SKF QuickCollect sensor

Machine monitoring made easy



SKF QuickCollect sensor

The SKF QuickCollect sensor is an easy to use bluetooth enabled handheld sensor that connects to iOS and Android apps on your tablet and smart phone. Combining vibration and temperature sensing, overall data can be viewed on the spot in real time or pushed to the cloud for future analysis.

This SKF QuickCollect sensor is ideal for service, reliability, operations, or maintenance personnel as part of a walk around data collection program.

Features

- Predefined 3-in-1 overall measurements that include velocity, enveloped acceleration and temperature
- Advanced, configurable velocity, enveloped acceleration and temperature measurement
- Bluetooth communication with tablets, smart phones
- Easy to use portable sensor and apps
- Approved to be used in hazardous areas, ATEX, IECEx and CSA Class I Division 2 version
- Rugged industrial design – Drop test 1.8 m (*6 ft.*), water and dust resistant (IP65)
- Rechargeable lithium battery (full working day in normal usage)
- Option to connect, store and share data on the Cloud
- Option to connect directly to SKF Remote Diagnostic Services
- Apps for both iOS and Android devices

Benefits

- Gets you started quickly
- Can be used with minimum training and experience
- Instant feedback from vibration and temperature measurement
- Identify developing rotating machinery issues before they become problems
- Connect directly to expert advice when you need it
- Expand functionality via apps to grow and compliment your existing maintenance program
- Cost-effective and scalable entry-point for reliable rotation

Controls and indicators

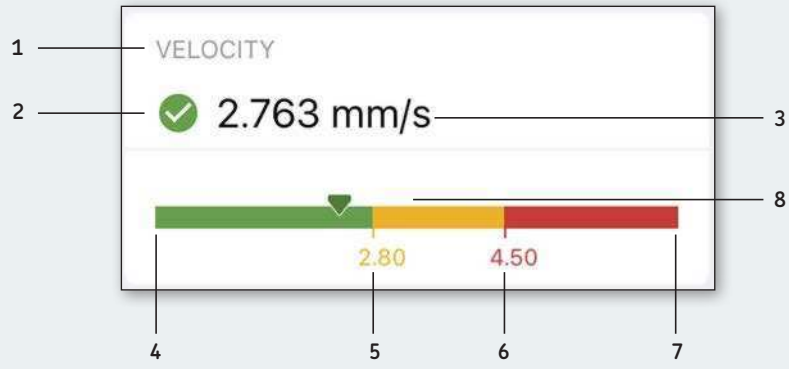


1. Power button –
Powers the sensor on and off.
2. Battery LED – (Green, Red)
Indicates status of battery charge
3. Communication LED – (Green, Red)
Indicates whether the sensor is connected to an app. Also indicates when firmware updates are in progress.
4. All purpose check LED – (Green, Red, Amber)
Indicates error conditions

Measurement displays

Measurements taken by the sensor are shown on your mobile device, which displays velocity, enveloped acceleration and temperature as shown below:

Each reading displays a current overall measurement, including alarm status, minimum and maximum values, and alert and danger thresholds.

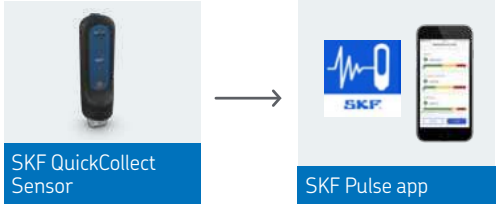


1. Reading category
2. Alarm status
3. Overall value
4. Minimum
5. Alert threshold
6. Danger threshold
7. Maximum
8. Current reading

SKF maintenance apps

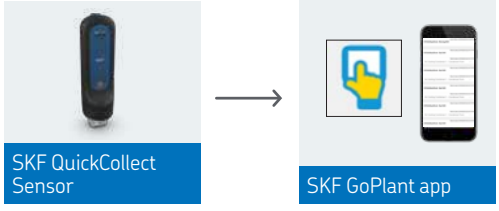
The SKF QuickCollect sensor can be used with the SKF Pulse app, SKF GoPlant, or SKF Enlight ProCollect system that provides additional functionality, including the ability to store and share data via the SKF cloud, and to directly access SKF Remote Diagnostic Services.

SKF Pulse



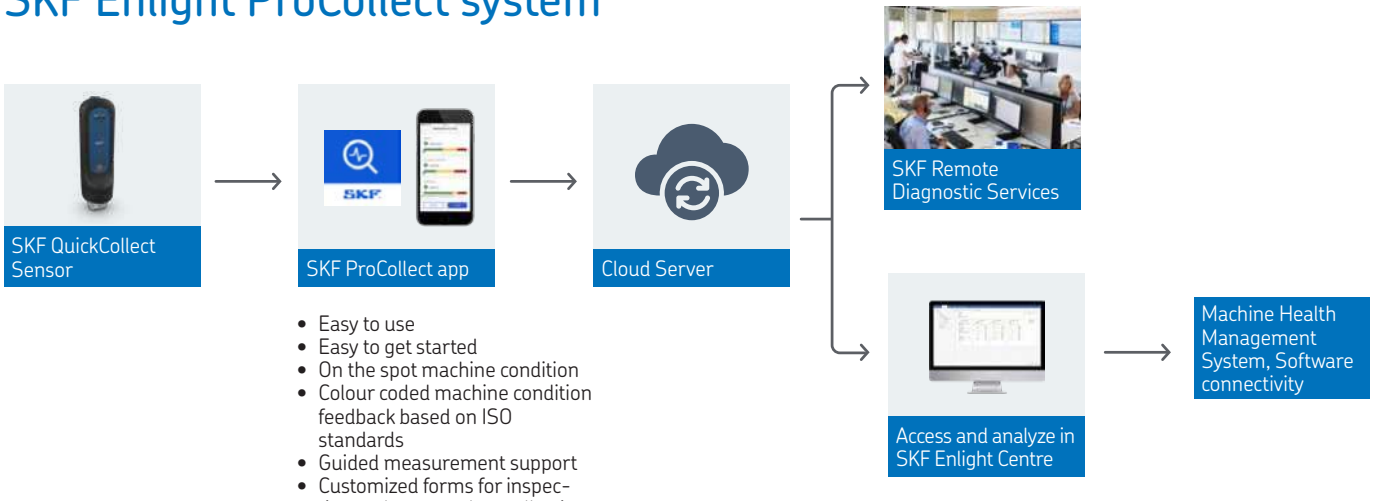
- Fast to set-up and easy to use
- View vibration and temperature measurement trends

