# BALLUFF

**Smart condition monitoring at a new level**

# CONDITION MONITORING SENSOR BCM GENERATION 2

Unplanned downtime and disruptions in the production process can be efficiently avoided with BCM condition monitoring sensors from Balluff. These intelligent sensors provide condition data that you can use to automate costly manual inspections. At the same time, this additional data is an important building block for highly automated and networked production. A standardized IO-Link interface combined with integrated intelligent data pre-processing – the new generation of the popular BCM now sets another milestone in the field of smart IO-Link sensor technology. From condition monitoring of critical components and assemblies through to the detection of critical process states and the detection of relevant process parameters for inline process optimization: With the BCM Generation 2 you solve your condition monitoring applications optimally.
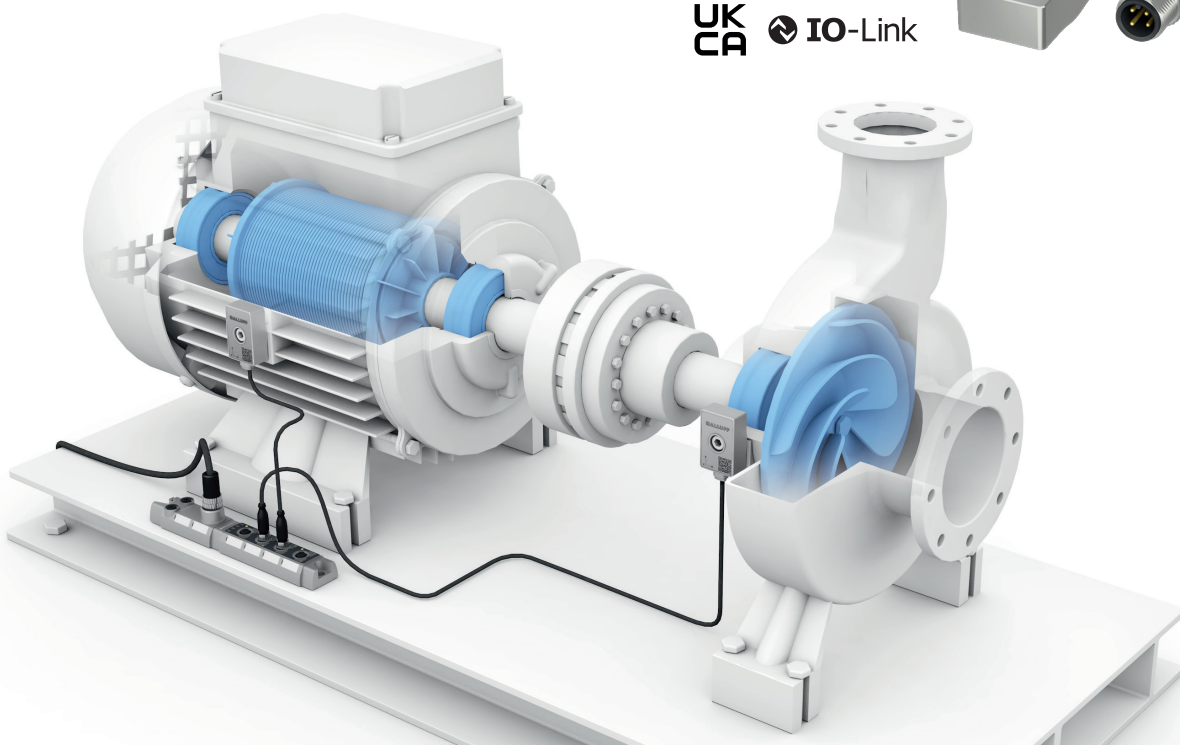
**Upgrade instead of update**

The new condition monitoring sensor is more than an iterative further development of the first generation. Rather, it is a completely new platform with different hardware and firmware. The significantly improved measurement performance in combination with more sophisticated algorithms allow the sensor to detect the smallest changes in condition even earlier and more precisely than before. Thanks to the new, convenient mounting design with just one screw, it is also even easier to install. The small, round mounting surface makes it much simpler to set about mounting on curved surfaces. This offers you enormous advantages, especially for retrofit solutions.

