

# Shelly Pro EM-50



## PERFECT FOR SMALL AND MEDIUM BUSINESS OWNERS

If you are a small or medium business owner, you have probably struggled with energy overconsumption. Some machines and appliances are switched on all the time. With Shelly PRO EM 50, you can measure with utmost precision and reduce consumption by turning off load - cold water dispensers, laminating machines, and lighting during the night. The device can also be applied for preventative measurement by monitoring for abnormal behavior of HVAC, air compressors, refrigerator units, and others.

## RENEWABLE ENERGY ECOSYSTEM AT HOME

If you have a PV system at home, Shelly PRO EM 50 can help you measure grid and imported energy from renewable sources. Moreover, it has configurable load control, which allows you to redirect any excess energy generated from renewable sources to electronic devices at your home and optimize your energy consumption.



**Wi-Fi, LAN, and Bluetooth connectivity**  
Simultaneous Ethernet and Wi-Fi usage.



**DIN rail mountable**



**Two measured channels**



**Built-in dry contact switch**



**MQTT, HTTP, WebSocket transports of data**



**TLS 1.2 security**



**Modbus TCP protocol support**



**Embedded configuration and monitoring web interface**



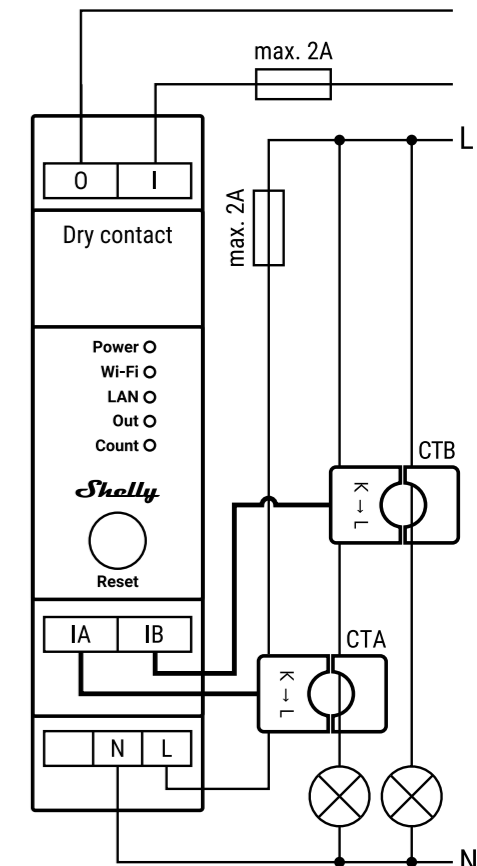
**Real-time clock**

## WHY SHELLY PRO EM-50?

Shelly Pro EM-50 is a DIN rail mountable two-channel, single-phase energy meter. Enhanced with all the gen2 firmware flexibility and LAN connectivity, it provides professional integrators with additional options for end-customer solutions. It can work standalone in a local LAN and/or Wi-Fi network, or it can also be operated through cloud home automation services through MQTT, HTTP, and WebSocket. All inbound connections support TLS.

## TECHNICAL SPECIFICATIONS

<b>Power supply</b>	110-240 VAC, 50/60 Hz
<b>Voltmeters (RMS for each phase)</b>	100 - 260 V
<b>Voltmeters accuracy</b>	±1 %
<b>Ammeters (RMS via CT for each phase and the Neutral)</b>	0 - 50 A
<b>Complies with EU standards:</b>	<ul style="list-style-type: none"> <li>• RED 2014/53/EU</li> <li>• LVD 2014/35/EU</li> <li>• EMC 2014/30/EU</li> <li>• RoHS2 2011/65/EU</li> </ul>
<b>Working temperature</b>	-20°C to 40°C
<b>Max RF power Wi-Fi</b>	15 dBm
<b>Wireless/Wi-Fi Protocol</b>	802.11 b/g/n (2.4 GHz)
<b>Frequency</b>	2400 - 2495 MHz
<b>Operational range Wi-Fi (depending on local conditions)</b>	<ul style="list-style-type: none"> <li>• up to 50 m outdoors</li> <li>• up to 30 m indoors</li> </ul>
<b>Dimensions (HxWxD)</b>	94x19x69 mm



### Legend

#### Device terminals:

- O: Relay output
- I: Relay input
- IA: Current transformer A (CTA) input
- IB: Current transformer B (CTB) input
- N: Neutral terminal
- L: Live (110-240 VAC) terminal

#### Cables:

- N: Neutral cable
- L: Live (110-240 VAC) cable

