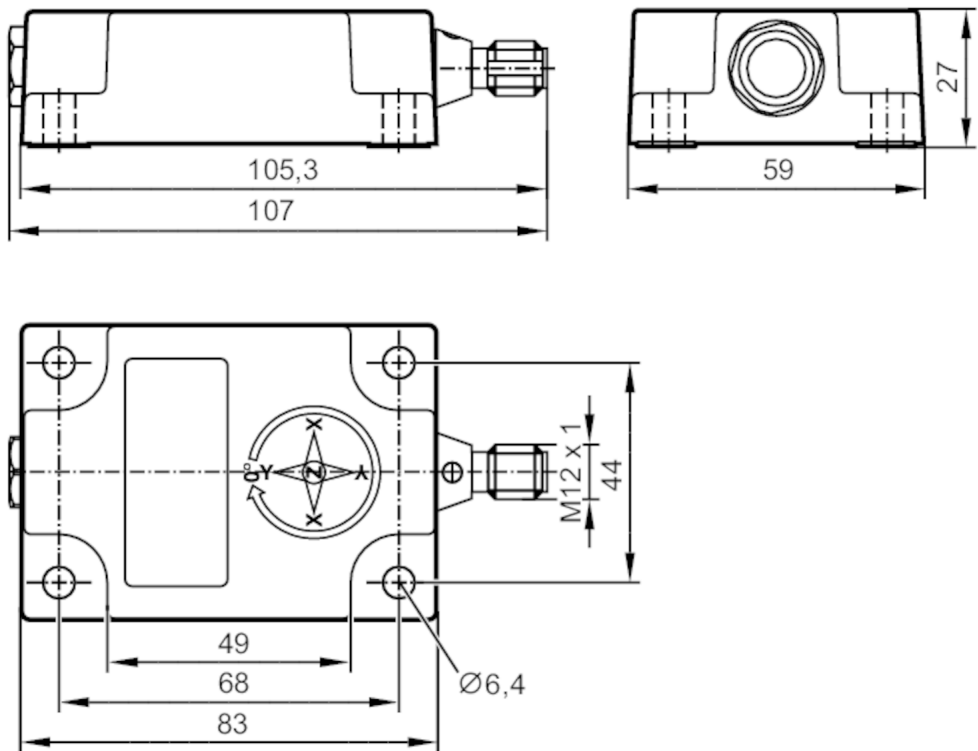


JD2310



Inclination sensor

INC-M2M180J-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 / IMU                                                  |
| 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     |      |                                                                |
| Measuring principle         |      | MEMS capacitive; (Acceleration sensor ; gyroscope)             |
| Number of measurement axes  |      | 2; (X/Y)                                                       |



## Inclination sensor

INC-M2M180J-1-KG/US-H

|                                  |                                                                        |                 |
|----------------------------------|------------------------------------------------------------------------|-----------------|
| 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            |
| 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                         | 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 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]                                                                    | 197.1           |
| Dimensions                       | [mm]                                                                   | 27 x 59 x 105.3 |
| Materials                        | housing: diecast aluminium black; potting compound: polyurethane resin |                 |
| Installation position            | horizontal                                                             |                 |
| 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.                                                                 |                 |

## Inclination sensor

INC-M2M180J-1-KG/US-H

### Electrical connection - CAN-In

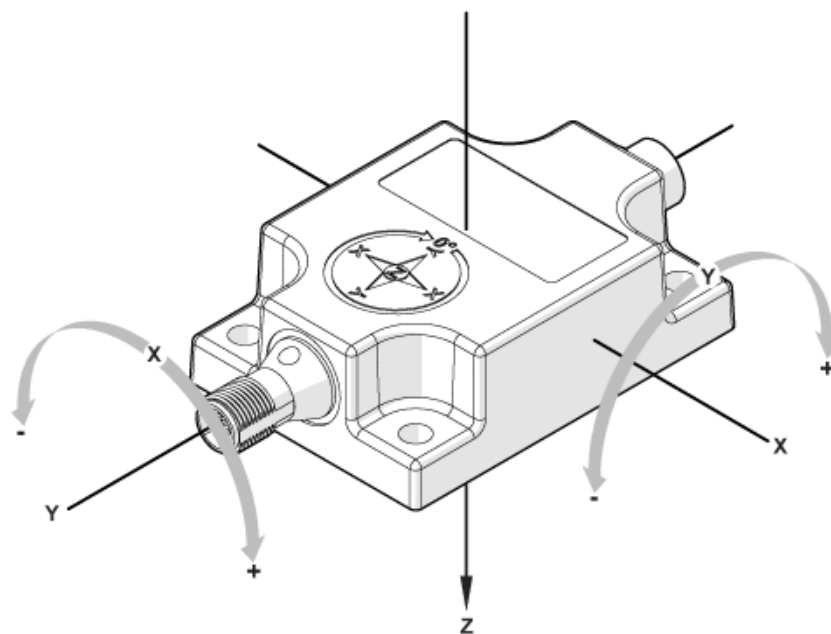
Connector: 1 x M12; coding: A



|   |              |
|---|--------------|
| 1 | CAN_GND      |
| 2 | power supply |
| 3 | GND          |
| 4 | CAN_H        |
| 5 | CAN_L        |

### Diagrams and graphs

measuring and installation direction



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