



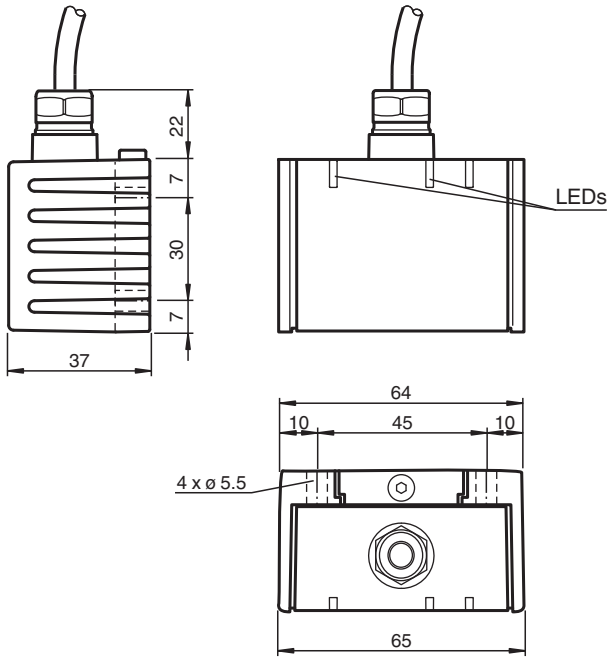
Inclination sensor

INY030D-F99-2I2E2-25M

- E1-Type approval
- Measuring range $-15^{\circ} \dots +15^{\circ}$
- Analog output 4 mA ... 20 mA
- Fixed evaluation limits
- High shock resistance
- Increased noise immunity 100 V/m



Dimensions



Technical Data

General specifications

Type	Inclination sensor, 2-axis
Measuring range	$-15 \dots 15^{\circ}$
Absolute accuracy	$\leq \pm 0.2^{\circ}$
Response delay	$\leq 25 \text{ ms}$
Resolution	$\leq 0.01^{\circ}$
Repeat accuracy	$\leq \pm 0.02^{\circ}$
Temperature influence	$\leq 0.004^{\circ}/\text{K}$

Functional safety related parameters

MTTF _d	304 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

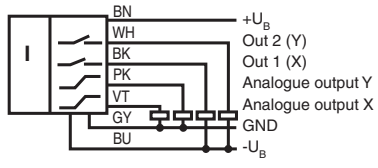
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Technical Data

Indicators/operating means		
Operation indicator		LED, green
Switching state		2 yellow LEDs: Switching status (each output)
Electrical specifications		
Operating voltage	U_B	10 ... 30 V DC
No-load supply current	I_0	≤ 25 mA
Time delay before availability	t_v	≤ 200 ms
Switching output		
Output type		2 switch outputs PNP, NO , reverse polarity protected , short-circuit protected
Operating current	I_L	≤ 100 mA
Voltage drop		≤ 3 V
Analog output		
Output type		2 current outputs 4 ... 20 mA (one output for each axis)
Load resistor		0 ... 200 Ω at $U_B = 10 ... 18$ V 0 ... 500 Ω at $U_B = 18 ... 30$ V
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		25 m PUR cable 7 x 0.5 mm ²
Housing material		PA
Degree of protection		IP68 / IP69K
Mass		240 g
Dimensions		
Height		37 mm
Width		45 mm
Length		65 mm
Factory settings		
Analog output (X)		-15 ° ... 15 °
Analog output (Y)		-15 ° ... 15 °
Switching output (X)		-15 ° ... 15 °
Switching output (Y)		-15 ° ... 15 °

Connection

Standard symbol/Connection:



Mounting

Sensor Orientation

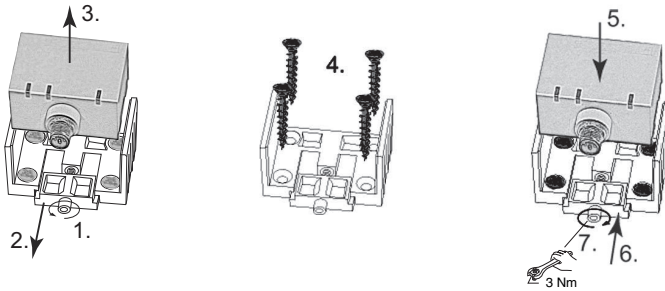
In the default setting the zero position of the sensor is reached, when the sensor is mounted on a horizontal plane and electrical connection faces sideways.

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 2 GHz

Mains-borne interference in accordance with ISO 7637-2:

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

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