

# Inclination sensor

# INX360DH-F199-B16-2V15

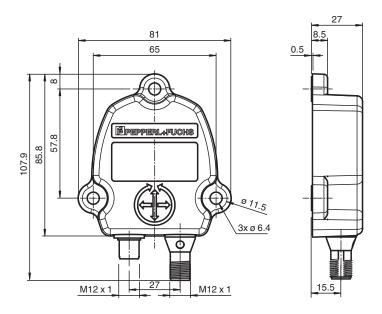
- Sturdy housing
- High accuracy of ≤ ± 0,15°
- CANopen interface
- 1-axis with 360° measuring range



#### **Function**

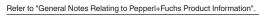
This inclination sensor has a CANopen interface. With its sturdy housing and its high accuracy, it is ideally suited for applications in the fields of solar, wind or mobile equipment.

## **Dimensions**



# **Technical Data**

| General specifications         |                            |
|--------------------------------|----------------------------|
| Туре                           | Inclination sensor, 1-axis |
| Time delay before availability | 150 ms                     |
| Measurement range              | 0 360 °                    |
| Absolute accuracy              | ≤±0.15 °                   |
| Response delay                 | ≤ 25 ms                    |



| 70        |
|-----------|
| ā         |
| a.p       |
| Ē         |
| Φ         |
| 753       |
| 27        |
| 3         |
| a)        |
| 2         |
| ਰ         |
| S         |
| Ë         |
| 7         |
| Τ.        |
| Ò         |
| 3-0       |
| 3         |
| 02        |
| $\approx$ |
| <u>e</u>  |
| 25        |
| Ö         |
| of        |
| Φ         |
| ŧ         |
| ñ         |
| 7         |
| Τ.        |
| 22        |
|           |
| 23        |
| ö         |
| N         |
| æ         |
| dai       |
| a         |
| Š         |
| g         |
| -         |
| æ         |
| _         |
|           |
|           |

| Technical Data                           |                |  |
|--|----------------|--|
| Resolution                               |                | ≤ 0.01 °   |
| Temperature influence                    |                | ≤ 0.004 °/K  |
| Functional safety related parameters     |                |  |
| MTTF <sub>d</sub>                        |                | 700 a at 40 °C   |
| Mission Time (T <sub>M</sub> )           |                | 20 a   |
| Diagnostic Coverage (DC)                 |                | 0 %  |
| Indicators/operating means               |                |  |
| Status indicator                         |                | dual-LED, green/red  |
| Electrical specifications                |                |  |
| Operating voltage                        | $U_B$          | 10 30 V DC   |
| No-load supply current                   | I <sub>0</sub> | ≤ 65 mA at 10 V DC<br>≤ 60 mA at 24 V DC   |
| Interface                                |                |  |
| Interface type                           |                | CANopen  |
| Device profile                           |                | DS 410   |
| Node ID                                  |                | 1 127 , programmable , factory setting 1 decimal                                 |
| Transfer rate                            |                | 20 1000 kBit/s , programmable , factory setting 125 kBit/s                       |
| Output driver                            |                | transceiver according ISO 11898, galvanically isolated by means of photocouplers |
| Compliance with standards and directives |                |  |
| Standard conformity                      |                |  |
| Noise immunity                           |                | EN 61000-6-2   |
| Emitted interference                     |                | EN 61000-6-4   |
| Shock and impact resistance              |                | DIN EN 60068-2-27, 100 g, 6 ms   |
| Vibration resistance                     |                | DIN EN 60068-2-6, 20 g, 10 2000 Hz   |
| Ambient conditions                       |                |  |
| Ambient temperature                      |                | -40 85 °C (-40 185 °F)   |
| Storage temperature                      |                | -40 85 °C (-40 185 °F)   |
| Mechanical specifications                |                |  |
| Connection type                          |                | 5-pin, M12 x 1 connector , A-coded<br>5-pin, M12 x 1 socket , A-coded            |
| Housing material                         |                | aluminum, corrosion-resistant  |
| Degree of protection                     |                | IP68 / IP69  |
| Mass                                     |                | approx. 200 g  |

## **Accessories**



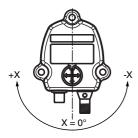
V15S-T-CAN/DN-V15 Y-Splitter M12 socket to M12 plug / M12 socket 5-pin A-coded



V15S-TR-CAN/DN-120R Terminal resistor for DeviceNet, CANopen

## Mounting

#### X-Orientation



## Indication

#### LED-indicator with dual color LED

| CAN Run (green) | State                 | Description   |  |
|-----------------|-----------------------|---|--|
| Flashing        | Pre-Operational       | Boot up message is sent, device configuration is possible, device is in CAN state "Pre- |  |
|                 |                       | Operational"  |  |
| Single flash    | Stopped               | The device is in CAN state "Stopped"  |  |
| On              | Operational           | The device is in CAN state "Operational"  |  |
| Off             |                       | No power supply   |  |
| Err (red)       | State                 | Description   |  |
| Off             | No error              | The device is in operating mode   |  |
| Flashing        | Configuration fault   | General configuration fault (such as wrong baudrate)                                    |  |
| Single flash    | Warning limit reached | At least one of the error counters of the CAN controller has reached or exceeded the    |  |
|                 |                       | warning level (too many error frames)   |  |
| Double flash    | Error control event   | A guard event (NTM slave or NTM master) or a heartbeat event has occured                |  |
| On              | Bus off               | The CAN controller is in stae bus off. No communication possible anymore. Too many      |  |
|                 |                       | error frames in the network.  |  |

# Connection

| Signal          | Bus Out, 5-pin,<br>M12 x 1 socket | Bus In, 5-pin,<br>M12 x 1 connector |
|-----------------|-----------------------------------|-------------------------------------|
| CAN GND         | 1                                 | 1                                   |
| +U <sub>b</sub> | 2                                 | 2                                   |
| GND             | 3                                 | 3                                   |
| CAN-High        | 4                                 | 4                                   |
| CAN-Low         | 5                                 | 5                                   |
| Pinout          | 4 (000) 2                         | 2 (3) 4                             |