SKF GoPlant



- Powerful and easy to use
- Operator driven measurement collection and checklists

SKF Enlight ProCollect system



- Easy to use
- Easy to get started
- On the spot machine condition
- Colour coded machine condition feedback based on ISO standards
- Guided measurement support
- Customized forms for inspection and process data collection
- Store and share data
- Access SKF Cloud and remote SKF diagnostic experts

Sensor specifications

Environmental, regulatory and physical

Operating temperature range	–20 to +60 °C *(–5 to +140 °F)*
Storage temperature range	–20 to +45 °C *(–5 to +115 °F)* for less than one month –20 to +35 °C *(–5 to +95 °F)* for less than six months The above temperature/time limits are to avoid excessive self-discharge of the battery.
Charging temperature, range (sensor/charger)	0 to 40 °C *(32 to 105 °F)*
Humidity	95% non-condensing
Altitude	Up to 2 000 m *(6 560 ft)*
Drop test	1.8 m *(6 ft)* in accordance with MIL-STD-810G
Sensor IP rating	IP65 (Dust and water ingress protection testing standard.)
Radio approvals	Europe (CE), USA (FCC), Canada (IC)
CE Mark	CE-approved
Dimensions	45 x 45 x 135 mm *(1.8 x 1.8 x 5.3 in.)*
Mass	200 g *(7 oz)*

Power

Sensor power source	Rechargeable lithium battery, 3.7 V DC. 0.14 Ah
Battery lifetime	A full working day under normal usage reducing to half a working day when an external sensor is being used.
Charger	Input 100 to 240 V AC, 0.4 A, 47 to 63 Hz

3-in-1 measurements and analysis

Overall velocity	10 Hz to 1 kHz, up to 55 mm/s, RMS, Resolution: 400 lines
Bearing condition	SKF Enveloped acceleration, gE Band 3, 1.4 Hz to 2 000 Hz, up to 20 gE true Peak-to-Peak, Resolution: 800 lines
Temperature	Built in (IR) sensor, capable of measuring outside operating temperature range and up to 100 oC for short periods.

Configurable measurement and analysis - ProCollect App and Enlight centre only

Internal sensor frequency range	±5%: 5 Hz to 3 000 Hz ±10%: 3 Hz to 5 000 Hz ±3 dB: 1.4 Hz to 10 000 Hz The response is attenuating (3 dB down) at both frequencies
Overall velocity	10 Hz to 1 kHz up to 55 mm/s RMS
Bearing condition	SKF Enveloped acceleration gE Bands 2 and 3, up to 20 gE true Peak-to-Peak
Temperature	Built in infrared (IR) sensor Capable of measuring outside the operating temperature range and up to 100 °C for short periods.
Vibration Time Waveforms	Acceleration (g), Enveloped acceleration (gE) Sample rates: 256 Hz to 25.6 kHz Sample lengths: 256 to 8 192 samples
Spectrum/FFT	Acceleration (g), Velocity (mm/s), Enveloped acceleration (gE) Maximum frequency: 100 Hz to 10 kHz Resolution: 100 to 3 200 lines

Note that the full measurement and analysis capability shown above is only available for systems using the ProCollect app and Enlight Centre. Vibration measurements apply equally to either the internal or an external sensor.

External sensor support

External sensor types	2-wire, constant current, 100 mV/g accelerometers Supports ICP accelerometers. Provides 3 mA minimum.
Connection cable	SKF CMAC 8010 (IEPE), maximum cable length 10 metres. See also: External sensor setup.

Ordering Information

Standard kits

CMDT 391-K-SL
CMDT 391 sensor
CMAC 109 magnet
CMAC 8004 power supply

CMDT 391-PRO-K-SL
As CMDT 391-K-SL plus:
CMAC 8010 accelerometer cable
CMSS 2100 accelerometer
CMAC 3715 BNC adaptor
CMAC 8011 carry case

Hazardous area kits

CMDT 391-EX-K-SL
CMDT 391 Ex sensor
CMAC 109 magnet
CMAC 8007 power supply

CMDT 391-EX-PRO-K-SL
As CMDT 391-EX-K-SL plus:
CMAC 8010-EX accelerometer cable
CMSS 786A-IS accelerometer
CMAC 3715 BNC adaptor
CMAC 8011 carry case

Contact your local SKF distributor for more information

skf.com | skf.com/cm

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iOS is a registered trademark of Apple Inc.

Bluetooth is a registered trademark of Bluetooth SIG Inc.

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Agency approvals for hazardous area

CMDT 391-Ex with CMAC 8010-Ex cable

Ex ib IIC T4 Gb –20 °C ≤ Ta ≤ +60 °C
Class I, Zone 1, AEx ib IIC T4 Gb –20 °C ≤ Ta ≤ +60 °C
IS Class I, Div. 2, Group A, B, C, D, T4

Ex ib IIC T4 Gb –20 °C ≤ Ta ≤ +60 °C