST24
Rod-Style Design with Analog Output

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

Specifications

<table>
<thead>
<tr>
<th>Output</th>
<th>Voltage Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>Refer to output specification</td>
</tr>
<tr>
<td>Sampling rate</td>
<td>Up to 1 kHz, depending on the measurement range</td>
</tr>
<tr>
<td>Linearity</td>
<td>Ranges &gt;500 mm: L10 = ±0.10 % f.s. L02 = ±0.02 % f.s. Ranges ≤500 mm: L10 = ±0.5 mm L02MM = ±0.2 mm</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±3 µm</td>
</tr>
<tr>
<td>Housing material</td>
<td>Sensor rod: stainless steel 1.4404, head: AlMgSi</td>
</tr>
<tr>
<td>Mounting</td>
<td>Thread M18x1.5 / thread ¾ inch</td>
</tr>
<tr>
<td>Working pressure of sensor rod</td>
<td>400 bar, other values on request</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP67/69K (with mating connector IP67/69K only)</td>
</tr>
<tr>
<td>Shock</td>
<td>EN 60068-2-27:1993, 50 g 11 ms, 100 shocks</td>
</tr>
<tr>
<td>Vibration</td>
<td>EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles</td>
</tr>
<tr>
<td>Connection</td>
<td>8 pin socket M12</td>
</tr>
<tr>
<td>EMC, temperature</td>
<td>Refer to output specification</td>
</tr>
</tbody>
</table>

Order Code PCST24
1 channel, industry standard

Model Name
PCST24

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

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

Output
420T = 4 ... 20 mA signal conditioner (3 wire)

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

Connection
M12 = Connector M12, 8 pin

Order code position magnet (see page 65)
Order code mating connecting cable (see page 77)

Order example: PCST24 - M18 - 2000 - 420T - L10 - M12
### Order Code PCST24

1 or 2 channel, configurable

<table>
<thead>
<tr>
<th>Model name</th>
<th>PCST24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting</td>
<td></td>
</tr>
<tr>
<td>M18 = Thread M18 x 1,5</td>
<td></td>
</tr>
<tr>
<td>Z3/4 = Thread ¾”-16UNF</td>
<td></td>
</tr>
<tr>
<td>Measurement range (in mm)</td>
<td>100 ... 5750 in 10 mm increments</td>
</tr>
<tr>
<td>Output</td>
<td></td>
</tr>
<tr>
<td>U2 = 0.5 ... 10 V signal conditioner</td>
<td></td>
</tr>
<tr>
<td>U3 = 0 ... 5 V signal conditioner</td>
<td></td>
</tr>
<tr>
<td>I1 = 4 ... 20 mA signal conditioner (3-wire)</td>
<td></td>
</tr>
<tr>
<td>Function and characteristics output 1</td>
<td></td>
</tr>
<tr>
<td>P1A = Position magnet 1, increasing</td>
<td></td>
</tr>
<tr>
<td>P1D = Position magnet 1, decreasing</td>
<td></td>
</tr>
<tr>
<td>PMU = Start value, direction and end value adjustable by the customer (1 channel only)</td>
<td></td>
</tr>
<tr>
<td>DA = Difference magnet 1/2, increasing (2 magnets required)</td>
<td></td>
</tr>
<tr>
<td>DD = Difference magnet 1/2, decreasing (2 magnets required)</td>
<td></td>
</tr>
<tr>
<td>Function and characteristics output 2 (option)</td>
<td></td>
</tr>
<tr>
<td>P2A = Position magnet 2, increasing</td>
<td></td>
</tr>
<tr>
<td>P2D = Position magnet 2, decreasing</td>
<td></td>
</tr>
<tr>
<td>DA = Difference magnet 1/2, increasing</td>
<td></td>
</tr>
<tr>
<td>DD = Difference magnet 1/2, decreasing</td>
<td></td>
</tr>
<tr>
<td>VZx.x = Velocity with direction detection (only with one magnet)</td>
<td></td>
</tr>
<tr>
<td>VZ1.5 towards start position</td>
<td>-1.5 m/s</td>
</tr>
<tr>
<td>Output U2:</td>
<td>0.5 V</td>
</tr>
<tr>
<td>Output I1:</td>
<td>4 mA</td>
</tr>
<tr>
<td>VAx.x = Velocity without direction detection (only with one magnet)</td>
<td></td>
</tr>
<tr>
<td>VAX1.5 towards start position</td>
<td>-1.5 m/s</td>
</tr>
<tr>
<td>Output U2:</td>
<td>10 V</td>
</tr>
<tr>
<td>Output I1:</td>
<td>20 mA</td>
</tr>
<tr>
<td>Connection</td>
<td></td>
</tr>
<tr>
<td>M12 = Connector M12, 8 pin</td>
<td></td>
</tr>
</tbody>
</table>

