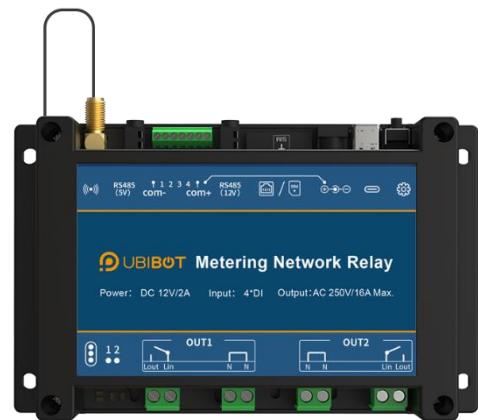


Product Overview

The UbiBot Metering Network Relay NR2 is a versatile metering relay that combines precise energy monitoring with smart device control. It provides accurate power consumption measurements and detailed real-time statistics, enabling users to track electricity usage with confidence. Featuring network-enabled relay functionality, NR2 allows remote switching of connected devices for seamless load management. With support for WiFi, Ethernet, and 4G connectivity, it integrates effortlessly with the UbiBot IoT platform, giving users anytime, anywhere access to energy data and device control via mobile app or PC. NR2 offers a comprehensive, visual, and convenient solution for efficient, fully remote management of electrical systems.



FEATURES

- High Capacity: Each relay supports up to 250V AC at 16A, ideal for high-power devices.
- Dual Independent Relays: Control two relays separately or simultaneously for flexible automation.
- Energy Monitoring: Track real-time power consumption and analyze historical usage.
- Smart Automation: Trigger relays based on time schedules, sensor readings, or custom rules.
- Remote Control: Operate relays anytime, anywhere via the UbiBot IoT platform.
- Local Linkage: Connect external sensors for automatic responses to environmental changes.
- Durable Design: Industrial-grade build ensures reliable performance under harsh conditions.
- Safety Protection: Built-in overcurrent and overvoltage protection for connected devices.
- Data Logging & Reporting: Access historical relay activity and energy consumption reports.
- Flexible Integration: Compatible with a variety of sensors and smart systems for expanded applications.

SPECIFICATIONS

Technical Specifications	
Relay Capacity	250V AC/16A
Durability	Each relay rated for up to 100,000 switching cycles
Digital I/O	2-channel control + 2-channel input (optocoupler isolated)
WiFi Connectivity	2.4 GHz band, supporting channels 1–13
Mobile Network	(Optional) Certain versions support 4G cellular communication; network parameters are subject to the purchased model
Ethernet	(Optional) Certain versions support Ethernet network communication; subject to the purchased model
SIM Card	1 x Standard Nano SIM card (12.3mm x 8.8mm x 0.67mm) (Optional)
Interfaces	USB Type-C ×1, Terminal Block ×1, Relay Outputs ×2, Power Input ×1, RS485 Interfaces x2
Power Supply	DC 12V / 2A
Dimensions	145 × 90 × 40 mm
Operating Environment	Temperature -20°C to 60°C; Humidity 5%–85% RH

Dual Independent Relay Outputs with Flexible Remote and Synchronized Control

The UbiBot® Metering Network Relay NR2 is equipped with two independent relay outputs, facilitating the flexible control of separate load devices via remote synchronized switching or individual point control. Each relay contact supports a maximum of 250V AC at 16A and is rated for a service life of 100,000 cycles, making it a robust solution for diverse load management applications.



High-Precision Energy Metering for Reliable Power Monitoring

The NR2 features built-in metering that tracks voltage, current, power, and cumulative energy consumption. Every kilowatt-hour is accounted for, providing full visibility into your power usage. Combined with the UbiBot App, you can access real-time energy data anytime, anywhere, making power management simpler and more efficient.



Intelligent Control with Multiple Modes

The NR2 metering network relay supports both online remote control and standalone offline operation. Offering multiple online control modes, it provides the flexibility required for smart management and integrates seamlessly into a wide range of automation applications.



Online Control



Time Task



Local Linkage



Pulse On / Off

Smart Sensor Data Collection and Automated Device Linkage

The NR2 supports RS485 sensors and digital input acquisition, automatically uploading data to the platform at scheduled intervals. Devices can be controlled directly through the platform or linked with other devices within the platform, allowing seamless integration into complex applications while ensuring safe, efficient, and fully automated responses without the need for manual intervention.



