



EnOcean to Modbus TCP/IP Gateway

EO-MOD-IP, series 1100

Device EO-MOD-IP represents „gateway“ between the wireless communication standard EnOcean and Modbus TCP/IP.

- Bidirectional communication
- Connection of up to 40 EnOcean devices
- Repeater function
- Easy integration of EnOcean elements into Modbus network
- Conversion of raw data to specific values
- Available for 868 MHz, optional for 902 MHz
- Clear administration via web interface
- Powered by PoE or an external DC or AC power supply
- Simple installation in the suspended ceilings of buildings
- Open product for various EnOcean elements and manufacturers





GATEWAY CAN CONTROL UP TO 40 ELEMENTS IN THE ENOCEAN NETWORK

EnOcean technology has a long-term goal of using battery-free products. Individual sensors and actuators obtain energy from miniature solar cells and from the conversion of kinetic and thermal energy into electrical energy. It is an extensive family of sensors for monitoring temperature, door/window opening, air quality (VOC, CO₂), wind speed, illumination, motion, etc. With using this technology, it is possible to control lighting, radiators, window openings, blinds and other devices. Wireless technology that does not need to change battery is user-friendly and especially environmentally protective.



FREQUENCY IN THE ENOCEAN NETWORK

868 MHz – ready to use
902 MHz – on request



OPEN PRODUCT

The gateway supports various elements and manufacturers from all over the world. We are constantly working on expanding supported devices with newly created ones on the markets. The support currently applies to more than a hundred profiles defined by the EnOcean Alliance.



GATEWAY AS A REPEATER

Gateway can work in 3 modes: repeater inactive, mode LEVEL 1, in which it forwards only original (unrepeated) telegrams, and LEVEL 2, in which it forwards both original and once repeated telegrams. The limitation of repeat count prevents congestion of the EnOcean network. The main functionality of the gateway in EnOcean and Modbus networks is not limited in Repeater mode.



ANTENNA OPTIONS

The strength and coverage of the signal is appropriately distributed according to the choice of antenna. For common locations, the antenna that is part of the device's delivery is sufficient. For spaces with a higher attenuation of signal (e.g. in metal control cabinet) and for better gain properties, we recommend the antenna with a cable and a magnetic base (must be ordered).



POWER SUPPLY



With External Power Supply in the Range of 10-32V DC and 24V AC:

The first option is powering with a DC power supply in the range of 10–32V or alternating voltage source 24V.



With PoE (Power over Ethernet) Data Cable:

Due to its most common location in suspended ceilings and under-ceiling spaces with distributions of mainly ethernet cables, the gateway can also be powered via a PoE data cable (Power over Ethernet).





EASY INTEGRATION OF THE ELEMENT INTO MODBUS NETWORK

The usage of registers and meaning of their values depends on the type of assigned EnOcean element. There is a part of registers dedicated to loading of value descriptors, the name and type of value, multiplier, unit, minimum and maximum can be read from the gateway.

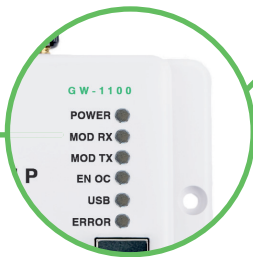
CONVERSION OF RAW DATA TO SPECIFIC VALUES

Gateway receives raw data from EnOcean elements and automatically converts them into final values (e.g. degrees Celsius, relative humidity value in %, CO₂ concentration, states 0-1), which it writes to the relevant registers of the Modbus interface.



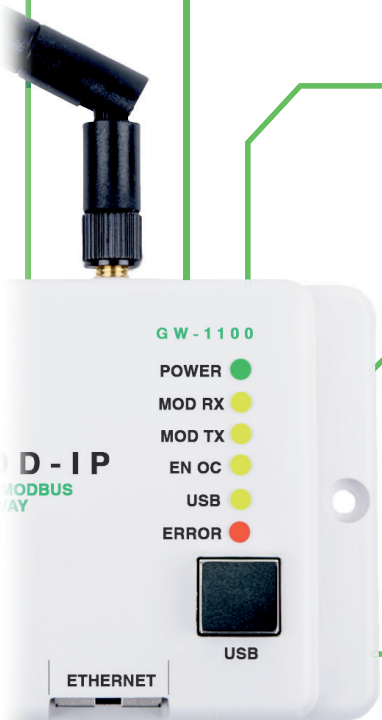
EASY INSTALLATION IN THE SUSPENDED BUILDINGS CEILINGS

The narrow box construction with small dimensions and mounting holes encourages simple installation in suspended ceilings, under-ceiling spaces while preserving architecture and space design.



