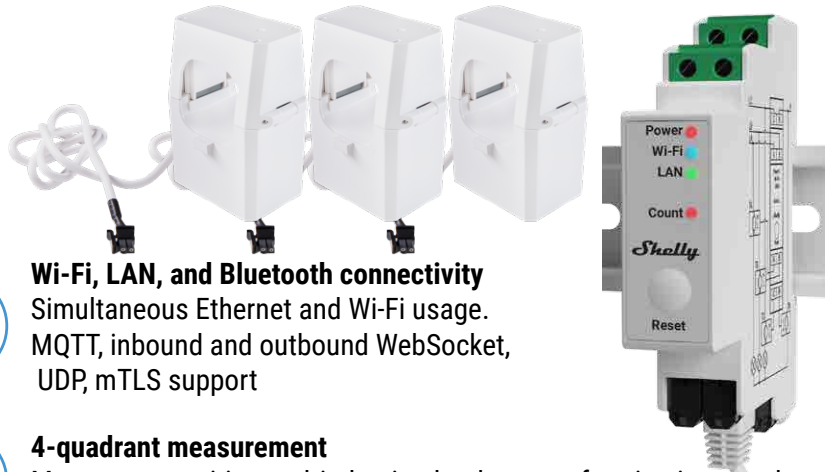# Shelly Pro 3EM-400

INDUSTRIAL INSTALLATIONS

Shelly Pro 3EM-400 brings support for MODBUS for voltage, current, power, and energies. You can accurately sample your energy usage and instantaneous values of voltage, current, and power. Our new firmware platform allows for custom implementation that can report as fast as every 100ms to your infrastructure.

SOLAR PANELS MONITORING AND CONTROL

Keep track of how much energy your solar panels or wind turbines are generating and save effortlessly. Shelly Pro 3EM-400 provides real-time information about the efficiency of the solar and wind energy system, as well as historical data on how much energy has been generated and consumed every minute for the past 60 days.

LOCAL CONTROL

Thanks to Shelly Pro 3EM-400's scripting functionalities and webhooks, you can now easily control other Shelly or Wi-Fi devices on your local network. Use these capabilities to set exact parameters for heating, cooling, or electric vehicle charging based on PV production and have your devices automatically shed power usage. All these work without using a cloud.

Wi-Fi, LAN, and Bluetooth connectivity
Simultaneous Ethernet and Wi-Fi usage. MQTT, inbound and outbound WebSocket, UDP, mTLS support

4-quadrant measurement
Measure capacitive and inductive load types of active imported and exported energies

Accuracy class B (active energy)
Shelly Pro 3EM-400 has a measurement accuracy of 1%

MODBUS support
Allows for easy and fast deployment in existing industrial installations.

Power monitoring
Monitors mono-phase electrical systems with up to 3 points simultaneously. Fast notifications and at least 60 days of 1-minute records storage.

Scripting functionalities
Shelly Pro 3EM-400 fully supports mjS scripting, allowing you to create further features and functionalities.

Enhanced safety
Flame retardant shell (V-0) with internal overtemperature, overpower and overvoltage protection.

Enhanced security
MQTT and WSS support, TLS and custom certificates support for a broad range of use cases.

No hub required
Control directly and without a hub through your smartphone with Shelly Smart Control App.

Highly compatible
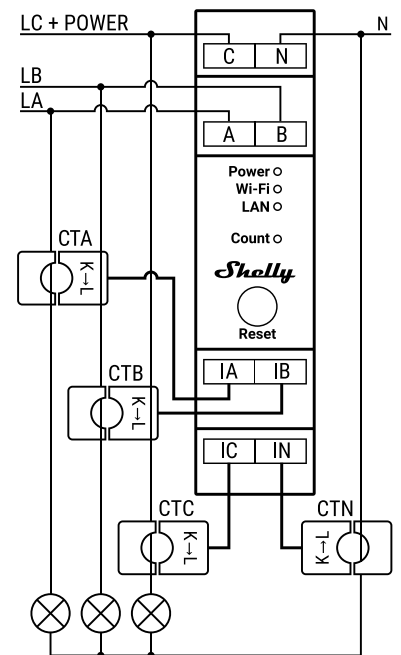Use with your preferred home automation platforms and voice assistants

WHY SHELLY PRO 3EM-400?
NEXT-GENERATION 3-PHASE ENERGY METER

Shelly Pro 3EM-400 is a Wi-Fi-operated DIN-mountable 3-Phase Energy Meter with Wi-Fi, Bluetooth, and LAN connectivity. With active energy measurement accuracy of 1%, Shelly Pro 3EM-400 can be used to monitor the consumption of home appliances, business electric circuits, and office equipment individually. It features 60 days of on-device historical data with a 1-minute resolution for each phase. Additionally, its scripting functionalities allow for the execution of complex scenes and provide broader monitoring abilities.

TECHNICAL SPECIFICATIONS

Power supply	110-240 VAC, 50/60 Hz
Voltmeters (RMS for each phase)	100 - 260 V
Voltmeters accuracy	±1 %
Ammeters (RMS via CT for each phase and the Neutral)	0 - 400 A
Complies with EU standards:	• RED 2014/53/EU • LVD 2014/35/EU • EMC 2014/30/EU • RoHS2 2011/65/EU
Working temperature	-20°C to 40°C / -5°F to 105°F
Max RF power Wi-Fi	15 dBm
Wireless/Wi-Fi Protocol	802.11 b/g/n (2.4 GHz)
Frequency	2400 - 2495 MHz
Operational range Wi-Fi (depending on local conditions)	• Up to 30 m / 100 ft indoors • Up to 50 m / 160 ft outdoors
Dimensions (HxWxD)	94x19x69 mm / 3.70x0.75x2.71 in

Legend
Device terminals:
A: Phase A input
B: Phase B input
C: Phase C and Device power supply input
N: Neutral input
IA: Phase A current transformer (CTA) input
IB: Phase B current transformer (CTB) input
IC: Phase C current transformer (CTC) input
IN: Neutral current transformer (CTN) input
Cables:
LA: Phase A (110-240 VAC)
LB: Phase B (110-240 VAC)
LC: Phase C (110-240 VAC)
N: Neutral cable