Supports External Sensors



Air Temperature & Humidity Sensor

Measurement Range:
Temperature -40°C to 80°C;
Humidity 0–100% RH
Accuracy: Temperature $\pm 0.2^\circ\text{C}$ /
 $\pm 0.15^\circ\text{C}$; Humidity $\pm 2\%$ RH /
 $\pm 1.5\%$ RH



PT 100 Industrial-grade Temperature Sensor

Measurement Range: -200–600°C
Lead Wire Length: 3 m
Tail Wire Temperature Range: -30–200°C



Soil Temperature and Moisture Sensor

Temperature Range: -40–85°C
Humidity Range: 0–100% RH



External CO2 Sensor

Measurement Range: 400–10000 ppm / 400–2500 ppm
Accuracy: $\pm (30 \text{ ppm} + 3\%)$ / $\pm (40 \text{ ppm} + 3\%)$ (within effective range)



Wind Speed Sensor

Measurement Range: 0–30 m/s
Accuracy: $\pm (0.3 + 0.03v)$ m/s



Vibration Sensor

Measuring Range: Maximum vibration value 0–1000
Maximum Current: 306mA
Working Environment: -40–60°C, 0%–80%RH



Soil EC & Temperature & Moisture Sensor

EC Range: 0–20000 $\mu\text{S}/\text{cm}$
Resolution: 1 $\mu\text{S}/\text{cm}$
Accuracy: $\pm 3\%$ F.S. (@0–10000 $\mu\text{S}/\text{cm}$), $\pm 5\%$ F.S. (10000–20000 $\mu\text{S}/\text{cm}$)



Soil PH Sensor

Measurement Range: 3–9 pH
Accuracy: ± 0.3 pH

Supports External Sensors


H2S Sensor

Measurement Range: 0–50 ppm (optional 0–100 ppm)
Accuracy: $\pm 3\%$ F.S


Smoke Alarm

Operating voltage: DC 9–36V
Operating current: $\leq 20\text{mA}$
Alarm sound: $\geq 85\text{dB}/3\text{m}$


Leaf Temperature & Humidity Sensor

Temperature Range: -40–80°C
Resolution: Temperature 0.1°C; Humidity 0.1% RH


Ethylene & Oxygen Sensor

Oxygen Range: 0–25% Vol;
Resolution: 0.1 Vol
Ethylene Range: 0–20 ppm;
Resolution: 0.1 ppm


Total Solar Radiation Sensor

Measurement Range: 0–2000 W/m²
Resolution: 1 W/m²
Accuracy: $\pm 5\%$


Wind Direction Sensor

Measurement Range: 0–359.9°
Accuracy: $\pm 1^\circ$


Rainfall Sensor

Rainfall Intensity Range: 0–4 mm/min
Resolution: 0.2 mm


Water Immersion Sensor

Power Supply: DC 10–30V
Detectable Object: tap water


Light Sensor

Measurement Range:
0–200 klx
Accuracy: $\pm 5\%$


NH3 Sensor

Measurement Range: 0–100 ppm / 0–500 ppm
Accuracy: 0–100 ppm: $\pm 8\%$;
0–500 ppm: $\pm 5\%$ F.S


Atmospheric Pressure Sensor

Measurement Range: 26–126 kPa
Accuracy: $\pm 50\text{ Pa}$


AI-RS485 Converter

Power Supply: DC 9–36V
Accuracy: 0.1%
Number of Interfaces: 4 channels single terminal

* Supported in the Advanced Edition

UbiBot Cloud IoT Platform



Data Management: Easily manage all your smartwatch health data in one place with UbiBot's cloud platform. Add and connect multiple devices to a single UbiBot account, making it simple to track and monitor your health metrics.

Free App & Web Console: Access the UbiBot platform through our free app and web console. Enjoy a user-friendly interface with powerful features that provide in-depth analysis of your health data. Effortlessly track trends, compare metrics, and gain valuable insights.

Real-Time Health Alerts: Stay on top of your health with UbiBot's fully customizable alert system. Receive real-time notifications via App, Email, SMS, Voice call, Alexa, LINE Notify, WhatsApp, Command, HTTP whenever any health metric (e.g., heart rate, oxygen levels, body temperature) falls outside of your preset range. Stay informed and take action immediately if necessary.

Health Data Analysis: Analyze your health data to track trends, compare metrics, and gain personalized insights for better health decisions.

Automated Report: Automatic data reports generated in CSV, PDF, and HTML formats for easy tracking and analysis of your health metrics.