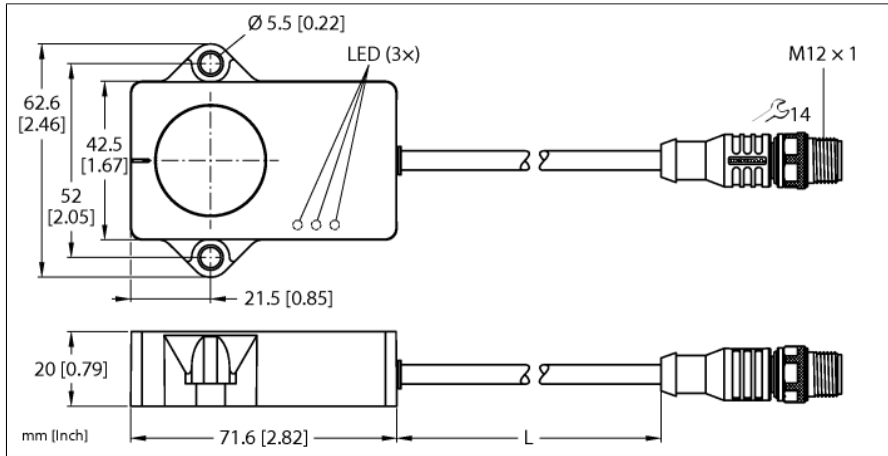


# Vibration & Temperature Sensor For Condition Monitoring with IO-Link CMVT-QR20-IOLX3-0.3-RS4



|      |                         |
|------|-------------------------|
| Type | CMVT-QR20-IOLX3-0.3-RS4 |
| ID   | 100029966               |

| Vibration — Acceleration                         |                |
|--|----------------|
| Sampling rate of the acceleration measuring cell | 6.6 KHz        |
| RMS measuring range                              | 16 g           |
| RMS resolution                                   | 0.01 g         |
| RMS linearity deviation, typical                 | ≤ ±3 % @ 78 Hz |
| RMS repeatability, typical                       | ≤ ±5 % @ 78 Hz |

| Vibration — Speed                |                      |
|----------------------------------|----------------------|
| RMS measuring range              | 0...320 mm/s @ 78 Hz |
| RMS resolution                   | 0.01 mm/s            |
| RMS linearity deviation, typical | ≤ ±1 % @ 78 Hz       |
| RMS repeatability, typical       | ≤ ±5 % @ 78 Hz       |

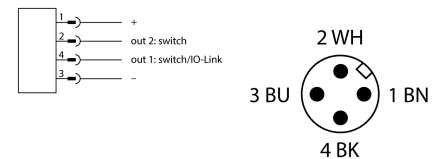
| Temperature                     |             |
|---------------------------------|-------------|
| Temperature measuring range     | -40...85 °C |
| Temperature linearity deviation | ≤ 1 %       |
| Temperature repeatability       | ≤ ± 2.4 %   |

| Electrical data         |                   |
|-------------------------|-------------------|
| Operating voltage $U_s$ | 18...30 VDC       |
| Ripple $U_{rs}$         | ≤ 10 % $U_{Bmax}$ |
| Isolation test voltage  | 0.5 kV            |
| Communication protocol  | IO-Link           |
| Current consumption     | < 50 mA           |

| IO-Link            |                     |
|--------------------|---------------------|
| Communication mode | COM 3 (230.4 kBaud) |
| Function pin 4     | IO-Link/SIO         |
| Function Pin 2     | SIO                 |

- Rectangular, plastic, Ultem
- Status displayed via LED
- Acceleration and speed output RMS or peak to peak of the vibration
- Acceleration measuring range 16 g
- Detection over 3 axes
- Temperature measuring range -40 °C to +85 °C
- High protection class IP68/IP69K
- 18...30 VDC, communication via IO-Link
- 10...30 VDC, SIO mode PNP/NPN switching outputs
- Cable with male connector, M12 × 1, 4-pin

## Wiring Diagram



## Functional principle

Condition monitoring sensors help to prevent unplanned downtimes and malfunctions during the production process. They monitor the condition of the machine as a preventative measure.

Using the CM sensors can prevent system downtime or machine damage, which in turn improves system effectiveness and allows uninterrupted operation.

The use of CMVT sensors also directly benefits the user in a quantifiable way.

Information on vibration and temperature is output via the standardized IO-Link protocol. Warning and alarm messages are also displayed via simple switching outputs.

| Mechanical data                     |   |
|-------------------------------------|---|
| Design                              | Rectangular, QR20   |
| Dimensions                          | 71.6 x 62.6 x 20 mm   |
| Housing material                    | Plastic, Ultem  |
| Electrical connection               | Cable with connector, M12 × 1   |
| Cable quality                       | Ø 4.5 mm, PUR, 0.3 m<br>Halogen free, flame retardant acc. to IEC 60332-2-2<br>and UL FT2 |
| Core cross-section                  | 4 x 0.34 mm <sup>2</sup>  |
| Environmental conditions            |   |
| Ambient temperature                 | -40...+85 °C  |
| Temperature changes (EN60068-2-14)  | -40... +85 °C; 20 cycles  |
| Vibration resistance (EN 60068-2-6) | 20 g; 5 h/axis; 3 axes  |
| Shock resistance (EN 60068-2-27)    | 200 g; 4 ms ½ sine  |
| Protection class                    | IP68<br>IP69K   |
| MTTF                                | 548 years acc. to SN 29500 (Ed. 99) 40 °C   |
| Power-on indication                 |   |
| Power-on indication                 | LED, Green  |
| Switching state                     | 2 × LEDs, Yellow  |
| UL certificate                      | E351232   |

## Accessories

| Type code | Ident no. |  | Dimension drawing |
|-----------|-----------|--|-------------------|
| MAGKIT-M5 | 100036073 | Mounting magnet for mounting the CMVT-QR20; pack contents: 2 magnets and 2 mounting screws |                   |

## Function accessories

| Type code      | Ident no. |  | Dimension drawing |
|----------------|-----------|--|-------------------|
| USB-2-IOL-0002 | 6825482   | IO-Link Master with integrated USB port  |                   |
| TBEN-S2-4IOL   | 6814024   | Compact multiprotocol I/O module, 4 IO-Link Master 1.1 Class A, 4 universal PNP digital channels 0.5 A |                   |