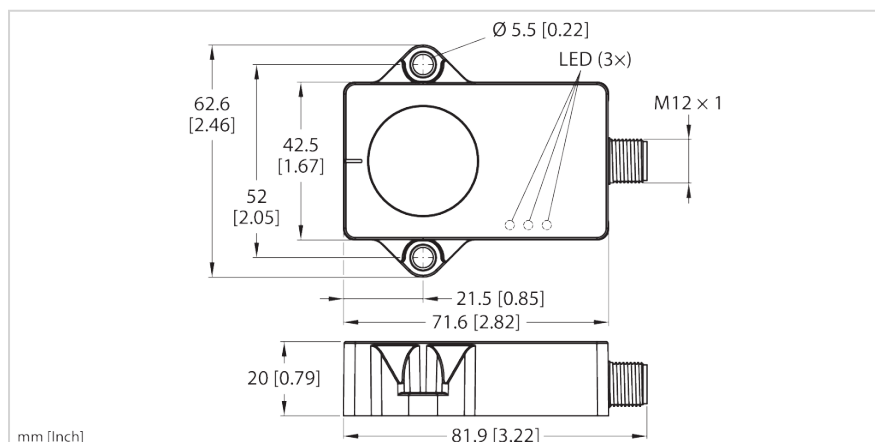


CMVT-QR20-IOLX3-H1141

Vibration & Temperature Sensor For Condition Monitoring with IO-Link



Type designation	CMVT-QR20-IOLX3-H1141
Ident-No.	100016543

Technical data

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	$\leq \pm 3 \% @ 78 \text{ Hz}$
RMS repeatability, typical	$\leq +5 \% @ 78 \text{ Hz}$
Vibration - Speed	
RMS measuring range	0...320 mm/s @ 78Hz
RMS resolution	0.01 mm/s
RMS linearity deviation, typical	$\leq \pm 1 \% @ 78 \text{ Hz}$
RMS repeatability, typical	$\leq \pm 5 \% @ 78 \text{ Hz}$
Temperature	
Temperature measuring range	-40...85 °C
Temperature repeatability	$\leq \pm 2,4 \%$
Temperature linearity deviation	$\leq 1 \%$
Power supply	
Operating voltage U_B	18...30 VDC
Electrical data	

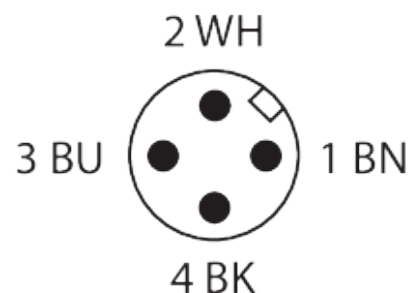
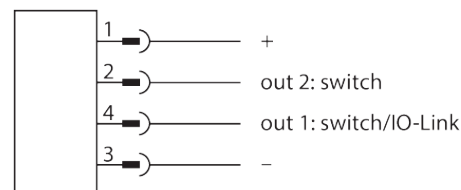
Features

- Rectangular, plastic, Ultem
- Status display 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
- M12 × 1 male connector, 4-pin

Technical data

Wire break/reverse polarity protection	yes
Current consumption	< 50 mA
Isolation test voltage	≤ 0,5 kV
Residual ripple	≤ 10 % U _{SS}
Interfaces	
Communication protocol	IO-Link
IO-Link	
Communication mode	COM 3 (230.4 kBaud)
Function Pin 2	SIO
Function pin 4	IO-Link/SIO
Mechanical data	
Design	Rectangular, QR20
Construction type designation	QR20
Dimensions	71,6 mm x 62,6 mm x 20 mm
Housing material	Plastic, Ultem
Electrical connection	Connector, M12 x 1
Ambient conditions	
Ambient temperature	-40...+85 °C
Temperature changes (EN60068-2-14)	-40... +85 °C; 20 cycles
Pollution degree	3
Shock resistance (EN 60068-2-27)	200 g; 4 ms ½ sine
Vibration resistance (EN 60068-2-6)	20 g; 5 h/axis; 3 axes
Protection class	IP68 IP69K
Tests/approvals	
UL registration number	E351232
MTTF	548 Years acc. to SN 29500 (Ed. 99) 40 °C
Displays/controls	
Power-on indication	LED, Green
Switching state	2 × LEDs, Yellow

