

Inclination sensor

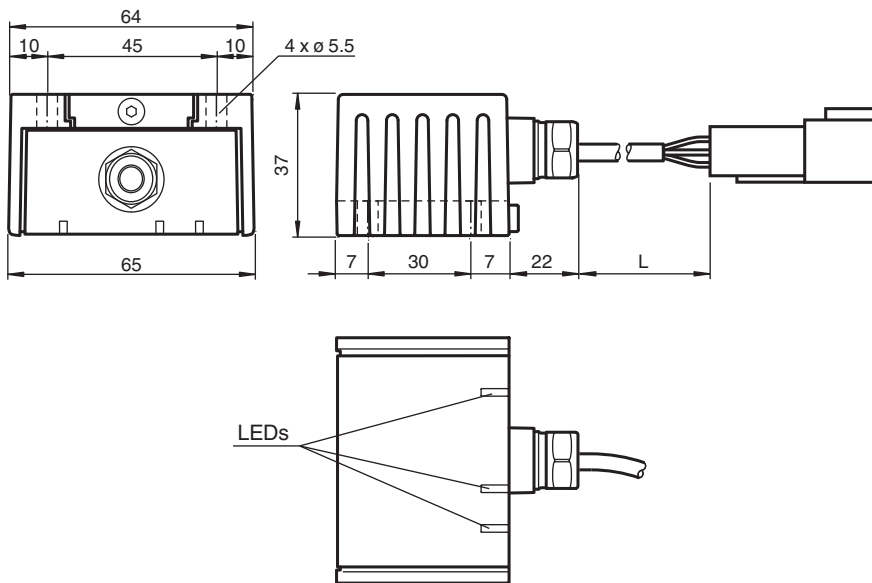
INY170D-F99-B20-0,6M-6DTM04



- E1-Type approval
- High shock resistance
- Extended temperature range
-40 ... +85 °C
- CAN bus with SAE J1939 protocol
- Measuring range -85° ... +85°



Dimensions



Technical Data

General specifications

Type	Inclination sensor, 2-axis
Measurement range	-85 ... 85 °
Absolute accuracy	≤ ± 0.5 ° [-60°...+60°]
Response delay	≤ 25 ms
Resolution	≤ 0.1 °
Repeat accuracy	≤ ± 0.1 °
Temperature influence	≤ 0.004 °/K

Functional safety related parameters

MTTF _d	650 a
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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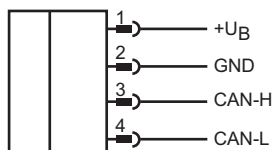
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PEPPERL+FUCHS

Technical Data

Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED, green
Status indicator		LED, yellow
Error indicator		LED, red
Electrical specifications		
Operating voltage	U _B	5 ... 30 V DC
No-load supply current	I ₀	≤ 100 mA
Power consumption	P ₀	≤ 0.7 W
Interface		
Interface type		J1939
Data output code		binary code
Node ID		0 ... 253 , programmable
Transfer rate		10 ... 1000 kBit/s , programmable
Termination		external
Cycle time		programmable
SLOT Range		-85 ... 85 °
SLOT Offset		180 °
Compliance with standards and directives		
Standard conformity		
Shock and impact resistance		100 g according to DIN EN 60068-2-27
Standards		EN 60947-5-2:2007 IEC 60947-5-2:2007
Approvals and certificates		
UL approval		cULus Listed, Class 2 Power Source
E1 Type approval		10R-04
Ambient conditions		
Ambient temperature		-40 ... 85 °C (-40 ... 185 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		0.6 m, PUR cable 5 x 0.5 mm ² Deutsch connector DTM04-6P
Housing material		PA
Housing length		65 mm
Housing width		45 mm
Housing height		37 mm
Degree of protection		IP68 / IP69K
Mass		240 g
Factory settings		
Node ID		30
Transfer rate		250 kBit/s

Connection



Accessories

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

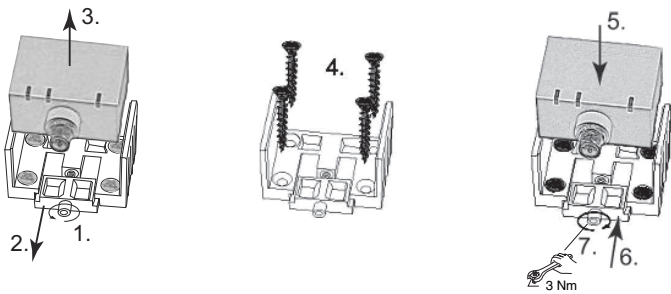
Sensor Orientation

In the default setting the zero position of the sensor is reached, when the sensor is mounted on a horizontal plane and electrical connection faces sideways.

Mounting

Mounting of the sensor

Sensors from the -F99 series consist of a sensor module and accompanying cast aluminum housing. Select a horizontal flat surface with minimum dimensions of 70 mm x 50 mm to mount the sensor. Mount the sensor as follows:



- 1. Loosen the central screw under the sensor connection.
 - 2. Slide back the clamping element until you are able to remove the sensor module from the housing.
 - 3. Remove the sensor module from the housing
 - 4. Position the housing at the required mounting location and secure using four countersunk screws. Make sure that the heads of the screws do not protrude.
 - 5. Place the sensor module in the housing.
 - 6. Slide the clamping element flush into the housing. Check that the sensor element is seated correctly.
 - 7. Finally tighten the central screw.
- The sensor is now mounted correctly.

Technical Features

EMC Properties

Interference immunity in accordance with
DIN ISO 11452-2: 100 V/m
Frequency band 20 MHz up to 280 MHz and 295 MHz up to 2 GHz
Mains-borne interference in accordance with ISO 7637-2:

Pulse	1	2a	2b	3a	3b	4	5
Severity level	III	III	III	III	III	III	IV
Failure criterion	C	A	C	A	A	C	A

EN 61000-4-2:	CD: 8 kV	/	AD: 15 kV
Severity level	IV		IV
EN 61000-4-3:	30 V/m (80...2500 MHz)		
Severity level	IV		
EN 61000-4-4:	2 kV		
Severity level	III		
EN 61000-4-6:	10 V (0.01...80 MHz)		
Severity level	III		
EN 55011:	Klasse A		

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