

# NIR-32-EU

## IR Reader



The infrared meter reader monitors electricity meter system in a long-term and effective manner by collecting working status and electricity consumption of infrared electricity meter. It connects to a single infrared electricity meter via an "infrared interface", receives various consumption data from the meter, and transmits the data to local or remote software platforms through WiFi. The real-time status and historical data of the electricity meter can be presented in form of charts, which are intuitive and easy to understand. This allows users to monitor the electricity meter system at anytime and anywhere, greatly simplifying maintenance work.

## I Applicable Scenarios

Suitable for household users with infrared electricity meters in Europe.

- No manual meter reading required, avoiding problems of inaccurate data and complex operations.
- Local API interface calling, obtaining consumption data quickly and access Home Energy Management System efficiently.
- Real time electricity meter data monitoring, realizing smart energy management.
- Accurate consumption data analysis, achieving revenue increasement and electricity cost control.

## I Features

- Compact size, easy to install.
- Four-hole design to adapt to different electricity meter structures.
- Standard Bluetooth for fast network configuration with high success rate.
- Standard LoRa technology for easy remote relay communication.
- Optional RS485 interface for local data reading.
- Seamless communication with various smart electricity meter models.
- Compliant with EN 18031 IoT security standard.

| Communication Parameters                        |                                                                                                                                                                                                                                                                    |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remote Communication                            | WiFi                                                                                                                                                                                                                                                               |
| WiFi Standard                                   | 802.11 b/g/n                                                                                                                                                                                                                                                       |
| WiFi Frequency Range                            | 2.412GHz-2.484GHz                                                                                                                                                                                                                                                  |
| WiFi Transmission Power                         | 802.11b: +20.5dBm (@1Mbps)<br>802.11b: +20.5dBm (@11Mbps)<br>802.11g: +20.0dBm (@6Mbps)<br>802.11g: +18.0dBm (@54Mbps)<br>802.11n: +19.0dBm (@HT20, MCS0)<br>802.11n: +17.5dBm (@HT20, MCS7)<br>802.11n: +18.5dBm (@HT40, MCS0)<br>802.11n: +17.0dBm (@HT40, MCS7) |
| Bluetooth Standard                              | BLE 5.0                                                                                                                                                                                                                                                            |
| Bluetooth Operating Frequency                   | 2.402GHz-2.480GHz                                                                                                                                                                                                                                                  |
| Bluetooth Transmission Power                    | Max 20dBm                                                                                                                                                                                                                                                          |
| LoRa Operating Frequency Band                   | 864MHz~928MHz                                                                                                                                                                                                                                                      |
| LoRa Transmission Power                         | Max 22dBm                                                                                                                                                                                                                                                          |
| Antenna                                         | Bluetooth/WiFi on-board antenna<br>LoRa on-board antenna                                                                                                                                                                                                           |
| Hardware Parameters                             |                                                                                                                                                                                                                                                                    |
| Installation Method                             | Magnetic suction type: vertical installation, horizontal installation                                                                                                                                                                                              |
| Product Size                                    | 34mmx50mmx28.3mm (excluding power cable)                                                                                                                                                                                                                           |
| Power Interface                                 | USB-C                                                                                                                                                                                                                                                              |
| Data Interface                                  | Infrared transceiver @ wavelength 940nm                                                                                                                                                                                                                            |
| Communication Distance                          | ≤10mm±1mm                                                                                                                                                                                                                                                          |
| Data Storage                                    | 8MB                                                                                                                                                                                                                                                                |
| Operating Voltage                               | DC 5.0V±5%                                                                                                                                                                                                                                                         |
| Operating Power                                 | <3W                                                                                                                                                                                                                                                                |
| Indicator Lights                                | One for electricity meter connection status - infrared green light<br>One for server connection status - WiFi blue light                                                                                                                                           |
| Button                                          | One reset button                                                                                                                                                                                                                                                   |
| Operating Temperature                           | -20°C~+50°C                                                                                                                                                                                                                                                        |
| Operating Humidity                              | 10%-70% relative humidity, no condensation                                                                                                                                                                                                                         |
| Storage Temperature                             | -25°C~+60°C                                                                                                                                                                                                                                                        |
| Storage Humidity                                | <40%                                                                                                                                                                                                                                                               |
| Software Parameters                             |                                                                                                                                                                                                                                                                    |
| Number of Connected Infrared Electricity Meters | 1 unit                                                                                                                                                                                                                                                             |
| Data Collection Interval                        | SML protocol: 2s; OBSI protocol: 30s~2min                                                                                                                                                                                                                          |
| User Configuration                              | Local configuration, remote configuration                                                                                                                                                                                                                          |
| Firmware Upgrade                                | Local upgrade, remote upgrade                                                                                                                                                                                                                                      |
| Restart Mechanism                               | Software watchdog, hardware watchdog                                                                                                                                                                                                                               |
| Others                                          | Real-time control, break point resume                                                                                                                                                                                                                              |

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