

SITRANS SCM IQ, SITRANS CC220, SITRANS MS200

Overview



SITRANS SCM IQ is a MindSphere-based cloud application, used in conjunction with SITRANS MS200 and SITRANS CC220, for smart condition monitoring and predictive maintenance.

SITRANS CC220 is an IIOT gateway that collects measurement and status data from one or more SITRANS MS200 multisensors. It then forwards the data, via the plant network, to the SITRANS SCM IQ cloud application.

SITRANS MS200 is a battery powered, wireless multisensor that provides process condition data that is not normally available for typical process control functions. MS200 can monitor conditions such as vibration states and temperature.

Benefits

- Detects changes to the normal operating conditions of industrial machinery such as pumps, motors, gears, etc., in industrial settings
- Labels detected anomalies and sends notifications
- Allows for more efficient maintenance planning through early warnings
- Improves control, protection, and availability of machinery
- Reduces plant downtime
- Built-in configuration tools and device management
- Easy commissioning, minimal training required, and long maintenance cycles

Application

SITRANS MS200 multisensors are suitable for use with any rotating equipment, within all industries that require rugged IIoT sensors. The sensors are suitable for measurement within any industrial environment and at extreme temperatures. They can be used indoors and outdoors.

SITRANS MS200 sensors and corresponding SITRANS SCM IQ application, can be used in process industries such as food and beverage, power generation, utilities, and chemical. Typical applications include filling stations, agitating vessels, and all types of pumps, compressors, gears, and valves.

Design

SITRANS MS200 is contained within a rugged, IP68 enclosure for use with rotating equipment. SITRANS CC220 is an IP20 device and is typically mounted inside a cabinet.

SITRANS SCM IQ is designed for use on the Siemens cloud-based IoT ecosystem, MindSphere. SITRANS SCM IQ can be combined with an array of Siemens cloud-based applications for complete plant supervision and control.

Function

SITRANS MS200, battery powered clamp on sensor

- Monitors temperature and vibration of rotating equipment

SITRANS CC220, IIOT gateway

- Cyclically polls data from MS200 multisensors
- Securely uploads data to SITRANS SCM IQ
- Can handle up to five SITRANS MS200 sensors

SITRANS SCM IQ, MindSphere application for smart condition monitoring

- Manages connected SITRANS CC220 gateways and SITRANS MS200 multisensors
- Intuitive training of machine learning models to automatically detect anomalies
- Labels detected anomalies and sends notifications via email or SMS

Technical specifications

SITRANS MS200	
Scope of measurement	Vibration and temperature
Data transmission	
Polling	Cyclic, via SITRANS CC220
Vibration sensor	3-axis accelerometer
Frequency range	15 ... 3.3 kHz
Resolution	0.122 mg (nominal at ±4 g measurement range, 0.488 mg at ±16 g)
Sampling rate	6.6 kHz
Temperature sensor	
Temperature range	-30 ... +80 °C (-22 ... +176 °F)
Accuracy	±4 °C
Repeatability	0.1 °C
Voltage supply	
Voltage	3.6 V
Capacity	2.6 Ah
Lithium content	0.65 g (0.023 oz)
Weight of battery	18 g (0.63 oz)
Battery life at 25 °C (77 °F)	2 ... 5 years
Replacement	Replacement batteries are offered by Siemens
Communication	
Bluetooth	Bluetooth BLE 5.0
Data transmission cycle	1 per 100 seconds
Environment	
Storage temperature	-40 ... +85 °C (-40 ... +185 °F)
Ambient temperature	-30 ... +80 °C (-22 ... +176 °F)
Altitude	<ul style="list-style-type: none"> • Operation: -1 000 ... 2 000 m (3 280 ... 6 561.68 ft) • Pressure: 795 ... 1 080 hPa
Rating	IP68 2 m/24 h, according to IEC 60529

Digitalization

Digital solutions & apps

SITRANS SCM IQ, SITRANS CC220, SITRANS MS200

SITRANS CC220

Functions	
Connecting	Connects SITRANS MS200 multisensor with SITRANS SCM IQ cloud application
Polling	Cyclic polling of SITRANS MS200
Cloud connect	Forwards data to cloud via plant network
Voltage supply	
Voltage	24 V nominal
Fuse	No
Fan	No
Communication	
To sensor	Bluetooth BLE 5.0
To cloud	MQTT
Environment	
Storage temperature	-20 ... +70 °C (-4 ... +158 °F)
Ambient temperature	0 ... +50 °C (-32 ... +122 °F)
Altitude	<ul style="list-style-type: none"> • Operation: -1 000 ... 2 000 m (3 280 ... 6 561.68 ft) • Pressure: 795 ... 1 080 hPa
Rating	IP20, according to IEC 60529

