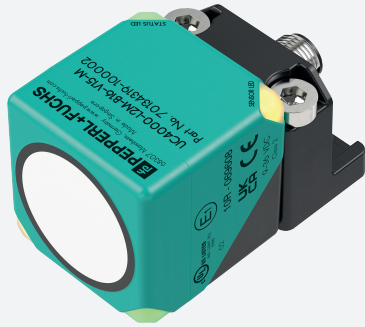


# Ultrasonic sensor

## UC4000-L2M-B16-V15-M-P001

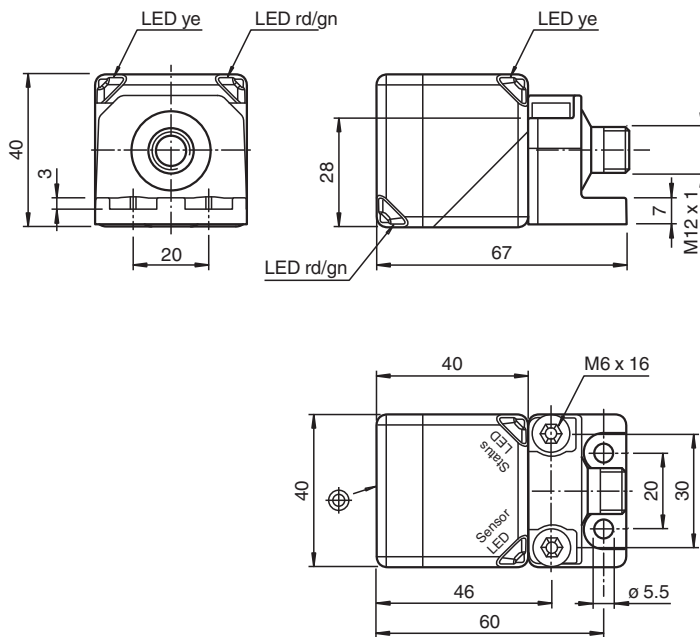


- CANopen interface
- E1-Type approval
- High EMC resistance
- Sensor head bidirectional and rotatable
- Rugged metal base
- Function indicators visible from all directions
- Degree of protection IP68
- Customer-specific configuration

Single head system



### Dimensions



### Technical Data

#### General specifications

|                       |                 |
|-----------------------|-----------------|
| Sensing range         | 200 ... 4000 mm |
| Dead band             | 0 ... 200 mm    |
| Standard target plate | 100 mm x 100 mm |
| Transducer frequency  | approx. 85 kHz  |

#### Nominal ratings

|                                |                |
|--------------------------------|----------------|
| Linearity error                | < 40 mm        |
| Temperature drift              | < +/- 100 mm   |
| Time delay before availability | $t_v$ ≤ 700 ms |

#### Functional safety related parameters

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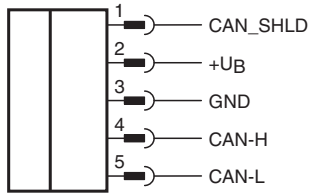
## Technical Data

|   |                |   |
|---|----------------|---|
| MTTF <sub>d</sub>                               |                | 431 a   |
| Mission Time (T <sub>M</sub> )                  |                | 10 a  |
| Diagnostic Coverage (DC)                        |                | 0 %   |
| <b>Indicators/operating means</b>               |                |   |
| LED yellow                                      |                | object in evaluation range  |
| LED red/green                                   |                | CANopen status display  |
| <b>Electrical specifications</b>                |                |   |
| Operating voltage                               | U <sub>B</sub> | 9 ... 30 V  |
| No-load supply current                          | I <sub>0</sub> | ≤ 50 mA   |
| Power consumption                               | P <sub>0</sub> | typ. 0.6 W  |
| <b>Interface</b>                                |                |   |
| Interface type                                  |                | CAN   |
| Communication protocol                          |                | CANopen   |
| Process data                                    |                | Input: 48 Bit<br>- measured value (distance value) 16 Bit<br>- signal quality 8 Bit<br>- counter-1 16 Bit or counter-2 8 Bit<br>- status register 8 Bit |
| Node ID   |                | programmable  |
| Vendor ID                                       |                | 173 (0xAD)  |
| Product code                                    |                | 50331652 (0x03000004)   |
| Transfer rate                                   |                | 250 kBit/s , programmable 125 ... 1000 kBit/s   |
| Termination                                     |                | external  |
| Cycle time                                      |                | 53.5 ms preset , programmable   |
| Min. cycle time                                 |                | 53.5 ms   |
| <b>Compliance with standards and directives</b> |                |   |
| Standard conformity                             |                |   |
| Standards                                       |                | EN IEC 60947-5-2:2020<br>IEC 60947-5-2:2019   |
| Communication interface                         |                | CiA 310, Ver. 4.2.0   |
| <b>Approvals and certificates</b>               |                |   |
| UL approval                                     |                | cULus Listed, Class 2 Power Source  |
| CCC approval                                    |                | CCC approval / marking not required for products rated ≤36 V  |
| UN/ECE Regulation No. 10 (E1)                   |                | Type-approval number: 10R-069608  |
| <b>Ambient conditions</b>                       |                |   |
| Ambient temperature                             |                | -40 ... 85 °C (-40 ... 185 °F)  |
| Storage temperature                             |                | -40 ... 85 °C (-40 ... 185 °F)  |
| <b>Mechanical specifications</b>                |                |   |
| Connection type                                 |                | Connector plug  |
| Degree of protection                            |                | IP68  |
| Material  |                |   |
| Housing   |                | PA-GF35   |
| Connector                                       |                |   |
| Threading                                       |                | M12   |
| Number of pins                                  |                | 5   |
| Mass  |                | 180 g   |
| Dimensions                                      |                |   |
| Height  |                | 40 mm   |
| Width   |                | 40 mm   |
| Length  |                | 67 mm   |
| <b>Factory settings</b>                         |                |   |
| Default setting                                 |                | measured value "distance", signal quality, counter-2 (object 0x2000)<br>producer heartbeat time (object 0x1017) = 1000 ms                               |
| Beam width                                      |                | wide (object 0x4000)  |
| Synchronization                                 |                | deactivated (object 0x2020)   |

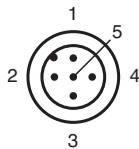
### Technical Data

|               |            |
|---------------|------------|
| Node ID       | 91         |
| Transfer rate | 250 kBit/s |

### Connection Assignment

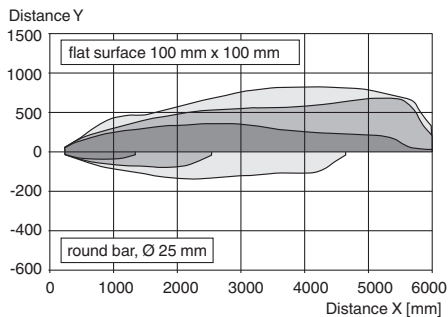


### Connection Assignment



### Characteristic Curve

#### Characteristic response curve



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