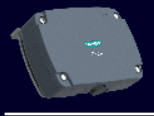
CONNECTION MODULE IOT
MQTT communication - architecture



CM IOT
MQTT v3 - Publisher

HARDWARE SPECIFICATIONS

CM IOT is a powerful plug-and-play sensor module to continuously capture data of drivetrain assets (motors, pumps, gearboxes…).

SENSORS

- *Temperature*
- *Vibration*
- *Magnetic Field*
- *Acoustic*

POWER SUPPLY OPTIONS

- *Battery (up to 4 years lifetime)*
- *Wired (24V DC)*

ENVIRONMENTAL

- *IP66*

WI-FI

- *WPA2*
- *802.11 a/b/g/n*
- *MQTT*

TRANSFERRED VIA CM IOT

CM IOT measures the data up to once per minute[1], calculates additional KPIs and transfers this data up to once per hour[1] via Wi-Fi to the MQTT broker.

RAW DATA (SNAPSHOTS)

- *Temperature*
- *Vibration 26.7 kHz for 1sec*
- *Magnetic Field 1 kHz for 1sec / 8 Hz for 128sec*
- *Acoustic 40 kHz for 1 sec*

SIGNALS (PRE-PROCESSED DATA, RMS VALUES)

- *Vibration velocity vRMS (x,y,z)*
- *Vibration acceleration aRMS (x,y,z)*
- *Stator frequency*
- *Slip frequency*
- *Motor state (on / off)*
- *Acoustic level*

METADATA

- *Battery status*

[1] *time interval is configurable*

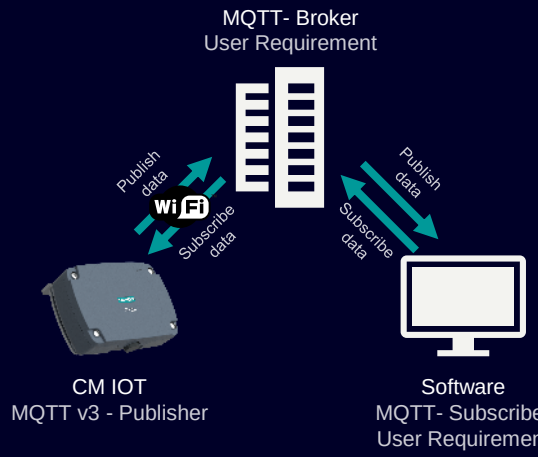
MQTT-Broker
User Responsibility

MQTT BROKER

The MQTT broker is the component that receives the published data from the CM IOT and distributes it to the subscribed clients.

USER RESPONSIBILITY

- *MQTT Broker*



Software
User Responsibility

CLIENT APPLICATION

The features and functionality enabled by the data provided by CM IOT are defined by the operators use case, application, and requirements.

EXEMPLARY USER RESPONSIBILITIES

- *Bandwidth*
- *AI & Analytics*
- *Network*
- *Authentication*
- *Notifications & Alerts*
- *UI /UX*
- *Security management*
- *User management / access roles*
- *CM IOT firmware updates*
- *Sensor management*

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