SITRANS SCM IQ

Device connectivity	Manages connection of SITRANS MS200 and SITRANS CC220 through a convenient user interface
Sensor data modeling	Activation and management of machine learning models
Anomaly management	Documentation and management of detected anomalies
Notifications	Provides notification of detected anomalies via email and SMS notifications

Selection and ordering data

Article No.

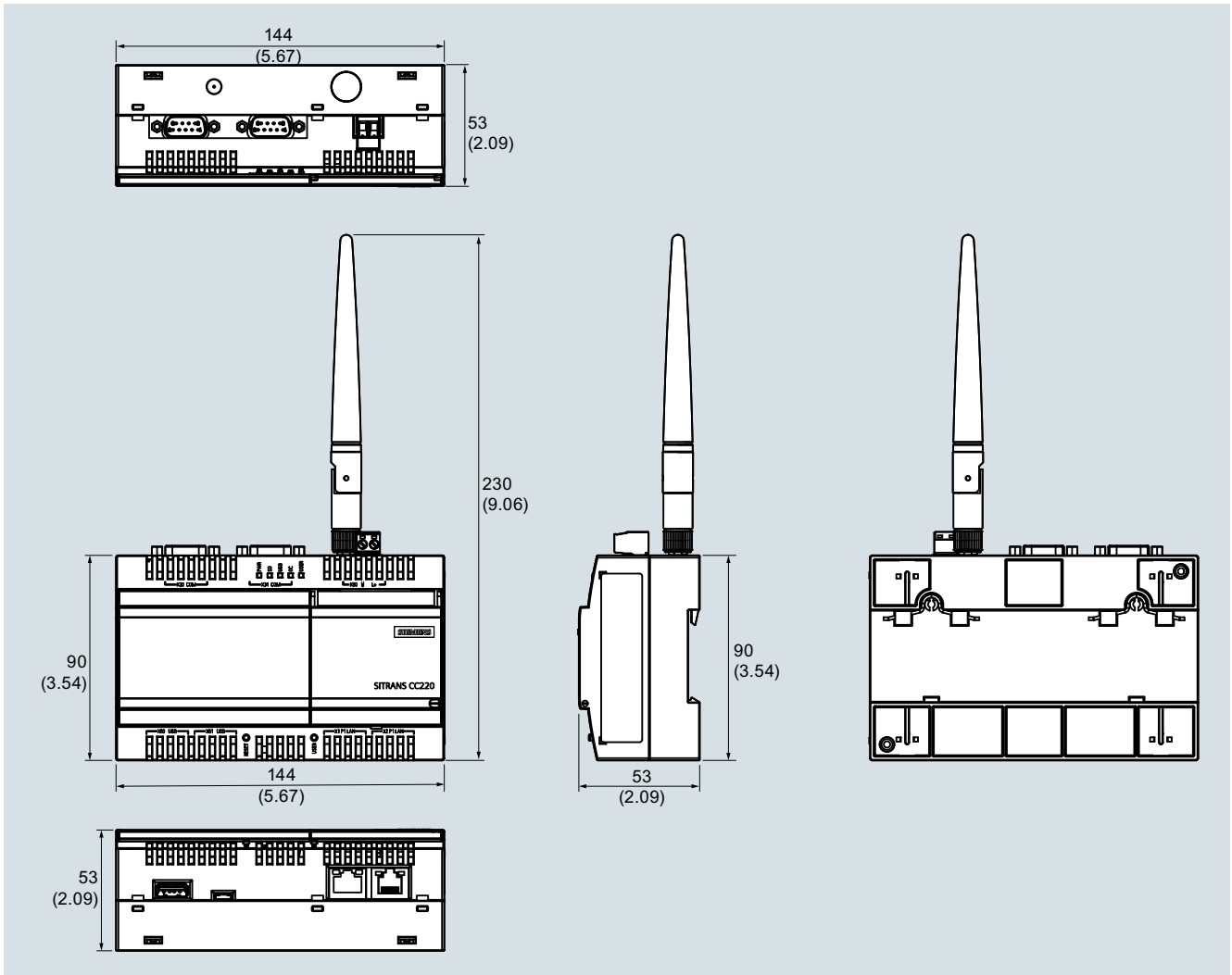
SITRANS MS200 A battery powered, wireless multisensor that provides process condition data that is not normally not available for typical process control functions	7MP2210-2AB21-2AB1
SITRANS CC220 A cloud connector that collects measurement and status data from one or more SITRANS MS200 multisensors, then forwards it to the SITRANS SCM IQ cloud application	7MP2200-1CB05-2AA1
SITRANS SCM IQ SITRANS SCM IQ is a MindSphere-based cloud application, used in conjunction with SITRANS MS200 and SITRANS CC220, for smart condition monitoring and predictive maintenance	SITRANS SCM IQ is distributed by the MindSphere Digital Exchange. Please visit: https://www.dex.siemens.com

