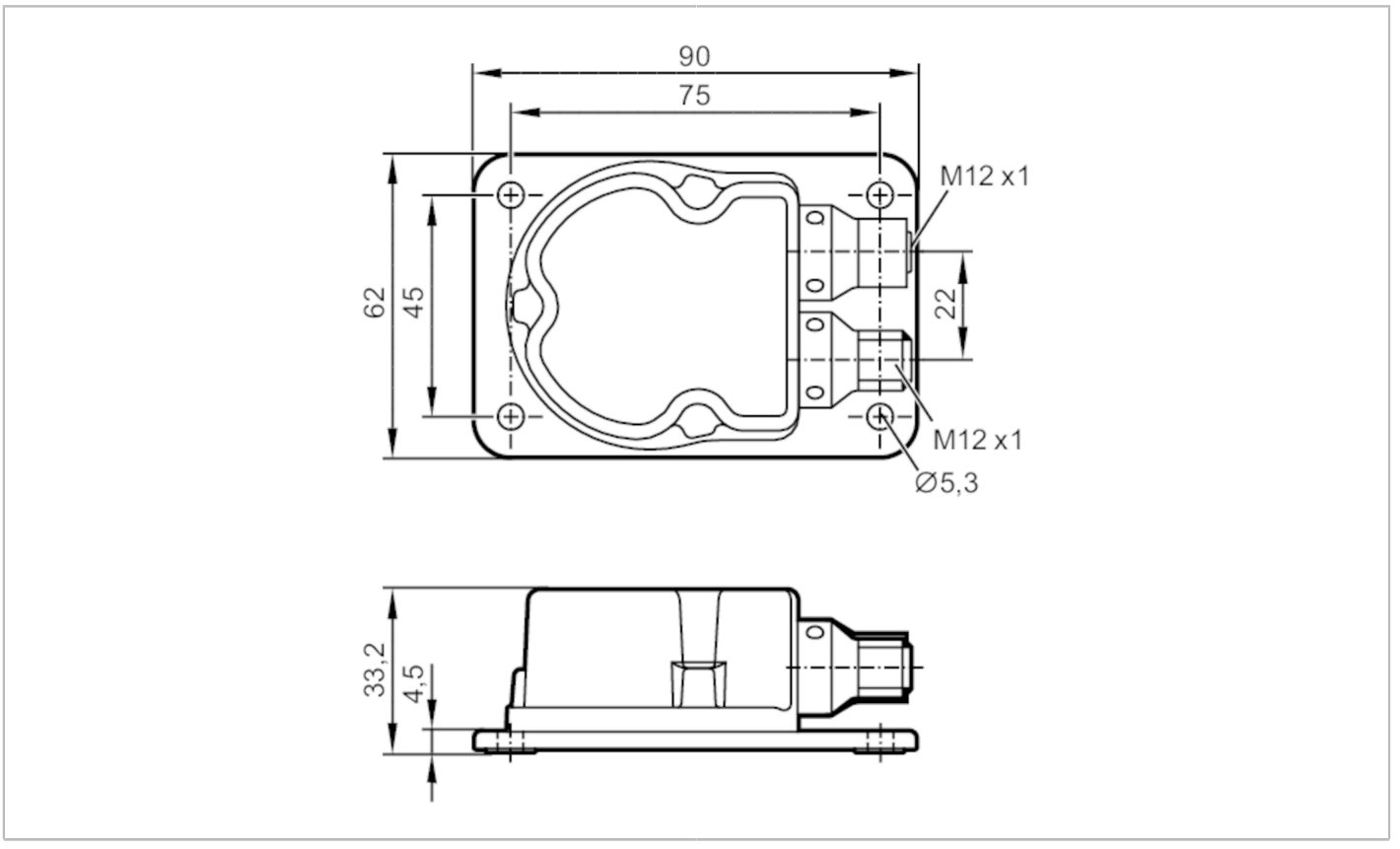
JN2101

Inclination sensor

INC-M2M090C -KG/US



Product characteristics		
Measuring principle		MEMS capacitive
Communication interface		CAN
Inclination measurement		
Number of measurement axes		2
Angular range	[°]	-45…45
Application		
Function principle		static
Application		High-precision inclination measurement in 2 axes for mobile applications
Electrical data		
Operating voltage	[V]	9.2...30 DC
Current consumption	[mA]	70; (24 V DC, 25 °C)
Max. current consumption	[mA]	405; (9,2 V DC; -40 °C)
Min. insulation resistance	[MΩ]	100; (500 V DC)
Protection class		III
Reverse polarity protection		yes
Reverse polarity protection		yes
Power-on delay time	[s]	300; (warm-up time; Max. initialisation time: 1000 ms)
Measuring/setting range		
Measuring principle		MEMS capacitive

