



Inclination sensor

INC-M2M180C-1-KG/US-H



| Product characteristics     |      |                                                                |
|-----------------------------|------|----------------------------------------------------------------|
| Measuring principle         |      | MEMS capacitive; (Acceleration sensor ; gyroscope)             |
| Number of measurement axes  |      | 2; (X/Y)                                                       |
| Communication interface     |      | CAN                                                            |
| Inclination measurement     |      |                                                                |
| Angular range               | [°]  | ± 90                                                           |
| 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                    | [°]                                                                    | ± 90                    |
| Measuring range acceleration     | [g]                                                                    | ± 4                     |
| Measuring range vehicle yaw rate | [°/s]                                                                  | ± 500                   |
| Accuracy / deviations            |                                                                        |                         |
| Hysteresis                       | [°]                                                                    | ≤ ± 0,05                |
| Repeatability                    | [°]                                                                    | ± 0,05                  |
| Resolution                       | [°]                                                                    | 0.01; (parameterisable) |
| 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 ; 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 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                     |
| Dimensions                       | [mm]                                                                   | 27 x 59 x 105.3         |
| Materials                        | housing: diecast aluminium black; potting compound: polyurethane resin |                         |
| 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                                                    |                         |

# JD2110



## Inclination sensor

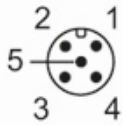
INC-M2M180C-1-KG/US-H

### Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

### Electrical connection - CAN-In

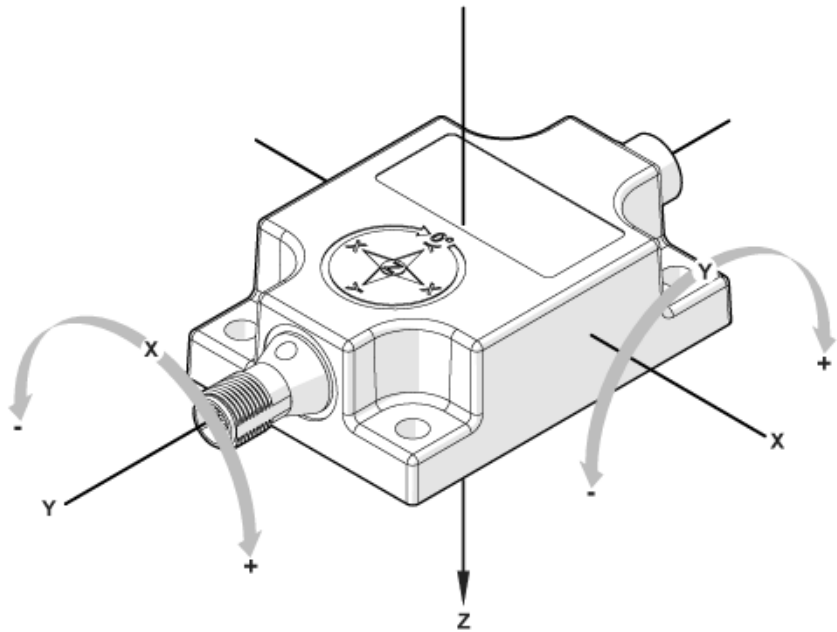
Connector: 1 x M12; coding: A



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

### Diagrams and graphs

Mess- und Montagerichtung



horizontale Einbaulage / Rotation um X- und Y-Achse