Custom outputs are available upon request.

#### 1. Order example: PCST24 - M18 - 1000 - U2 - P1D - L10 - M12
Rod-style design, measurement range 1000 mm, 1 voltage output 0.5 ... 10 V (U2)

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

Output 2: Not used

#### 2. Order example: PCST24 - M18 - 1000 - I1 - P1A - P2D - L10 - M12
Rod-Style Design, measurement range 1000 mm, 2 current outputs 4 ... 20 mA (I1)

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

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

#### 3. Order example: PCST24 - M18 - 1000 - U2 - P1A - V1.0 - L10 - M12
Rod-Style Design, measurement range 1000 mm, 2 voltage outputs 0.5 ... 10 V (U2)

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

Output 2: Velocity magnet 1, -1 m/s ... 1 m/s for range 0.5 ... 10 V (V1.0)
POSICHRON®
PCST24
Rod-Style Design with Pulse Output

POSICHRON® rod-style position sensor
- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Replaceable electronics without leakage
- Multi-magnet operation
- Pulse output (start/stop)

Specifications

<table>
<thead>
<tr>
<th>Output</th>
<th>Pulse output (start/stop)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>Essentially infinite</td>
</tr>
<tr>
<td>Sampling rate</td>
<td>Up to 1 kHz, depending on the measurement range</td>
</tr>
</tbody>
</table>
| Linearity | Ranges >500 mm: L10 = ±0.10 % f.s.
| | L02 = ±0.02 % f.s.
| | Ranges ≤500 mm: L10 = ±0.5 mm
| | L02MM = ±0.2 mm |
| Repeatability | ±3 µm |
| Housing material | Sensor rod: stainless steel 1.4404, head: AlMgSi |
| Mounting | Thread M18x1.5 / thread ¾” inch |
| Working pressure of sensor rod | 400 bar, other values on request |
| Protection class | IP67/69K (with mating connector IP67/69K only) |
| Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks |
| Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles |
| Connection | 8 pin socket M12 |
| EMC, temperature | Refer to output specification |

Order Code PCST24

Model Name
- [PCST24] - [ ] - [ ] - [ ] - [ ]

Mounting
- M18 = Thread M18x1.5
- Z3/4 = Thread ¾” -16 UNF

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

Output
- STSP = Pulse output (start/stop)

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

Connection
- M12 = Connector M12, 8 pin

Order code position magnet (see page 65)
- [PCSTMAG ...]

Order code mating connecting cable (see page 77)
- [KAB- ...M-M12/8F/G-LITZE]

Order example: PCST24 - M18 - 2000 - STSP - M12
POSICHRON®
PCST24
Rod-Style Design with SSI Output

POSICHRON® rod-style position sensor
- For hydraulic cylinders, fluid level measurement
- Protection class IP67/69K
- Measurement range 0 ... 100 to 0 ... 5750 mm
- Absolute position measurement
- Contact-free
- Replaceable electronics without leakage
- Synchronous serial interface (SSI)

