



Connected Industrial Sensor Solution | CISS

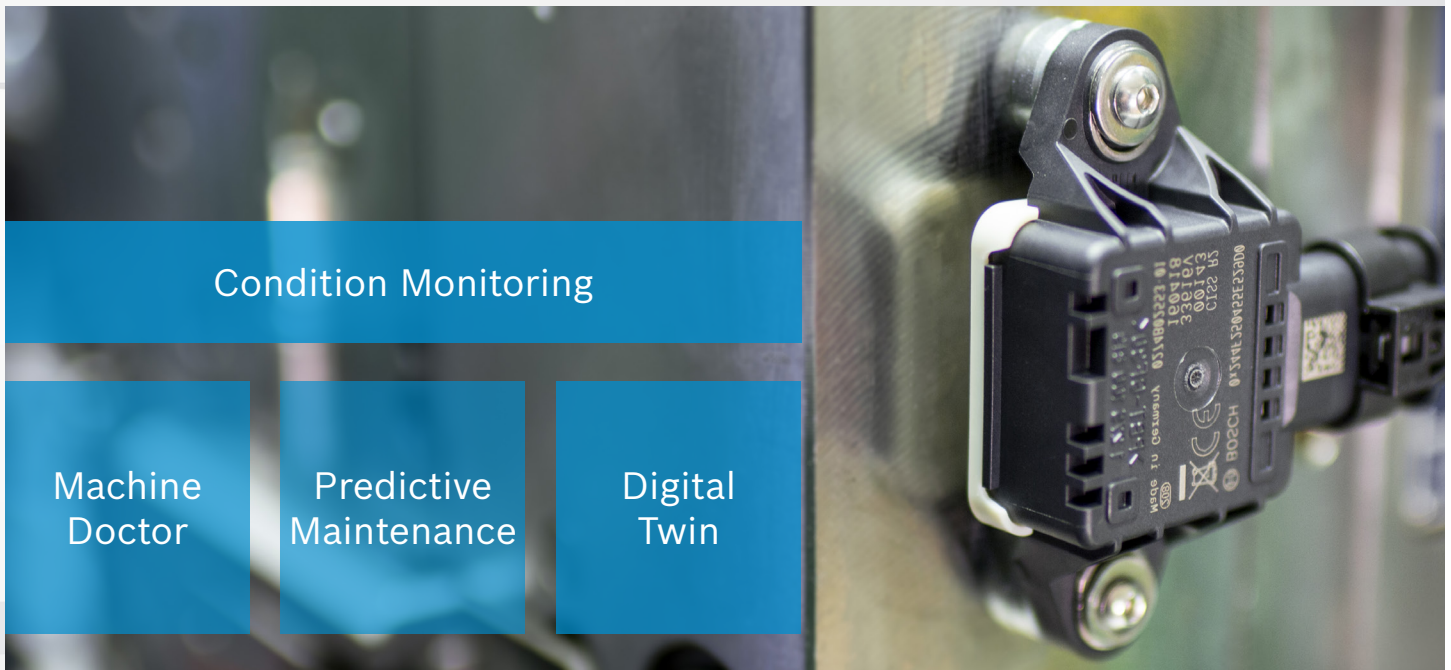
The Robust Acceleration, Vibration & Condition Detector

The CISS is a multi-sensor device detecting acceleration and vibration as well as environmental conditions. The robust housing and the small outline makes it perfectly suitable for industrial retrofit applications such as condition monitoring and predictive maintenance. Configuring the device enables the customer to address a broad variety of use cases by interpreting the sensor data by smart algorithms.

BUILT-IN SENSORS

							
Accelerometer	Temperature sensor	Humidity sensor	Digital light sensor	Gyroscope	Magnetometer	Pressure sensor	Acoustic sensor

USE CASES

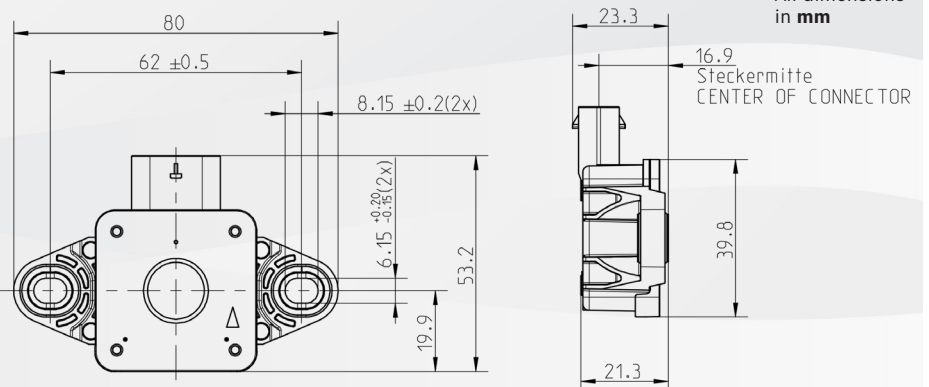


SCOPE OF DELIVERY

- ▶ CISS device with a small form factor
- ▶ USB cable (2m)
- ▶ Fasteners (2 screws, 2 washers, and 2 magnetic bases)
- ▶ Quick Start Guide

DOWNLOADS

- ▶ Example Python script 2.7.XX for data recording
- ▶ Windows Driver



MAIN COMPONENTS

- ▶ Bluetooth Low Energy (BLE) radio
- ▶ 32-Bit microcontroller (ARM Cortex M3), 1MB Flash, 128 kB RAM
- ▶ External flash 2MB
- ▶ Accelerometer BMA280, Gyroscope BMG160, Magnetometer BMC150, Environment (Temperature, Humidity, Air pressure) BME280, Light meter MAX44009, Microphone AKU340



BOSCH
Invented for life

OPERATING CONDITIONS

- ▶ Operating temperature range -20 °C ... 80 °C
- ▶ Humidity range 10...90 %rH (non-condensing)
- ▶ IP rating IP54
- ▶ Supply voltage 5 V DC

MEASUREMENT RANGES & ACCURACIES

Sensor	Measurement Range	Accuracy
▶ Accelerometer	± 2, 4, 8, 16 g (16 bit resolution)	± 50 mg
▶ Gyroscope	± 2000 °/s	± 1 °/s
▶ Magnetometer	±1300 µT (X,Y-Axis); ±2500µT (Z-Axis)	0.06 x M ± 25µT
▶ Temperature	-20 °C ... 80 °C	2.7 ± 1 °C (unstabilized)
▶ Humidity	10 – 90% (non-condensing)	20 °C, max. ±7 % ; -20 °C, max. ±10 %
▶ Pressure	30 – 110 kPa	± 1.5 hPa
▶ Light	0.53 ... 2220000 Lux	± 15 %

SAMPLING RATE (USB)*

- ▶ Inertial sensor ≤ 100 Hz
Accelerometer, Gyroscope, Magnetometer
- ▶ Environmental sensors ≤ 1 Hz
Environment (Temperature, Humidity, Air pressure), Light meter, Microphone

* Inertial sensor special mode possible: 2kHz streaming Accelerometer without Gyroscope, Magnetometer and environmental data

Hints: BLE sampling rate depends on the quality of the BLE connection; Microphone data can only be transferred via BLE.

INTERFACE

- ▶ USB communication protocol supporting data streaming
- ▶ Bluetooth Low Energy radio protocol supporting data streaming
- ▶ Example software for Windows/Linux

GET IN CONTACT WITH US!

E-Mail: support@bosch-connectivity.com

Website: www.bosch-connectivity.com/products/connected-industrial-sensor-solution

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