



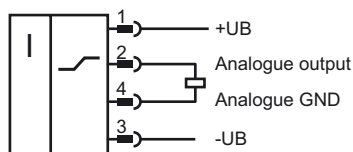
Model number

INX112D-F99-U-V1

Features

- Measuring range 0 ... 360°
- High shock resistance
- Increased noise immunity 100 V/m
- Analog output 0 V ... 5 V

Electrical connection



Technical Data

General specifications

Type	Inclination sensor, 1-axis
Measurement range	0 ... 360 °
Absolute accuracy	≤ ± 0.5 °
Response delay	≤ 20 ms
Resolution	≤ 0.1 °
Repeat accuracy	≤ ± 0.1 °
Temperature influence	≤ 0.027 °/K

Functional safety related parameters

MTTF _d	390 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	1 voltage output 0 ... 5 V
Load resistor	≥ 1 kΩ

Ambient conditions

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

Mechanical specifications

Connection type	4-pin, M12 x 1 connector
Housing material	PA
Degree of protection	IP68 / IP69K
Mass	240 g

Factory settings

Analog output	78.75 ° ... 191.25 °
---------------	----------------------

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

CSA approval cCSAus Listed, General Purpose, Class 2 Power Source

EMC Properties

Emitted interference and interference immunity in accordance with motor vehicle directive 2006/28/EG (e1 Type approval)

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

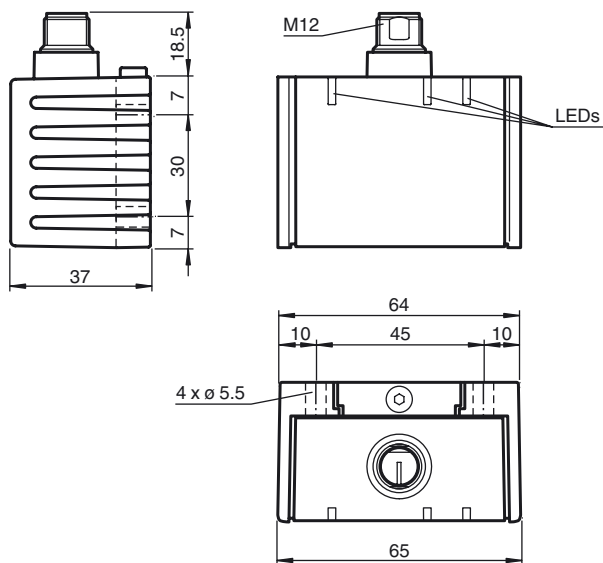
Severity level III

EN 61000-4-6: 10 V (0.01...80 MHz)

Severity level III

EN 55011: Klasse A

Dimensions



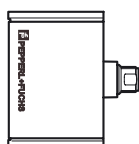
Sensor Orientation

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

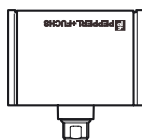
X Orientation



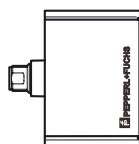
X = 0°



X = 90°



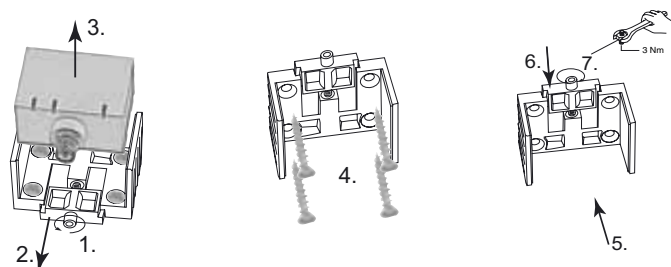
X = ±180°



X = 270° (-90°)

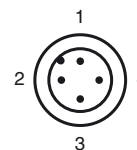
Mounting of the sensor

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.

Pinout



Wire colors in accordance with EN 60947-5-2

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

Accessories

V1-G

Female connector, M12, 4-pin, field attachable

V1-W

Female connector, M12, 4-pin, field attachable