

# SIG-M-2

## Sentera Internet Gateway



SIG-M-2 is an internet gateway to connect a stand-alone Sentera device or a network of devices to the Internet in order to configure or monitor them via SenteraWeb. The SIG-M-2 makes wireless or wired connection with the internet router. The unit has 2 Modbus RTU channels - a Master channel to communicate with the connected Slave devices, and a Slave channel to make the unit accessible for a Master controller or a BMS.

### Key features

- 24 VDC supply voltage, Power over Modbus (PoM)
- Sentera devices can be connected via RJ45 (Modbus RTU Master channel)
- Data transmission to and from the Internet via standard Ethernet or Wi-Fi
- Backup battery for real time clock, in case the power supply is interrupted
- Heartbeat protocol
- Firmware update via the Internet
- LED indications: Connect, Error, RXD/TXD
- Implemented MQTT protocol
- Supports TCP Client/UDP Client/HTTP Client mode
- Enclosure: plastic ABS, UL94-V0, grey RAL 7035

### Technical specifications

Supply voltage	24 VDC, Power over Modbus	
Imax	330 mA	
Output voltage for connecting slave devices	24 VDC	
Typical range of use	Temperature	-10—50°C
	Relative humidity	5—95 % rH, non-condensing
Protection standard	IP54	

### Wiring diagram

#### RJ45 socket (Power over Modbus)

Pin 1	24 VDC	Supply voltage
Pin 2		
Pin 3	A	Modbus RTU communication, signal A
Pin 4		
Pin 5	/B	Modbus RTU communication, signal /B
Pin 6		
Pin 7	GND	Ground, supply voltage
Pin 8		

#### RJ45 connection<sup>(1)</sup>



24 VDC	Supply voltage 24 VDC
GND	Supply voltage, ground
A	Modbus RTU communication, signal A
/B	Modbus RTU communication, signal /B

#### Terminal block connection<sup>(1)</sup>

VIN	Supply voltage 24 VDC
GND	Supply voltage, ground
A	Modbus RTU communication, signal A
/B	Modbus RTU communication, signal /B

<sup>(1)</sup>Attention! The unit needs to be supplied via the RJ45 connector or via the connection terminals. Do not connect the device via the RJ45 connector and the terminal block simultaneously!



### Area of use

- Connect your HVAC installation to the online SenteraWeb portal
- Push application dedicated firmware and/or standard firmware via the SenteraWeb into the connected devices
- Update setpoints, ranges and other parameters from the connected Sentera slave devices
- Data monitoring and data logging via the SenteraWeb Service Database
- Gateway for warnings and notifications (e.g. clogged filter notification, motor failure alarm, etc.)

### Standards

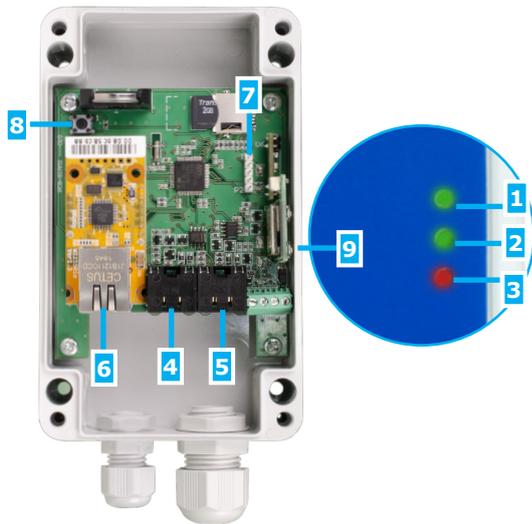
- EMC directive 2014/30/EU:
  - EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
  - EN 55011:2009 Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement Amendment A1:2010 to EN 55011
  - EN 55024:2010 Information technology equipment - Immunity characteristics - Limits and methods of measurement
  - EN 50561-1:2013 Power line communication apparatus used in low-voltage installations - Radio disturbance characteristics - Limits and methods of measurement - Part 1: Apparatus for in-home use
- LVD directive 2014/35/EU:
  - EN 60950-1:2006 Information technology equipment - Safety - Part 1: General requirements Amendments AC:2011, A11:2009, A12:2011, A1:2010 and A2:2013 to EN 60950-1
  - EN 62311:2008 Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz - 300 GHz)
- Radio equipment directive 2014/53/EU:
  - EN 300 328 V2.1.1 Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- ETSI EN 301 489-1 V2.1.1 (2017-02) Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU
- ETSI EN 301 489-17 V3.1.1 (2017-02) Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU
- RoHS Directive 2011/65/EU
  - EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

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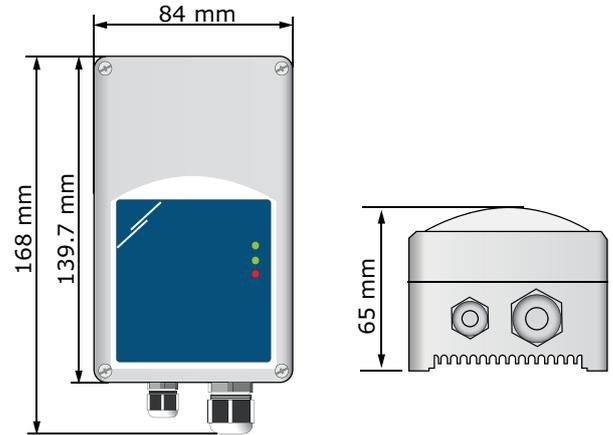
### Settings and indications



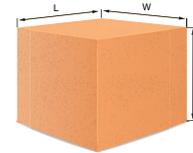
1 - Green LED	On	The unit is supplied and connected to SenteraWeb via the internet
2 - Green LED	Blinking slow	The unit is in boot-loader mode
	Blinking	The unit is sending/receiving data from SenteraWeb
3 - Red LED	Blinking	The unit is supplied but there is no connection with SenteraWeb
4 - RJ45 socket		To connect a Master device or BMS and/or PoM power supply*  Blinking LEDs indicate that packages are transmitted via Modbus RTU communication
5 - RJ45 socket		To connect the slave devices and/or PoM power supply*  Blinking LEDs indicate that packages are transmitted via Modbus RTU communication
6 - RJ45 socket		Ethernet connection
7 - PROG header, P2		Put a jumper onto pins 1 and 2 and wait for at least 2 seconds to reset the Modbus communication parameters
		Put a jumper onto pins 3 and 4 and restart the supply to enter boot-loader mode
8 - Modbus register reset tact switch		Push to start the Modbus RTU register factory reset
9 - Wi-Fi reset tact switch		Press and hold the reset tact-switch for 2 seconds to remove the actual Wi-Fi network connection. After the Wi-Fi network reset, the default IP-address is restored: 192.168.1.123.

\*Do not connect 2 circuits with PoM power supply at the same time. This will possibly destroy the unit and/or the power supplies.

### Fixing and dimensions



### Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
SIG-M-2	Unit (1 pc.)	175	98	93	0,20 kg	0,26 kg
	Box (24 pcs.)	590	380	280	4,80 kg	7,20 kg

### Global trade item numbers (GTIN)

Packaging	SIG-M-2
Unit	05401003017654

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### Application example

