

# JN2301



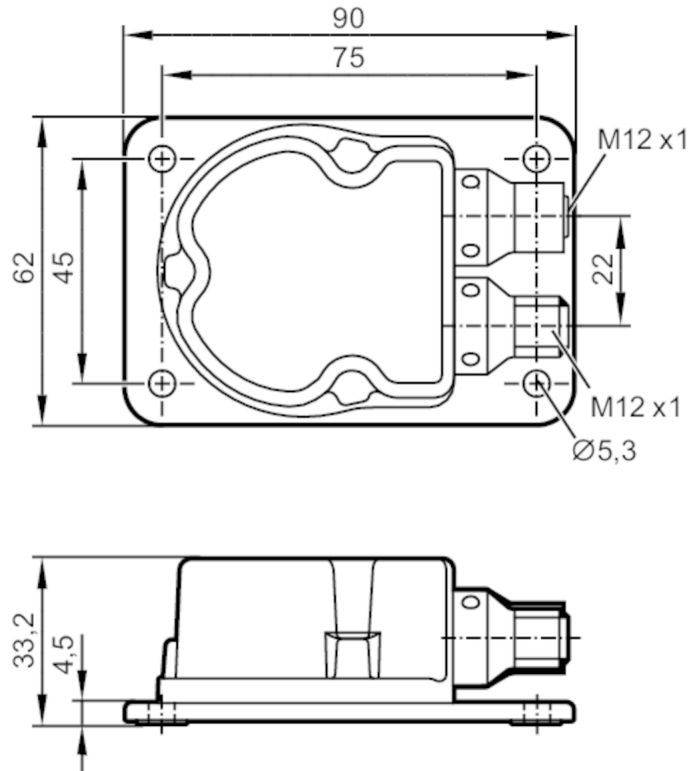
## Inclination sensor

INC-M2M090J-KG/US

Article no longer available - archive entry

Alternative articles: JN2300

When selecting an alternative article and accessories please note that technical data may differ!



### Product characteristics

#### Inclination measurement

Number of measurement axes	2
Angular range [°]	-45...45

### Application

Application	High-precision inclination measurement in 2 axes for mobile applications
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### 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)



## Inclination sensor

INC-M2M090J-KG/US

Measuring/setting range		
Measuring principle	MEMS capacitive	
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
Temperature coefficient	[1/K]	$\leq \pm 0,0008$ °
Interfaces		
Communication interface	CAN	
Number of CAN interfaces	1	
Terminating resistor	yes; (internal ; configurable)	
CAN		
Protocol	SAE J1939	
Factory settings	Baud rate: 250 kBit/s device address (ECU): 25	
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
Shock resistance	ISO 7637-3	- 80 V pulse a / + 80 V pulse b
	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
Standard	Compliant with ECE R 10, rev. 5; ISO 7637-3: 2007-07	

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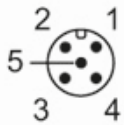
## Inclination sensor

INC-M2M090J-KG/US

Mechanical data		
Weight	[g]	414.5
Dimensions	[mm]	90 x 62 x 33.2
Material		housing: diecast zinc nickel-plated
Displays / operating elements		
Display	Run mode	1 x LED, green
	fault	1 x LED, red
Accessories		
Items supplied		Protective cover: 1
Remarks		
Pack quantity		1 pcs.

### Electrical connection - CAN-In

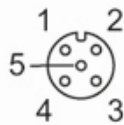
Connector: 1 x M12



- |   |            |
|---|------------|
| 1 | CAN screen |
| 2 | + UB       |
| 3 | CAN_GND    |
| 4 | CAN_H      |
| 5 | CAN_L      |

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