



Inclination sensor

INC-M1M360J-1-KG/US-V



| Product characteristics     |      |                                                                |
|-----------------------------|------|----------------------------------------------------------------|
| Measuring principle         |      | MEMS capacitive; (Accelerometer ; gyroscope)                   |
| Number of measurement axes  |      | 1; (Z)                                                         |
| Communication interface     |      | CAN                                                            |
| Inclination measurement     |      |                                                                |
| Angular range               | [°]  | 0...360                                                        |
| Application                 |      |                                                                |
| Function principle          |      | dynamic                                                        |
| Application                 |      | High-precision inclination measurement in dynamic applications |
| Electrical data             |      |                                                                |
| Operating voltage           | [V]  | 9...30 DC                                                      |
| Current consumption         | [mA] | < 65; (9 ... 30 V DC)                                          |
| Min. insulation resistance  | [MΩ] | 100; (500 V DC)                                                |
| Protection class            |      | III                                                            |
| Reverse polarity protection |      | yes                                                            |
| Reverse polarity protection |      | yes                                                            |
| Measuring/setting range     |      |                                                                |
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|                                  |                  |                                                                        |
|----------------------------------|------------------|------------------------------------------------------------------------|
| Inclination measurement          |                  |                                                                        |
| Angular range                    | [°]              | 0...360                                                                |
| Measuring range acceleration     | [g]              | ± 4                                                                    |
| Measuring range vehicle yaw rate | [°/s]            | ± 500                                                                  |
| Accuracy / deviations            |                  |                                                                        |
| Hysteresis                       | [°]              | ≤ ± 0,05                                                               |
| Repeatability                    | [°]              | ± 0,05                                                                 |
| Resolution                       | [°]              | 0.01                                                                   |
| Temperature coefficient          | [1/K]            | ≤ ± 0,008°                                                             |
| Dynamic measurement              |                  |                                                                        |
| Accuracy                         | [°]              | ± 0,5                                                                  |
| Static measurement               |                  |                                                                        |
| Accuracy                         | [°]              | ± 0,3                                                                  |
| 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<br>device address (ECU): 25                      |
| Operating conditions             |                  |                                                                        |
| Ambient temperature              | [°C]             | -40...85                                                               |
| Storage temperature              | [°C]             | -40...85                                                               |
| Protection                       |                  | IP 67; IP 68; IP 69K                                                   |
| Tests / approvals                |                  |                                                                        |
| EMC                              |                  | DIN EN 61000-6-2                                                       |
|                                  |                  | DIN EN 61000-6-4                                                       |
| Shock resistance                 |                  | DIN EN 60068-2-27                                                      |
| Vibration resistance             |                  | DIN EN 60068-2-6                                                       |
| MTTF                             | [years]          | 260                                                                    |
| Mechanical data                  |                  |                                                                        |
| Weight                           | [g]              | 198.7                                                                  |
| Dimensions                       | [mm]             | 27 x 59 x 105.3                                                        |
| Material                         |                  | housing: diecast aluminium black; potting compound: polyurethane resin |
| Mounting orientation             |                  | vertical                                                               |
| Displays / operating elements    |                  |                                                                        |
| Display                          | operational mode | 1 x LED, green                                                         |
|                                  | fault            | 1 x LED, red                                                           |
| Accessories                      |                  |                                                                        |
| Items supplied                   |                  | Protective cover: 1                                                    |
| Remarks                          |                  |                                                                        |
| Pack quantity                    |                  | 1 pcs.                                                                 |

# JD1311



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### Electrical connection - CAN-In

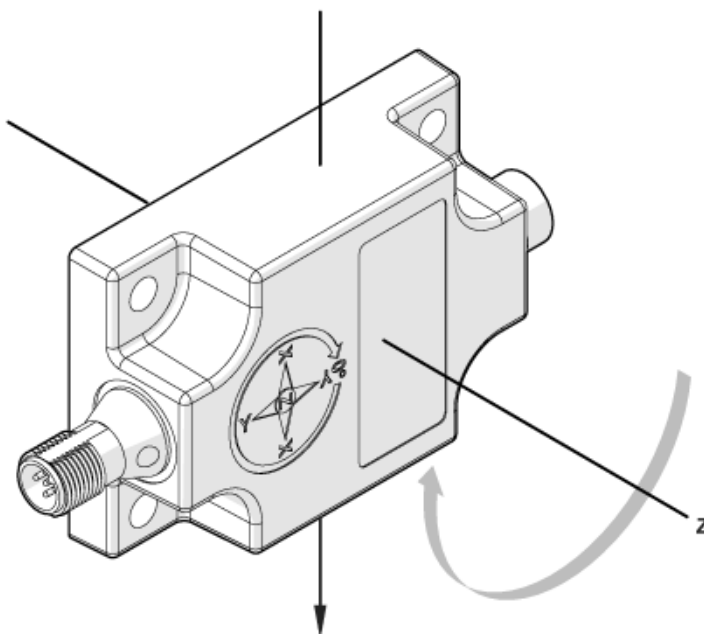
Connector: 1 x M12; coding: A



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

### Diagrams and graphs

Mess- und Montagerichtung



vertikale Einbaulage / Rotation um Z-Achse