

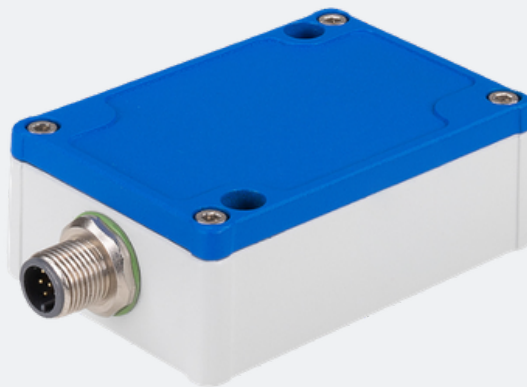
# INC5701D-360-SA-U/I

## Inclination sensor

RS485

Voltage

Current



**The INC5701D is a high-precision, single-axis inclination sensor developed for accurate angle measurement and reliable performance in industrial environments.**

With an adjustable measuring range of up to 360°, it is ideal for both fine alignment and wide-range orientation monitoring. Its advanced signal conditioning combines an adjustable low-pass filter (0.3–4 Hz) with SensorFUSION technology, ensuring extremely stable measurement results even under vibration, temperature fluctuations, or electrical interference. The sensor delivers outstanding angular accuracy and fine resolution, enabling precise measurements in demanding applications.

The robust die-cast aluminum housing provides excellent protection against electromagnetic interference and environmental influences. With an IP67 rating (when connected), the INC5701D is ideally suited for harsh or outdoor operating conditions. Configuration and setup are easy using the sensorTOOL software.

### Applications

- Precise alignment and positioning of machine components
- Angle measurement in dynamic systems subject to vibration and motion (with SensorFUSION support)
- Integration into industrial automation systems via analog or digital interfaces

### Product benefits

- Highest accuracy and resolution for precision measurement tasks
- Extremely stable signal, even under strong temperature fluctuations or vibration
- High EMC resistance through rugged die-cast aluminum construction
- Flexible integration via digital RS485 interface and freely scalable analog outputs

### Features

- 1-axis inclination measurement with adjustable range up to 360°
- Adjustable low-pass filter (0.3–4 Hz) and integrated SensorFUSION for signal stabilization
- Configurable analog outputs (4–20 mA or 0.5–4.5 V) and 0/5 V switching output



## Technical data

Parameter	Value	Unit
Number of measuring axes	1	
Adjustable filters	Low-pass (0.3 ... 4)	Hz
Measuring range	1 ... 360 <sup>1</sup>	°
Resolution (digital)	0.001	°
Resolution (analog)	Current 0.0069, voltage 0.0083	°
Accuracy <sup>2</sup> (digital)	≤ ±0.04	°
Accuracy <sup>2</sup> (analog)	≤ ±0.12	°
Sensitivity (analog output)	≤ 16 mA/ or ≤ 4 V/° <sup>1</sup>	
Measuring rate	250	Hz
Temperature stability (digital)	0.0013	°/K
Temperature stability (analog)	0.0083	°/K
Supply voltage	5 ... 32	VDC
Power consumption	< 1	W
Digital interface	RS485 / Ethernet <sup>3</sup> / PROFINET <sup>3</sup> / EtherNet/IP <sup>3</sup>	
Analog output	4 ... 20 mA (max. 390 Ω) and 0.5 ... 4.5 V (min. 1 kΩ) (configurable)	
Switching output	0 / 5 V (min. 1 kΩ)	
Connection	Supply & signal: 8-pin M12 plug (see accessories for connection cable)	
Installation	Wall mounting; screw connection via mounting holes (M4)	



## Environmental data

Parameter	Value
Temperature range (operating)	-40 ... +85 °C
Temperature range (storage)	-40 ... +85 °C
Shock	1500 g, 0.5 ms, half-sine shock, 3× each direction
Protection class	IP67 (connected)
Material	Aluminum die-cast
Weight	250 g

1 In order to achieve maximum sensitivity, continuous adjustment of the measuring range is possible. (Examples: measuring range 1° → sensitivity 16 mA/° or 4 V/°; measuring range 360° → sensitivity 0.044 mA/° or 0.011 V/°)

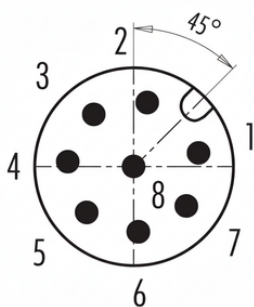
2 Accuracy based on full measuring range of 360° without inclination of sensor

3 In combination with the Micro-Epsilon interface modules IF1032 (Ethernet) and IF2030 (PROFINET, EtherNet/IP)

All specifications are typical for +25 °C, unless otherwise stated.

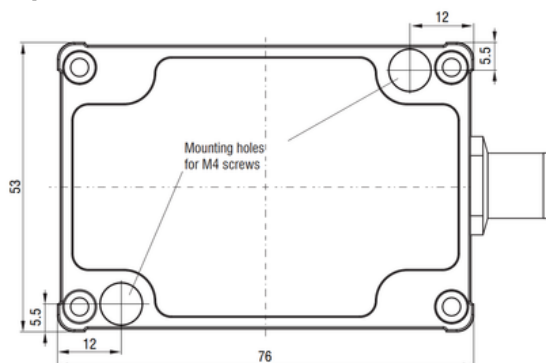
## Mechanical drawings

### Pinout

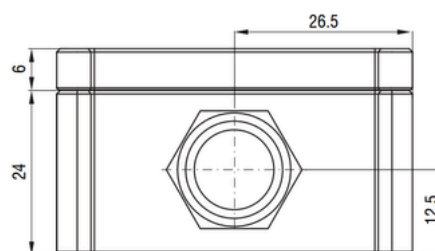


- Pin 1 - Voltage output (angle)
- Pin 2 - GND (current output)
- Pin 3 - Current output (angle)
- Pin 4 - RS485+
- Pin 5 - GND (signal voltage output)
- Pin 6 - GND (supply)
- Pin 7 - RS485-
- Pin 8 - Supply +

### Top



### Side



All geometrical dimensions in mm



## PRODUCT DATA SHEET

Inclination sensors / INC5701D-360-SA-U/I



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