LED OFF FUNCTION

This function finds its use wherever the LEDs flashing could be disruptive.



EMC FOR RESIDENTIAL BUILDINGS AND INDUSTRIAL ENVIRONMENTS

Device is tested by an accredited laboratory with EMC tests for use in residential spaces and industrial environments which require more demanding tests in terms of immunity and emissions evaluation.

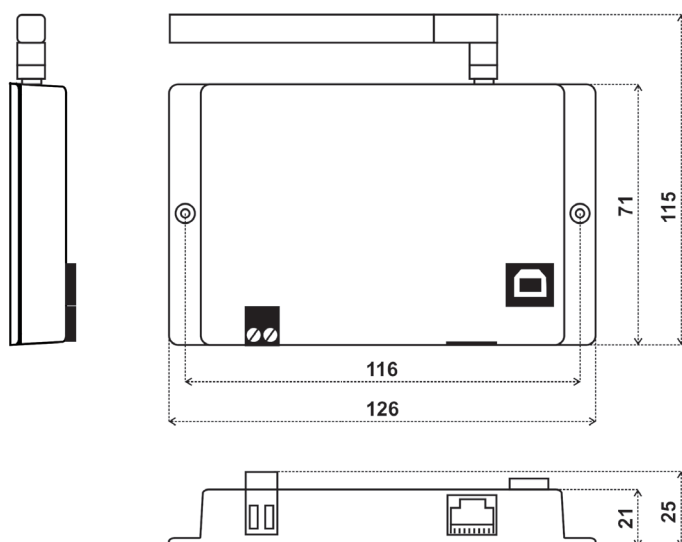


CONFIGURATION WEB INTERFACE

Application can be administered via web interface or PC application. Both offer the same range of gateway settings for both networks and elements administration in the EnOcean network. PC application is mostly used when gateway's factory settings are different from the settings of the existing Modbus network.



Dimensions in mm:



Optional Accessories:



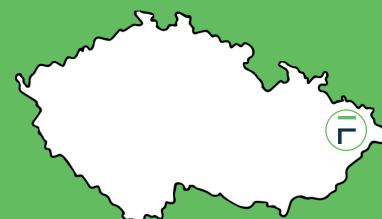
ANT-A1-SMA868-MAG2M

External antenna on a 2m long cable with a magnetic base.

Technical data

CATEGORY	PARAMETER	VALUE
Product	Product name	EO-MOD-IP
	Product title	EnOcean to Modbus/ IP Gateway
	Product ID	12
	Vendor name	FIRVENA s.r.o.
Electrical data	Rated supply voltage	24 V DC / 24 V AC
	Supply voltage range	10-32 V DC / 24 V AC (± 10 %)
	Rated input current	50 mA
	Rated input power	1.2 W
Ethernet (Modbus/IP)	Speed	10, 100 Mbit/s
	Connector	RJ45
	PoE	✓ (pins 4, 5, 7, 8)
	PoE supply powering	According to standard 802.3af
EnOcean	Frequency	868 MHz, optional 902 MHz
	Maximum number of handled devices	40 (max. 20 with SmartACK)
	Repeater	✓
USB	Device class	Custom HID or Mass Storage
	Connector	Type B
Operating conditions	IP Code	IP20
	Operating temperature	-20 to +70 °C
	Relative humidity	max. 80 %
Dimensions in mm	Dimensions without antenna	Width=126, Height=71, Depth=25
Weight in gramme	Weight without antenna	115g
Box material		ABS, white
EMC	In accordance with the Directive	2014/53/EU, 2011/65/EU RoHS
EMC	Approvals tests	ČSN EN 55032, ČSN EN 55035, ČSN EN 6100-4-2, ČSN EN 6100-4-3, ČSN EN 6100-4-4, ČSN EN 6100-4-5, ČSN EN 6100-4-6, ČSN EN 6100-4-11, ČSN EN IEC 6100-6-2

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