

iSMA-B-W0202

W0202 has been built to allow extension of RS485 bus using wireless technology wherever use of network cable is impossible or unprofitable. Use of two W0202 allows to build the wireless 'bridge' for the RS485 by building wireless remote island (one or more) for devices communicate via **Modbus RTU/ASCII** - eg. MIX series or 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 to use device as I/O module or light controller communicating in Modbus RTU/ASCII. Implemented algorithm in the processor allows user to choice one of 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 user an easy way to carry out the tests within the existing facility.

Key Features

- High transmit power and high sensitivity
- No license 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 support the following types of inputs:

- Temperature input support 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

