Inclination sensor

INY160DH-F199-B16-2V15
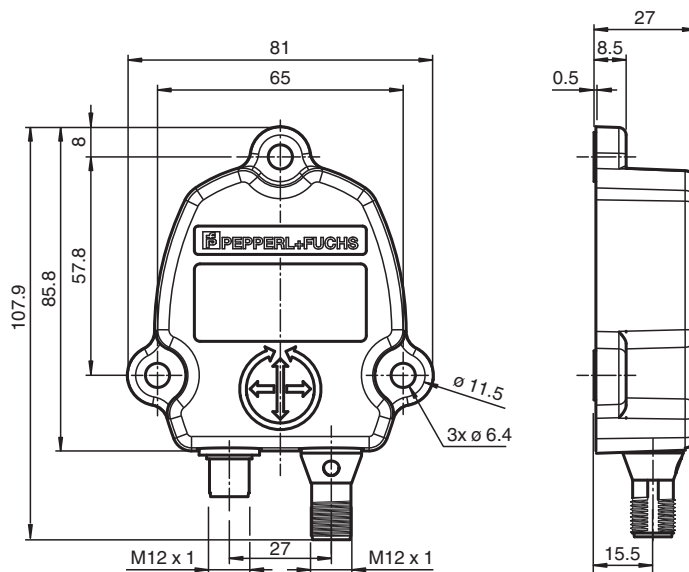
- Sturdy housing
- High accuracy of ≤ ± 0,15°
- CANopen interface
- 2-axis with ±80° measuring range

$C\,\epsilon$

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

Type	Inclination sensor, 2-axis
Time delay before availability	150 ms
Measurement range	± 80 °
Absolute accuracy	≤ ± 0.15 ° for measuring range ≤ ± 60° ≤ ± 0.4 ° for measuring range ≥ ± 60°
Response delay	≤ 25 ms

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Technical Data

Resolution		≤ 0.01 °
Temperature influence		≤ 0.004 °/K
Functional safety related parameters		
$MTTF_d$		700 a at 40 °C
Mission Time (T_M)		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_0	≤ 65 mA at 10 V DC ≤ 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 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

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Mounting
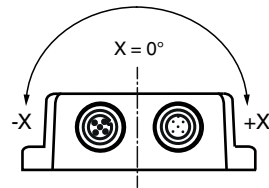
X-Orientation

Y-Orientation
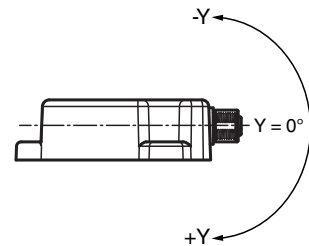
Indication

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, M12 x 1 socket	Bus In, 5-pin, M12 x 1 connector
CAN GND	1	1
+U$_b$	2	2
GND	3	3
CAN-High	4	4
CAN-Low	5	5
Pinout		

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