

MC100 SensorBox

Mobile programmable sensor gateway



4G LTE IoT gateway with multiple sensor interfaces

The **MC100 SensorBox** is equipped with interfaces for up to 8 x 2 PT100/PT1000 temperature sensors as well as a wide range of additional analogue and digital in- and outputs.

Node-RED™, a simple graphical programming interface supporting various pre-configured transmission protocols, can be used to forward measured values, meter readings, switching statuses and calculations to in-house servers, visualization software or cloud services via LTE mobile networks.

The **MC100 SensorBox** in combination with Node-RED™ provides a fast and easy way to communicate data from distributed sensors and actors in the field to back-end systems. Additionally the MC100 SensorBox has sufficient reserve of computing power and memory to allow for local processing of smaller tasks.



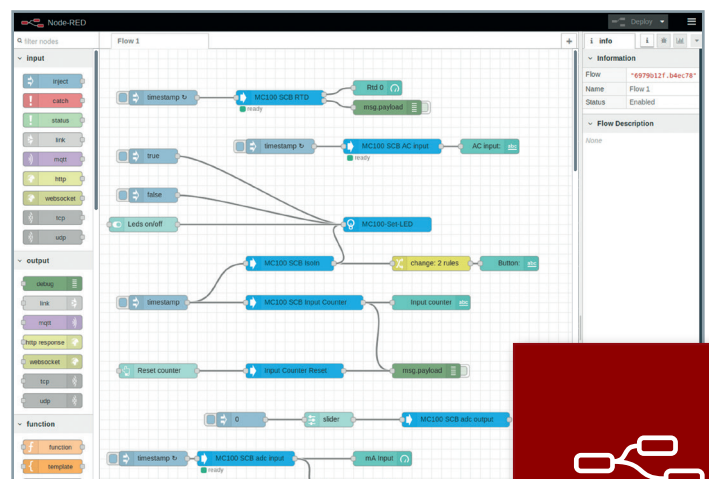
Key Features

- Programmable sensor gateway with 4G LTE modem
- Fallback to 3G and 2G networks
- Out of the box ready for mobile Internet communication
- Ethernet interface, 4x2 **PT100/PT1000** inputs, 1-wire interface, 4 digital inputs, 2 digital outputs, dual 4–20 mA inputs, 4–20 mA output, input relay (220V), output relay (220V SPDT)
- 2 extension board slots
- MCT Linux distribution – highly maintainable, slim Linux distribution based on Kernel 4.1.15, mainline-compliant and optimized for the ARM-based MC100 Gateway
- Node-RED™ – flow-based programming tool already installed
- Includes Node-RED™ nodes for all hardware interfaces
- Supports comprehensive cloud and server protocols
- Configuration via web interface
- Data storage on internal Flash or micro SD card
- Integrated AC/DC power supply
- Wide temperature range, industrial grade platform

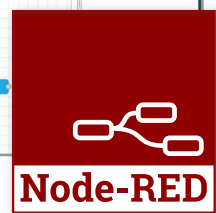
MC100 SensorBox Layer Model

Cloud and Server Protocols	OPC UA, MODBUS TCP, MQTT, CLOUD OF THINGS, HTTP, FTP, MS AZURE E-MAIL, TELEGRAM, SMS
Applications	Node-RED™, Python™, Java™ and more
Hardware Interfaces	4 x 2 PT100/PT1000 inputs, 1-wire 4 digital inputs, 2 digital outputs dual 4–20 mA inputs, 4–20 mA output input relay (220V), output relay, 2 extension board slots

Node-RED™ – Flow-based programming



Node-RED™ is a trademark of the JS Foundation. JAVA™ is a trademark of Oracle. Python™ is a trademark of the Python Software Foundation



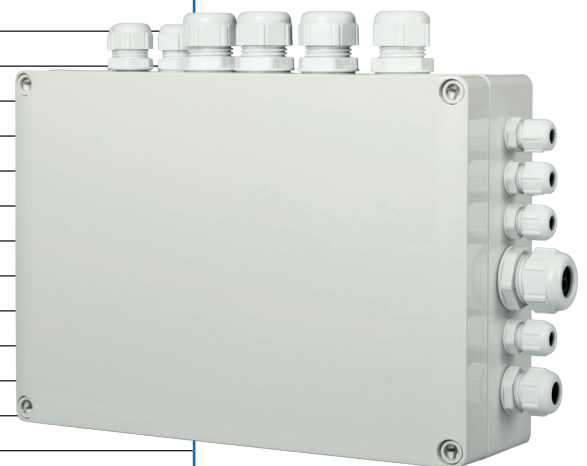
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Product	MC100 SensorBox RTD - Part number: MC1213100-4G-BOX1
General	
Description	Wireless 4G LTE gateway with multiple sensor interfaces
Type	Wireless 4G LTE gateway with multiple sensor interfaces
Dimensions (W x H x D) in mm	250 x 180 x 80 mm
Supply voltage	85 – 264 VAC
Power consumption	Average 3W, peak 13 W (GSM bursts)
Operation temperature	-20°C to +70°C
Housing	Plastic, sealable
Mounting	Wall mounting
Mobile	
Supported networks	LTE (4G): B1/B2/B3/B5/B7/B8/B20, all bands with diversity HSDPA/HSUPA/HSPA+ (3G): Band 1,2,5,8, all bands with diversity GSM/GPRS/EDGE (2G): 850/900/1800/1900 MHz
Transmission rates LTE	Up to 50 Mbps uplink and 100 Mbps downlink
Transmission rates HSPA+	Up to 5.76 Mbps uplink and 21.6 Mbps downlink
Transmission rates EDGE	Up to 236.8 kbps uplink and 236.8 kbps downlink
Transmission rates GPRS	Up to 85.6 kbps uplink and 85.6 kbps downlink
Antenna connections	SMA
Controller, memory and OS	
Controller	ARM Cortex-A7, 528 MHz
RAM	512 MB
Flash	4 GB
External Flash	Micro SD, up to 64 GB
OS	Linux
Programmable	Node-RED™, Java™ and Python™ preinstalled
Interfaces	
Ethernet	10/100 MBit/s
Sensor inputs	4 x 2 PT100/PT1000 (8 x 2 optional)
Sensor bus	1-wire
Digital inputs	4 galvanic isolated, 0–30V, threshold 6 V
Digital outputs	2 galvanic isolated solid state relays, 300 mA max
Analog inputs	Dual 4–20 mA
Analog output	Single 4–20 mA
Input relays	220 V to internal Digital Input
Output relays	220 V SPDT (single pole, double throw)
Extensions	2 extension board slots
LED 1	Power
LED 2 and 3	Programmable
LED 4	GSM
SD card	Micro SD holder
SIM card	Mini SIM holder (eSIM optional)
Other properties	
Configuration	Basic configuration via web interface, ext. configuration via config. files
Scope of delivery	
SensorBox	including cable glands (PG)
Printed documentation	Quick Guide



Mistakes and changes are reserved.