



Model Number

INY360D-F99-B16-V15

Features

- Measuring range 0 ... 360°
- Highly shock resistant
- Extended temperature range -40 ... + 85 °C
- CANopen interface

Technical data

General specifications

Type	Inclination sensor, 2-axis
Measuring range	0 ... 360 °
Absolute accuracy	≤ ± 0.5 °
Response delay	≤ 25 ms
Resolution	≤ 0.1 °
Repeat accuracy	≤ ± 0.1 °
Temperature influence	≤ 0.027 °/K

Indicators/operating means

Operating display	LED, green
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Electrical specifications

Operating voltage U_B	10 ... 30 V DC
No-load supply current I_0	≤ 50 mA
Time delay before availability t_v	≤ 2.5 s

Interface

Data output code	binary code
Interface type	CANopen
Transfer rate	125 kBit/s , 250 kBit/s , 500 kBit/s , 1 MBit/s , programmable
Node ID	1 ... 127 , programmable
Termination	external

Standard conformity

Shock resistance	100 g according to DIN EN 60068-2-27
Standards	IEC / EN 60947-5-2:2004

Ambient conditions

Ambient temperature	-40 ... 85 °C (233 ... 358 K)
Storage temperature	-40 ... 85 °C (233 ... 358 K)

Mechanical specifications

Connection type	connector M12 x 1, 5-pin
Housing material	PA
Protection degree	IP68 / IP69K
Mass	240 g

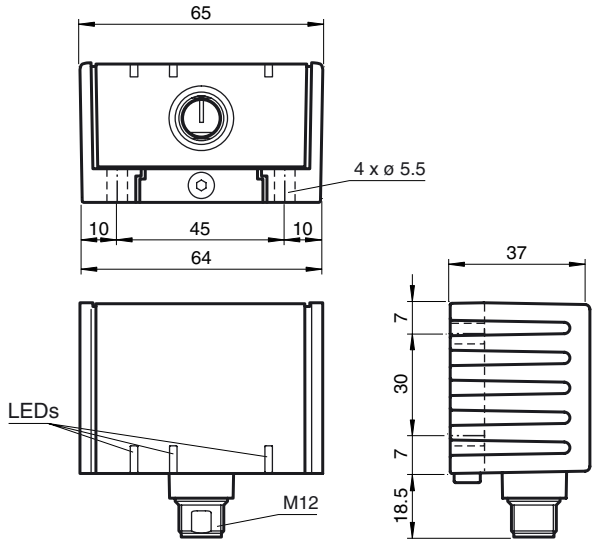
Factory settings

Node ID	1
Transfer rate	250 kBit/s

Approvals and certificates

CSA approval	cCSAus Certified, General Purpose Class 2 power source
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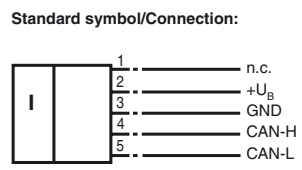
Dimensions



Accessories

- V15-G-2M-PUR-CAN-V15-G**
Connection cable
- V15-G-5M-PUR-CAN-V15-G**
Connection cable
- V15-G-10M-PUR-CAN-V15-G**
Connection cable
- V15S-T-CAN/DN-V15**
T-Distributor
- ICZ-TR-CAN/DN-V15**
Terminal resistor

Electrical Connection



Pinout



Node ID setting

Inclination sensors by Pepperl+Fuchs are supplied with node ID 1. To change the node ID, write the new node ID to object 2000h "Node ID." If a "Reset sensor" command is issued via an NMT message or the power supply is interrupted, the sensor operates with the new node ID. Node ID values between 1 and 127 can be sent in hexadecimal format (01h ... 7Fh). Invalid values are not adopted. In this case, the current setting is retained.

Example of modifying node ID from 1 to 15:

601h	2Fh	00h	20h	00h	0Fh	xxh	xxh	xxh
CAN-ID	Com- mand	Object index		Subindex	New ID	not used		
	Data byte 1	Data byte 2	Data byte 3	Data byte 4	Data byte 5	Data byte 6	Data byte 7	Data byte 8

CAN ID: 601h, SDO1 channel of node 1

Release date: 2009-06-10 10:02 Date of issue: 2009-06-10 212421_ENG.xml

Command: 2Fh, write object, 1 byte of usable data

Object index: 2000h, note: low byte first, then high byte!

Subindex: 00h

New ID: 0Fh, only values between 01h ... 7Fh (1 ... 127) permitted

Baud rate setting

Inclination sensors by Pepperl+Fuchs are supplied with a baud rate of 250 kbit/s. To change the baud rate, write the new baud rate to object 2001h "Baud rate." If a "Reset sensor" command is issued via an NMT message or the power supply is interrupted, the sensor operates at the new baud rate. The inclination sensor supports the baud rates 125 kbit/s, 250 kbit/s, 500 kbit/s and 1 Mbit/s. Invalid values are not adopted. In this case, the current setting is retained.

Example of modifying the baud rate from 250 kbit/s to 1 Mbit/s:

601h	2Fh	01h	20h	00h	08h	xxh	xxh	xxh
CAN-ID	Com- mand	Object index		Subindex	New baud rate	not used		
	Data byte 1	Data byte 2	Data byte 3	Data byte 4	Data byte 5	Data byte 6		Data byte 7 Data byte 8

CAN ID: 601h, SDO1 channel of node 1

Command: 2Fh, write object, 1 byte of usable data

Object index: 2001h, note: low byte first, then high byte!

Subindex: 00h

New baud rate: 08h, for 1 Mbit/s

New baud rate: 04h, for 500 kbit/s

New baud rate: 02h, for 250 kbit/s

New baud rate: 01h, for 125 kbit/s

LED displays

The inclination sensor has three indicator LEDs that allow rapid visual monitoring.

- The green **power** LED indicates the state of the power supply
- The yellow **run** LED indicates the bus and sensor status
- The red **err** LED indicates an error

power (green)	run (yellow)	err (red)	Meaning
Off	Off	Off	No power supply
On	Flashing constantly	Off	Pre-operational
On	1x flashing	Off	Stopped
On	On	Off	Operational
On	Off	On	CAN bus off
On	depending on bus status	1x flashing	Warning, e.g., outside measuring range
On	depending on bus status	2x flashing	Error, e.g., EEPROM checksum incorrect
Flashing constantly	Off	On	Undervoltage