

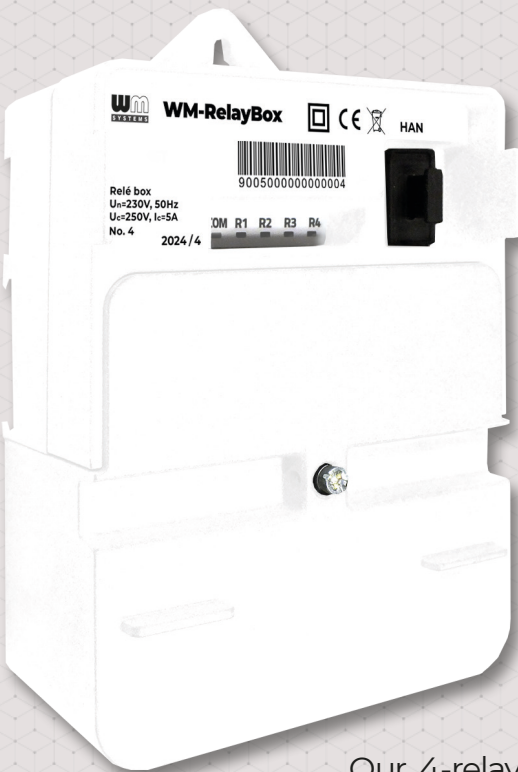
# WM-RELAYBOX



## Protect your investment by adding extra relays to your smart meter for complete grid management

Traditionally, energy meters were simple devices that measured power consumption, forming the basis for electricity billing. However, today's energy meters are taking on much greater responsibilities. Beyond just power measurement, they are now essential tools for power quality monitoring, control, scheduling analysis, and security monitoring.

Most electricity meters do not contain switchable relays or do not support remote switching.



Adding a feature to smart meters which allows the utility and DSO to remotely turn connected devices on/off is a cost effective way to deal with this challenge.

Our load control box allows utilities to remote control connected appliances or devices in homes, businesses, aligning demand with available supply.

**Protect your investment! No need to change your existing meters.**

**Extend your Smart Metering Infrastructure with the WM-Relaybox for a complete Grid Management.**

Our device allows remote-control of external devices connected to the energy meters Customer Interface.

Our 4-relay load control box is a compact and cost-effective solution. It allows utilities and DSOs to retrofit their electricity meters with smart remote control features for a fraction of the investment compared to a new smart meter.

Consumers can connect all kinds of equipment to the 4 relays in the RelayBox (switch boiler, pump, A/C, pool heating, ventilation system, cooling system, load management of solar panels, electric car charger, etc.) which can then be remote controlled by the utility or DSO in order to optimize the grid. In exchange, utilities offer different incentives for consumers.



## MAIN FEATURES

- RS485 interface (RJ12 connector, 6P6C – for E-Meter or E-Metering Modem, protected by terminal cover)
- Customer Interface (HAN) output (RJ12, 6P6C, RS485 compatible, galvanically isolated voltage)
- Multiple relay control (on/off switching of each connected external devices by 4pcs relays: single-pole SPST, COM/NO switching, max. 250V AC @ 50Hz, up to 5A resistive load)
- Controllable via connected electricity meter (E-Meter RJ12 connector) - unidirectional DLMS / COSEM commands
- All meter data sent transparently to the P1 / HAN output (RJ12) connector (by DLMS / COSEM unidirectional communication to the Customer Interface output)
- Overvoltage protection according to EN 62052-21
- IP52 plastic enclosure (Protection Class 2), built-on 35mm DIN-rail, terminal blocks are protected by port cover

## OPERATION

The RelayBox connects to the electricity meter or a metering modem (via its RJ12 E-Meter interface) and it receives unidirectional (one-way) DLMS / COSEM „push” commands and messages from the Head-end System through the meter.

Then it executes the relay switch requests and sends all incoming data provided by the smart meter to the Customer Interface HAN / P1 output interface (separate, isolated RJ12 port) of the RelayBox.

Consumers can use the P1 interface as a valuable tool that can help manage their energy usage and save money.

## APPLICATION

- **Smart Metering** – for tariff control of meters
- **Smart Grid** – for DSOs, Solar Farm Operators
- **Smart City** – for Electric Car Chargers and Boiler- and Heating control
- **Industrial Automation** – for Automation of buildings, Ventilation- and Cooling control