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>Synchronous serial interface (SSI)</td>
</tr>
<tr>
<td>Resolution</td>
<td>5, 10, 20, 50, 100 µm</td>
</tr>
<tr>
<td>Sampling rate</td>
<td>Up to 1 kHz, depending on the measurement range</td>
</tr>
<tr>
<td>Linearity</td>
<td>Ranges &gt;500 mm: L10 = ±0.10 % f.s. L02 = ±0.02 % f.s.</td>
</tr>
<tr>
<td></td>
<td>Ranges ≤500 mm: L10 = ±0.5 mm L02MM = ±0.2 mm</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±3 µm</td>
</tr>
<tr>
<td>Housing material</td>
<td>Sensor rod: stainless steel 1.4404, head: AlMgSi</td>
</tr>
<tr>
<td>Mounting</td>
<td>Thread M18x1.5 / thread ¾ inch</td>
</tr>
<tr>
<td>Working pressure</td>
<td>400 bar, other values on request</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP67/69K (with mating connector IP67/69K only)</td>
</tr>
<tr>
<td>Shock</td>
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<td>Vibration</td>
<td>EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles</td>
</tr>
<tr>
<td>Connection</td>
<td>8 pin socket M12</td>
</tr>
<tr>
<td>EMC, temperature</td>
<td>Refer to output specification</td>
</tr>
</tbody>
</table>

Order Code PCST24

| Model name         | PCST24                                           |
| Mounting           | M18 = Thread M18x1.5                             |
|                    | Z3/4 = Thread ¾ "-16 UNF                         |
| Measurement range  | 100 ... 5750                                     |
| Resolution (in µm) | 5 / 10 / 20 / 50 / 100                           |
| Output             | SSI = Synchronous serial interface               |
|                    | Average determination (filter, number of measurements) |
| Code               | F1 / F2 / F4 / F8                               |
| Number of data bits| 24 / 25                                          |
| Linearity          | L02 / L02MM / L10 (for definition see "Specifications" above) |
| Connection         | M12 = Connector M12, 8 pin                       |

Order code position magnet (see page 65)

Order code mating connecting cable (see page 77)
POSICHRON®
PCST24
Rod-Style Design with CANopen Output

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

Specifications

Output | CANopen bus
Resolution | 50 µm
Sampling rate | Up to 1 kHz, depending on the measurement range
Linearity | Ranges >500 mm: L10 = ±0.10 % f.s.
| L02 = ±0.02 % f.s.
| Ranges ≤500 mm: L10 = ±0.5 mm
| L02MM = ±0.2 mm
Repeatability | ±3 µm
Housing material | Sensor rod: stainless steel 1.4404, head: AlMgSi
Mounting | Thread M18x1,5 / thread ¾ inch
Working pressure of sensor rod | 400 bar, other values on request
Protection class | IP67 (with mating connector IP67/69K only)
Shock | EN 60068-2-27:1993, 50 g 11 ms, 100 shocks
Vibration | EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles
Connection | 5 pin socket M12
EMC, temperature | Refer to output specification

Order Code PCST24

Model Name

Mounting
M18  = Thread M18x1,5
Z3/4  = Thread ¾ "-16 UNF
Measurement Range (in mm)
100 ... 5750 in 10 mm increments
Other ranges on request
Output
CANOP = CANopen bus
Linearity
L02 / L02MM / L10 (for definition see "Specifications" above)
Connection
M12A5  = Connector M12, 5 pin

Order code position magnet (see page 65)
Order code mating connecting cable (see page 79)

Order example: PCST24 - M18 - 2000 - CANOP - L10 - M12A5
Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.
POSICHRON®
PCST
 Mounting

Mounting hole
M18

Mounting hole
¾ inch

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.
PCSTMAG1

Dimensions in mm [inch]

PCSTMAG2
(standard)

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

PCST MAG2-MH1

PCST MAG2-MH2

PCST MAG2-MH3

Dimensions in mm [inch]

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

PCSTMAG2-G1

PCSTMAG2-G2

Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions consult factory.
Other designs can be realized on request

