

MC100

Gateway SensorBox M-Bus



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.

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.

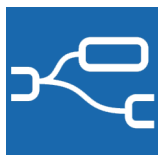
Additionally the MC100 SensorBox has sufficient reserve of computing power and memory to allow for local processing of smaller tasks.

Key features & functionalities:

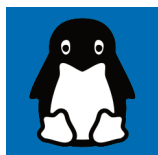
- Integrated LTE module (out of the box Internet)
- Easy and fast installation with screw terminals
- High number of input/output interfaces
- Direct connection of PT100/PT1000 temperature sensors
- Support of M-Bus, Modbus, 1-Wire and CAN protocols
- Open Linux for free administration and programming
- Optional Fleet and VPM management
- IP Routing via Ethernet, WiFi and LTE
- Integrated AC/DC power supply



4G LTE



Node-RED™



OpenWrt Linux



Cloud-Service



1-wire



16 PT100/
PT1000



GPS Glonass



M-Bus



10/100 MBit/s
Ethernet



RS-232



USB 2.0



CAN 2.0B



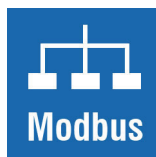
RS-485 and
isolated RS-485



4in/2out



WLAN



Modbus

MC100 Gateway SensorBox M-Bus

Technical Data

General	Description
Type	Wireless 4G LTE Gateway with multiple sensor interfaces
Application Area	Building Monitoring, IoT, Environmental Smart Sensoric, Energy Management
Dimensions (W x H x D)	Approx. 300 x 230 x 85 mm
Weight	Approx. 1 kg
Supply voltage	100 to 240 V AC
Power consumption	30W (max), 8 - 12W (typical)
Operation temperature	-20 °C to +70 °C
Housing	Closed plastic case
Protection class	IP65
Mounting	Wall mounting
Mobile	
Wireless module	Quectel EC21-E
Region	EU
SIM	1 x Mini SIM card holder
Supporting networks	LTE Cat1: Bands: 1, 3, 5, 7, 8, 20 WCDMA: Bands: 1, 5, 8 GSM/GPRS/EDGE: Bands: 3, 8
Transmission rates LTE	Up to 5 Mbps uplink and 10 Mbps downlink
Transmission rates HSPA+	Up to 5.76 Mbps uplink and 42 Mbps downlink
Transmission rates WCDMA	Up to 384 kbps uplink and 384 kbps downlink
Transmission rates EDGE	Up to 236.8 kbps uplink and 296 kbps downlink
Transmission rates GPRS	Up to 85.6 kbps uplink and 107 kbps downlink
Antenna connections	SMA (female)
GNSS	
Integrated Solution	Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
Type	GPS/GLONASS/BDS/Galileo
Antenna connection	SMA (female)
WiFi	
Type	802.11 b/g/n
Supported Modes	Client, Master
Supported Protocols	WPA, WPA2
Antenna connection	SMA (female)
System	
Processor	32 Bit Controller i.mx6
RAM	1 GB
Flash	4 GB eMMC
OS	OpenWrt Linux
Programmable	C/C++, Python™, Java™, Node-RED™ or others
LEDs	5 x (Power, GSM, Status, 2 x Programmable)
SD card	1 x Micro SD, up to 32 GB (internal)
Interfaces	
Ethernet	1 x 10/100 MBit/s
USB	1 x USB 2.0 Type A
Digital inputs	6 x Galvanic isolated, 0 - 30 V, threshold 6 V
Digital outputs	4 x Galvanic isolated, solid state relays, 300 mA max
RS-232	1 x DB9 (RX,TX,RTS,CTS)
RS-485	1 x Not galvanic isolated, plug-in screw-type terminal
CAN	1 x CAN 2.0B, plug-in screw-type terminal
Sensor inputs	16 x PT100/PT1000
Sensor bus	1 x 1-wire
Analog input	1 x 4 - 20 mA
Currentloop input	1 x 4 - 20 mA
Currentloop output	1 x 4 - 20 mA
Input relays	1 x 230 V to internal digital input
Output relays	1 x 230 V SPDT (single pole, double throw)

Errors and omissions excepted.

MC100 Gateway SensorBox M-Bus

Technical Data

Modbus		
Modes	RTU, TCP	
Clients	32	
RTU Baud Rate	300 - 115200 Bit/s (default 9600)	
Bus Terminator	120 Ohm	
M-Bus		
Bus load	50 (with standard loads of 1.5mA each)	
Bus Type	Master	
Reverse polarity protected	Yes	
Collision detection	Yes	
Baud rates	300 - 9600 Bit/s	
Topology	Star, Tree, Bus	
Configuration		
Terminal	ssh	
HTTP, HTTPS	LuCi	
VPN	MC Fleet, OpenVPN, Ipsec	
SW Upgrade	MC Fleet, LuCi, ssh	
Sensor Data	ProMoS NG Light, Node Red, ssh	
Cloud Support	EDL	
Delivery includes		
Printed documentation	Quick Guide	
Connectors	4 x Quick connector MC 1.5mm	
Accessories		
GPS antenna	1575.42 MHz, 2 dBi, 3 m RG174 SMA (male), magnetic	101259
Network cable	Cat. 5, 1 m	100810
Data cable	Adapter cable for ASC1, RS232 (SuB D9, female) - 1 m - 3pin plug	162500
MiMo wall antenna	GSM/UMTS/LTE, 2 m RG174, 2x SMA (male)	101268
Portable antenna	GSM/UMTS/LTE/WLAN, SMA (male)	101292
Variants		Part-No.
MC100 SensorBox M-Bus		162188

Errors and omissions excepted.