

CMN-LDM-88 is an industrial low-voltage PWM dimmer handling 12/24 V DC LED loads and featuring RS-485 interface and Modbus RTU protocol support.

The device is designed for precise dimming and on/off control of LED lighting in automation systems, BMS, smart home installations, and distributed lighting control systems.



precise and smooth PWM
dimming of LED lights



flicker-free
operation



autonomous control of
8 channels



local and wireless
control



integration with BMS
and smart home



energy-efficient
lighting management

FEATURES

In the 8x8 configuration, the module is equipped with eight low-voltage inputs for connecting impulse press-button switches and eight independent PWM channels. This enables flexible control of LED lighting groups with individual brightness levels and operating scenarios.

The dimmer provides smooth, flicker-free brightness regulation, remote control and monitoring via Modbus RTU, high energy efficiency, and easy integration into modern automation systems.

AREAS OF APPLICATION

- ✓ 12/24 V DC LED-lighting
- ✓ Smart Home systems
- ✓ Building management systems (BMS)
- ✓ Architectural and decorative lighting
- ✓ Commercial and public spaces
- ✓ Industrial lighting automation
- ✓ SCADA and centralized control systems

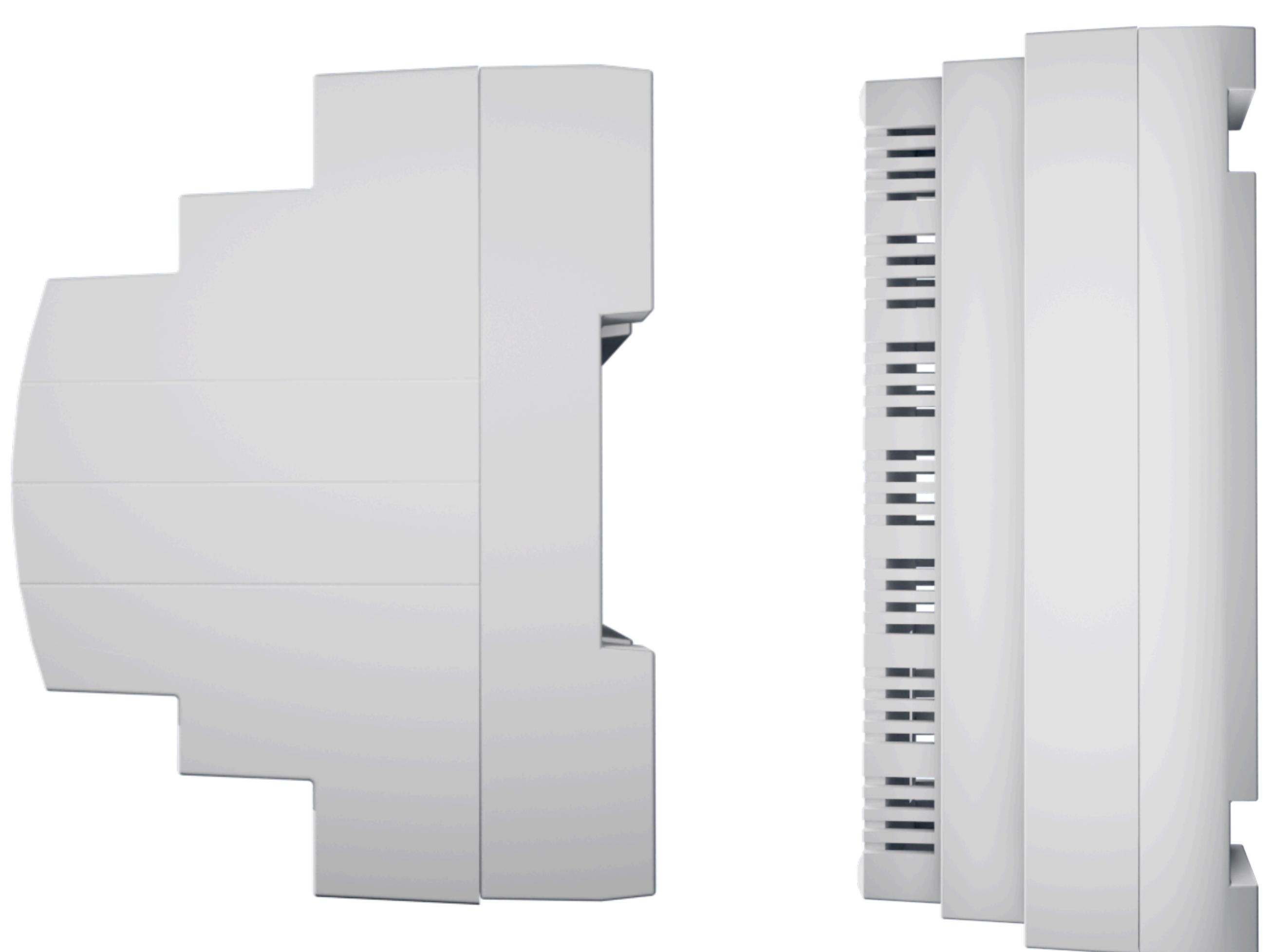
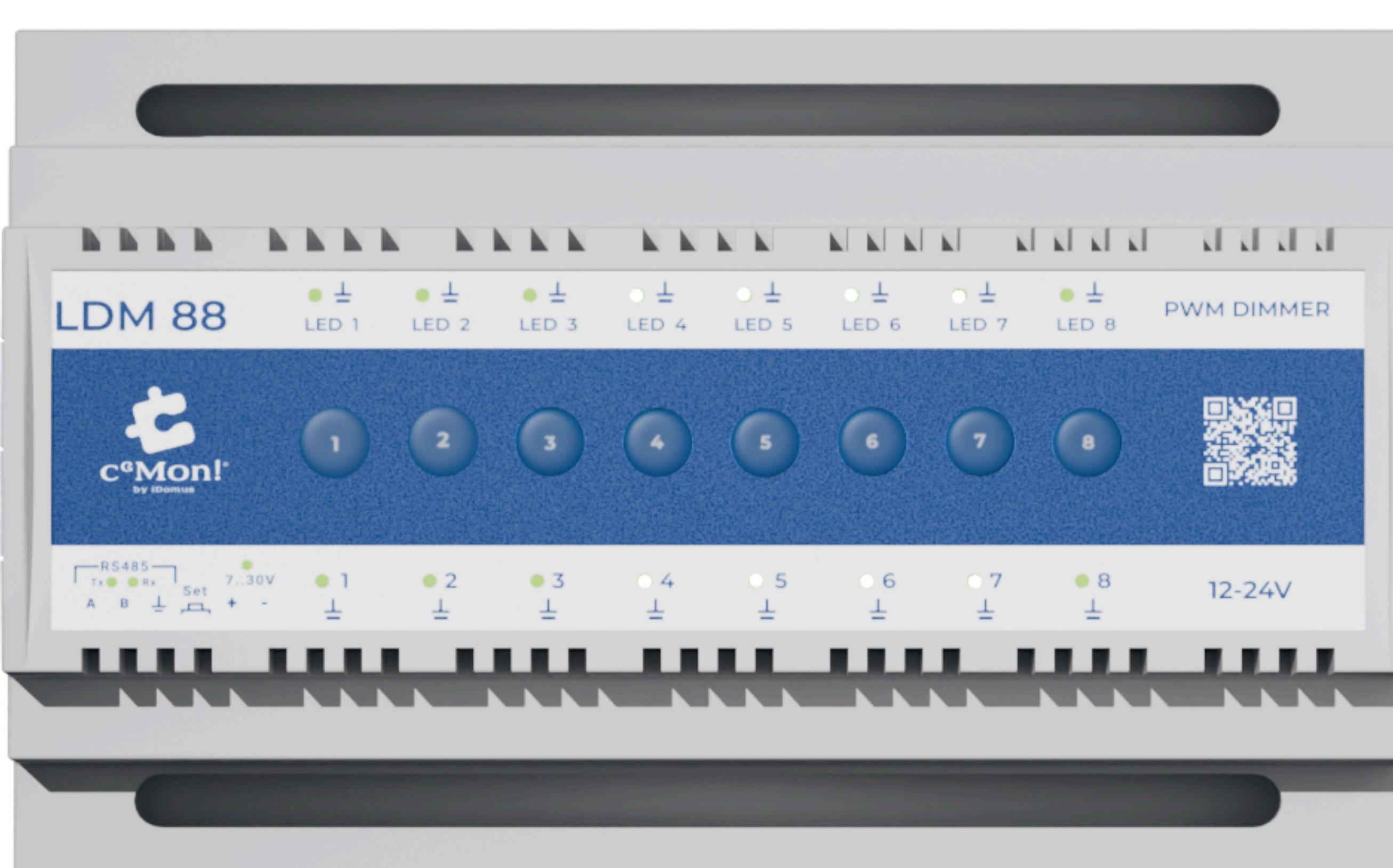