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.
POSICHRON®
PCST
Magnets

PCSTMAG3
(float, continuous pressure up to 9 bar, for media with a specific gravity of ≥0.75 g/cm³)

Material: 1.4404

PCSTMAG6
(float, continuous pressure up to 30 bar, for media with a specific gravity of ≥0.7 g/cm³)

Material: 1.4571

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

Dimensions in mm [inch]
Dimensions informative only.
For guaranteed dimensions consult factory.
Other designs can be realized on request.
POSICHRON®
Output Specification 420T
Industry Standard

<table>
<thead>
<tr>
<th>Signal conditioner 420T</th>
<th>Excitation voltage</th>
<th>18 ... 27 V DC (18 ... 36 V DC as option)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current output (3 wire)</td>
<td>Excitation current</td>
<td>Typ. 70 mA, 80 mA max.</td>
</tr>
<tr>
<td></td>
<td>Load resistor</td>
<td>350 Ω max.</td>
</tr>
<tr>
<td></td>
<td>Output current</td>
<td>4 ... 20 mA, 30 mA max. (at failure)</td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td>Essentially infinite</td>
</tr>
<tr>
<td></td>
<td>Stability (temperature)</td>
<td>±50 x 10⁻⁶ / °C f.s.</td>
</tr>
<tr>
<td></td>
<td>Protection</td>
<td>Reverse polarity, short circuit</td>
</tr>
<tr>
<td></td>
<td>Output noise</td>
<td>0.5 mV max.</td>
</tr>
<tr>
<td></td>
<td>Operating temperature</td>
<td>-40 ... +85 °C</td>
</tr>
<tr>
<td></td>
<td>Immunity to interference (EMC)</td>
<td>According to EN 61326:2004</td>
</tr>
</tbody>
</table>

Signal diagram

Signal wiring

<table>
<thead>
<tr>
<th>Output signals 420T</th>
<th>Connector pin</th>
<th>Cable output color * (not for PCST27 and PCRP32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation +</td>
<td>1</td>
<td>white</td>
</tr>
<tr>
<td>Excitation GND</td>
<td>2</td>
<td>brown</td>
</tr>
<tr>
<td>Signal +</td>
<td>3</td>
<td>green</td>
</tr>
<tr>
<td>Signal GND</td>
<td>4</td>
<td>yellow</td>
</tr>
</tbody>
</table>

Connection

Mating connector

* Please note the different colors of the assembled accessory cable!
### Output Specification U2, U3 and I1

**Configurable, 1 or 2 channels**

#### Signal conditioner

**U2, U3**

- **Voltage output**
- **Excitation voltage**
  - 18 ... 27 V DC
- **Excitation current**
  - Typ. 35 mA, 80 mA max.
- **Output voltage**
  - U2: 0.5 ... 10 V; U3: 0 ... 5 V
- **Output current**
  - 2 mA max.
- **Output load**
  - > 5 kΩ
- **Resolution**
  - 16 bit
- **Stability (temperature)**
  - ±50 x 10⁻⁶/°C f.s.
- **Protection**
  - Reverse polarity, short circuit
- **Output noise**
  - 0.5 mV <sub>RMS</sub>
- **Operating temperature**
  - -40 ... +85 °C
- **Immunity to interference (EMC)**
  - According to EN 61326:2004

#### Signal diagram

<table>
<thead>
<tr>
<th>U2</th>
<th>U3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation +</td>
<td>Excitation GND</td>
</tr>
<tr>
<td>Signal 1 +</td>
<td>Signal GND</td>
</tr>
<tr>
<td>Signal 2 +</td>
<td>Signal GND</td>
</tr>
<tr>
<td>Signal 2 + (as option)</td>
<td>Signal GND</td>
</tr>
<tr>
<td>SPAN/ZERO (PMU, as option)</td>
<td>SPAN/ZERO (PMU, as option)</td>
</tr>
</tbody>
</table>

