

Flexible, smart condition monitoring in the smallest possible space

CONDITION MONITORING SENSOR WITH INTEGRATED DATA PREPROCESSING

Unscheduled stops and faults in the production process can be avoided using our new multi-functional condition monitoring sensor. This intelligent sensor provides you with condition information which you can use for automating cost-intensive manual inspections. This condition data is also an essential component for implementing smart and flexible manufacturing – a key to IIoT.

The Balluff condition monitoring sensor detects various physical variables such as vibration, temperature, relative humidity, and ambient pressure, processes them, and provides the desired data to a host system via IO-Link. In addition, the sensor can detect and communicate its condition, keeping you informed continuously of its temperature, number of operating hours, and start cycles.

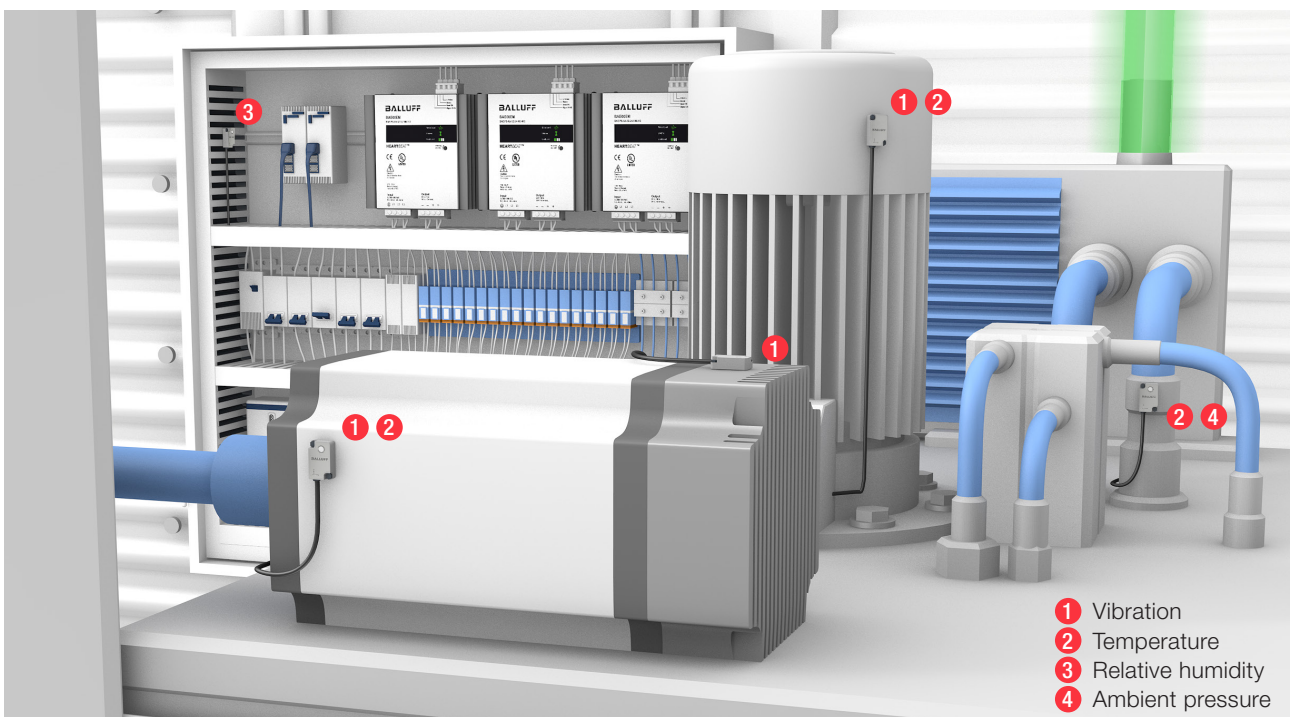
The standardized IO-Link protocol means you can easily parameterize the sensor and match the processing in the sensor to your specific application. The process data structure permits five measured or preprocessed data types to be freely configured and cyclically transmitted. It is also possible to perform an acyclical request for additional statistical processing variables.

Additionally, you can use automated monitoring of measurement or processing variables to define limit values for pre- or main alarms. This generates warning messages, alerting you when problematic events occur.

The condition monitoring sensor from Balluff makes an essential contribution to the efficient and faultless operation of any equipment and significantly increases the efficiency of the overall system.

Features

- Multiple measurements in one device: vibration, temperature, relative humidity, ambient pressure
- Integrated processing circuitry with configurable data preprocessing
- Configurable events and status indicators
- Fast connection, and simple to incorporate using IO-Link
- Compact form factor for restricted spaces



- 1 Vibration
- 2 Temperature
- 3 Relative humidity
- 4 Ambient pressure

CONDITION MONITORING
SENSOR WITH
MULTIFUNCTION



| | BCM0002 | BCM0001 |
|--------------------------------|--|---|
| Function modules | <ul style="list-style-type: none"> Vibration (velocity/acceleration) Contact temperature Relative humidity Ambient pressure Sensor self-awareness | <ul style="list-style-type: none"> Vibration (velocity/acceleration) Contact temperature Sensor self-awareness |
| Vibration, frequency range | 2...3200 Hz | 2...3200 Hz |
| Vibration, measuring principle | MEMS | MEMS |
| Measuring range | Vibration, velocity RMS | 0...220 mm/s at 79.4 Hz (3 measuring axes) |
| | Vibration, acceleration RMS | 0...16 g |
| | Contact temperature | 0...70 °C |
| | Relative humidity | 5...95 %RH |
| | Ambient pressure | 300...1100 hPa |
| Interface | IO-Link 1.1, COM3 (230.4 kBaud) | IO-Link 1.1, COM3 (230.4 kBaud) |
| Interface setting options | <ul style="list-style-type: none"> Flexible process data configuration Vibration measurement based on ISO 10816-3 Data preprocessing (e.g. RMS, peak to peak, mean, standard deviation, min, max) Events (pre-alarms and main alarms) Delay times for alarms Search function with LED display (ping) | <ul style="list-style-type: none"> Flexible process data configuration Vibration measurement based on ISO 10816-3 Data preprocessing (e.g. RMS, peak to peak, mean, standard deviation, min, max) Events (pre-alarms and main alarms) Delay times for alarms |
| IP rating | IP67 | IP67, IP68, IP69K |
| Housing material | Stainless steel (1.4404, 1.4301) | Stainless steel (1.4404, 1.4301) |
| Dimensions | 32 × 20 × 10 mm | 32 × 20 × 10 mm |
| Connection | 1.5 m PUR cable with M12 male, 3-pole | 1.5 m PUR cable with M12 male, 3-pole |

ACCESSORIES



| | BAM03FA |
|-------------|--|
| Description | Magnetic holder, material aluminum, 32 × 20 × 12.5 mm, mounting with M3 screws |

CONNECTIVITY



| | BCC0372 | BCC0374 |
|------------------|---------------------------------------|---------------------------------------|
| Cable | PUR black, 2 m, drag chain compatible | PUR black, 5 m, drag chain compatible |
| For connection 1 | M12 female, straight, 5-pole, A-coded | M12 female, straight, 5-pole, A-coded |
| For connection 2 | M12 male, straight, 3-pole, A-coded | M12 male, straight, 3-pole, A-coded |