



CMN-URM-4450 is a universal industrial relay module featuring an RS-485 interface and support for the Modbus RTU protocol. The module is designed for automated control and monitoring of **energetic infrastructure components**, distributed street lighting systems, BMS, and energy resource dispatch systems.



suitable for distributed
lighting and energy
control systems



220V power line
monitoring and
control



reliable functioning in
energetic and municipal
systems



high-current load
control up to 50 A



support for Modbus
industrial protocol



easy integration with
BMS and SCADA

FEATURES

4x4 Module is equipped with 4 high-voltage 220 V AC inputs for monitoring the state of electrical lines, as well as 4 high-power relays (up 50 A) for reliable switching of high-current loads.

The module ensures remote control and diagnostics via Modbus RTU, operates in harsh industrial environments and is easily integrates into distributed systems of energy control and automation.

AREAS OF APPLICATION

- ✓ Energetic infrastructure and distribution nodes
- ✓ Street and architectural lighting
- ✓ Energy control and automation panels
- ✓ BMS and EMS (Energy Management System)
- ✓ Low- and medium-voltage substations (part of low-voltage switchgear)
- ✓ Industrial and municipal automation
- ✓ SCADA and dispatch systems



FUNCTIONAL CHARACTERISTICS

Number of power inputs	4
Input type	220 V AC (monitoring voltage presence)
Number of relays	4
Relay type	electromechanical power relays
Rated contact current	up to 50 A
Contact type	NO / NC

DIMENSIONS

Width	~140 mm
Height	~90 mm
Depth	~67 mm
Weight	295 g



KEY FEATURES

- Communication Interface: RS-485
- Protocol: Modbus RTU (slave)
- 4 power inputs 220 V AC for line monitoring
- 4 electromechanical power relays up to 50 A
- Real-time monitoring of input status
- Remote control and diagnostics via Modbus
- High switching ability
- Power, connection, input and relay indicators
- Industrial level of reliability
- 35mm DIN rail mounting

POWER SUPPLY

- Nominal supply voltage: 12–24 V DC
- Power consumption: ≤ 6 W

POWER INPUTS

- Rated voltage: 110-250 V AC, 50/60 Hz
- Function: monitoring of line presence and status
- Galvanic isolation: built-in

RELAY OUTPUTS

- Rated load voltage: up to 400 V AC / 30 V DC
- Rated current: up to 50 A (AC-1)
- Inrush currents: up to 600 A (short term)
- Electrical endurance: ≥ 50 000 cycles
- Mechanical endurance: ≥ 5 000 000 cycles

PACKAGE CONTENTS

- CMN-URM-4450 relay module
- Datasheet / user manual
- Packaging

COMMUNICATION INTERFACE

- Interface: RS-485
- Protocol: Modbus RTU
- Transmission speed: 9 600 - 115 200 bps
- Device address: 1-250
- Line protection: built-in (TVS / ESD)
- Network topology: daisy chain

MODBUS FUNCTIONS

- Power input status reading
- Relay output status reading
- Relay control (ON/OFF)
- Group control of loads
- Communication diagnostics and control

Supported Modbus Functions

- 01 — Read Coils
- 02 — Read Discrete Inputs
- 05 — Write Single Coil
- 15 — Write Multiple Coils

INDICATION

- Power LED
- RS-485 activity LED
- Input status indicator
- Relay status indicator

