



### Model number

INY160DH-F199-B30-V15

### Features

- **Sturdy housing**
- **High accuracy of  $\leq \pm 0,15^\circ$**
- **Communication via MODBUS RTU**
- **2-axis with  $\pm 80^\circ$  measuring range**

### Function description

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

## Technical Data

### General specifications

Type	Inclination sensor, 2-axis
Time delay before availability	320 ms
Measurement range	$\pm 80^\circ$
Absolute accuracy	$\leq \pm 0.15^\circ$ for measuring range $\leq \pm 60^\circ$ $\leq \pm 0.4^\circ$ for measuring range $\geq \pm 60^\circ$
Response delay	$\leq 25$ ms
Resolution	$\leq 0.01^\circ$
Temperature influence	$\leq 0.004^\circ/\text{K}$

### Functional safety related parameters

MTTF <sub>d</sub>	900 a at 40 °C
Mission Time (T <sub>M</sub> )	20 a
Diagnostic Coverage (DC)	0 %

### Electrical specifications

Operating voltage U <sub>B</sub>	4.5 ... 30 V DC
No-load supply current I <sub>0</sub>	$\leq 100$ mA at 5 V DC $\leq 25$ mA at 24 V DC

### Interface

Interface type	MODBUS RTU
Transfer rate	2.4 ... 115200 kBit/s , programmable in 7 steps , factory setting 19,2 kBit/s
Data format	even parity, 1 start bit, 1 stop bit, 8 data bits
Node ID	1 ... 247 , programmable , factory setting 127 decimal
Output driver	line driver RS485

### Ambient conditions

Ambient temperature	-40 ... 85 °C (-40 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

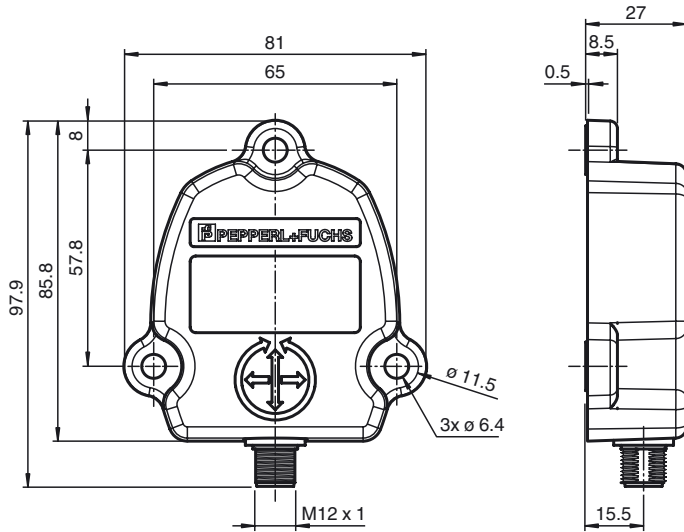
### Mechanical specifications

Connection type	5-pin, M12 x 1 connector , A-coded
Housing material	aluminum, corrosion-resistant
Degree of protection	IP68 / IP69
Mass	approx. 200 g

### 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

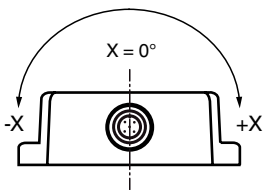
**Dimensions**



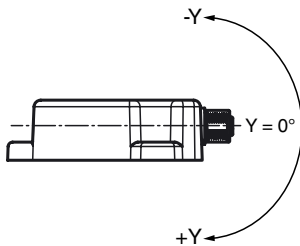
**Electrical connection**

Signal	5-pin, M12 x 1 connector
n. c.	1
+V <sub>S</sub>	2
GND	3
RS485 A +	4
RS485 B -	5
Pinout	

**X-Orientation**



**Y-Orientation**



**Accessories**

**V15-G-2M-PUR-CAN-V15-G**

DeviceNet/CANOpen bus cable, M12 to M12, PUR cable 5-pin

**V15-G-5M-PUR-CAN-V15-G**

DeviceNet/CANOpen bus cable, M12 to M12, PUR cable 5-pin

**V15-G-10M-PUR-CAN-V15-G**

DeviceNet/CANOpen bus cable, M12 to M12, PUR cable 5-pin

**V15S-T-CAN/DN-V15**

Y distributor, M12 socket on M12 connector/socket

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