In short: Compared to the first generation, the new BCM scores with an even significantly higher performance level, intelligent algorithms and a sophisticated and efficient mounting design.

**Features**

- Smart condition monitoring sensor with standardized IO-Link interface
- Multiple measured variables in one device: vibration and temperature
- Very high performance of vibration measurement with a frequency range of up to 6 kHz in three measurement axes
- Early and targeted detection of critical condition changes through integrated frequency analysis
- Simple and efficient installation and retrofitting due to sophisticated mounting design
- Sensor self-monitoring with Balluff Smart Automation and Monitorin System (SAMS)

Avoid unplanned downtimes and disruptions in the production process.

## CONDITION MONITORING SENSOR BCM GENERATION 2

| | | BCM0003 | BCM0004 |
|---|---|---|---|
| Function modules | | ■ Vibration time domain analytics<br>■ Vibration frequency domain analytics<br>■ RPM input<br>■ Contact temperature | ■ Vibration time domain analytics<br>■ Contact temperature |
| Vibration | Measuring range | –16…16 g | –16…16 g |
| | Measuring axes | 3 | 3 |
| | Frequency range | 2…4000 Hz (±10 %)<br>2…6000 Hz (3 dB) | 2…4000 Hz (±10 %)<br>2…6000 Hz (3 dB) |
| | Evaluation time domain | ■ RMS<br>■ Peak<br>■ Max<br>■ Crest factor<br>■ Skewness<br>■ Kurtosis | ■ RMS<br>■ Peak<br>■ Max<br>■ Crest factor<br>■ Skewness<br>■ Kurtosis |
| | Evaluation frequency domain | ■ Amplitude spectrum (FFT)<br>■ Envelope spectrum (FFT) | |
| Interface | | IO-Link 1.1.3, COM3 (230.4 kBaud) | IO-Link 1.1.3, COM3 (230.4 kBaud) |
| Operating mode | | IO-Link Mode, SIO-Mode | IO-Link-Modus, SIO-Modus |
| Ambient temperature | | –40…+80 °C | –40…+80 °C |
| IP rating | | IP67, IP68, IP69K | IP67, IP68, IP69K |
| Housing material | | Stainless steel 1.4404 | Stainless steel 1.4404 |
| Dimensions | | 34 × 22 × 12 mm | 34 × 22 × 12 mm |
| Connection | | 1.5 m PUR cable with M12 male, 4-pole | 1.5 m PUR cable with M12 male, 4-pole |
| Secondary features | | ■ Identification<br>■ Device discovery<br>■ Signal delay<br>■ Switching counter<br>■ Basic statistics<br>■ Operating hours counter<br>■ Boot cycle counter<br>■ Voltage and current monitoring<br>■ Variant configuration<br>■ Pin assignment<br>■ Internal temperature monitoring | ■ Identification<br>■ Device discovery<br>■ Signal delay<br>■ Switching counter<br>■ Basic statistics<br>■ Operating hours counter<br>■ Boot cycle counter<br>■ Voltage and current monitoring<br>■ Variant configuration<br>■ Pin assignment<br>■ Internal temperature monitoring |

## STECKVERBINDER

| | BCC0K6M | BCC039P | BCC03RM | BCC02H9 |
|---|---|---|---|---|
| Connection 1 | M12 male, straight,<br>3-pin, A-coded | M12 female, straight,<br>5-pin, A-coded | M12 female, straight,<br>5-pin, A-coded | M12 male, straight,<br>4-pin, A-coded |
| Connection 2 | M12 female, straight,<br>5-pin, A-coded | M12 male, straight,<br>4-pin, A-coded | M8 male, straight,<br>4-pin, A-coded | |
| Connection 3 | M12 female, straight,<br>5-pin, A-coded | | | |
| Cable | PUR black,<br>drag chain compatible | PUR black, 5 m,<br>drag chain compatible | PUR black, 5 m,<br>drag chain compatible | |

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