#### Signal conditioner

**I1**

- **Current output (3 wire)**
- **Excitation voltage**
  - 18 ... 27 V DC
- **Excitation current**
  - Typ. 60 mA, 80 mA max.
- **Load resistor**
  - 350 Ω max.
- **Output current**
  - 4 ... 20 mA, 30 mA max (at failure)
- **Resolution**
  - 16 bit
- **Stability (temperature)**
  - ±50 x 10⁻⁶/°C f.s.
- **Protection**
  - Reverse polarity, short circuit
- **Output noise**
  - 0.5 mV <sub>RMS</sub>
- **Operating temperature**
  - -40 ... +85 °C
- **Immunity to interference (EMC)**
  - According to EN 61326:2004

#### Signal diagram

<table>
<thead>
<tr>
<th>I1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation +</td>
</tr>
<tr>
<td>Signal 1 +</td>
</tr>
<tr>
<td>Signal 2 +</td>
</tr>
<tr>
<td>SPAN/ZERO (PMU, as option)</td>
</tr>
</tbody>
</table>

#### Signal wiring

**U2, U3, I1**

<table>
<thead>
<tr>
<th>Output signals</th>
<th>Connector pin</th>
<th>Cable output, wire color (not for PCST27 and PCRP32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation +</td>
<td>1</td>
<td>white</td>
</tr>
<tr>
<td>Excitation GND</td>
<td>2</td>
<td>brown</td>
</tr>
<tr>
<td>Signal 1 +</td>
<td>3</td>
<td>green</td>
</tr>
<tr>
<td>Signal GND</td>
<td>4</td>
<td>yellow</td>
</tr>
<tr>
<td>Signal 2 + (as option)</td>
<td>5</td>
<td>grey</td>
</tr>
<tr>
<td>SPAN/ZERO (PMU, as option)</td>
<td>6</td>
<td>pink</td>
</tr>
</tbody>
</table>

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

**Connection**

**Mating connector**

View to sensor connector

**CONN-M12-8M**

---

**ASM GmbH**

www.asm-sensor.com
POSICHRON®
Output Specification Pulse Interface STSP

**Pulse interface STSP**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation voltage</td>
<td>18 ... 27 V DC, residual ripple 10 mV_{ss}</td>
</tr>
<tr>
<td>Excitation current</td>
<td>Typ. 60 mA, 150 mA max.</td>
</tr>
<tr>
<td>Stability (temperature)</td>
<td>±50 x 10^{-6} °C f.s.</td>
</tr>
<tr>
<td>Wave velocity v_{s}</td>
<td>2600 ... 2900 m/s</td>
</tr>
<tr>
<td>Level INIT and START/STOP</td>
<td>RS422</td>
</tr>
<tr>
<td>Protection</td>
<td>Reverse polarity, short circuit</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 ... +85 °C</td>
</tr>
<tr>
<td>EMC</td>
<td>According to EN 61326:2004</td>
</tr>
</tbody>
</table>

**Signal diagram**

The subsequent circuit generates a request pulse via the INIT line. The position sensor responds with a START and a STOP signal.

To calculate the position value the time interval \( t_{(x)} \) must be multiplied with the conversion factor \( v_{s} \) specified on the type label.

Position value \( x = t_{(x)} \cdot v_{s} \)

When using multiple magnets every single magnet generates its own STOP signal. To identify the single magnets definitely the distance between two magnets must be min. 70 mm.

