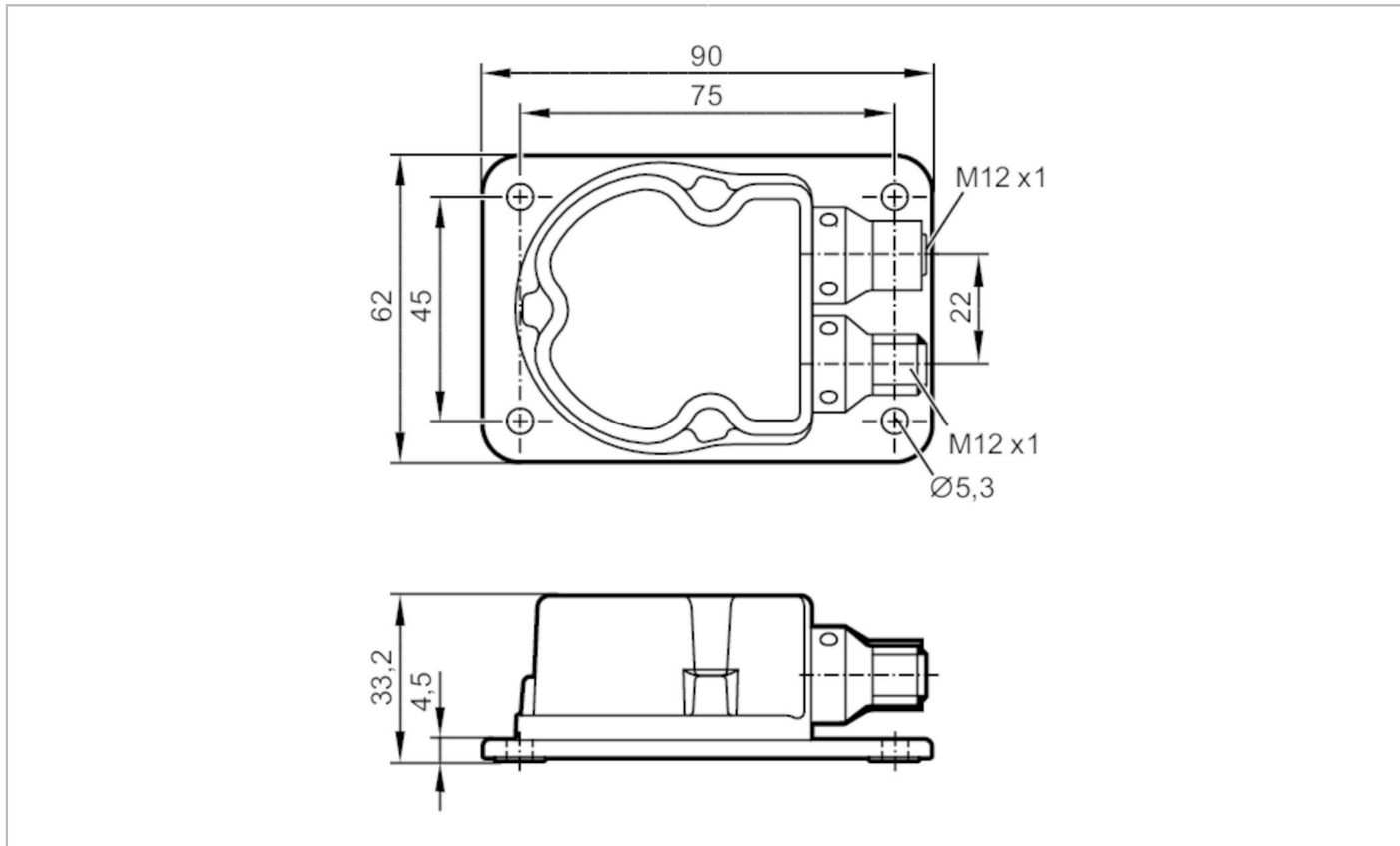


JN2101



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. initialization time: 1000 ms)
Measuring/setting range	
Measuring principle	MEMS capacitive

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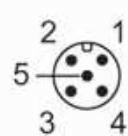
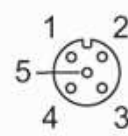
Inclination measurement		
Number of measurement axes		2
Angular range	[°]	-45...45
Limit frequency	[Hz]	0.5...10; (configurable)
Accuracy / deviations		
Accuracy	[°]	$\leq \pm 0,01$; (absolute)
Hysteresis	[°]	$\leq \pm 0,05$
Repeatability	[°]	$\leq \pm 0,01$
Resolution	[°]	0.01; (configurable)
Temperature coefficient	[1/K]	$\leq \pm 0,0008$ °
Interfaces		
Communication interface		CAN
Number of CAN interfaces		1
Terminating resistor		yes; (internal ; configurable)
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
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
Material		housing: diecast zinc nickel-plated
Mounting orientation		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		
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	
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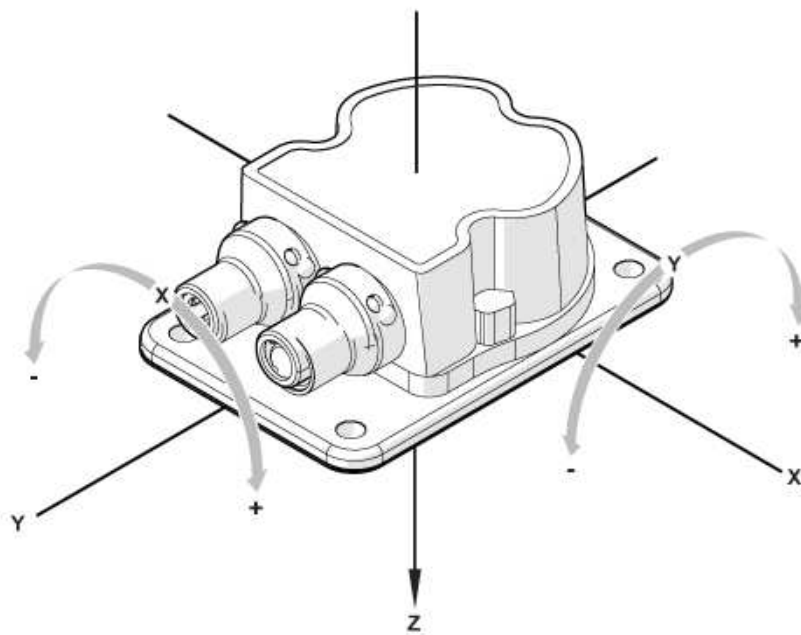


Inclination sensor

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Diagrams and graphs

Mess- und Montagerichtung



horizontale Einbaulage / Rotation um X- und Y-Achse