

MC100

Gateway SensorBox



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 inand 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.

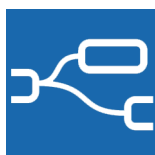
Additionally the MC100 SensorBox has sufficient reserve of computing power and memory to allow for local processing of smaller tasks.

Key features & functionalities:

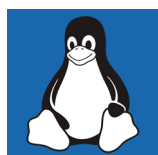
- Programmable 4G LTE SensorBox
- Quectel EC21-E module integrated
- Out of the box ready for mobile Internet communication
- OpenWrt 21 based Linux distribution, Kernel 5.4.154, optimized for the ARM-based MC100 Gateway
- Node-RED™ – flow-based programming tool pre-installed
- Supports comprehensive cloud and server protocols
- Configuration via web interface
- Free programmable



4G LTE



Node-RED™



OpenWrt Linux



Cloud-Service



1-wire



16 PT100/PT1000



GPS/GNSS
(optional)



10/100 MBit/s
Ethernet



RS232



USB 2.0



CAN 2.0B



RS485 and
isolated RS485



2in/2out and
8in/2out



WLAN
(optional)

MC100 Gateway Sensorbox

Technical Data

General	Description	
Type	Wireless 4G LTE gateway with multiple sensor interfaces	
Dimensions (W x H x D)	approx. 250 x 180 x 80 mm	
Weight	approx. 1 kg	
Supply voltage	85 to 264 V DC	
Operation temperature	-20 °C to +70 °C	
Housing	Plastic, Sealable	
Protection class	IP65	
Mounting	Wall mounting	
Wireless module embedded	Quectel EC21-E	
Part-Number	162811	
Mobile		
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)	2
Controller, Memory and OS		
Controller	ARM Cortex-A7 NXP i.MX 6 UltraLite, 528 MHz	
RAM	512 MB (optional 1GB)	
Flash	4 GB	
OS	OpenWrt Linux	
Programmable	C/C++, Python™, Java™, Node-RED™ or others	
Interfaces controller board		
Ethernet	10/100 MBit/s	1
USB	USB 2.0 Type A	1
Digital inputs	Galvanic isolated, special common GND (IGND), 0 - 30 V, threshold 6 V	2
Digital outputs	Galvanic isolated, special common GND (IGND), solid state relays, 300 mA max low-side-switch to IGND	2
RS232	DB9 (RX,TX,RTS,CTS)	1
RS485	Not galvanic isolated, plug-in screw-type terminal	1
CAN	CAN 2.0B, plug-in screw-type terminal	1
LED 1	Power	x
LED 2 and 3	Free programmable	x
LED 4	GSM	x
LED 5	GPS	optional
SIM	Mini SIM	x
SD card	Micro SD, up to 32 GB (internal)	x
Modbus	RTU and TCP	x
WLAN	802.11 b/g/n	optional
Mbus	(only Part-No. 162188)	optional
Interfaces carrier board		
Sensor inputs	PT100/PT1000 (8 x 2)	16
Sensor bus	1-wire	1
Digital inputs	Galvanic isolated 0 - 30 V, threshold 6 V	8
Digital outputs	Galvanic isolated solid state relays, 300 mA max	2
Analog inputs	4 - 20 mA	2
Analog outputs	4 - 20 mA	1
Input relays	220 V to internal digital input	1
Output relays	220 V SPDT (single pole, double throw)	1
Extensions	Extension board slots	2
Other properties		
Configurations	Basic configuration via web interface, ext. Configuration via config files	
Delivery includes		
Printed documentation	Quick Guide	

Errors and omissions excepted.