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Inclination measurement			
Number of measurement axes		2	
Angular range	[°]	-45…45	
Limit frequency	[Hz]	0.5...10; (parameterisable)	
Accuracy / deviations			
Accuracy	[°]	≤ ± 0,01; (absolute)	
Hysteresis	[°]	≤ ± 0,05	
Repeatability	[°]	≤ ± 0,01	
Resolution	[°]	0.01; (parameterisable)	
Temperature coefficient	[1/K]	≤ ± 0,0008 °	
Interfaces			
Communication interface		CAN	
Number of CAN interfaces		1	
Terminating resistor		yes; (internal ; parameterisable)	
CAN			
Protocol		CANopen	
Factory settings		Baud rate: 125 kBit/s	
		node ID: 10	
Version		CiA DS301 V4.2.0; DSP-410 V2.0.0; CiA 306 V1.3.0	
Operating conditions			
Ambient temperature	[°C]	-40...85	
Storage temperature	[°C]	-40...85	
Protection		IP 65; IP 67; IP 68; IP 69K	
Tests / approvals			
EMC		DIN EN 61000-4-2 ESD	4 kV CD / 8 kV AD
		DIN EN 61000-4-3 HF radiated	10 V/m
		DIN EN 61000-4-4 Burst	2 kV
		DIN EN 61000-4-6 HF conducted	10 V
		DIN EN 55022 class B / CISPR 16-2-3	30 - 1000 MHz
		CISPR 25 ECE R 10	30 - 1000 MHz narrowband and broadband
		ISO 11452-2 ECE R 10	20 - 2000 MHz / 30 V/m
		ISO 7637-2 ECE R 10	pulse 1, 2a, 2b, 3a, 3b, 4, and pulse emission during operation, switching-on, switching-off
		ISO 7637-3	- 80 V pulse a / + 80 V pulse b
Shock resistance		DIN EN 60068-2-27	100 g 1 ms / 10000 impacts per axis (X/Y)
		DIN EN 60068-2-29	30 g 6 ms / 24000 shock (bump)
Vibration resistance		DIN EN 60068-2-64	10...2000 Hz Test VII / random, mounting place car body
		DIN EN 60068-2-6	10...500 Hz / 10 g 10 cycles/axis, sine
Salt spray test		DIN EN 60068-2-52	severity level 5 (motor vehicle)
Damp heat		DIN EN 60068-2-30	55 °C cyclic upper temperature / 95 % rh 2 cycles of 24 h
MTTF	[years]	372	
Standard		Compliant with ECE R 10, rev. 5; ISO 7637-3: 2007-07	

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Mechanical data		
Weight	[g]	415.5
Dimensions	[mm]	90 x 62 x 33.2
Materials		housing: diecast zinc nickel-plated
Installation position		horizontal

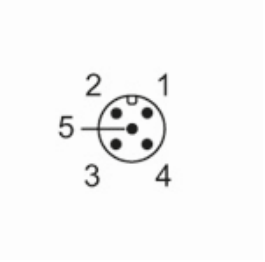
Displays / operating elements		
Display	preoperational mode	1 x LED, green
	operational mode	1 x LED, green flashing
	fault	1 x LED, red

Accessories	
Items supplied	Protective cover: 1

Remarks	
Remarks	the device complies with overvoltage category II
Pack quantity	1 pcs.

Electrical connection - CAN-In

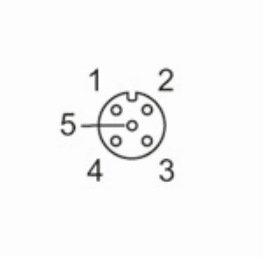
Connector: 1 x M12; coding: A



1	CAN Screen
2	+ UB
3	CAN_GND
4	CAN_H
5	CAN_L

Electrical connection - CAN-Out

Connector: 1 x M12; coding: A



1	CAN Screen
2	+ UB
3	CAN_GND
4	CAN_H
5	CAN_L

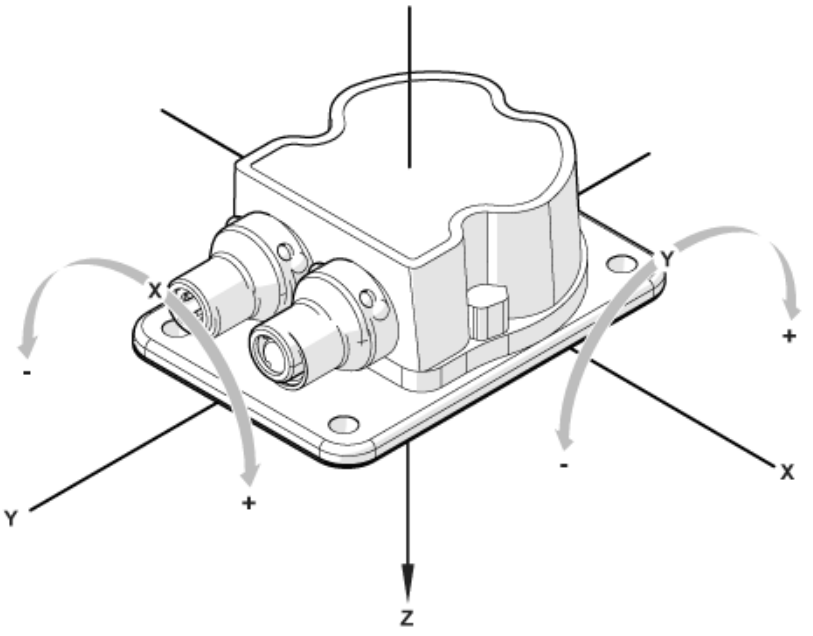
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Diagrams and graphs

measuring and installation direction



horizontal installation position / rotation about x- and y-axis