WM-RELAY BOX®					
<b>Input Voltage Range</b>	--207-253 VAC, 50Hz (230VAC +10% / -10%, 50Hz) - overvoltage protection according to EN 62052-21				
<b>Consumption</b>	· Max. 3W				
<b>Interfaces</b>	<table border="0"> <tr> <td style="background-color: #ff0000; color: white; width: 150px;">RS485 connectors</td> <td>· RS485 interface (RJ12 connector, 6P6C, speed: 9 600-115 200 bps) – for E-meter or metering modem connection (protected by the terminal cover)</td> </tr> <tr> <td></td> <td>· Customer Interface: P1 / HAN output (RJ12 connector, 6P6C, RS485 compatible, speed: 9 600-115 200 bps, galvanically isolated voltage)</td> </tr> </table>	RS485 connectors	· RS485 interface (RJ12 connector, 6P6C, speed: 9 600-115 200 bps) – for E-meter or metering modem connection (protected by the terminal cover)		· Customer Interface: P1 / HAN output (RJ12 connector, 6P6C, RS485 compatible, speed: 9 600-115 200 bps, galvanically isolated voltage)
RS485 connectors	· RS485 interface (RJ12 connector, 6P6C, speed: 9 600-115 200 bps) – for E-meter or metering modem connection (protected by the terminal cover)				
	· Customer Interface: P1 / HAN output (RJ12 connector, 6P6C, RS485 compatible, speed: 9 600-115 200 bps, galvanically isolated voltage)				
<b>Relay outputs</b>	<table border="0"> <tr> <td style="background-color: #ff0000; color: white; width: 150px;">Relay type / Size</td> <td>· 4pcs independent, single-pole SPST relays (COM/NO, potential-free, 2-pin pairs per relay, protected by terminal cover)</td> </tr> <tr> <td style="background-color: #ff0000; color: white;">Nominal voltage U<sub>c</sub> / Current I<sub>c</sub></td> <td>· 250VAC, 50Hz / up to 5A resistive load</td> </tr> </table>	Relay type / Size	· 4pcs independent, single-pole SPST relays (COM/NO, potential-free, 2-pin pairs per relay, protected by terminal cover)	Nominal voltage U <sub>c</sub> / Current I <sub>c</sub>	· 250VAC, 50Hz / up to 5A resistive load
Relay type / Size	· 4pcs independent, single-pole SPST relays (COM/NO, potential-free, 2-pin pairs per relay, protected by terminal cover)				
Nominal voltage U <sub>c</sub> / Current I <sub>c</sub>	· 250VAC, 50Hz / up to 5A resistive load				
<b>User interface</b>	<table border="0"> <tr> <td style="background-color: #ff0000; color: white; width: 150px;">Operation</td> <td>                     · Watchdog                      · Multiple relay control (on/off switching of the connected external device by each relay)                      · Controllable via connected electricity meter (RJ12) - unidirectional DLMS / COSEM communication                      · Sending all meter data to the separate RJ12 connector (DLMS / COSEM unidirectional communication to the Customer Interface output)                      · Configuration at production                 </td> </tr> <tr> <td style="background-color: #ff0000; color: white;">Indication</td> <td>· 6pcs LEDs (power, operation status, 4 relay status)</td> </tr> </table>	Operation	· Watchdog · Multiple relay control (on/off switching of the connected external device by each relay) · Controllable via connected electricity meter (RJ12) - unidirectional DLMS / COSEM communication · Sending all meter data to the separate RJ12 connector (DLMS / COSEM unidirectional communication to the Customer Interface output) · Configuration at production	Indication	· 6pcs LEDs (power, operation status, 4 relay status)
Operation	· Watchdog · Multiple relay control (on/off switching of the connected external device by each relay) · Controllable via connected electricity meter (RJ12) - unidirectional DLMS / COSEM communication · Sending all meter data to the separate RJ12 connector (DLMS / COSEM unidirectional communication to the Customer Interface output) · Configuration at production				
Indication	· 6pcs LEDs (power, operation status, 4 relay status)				
<b>Environment</b>	<table border="0"> <tr> <td style="background-color: #ff0000; color: white; width: 150px;">Temperature range</td> <td>· Operation temperature / Storage temperature: between -40 °Celsius and +70 °Celsius degree</td> </tr> </table>	Temperature range	· Operation temperature / Storage temperature: between -40 °Celsius and +70 °Celsius degree		
Temperature range	· Operation temperature / Storage temperature: between -40 °Celsius and +70 °Celsius degree				
<b>Design</b>	<table border="0"> <tr> <td style="background-color: #ff0000; color: white; width: 150px;">Enclosure / Protection / Mount</td> <td>                     · IP52 plastic enclosure, Protection Class 2                      · Port cover (protecting interface connections) · Dust cover for external HAN (RJ12) Customer Interface                      · Built-on 35mm DIN-rail mounting (on back side of casing)                 </td> </tr> <tr> <td style="background-color: #ff0000; color: white;">Dimensions / Weight</td> <td>· 118 x 185 x 63 mm / 370gr</td> </tr> </table>	Enclosure / Protection / Mount	· IP52 plastic enclosure, Protection Class 2 · Port cover (protecting interface connections) · Dust cover for external HAN (RJ12) Customer Interface · Built-on 35mm DIN-rail mounting (on back side of casing)	Dimensions / Weight	· 118 x 185 x 63 mm / 370gr
Enclosure / Protection / Mount	· IP52 plastic enclosure, Protection Class 2 · Port cover (protecting interface connections) · Dust cover for external HAN (RJ12) Customer Interface · Built-on 35mm DIN-rail mounting (on back side of casing)				
Dimensions / Weight	· 118 x 185 x 63 mm / 370gr				



The presented images on the datasheet are for illustration purposes only. The details on the data sheet are for general information purposes only. WM Systems LLC cannot be held liable for erroneous information on the datasheet. The announced information are subject to change without notice. For more details, please contact us.