Wiring diagram



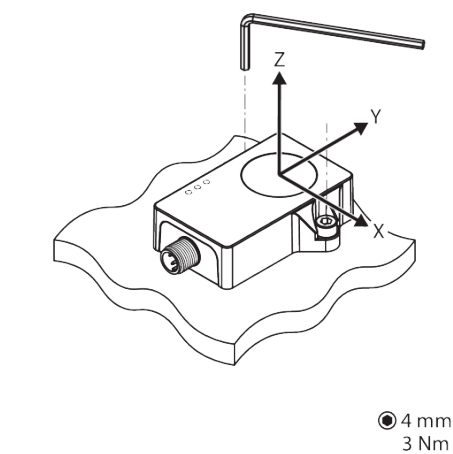
Functional principle

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.

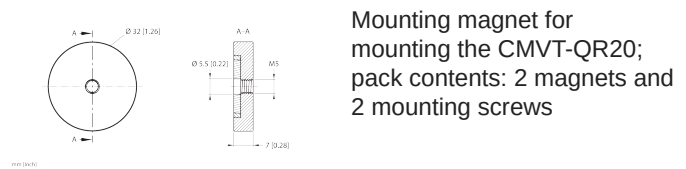
Assembly instructions



Installation information:
A green LED indicates whether the sensor is being properly supplied with power. The green flashing LED indicates that IO-Link communication is active. In addition, the yellow LEDs indicate whether a threshold value for the switching outputs is being exceeded. The threshold values can be parameterized according to ISO 10816-3, which contains critical vibrations for different types of machines. It is also possible to freely define the threshold values.

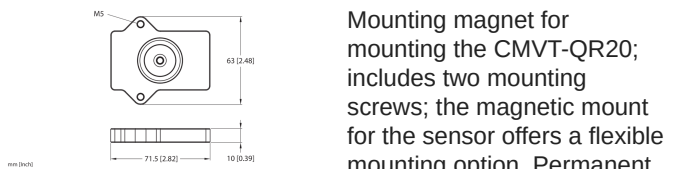
Mounting accessories

MAGKIT-M5	100036073
-----------	-----------



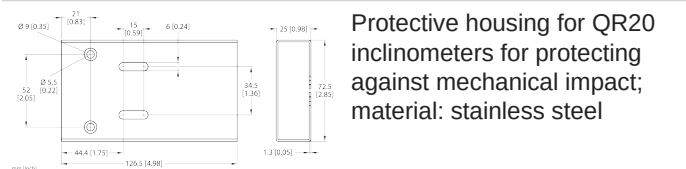
Mounting magnet for mounting the CMVT-QR20; pack contents: 2 magnets and 2 mounting screws

MAGKIT-QR20	100051844
-------------	-----------



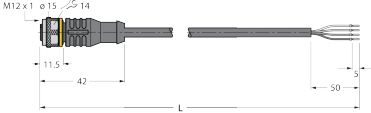
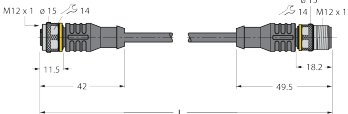
Mounting magnet for mounting the CMVT-QR20; includes two mounting screws; the magnetic mount for the sensor offers a flexible mounting option. Permanent and operationally secure fixing depends on the application conditions and must be evaluated by the user.

GUARD-QR20	100027185
------------	-----------



Protective housing for QR20 inclinometers for protecting against mechanical impact; material: stainless steel

Connection accessories

RKC4.4T-2/TXL	6625503
	Connection cable, M12 female connector, straight, 4-pin, cable length: 2 m, jacket material: PUR, black; cULus approval
RKC4.4T-2-RSC4.4T/TXL	6625608
	Extension cable, M12 female connector, straight, 4-pin to M12 male connector, straight, 4-pin; cable length: 2 m, jacket material: PUR, black; cULus approval