

Inclinometers

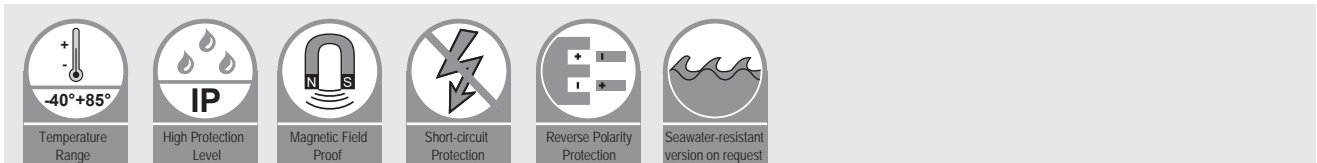
MEMS 1-Axis SSI

91 -1 XXXX



Inclination sensors offer an easy and efficient way of monitoring spatial orientation without the need for mechanical linkages – a real advantage for design engineers.

- MEMS Micro Electro Mechanical Systems
- High Accuracy of 0.1° and Resolution of 0.01°
- Measurement range: 360° (1-axis)
- Analog output: Current or Voltage output



Highlight:

- Small design, minimal space requirement
- SSI interface
- IP69K Rated for Harsh Environments
- Optional metal housing or PBT housing
- Programmable Measuring Range via RS232
- Having a cable outlet and M12 plug connection

Mechanical characteristics

Weight	200 g
Protection Class	IP 68 / IP 69K
Work temperature	- 40 C° ... 80 C°
Storage temperature	- 40 C° ... 85 C°
Housing material	Aluminum or PBT
Shock Resistance(EN 60068-2-27)	100 g, 6ms
Vibration resistance	1,5 mm (10 Hz – 58 Hz) ≤ 20 g (58 Hz to 2000 Hz)
MTTF	300 year

Electrical characteristics

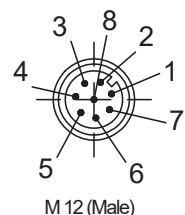
Power supply	10 ... 30 VDC
Consumption(no load)	53 mA (at 24 V)
Measurement	1-axis (Z)
Measurement range	90°, 120°, 180°, 270°, 360° ,
Accuracy	0,1°
Resolution	0,01°
Temperature gradient	0,004°/ K
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Electrical Lifetime	>100000h
Conforms to CE requirements	EN 61000-6-2: 2005; acc. to EN 61000-6-4: 2007-09
RoHS acc.to	2011/65/EU

SSI Interface

Interface	SSI
Code	Gray / Binary
Monoflop time	≥20µs
Clock rate	100KHz...2MHz
Set time	320ms
Output Driver	RS422

Terminal assignment

Signal	+V	0 V	+C	-C	+D	-D	SET	DIR
M12	2	1	3	4	5	6	7	8
Cable	BN	WH	GN	YE	GY	PK	BU	RD

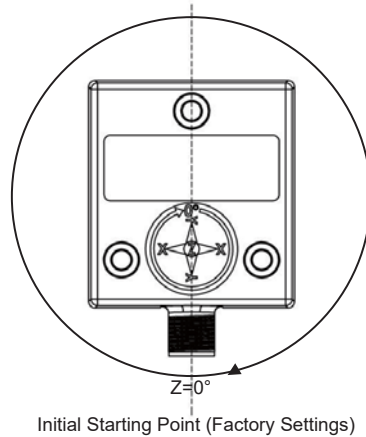


Inclinometers

MEMS 1-Axis SSI

91 - 1 XXXX

Measurement Axes



Initial Starting Point (Factory Settings)

Order code	91 - 1 X X X X				
	Type	a	b	c	d
a Measuring range	b Output circuit / Power supply	d Type of connection			
1 = 90°	7 = SSI / 10 ... 30 VDC	1 = cable			
2 = 120°		2 = M12 8 pin (without mating connector)			
3 = 180°	c Housing Material				
4 = 270°	1 = PBT				
6 = 360°	2 = Aluminum				

Accessories

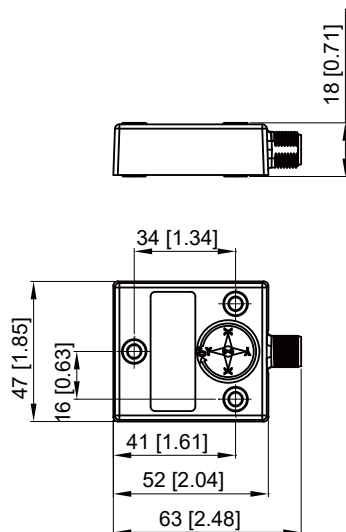
Connector

M12 Connectors, self-assembly (Female)

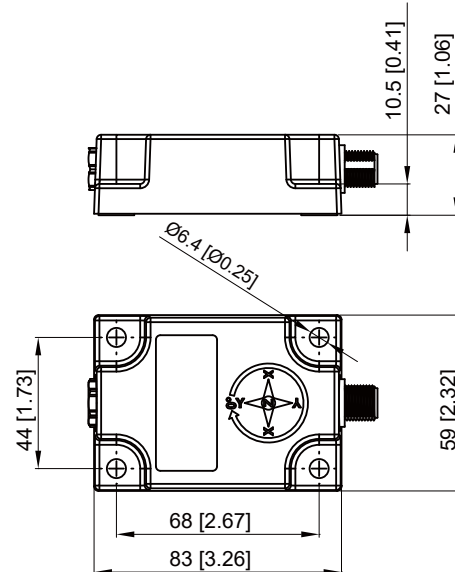
E1-1208-0101

Dimensions

PBT, Type of Connection 2



Aluminum, Type of connection 2



Inclinometers