Condition Monitoring Sensors
BCM R15E-002-DI00-01,5-S4
Order Code: BCM0002

BALLUFF

1) Membrane

2) LED orange

3) LED green

4) Cable length

Basic features

Approval/Conformity	CE
	cULus
	WEEE
Function	Vibration Velocity
	Vibration Acceleration
	Vibration Severity Zone
	Contact Temperature
	Relative Humidity
	Ambient Pressure
	Sensor Self-Awareness
Principle of operation	Condition Monitoring Sensors
Series	R15

Display/Operation

Display	Run - LED green
	Communication - LED green, slow flashing (1 Hz)
	Ping - LED green, asyncronous very fast flashing (4 Hz) and fast flashing (2 Hz)
	Event - LED orange, fast flashing (2 Hz)

Electrical connection

Bending radius min., fixed cable	3 x D
Bending radius min., flexible cable	5 x D
Cable diameter D	2.9 mm +0.1/-0.05 mm
Conductor cross-section	0.14 mm²
Connection	Cable with connector, M12x1-Male, 3-pin, 1.5 m, PUR
Number of conductors	3
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

Electrical data

Current draw max.	10 mA
Operating voltage Ub	18...30 VDC
Protection class	III
Rated operating voltage Ue DC	24 V
Ready delay tv max.	1.5 s

Condition Monitoring Sensors
BCM R15E-002-DI00-01,5-S4
Order Code: BCM0002

BALLUFF

Environmental conditions

Ambient temperature	0...70 °C
EN 61000-4-2, ESD	Severity Level 2
EN 61000-4-3, RFI	Severity Level 3
EN 61000-4-4, Burst	Severity Level 4
EN 61000-4-6, High-frequency fields	Severity Level 3
IP rating	IP67
Storage temperature	-20...70 °C

Function module ambient pressure

Ambient pressure, measuring range	300…1100 hPa
Ambient pressure, non-linearity	±0.1 %FS
Ambient pressure, resolution	0.15 hPa

Function module contact temperature

Contact temperature, measuring error	±2 %FS
Contact temperature, measuring range	0…70 °C
Contact temperature, non-linearity	±0.75 %FS
Contact temperature, resolution	0.1 °C
Contact temperature, settling time	5 min

Function module relative humidity

Relative humidity, measuring range	5…95 %rF
Relative humidity, non-linearity	±2.5 %FS
Relative humidity, resolution	1 %rF
Relative humidity, settling time	5 min

Function module vibration

Vibration, frequency range	2...3200 Hz
Vibration, measuring principle	MEMS
Vibration, number of measuring axes	3
Vibration, sampling rate	6400 Hz

Function module vibration acceleration

Vibration acceleration, measuring error RMS	±5 %FS @79.4 Hz
Vibration acceleration, measuring range RMS	0…16 g
Vibration acceleration, non-linearity RMS	±2 %FS @79.4 Hz
Vibration acceleration, resolution RMS	0.006 g @79.4 Hz
Vibration acceleration, statistical evaluation variables [for each measuring axis]	RMS Peak to Peak

Function module vibration velocity

Vibration velocity, evaluation variables [for each measuring axis]	RMS Peak to Peak Mean Standard Deviation Crest Factor Skewness Kurtoisis
Vibration velocity, measuring error RMS	±5 %FS @79.4 Hz
Vibration velocity, measuring range RMS	0…220 mm/s @79.4 Hz
Vibration velocity, non-linearity RMS	±2 %FS @79.4 Hz
Vibration velocity, resolution RMS	0.42 mm/s @79.4 Hz

Material

Housing material	Stainless steel (1.4404), Membrane: ePTFE with nylon fleece

Mechanical data

Dimension	20 x 10 x 32 mm
Mounting	Screw M3 (2x)
Weight	30 g

Output/Interface

Baud rate	COM3 (230,4 kBaud)
Interface	IO-Link 1.1
Interface setting option	Flexible process data configuration Vibration measurement based on ISO 10816-3 Data preprocessing (statistics) Events (pre-alarms and main alarms) Delay times for alarms Search function with LED display (ping)
Process data IN	20 bytes
Process data OUT	0 bytes
Process data cycle min.	10 ms

Remarks

For additional information, refer to user's guide.
Order accessories separately.

BALLUFF

For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Drawings

3 • • 1
4

Wiring Diagrams

Pin	Color	Signal
1	BN	+24V
3	BU	GND
4	BK	C/Q

Internet   www.balluff.com

Subject to change without notice: 279554

eCl@ss 9.1:

ETIM 6.0:

BCM0002_0.2_2021-03-18

3 / 3