Operating Instructions

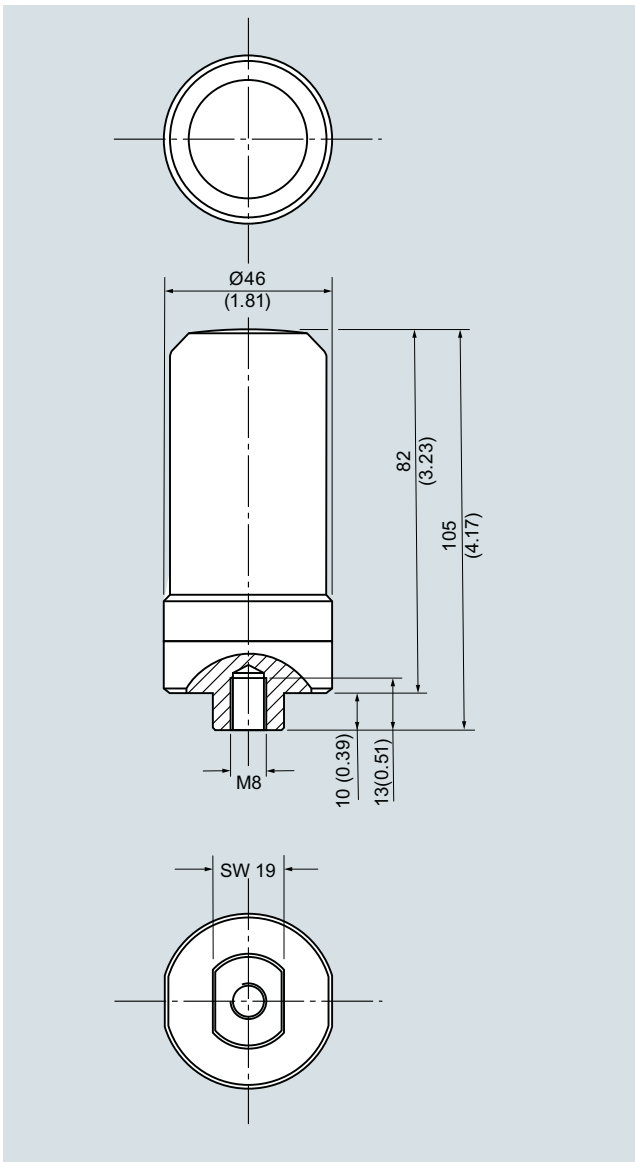
All literature is available to download for free, in a range of languages, at

<http://www.siemens.com/processinstrumentation/documentation>.

Dimensional drawings

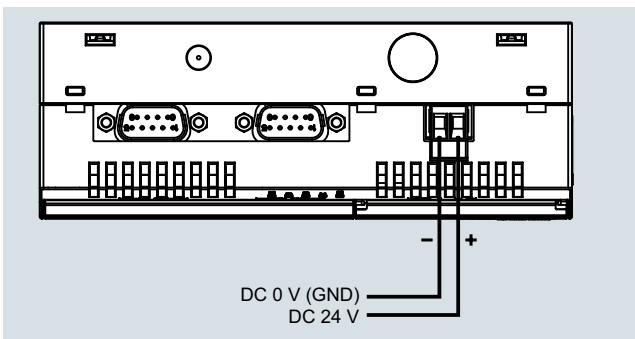


SITRANS CC220, dimensions in mm (inch)



SITRANS MS200, dimensions in mm (inch)

Connection drawings



SITRANS CC220, connections