

Inclination sensor

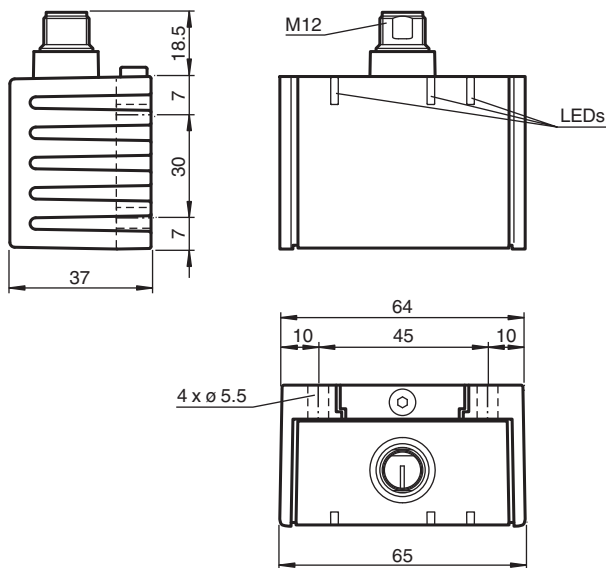
INY340D-F99-2I-V15-Y310917



- E1-Type approval
- Analog output 4 mA ... 20 mA
- High shock resistance
- Increased noise immunity 100 V/m



Dimensions



Technical Data

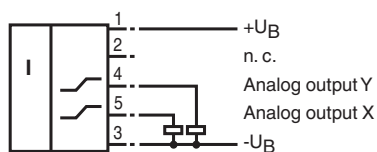
General specifications

Type	Inclination sensor, 2-axis
Measurement range	X-axis : 10 ... 350 ° Y-axis : 135 ... 225 °
Absolute accuracy	≤ ± 0.5 °
Response delay	≤ 25 ms
Resolution	≤ 0.1 °
Repeat accuracy	≤ ± 0.1 °
Temperature influence	≤ 0.027 °/K

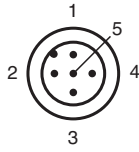
Technical Data

Functional safety related parameters		
MTTF _d		300 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
Operation indicator		LED, green
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
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		5-pin, M12 x 1 connector
Housing material		PA
Degree of protection		IP68 / IP69K
Mass		240 g
Factory settings		
Analog output (X)		10 ° ... 350 °
Analog output (Y)		135 ° ... 225 °

Connection





Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)
5	GY	(gray)

Accessories

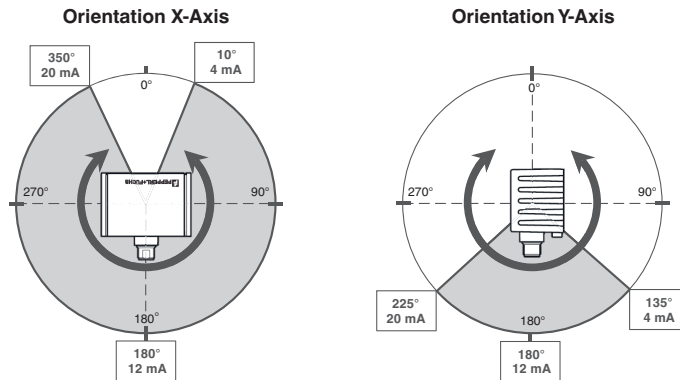
	V15-G-2M-PUR	Female cordset, M12, 5-pin, PUR cable
	V15-W-2M-PUR	Female cordset, M12, 5-pin, PUR cable

Mounting

Sensor Orientation

In the default setting the zero position of the sensor is reached, when the electrical connection faces straight downwards.

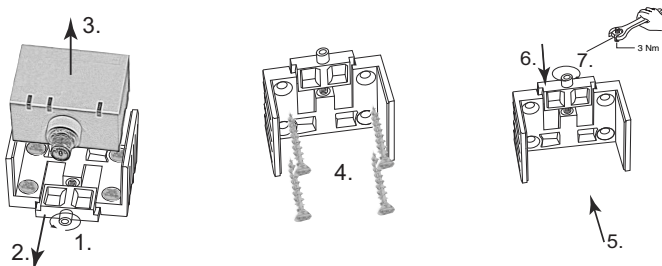
Mounting



Mounting of the sensor

Sensors from the -F99 series consist of a sensor module and accompanying cast aluminum housing. Select a vertical 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:

Inclination sensor

INY340D-F99-2I-V15-Y310917

Pulse	1	2	2	3	3	4
		a	b	a	b	
Severity level	I	I	I	I	I	I
	I	I	I	I	I	I
	I	I	I	I	I	I
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					

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