**Signal wiring**

<table>
<thead>
<tr>
<th>Pulse interface</th>
<th>Connector pin</th>
<th>Cable output color (not for PCST27 and PCRP32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitation +</td>
<td>1</td>
<td>white</td>
</tr>
<tr>
<td>Excitation GND</td>
<td>2</td>
<td>brown</td>
</tr>
<tr>
<td>INIT</td>
<td>3</td>
<td>green</td>
</tr>
<tr>
<td>INIT</td>
<td>4</td>
<td>yellow</td>
</tr>
<tr>
<td>STSP</td>
<td>5</td>
<td>grey</td>
</tr>
<tr>
<td>STSP</td>
<td>6</td>
<td>pink</td>
</tr>
</tbody>
</table>

**Connection**

Mating connector

View to sensor connector

CONN-M12-8M
POSICHRON®
Output Specification SSI

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

Data format
(Train of 26 pulses)

Synchronous serial interface SSI

Output voltage
18 ... 27 V DC, residual ripple 10 mV

Excitation current
Typ. 80 mA, 150 mA max.

Clock frequency
100 kHz ... 1 MHz

Code
Gray code, dual code

Resolution
≥ 5 µm

Delay between pulse trains
>25 µs

Filter
Average determination, see page 59

Stability (temperature)
±50 x 10⁻⁶ / °C f.s.

Operating temperature
-40 ... +85 °C

Immunity to interference EMC
According to EN 61326:2004

Signal diagram

Sensor circuit

Subsequent circuit

Signal wiring

View to sensor connector

CON-M12-8M
POSICHRON®
Output Specification CANopen

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

**Interface CANOP**
- **Communication profile**: CANopen CIA 301 V 4.02, Slave
- **Encoder profile**: Encoder CIA 406 V 3.2
- **Error Control**: Node Guarding, Heartbeat, Emergency Message
- **Node ID**: Adjustable via LSS or via object dictionary
- **PDO**: 4 TxPDO, 0 RxPDO, no linking, static mapping
- **PDO Modes**: Event-/Time triggered, Remote-request, Sync cyclic/acyclic
- **SDO**: 1 server, 0 client
- **CAM**: 2 cams
- **Certified**: Yes
- **Transmission rates**: 50 kBaud to 1 MBaud, adjustable via LSS or via object dictionary
- **Nodes**: 127 max.
- **Bus connection**: M12 connector, 5 pins
- **Integrated bus terminating resistor**: As option (output CANOP/RT)
- **Bus, galvanic isolated**: No

**Specifications**
- **Excitation voltage**: 8 ... 36 V DC
- **Excitation current**: Typ. 30 mA for 24 V, max. 100 mA
- **Number of position magnets**: 1 ... 4
- **Resolution**: 50 µm
- **Measuring rate**: 1 kHz (asynchronous)
- **Stability (temperature)**: ±50 x 10⁻⁶ / °C f.s.
- **Repeatability**: 1 LSB
- **Operating temperature**: -40 ... +85 °C
- **Protection**: Reverse polarity, short circuit
- **Dielectric strength**: 1 kV (V AC, 50 Hz, 1 min.)
- **Environment - EMC Automation**: EN 61326:2004

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

**Signal wiring / connection**
- **Shield**: 1 (grey)
- **Excitation +**: 2 (white)
- **GND**: 3 (brown)
- **CAN-H**: 4 (green)
- **CAN-L**: 5 (yellow)

**CAN bus wiring**
Terminating resistor Cable T-piece Cable Terminating resistor

**View to sensor connector**
Connector cable for POSICHRON® position sensors
8 pin M12

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

Order code:

<table>
<thead>
<tr>
<th>IP69K:</th>
<th>KAB - XM - M12/8F/W - LITZE</th>
</tr>
</thead>
</table>

Length in m

Connector cable for POSICHRON® position sensors
8 pin M12

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

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</table>

Length in m

<table>
<thead>
<tr>
<th>Connector cable wiring - M12, 8 pin</th>
<th>Connector pin / cable color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length in m</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
</tbody>
</table>

Accessories
Connector Cables
**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**

**Terminating resistance**

5 pin M12  
CAN bus/DeviceNet

**T-piece for bus cable**

5 pin M12  
CAN bus/DeviceNet

Available lengths are 0.3, 2, 5 and 10 m.

Order code:

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

**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**
- **KABS2-PCQA23-PROF-XM-LITZE**

Separate cables on request.