FORM FACTOR

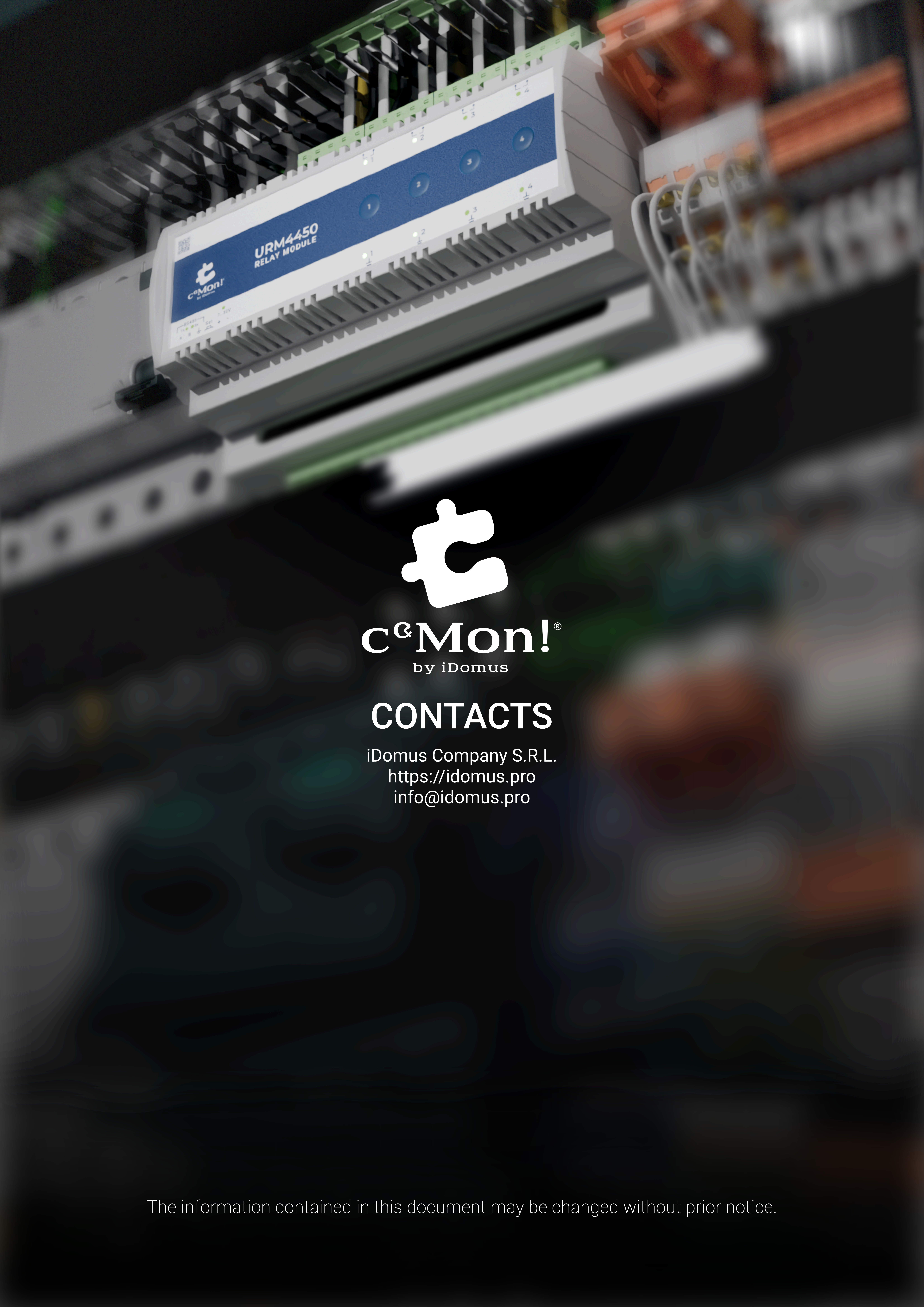
- Enclosure: PC/ABS self-extinguishing
- Mounting: 35 mm DIN rail
- Terminals: screw-type (power and command)
- Protection rating: IP20

OPERATIONAL CONDITIONS

- Operating temperature: –20...+60 °C
- Storage temperature: –40...+85 °C
- Humidity: up to 92%, without condensation

Model designation CMN-URM-8850

URM	Universal Relay Module
4×4	4 power inputs / 4 relays
50	rated relay current up to 50 A



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