

iSMA-B-W0202

W0202 has been built to allow the extension of the RS485 bus using wireless technology wherever the use of network cable is impossible or unprofitable. Two W0202 allows the creation of a wireless 'bridge' for the serial bus by building a wireless remote island (one or more) for devices communicating via **Modbus RTU/ASCII** – e.g., MIX/MINI series I/O modules. W0202 in addition to the RS485 port and wireless port is equipped with 2x SI (Special Inputs) and 2x DO (Digital Outputs), which allows using the device as an I/O module or light controller communicating in Modbus RTU/ASCII. The implemented algorithms in the device allow user to choose one of the different modes:

- Modbus Bridge
- Modbus Bridge and I/O module (both DO work independent of the state of SI)
- Modbus Bridge and I/O module with built-in algorithms for light, cooling, or heating control.
- Modbus Bridge and I/O module with present sensors support.

W0202 is also equipped with a micro USB port which allows to configure it without the external power supply (the device is powered through the USB port). This solution gives users an easy way to carry out the tests within the existing facility.

Key Features

- High transmit power and high sensitivity
- No license is required for the radio band
- USB for configuration
- 1x RS485 port (Modbus)
- 2x Special Inputs: voltage, resistance, dry contact, and fast counter up to 100 Hz save in EEPROM
- 2x Digital Outputs: relay max. 3 A, 230 V AC/ 30 V DC
- LEDs indicating the state of the SI and DO
- Fast processor with ARM core
- 4 Different operating modes
- Built-in present sensor support modes



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Specification

Special Inputs (SI)

All Special Inputs have 12-bit resolution which supports the following types of inputs:

- Temperature input supports the following types of sensors:
10K3A1, 10K4A1, Carel 10K, 20K6A1, 2.2K3A1, 3K3A1, 30K6A1, SIE1, TAC1, SAT1: accuracy $\pm 0,1^{\circ}\text{C}$ at 25°C ($0,18^{\circ}\text{F}$ at 77°F)
- Voltage input 0-10 V DC: input resistance 100 k Ω accuracy $\pm 0,5\%$
- Resistive input 0-1000 k Ω : measurement resolution for 20 k Ω load 20 Ω
- Dry contact input
- Fast pulse counter up to 100 Hz save in EEPROM memory

Digital Outputs (DO)

- Relay output (NO) max. 3 A, 230 V AC/30 V DC

Platform

- ARM Cortex-M3

Power Supply

- 24 V AC/DC

Communication

- Interface RS485 half-duplex
- Up to 128 devices on the bus
- Protocols: Modbus
- Baud rate: 2400 to 115200 bps

Radio

- Frequency 868 MHz
- Max output power: +20 dBm, 100 mW
- Sensitivity: -120 dBm
- Encryption: AES-128
- Speed: 115 kb/s
- External antenna (SMA socket)

Housing

- Dimension: 17,5x110x62 mm (0.689x4.331x2.441 in)
- Construction: plastic, self-extinguishing (PC/ABS)
- DIN rail mounting DIN (DIN EN 50022 norm)
- Cooling: internal air circulation

Environment

- Operating temperature: -10°C to 50°C (14°F to 122°F)
- Storage temperature: -40°C to 85°C (-40°F to 185°F)
- Relative humidity: 5% to 95%, no condensation
- Ingress Protection Rating: IP40 – for indoor installation