FUNCTIONAL CHARACTERISTICS

Number of inputs	8
Input type	impulse press-button (NO)
Number of outputs	8
Output type	PWM, low-voltage
Channel control	autonomous

DIMENSIONS

Width	~140 mm
Height	~90 mm
Depth	~67 mm
Weight	320 g



COMPATIBLE LOAD TYPES

- 12/24 V LED strips
- LED modules and panels
- PWM-controlled LED fixtures
- Constant-voltage 12/24 V LED drivers

POWER SUPPLY

- Nominal supply voltage: 12–24 V DC
- Power consumption (no load): ≤ 4 W

PWM OUTPUTS (per channel)

- Load operating voltage: 12 / 24 V DC
- Maximum current: up to 5 A
- Maximum power: up to 120 W (24 V)
- PWM frequency: ≥ 50 kHz
- Control resolution: 8–12 bit (programmable)
- Protection: overload and short-circuit

LOW-VOLTAGE INPUTS

- Type: dry contact (press-button)
- Operating modes: short press / long press
- Function: local channel control

INDICATION

- Power LED
- RS-485 activity LED
- PWM-channel status indicators

PACKAGE CONTENTS

- CMN-LDM-88 low-voltage dimmer
- Datasheet / user manual
- Packaging

Model designation CMN-LDM-88

LDM **Low-voltage Dimmer Module**
8x8 **8 inputs / 8 PWM channels**

CONTROL FUNCTIONS

- Channel on / off switching
- Smooth brightness adjustment
- Brightness level setting via Modbus
- Local control via press-buttons
- Last status memory
- Group and scene-based control

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

- Channel status control
- Brightness level control (PWM)
- Reading current levels
- Device diagnostics and status

Supported Modbus Functions

- 03 – Read Holding Registers
- 06 – Write Single Register
- 16 – Write Multiple Registers

FORM FACTOR

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

OPERATIONAL CONDITIONS

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



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