# NJ-IOT-500

## Product use manual of
## Smart cloud box--smart lamp pole

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# I. Product function and features

The NJ-IOT-500 is a smart gateway designed for smart end users to use devices remotely the demand of intelligent control and a new remote central control equipment for outdoor, can be used 2G / 3G / 4G networks, Ethernet networks and WIFI networks provide users with long-distance big data transmission functions.

The product integrates a 2.4 GHz IEEE 802.11b/g/n WI-FI transceiver and an integrated MT7688 manager, 128MB 16-bit DDR2 memory, SPI 128Mbit flash memory, 4 high-speed Ethernet ports

physical layer (Ethernet PHY), HNAT memory accelerator, and multiple common inputs and input outputs (I/O), With Linux (Ubuntu14.04) as the software support platform, simultaneously with 1 RS485,4 Ethernet LAN, 1 Ethernet WAN and 2 WIFI interfaces, 1 channel AC220V / 10A input, 1 channel DC12V / 3A output, which can simultaneously connect multiple Ethernet devices, serial port devices, WIFI devices, etc., realize the transparent data transmission and routing function.

The NJ-IOT-500 is designed to fully consider the versatility and stability, based on the Internet of Things technology architecture it can

meet the data collection and intelligent control of intelligent terminal devices, and have a certain degree of expansion exhibition, convenient in the existing hardware to achieve new equipment under the access.

● supports WIFI, 4G, and gigabit network ports to access Ethernet in various ways.

● interface has two-layer networking capability, which is suitable for ring and interactive chain networking scenarios, and is insufficient in network ports increase the number of network ports by increasing the exchange of communication components.

● supports three networks, compatible with 2G \ 3G \ 4G network of Telecom, Mobile and Unicom.

● supports Micro sim cards with anti-line mechanism.

● wired and wireless mutual backup, to ensure the normal and stable transmission of data, intelligent switching network backup, network disconnection the data is stored offline, wait for the network to recover after the data can continue to pass.

● powerful WIFI function, support AP, STA, Repeater multiple modes free switch.

● protocol is rich, easy docking, transparent data transmission, MODBUS RTU to TCP / IP, MQTT.

● supports active polling of different address segment MODBUS devices.

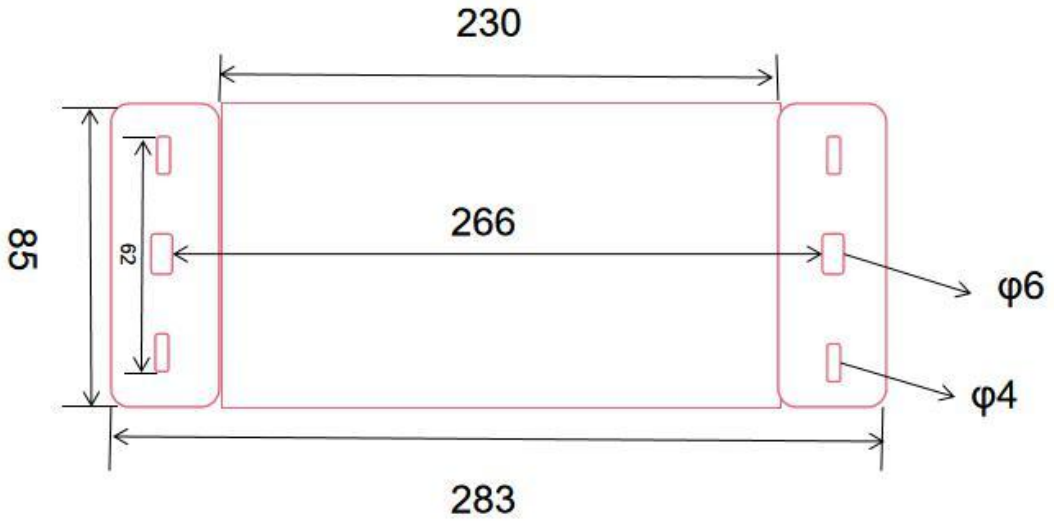
● uses an industrial-grade high-speed 4G wireless communication module with a 32-bit high-sex processor and information collected at the front end

More timeliness and accuracy.

● industrial design, aluminum alloy shell, in the face of various outdoor environment, industrial environment and strong interference, can be stable 7X24 hours without work.

# II. Appearance size

Length, width and height =283mm * 85mm * 42mm




# III. Technical parameter

| specifications | parameter | remarks |
|---|---|---|
| model | NJ-IOT-500 | Cloud box (smart lamp pole) |
| Network system | 1 rode WAN 口 | 10 / 100 / 1000 Adaptive |
| | 4G | 4G/3G/2GFull netcom |
| power input | range | 110~265V/30A |
| classification of waterproof | IP65 | IP65 |
| size | Length, width and height (mm) | 260x92x43 |

| | | |
|---|---|---|
| working temperature | -40~80℃ | -40~80℃ |
| 4G | service frequency | FDD LTE：B1/B3 TDD LTE：B38/B39/B40/B41 TDSCDMA： B34/B39 CDMA2000 1x/EVDO：BC0 GSM：900/1800MHz |
| | transmission speed | LTE-FDD：Max 100Mbps(DL) Max 50Mbps(UL) LTE-TDD：Max 61Mbps(DL) Max 18Mbps(UL) SCDMA-TD：Max 4.2Mbps(DL) Max 2.2Mbps(UL) CDMA：Max 5.4Mbps(DL) Max 14.7Mbps(UL) GPRS：Max 85.6Kbps(DL) Max 85.6Kbps(UL) |
| | transmitting power | FDD LTE：23dbm±2db TDD LTE：23dbm±2db TDSCDMA : 24dbm +1/-3db GSM 900Mhz：33dbm ±2dbm GSM 1800Mhz：30dbm±2dbm |
| | receiving sensitivity | FDD B1: -97dBm(20M) FDD B3: -96dBm(20M) TDD B38: -94dBm(20M) TDD B39: -94dBm(20M) TDD B40: -94dBm(20M) TDD B41: -93.5dBm(20M) TDSCDMA B34: -110dbm TDSCDMA B39: -110dbm CDMA BC0: -108dbm GSM 900: -110dBm GSM 1800: -109dBm |
| WIFI | frequency range | support IEEE802.11b/g/n |
| | tape width | highest300Mbps |
| | power | 20dbm |
| system | processor | Integrated MT7688 processor |
| | internal storage | 128MB 16-bit DDR2 |
| | internal storage | SPI 128Mbit |

# IV. Communication form

## 4.1. Antenna performance parameters

| | |
|---|---|
| transmitting power | 23dBm±2dB |
| sensitivity | -129dBm |
| antenna gain | 3dB |
| Antenna station wave | less than or equal to 2.0 |
| Antenna type | outlay |

## 4.2. Communication mode

| | NJ-IoT500 |
|---|---|
| frequency range | 850MHZ(China Telecommunications) |
| communication mode | Ethernet |
| protocol | UDP/TCP |

# V. Scope of application

| | |
|---|---|
| usage scenario | Smart street lamp built-in gateway |
| | Industrial park, campus, commercial residential buildings, road and municipal smart street lamp |
| | Ports, stadium, airport |

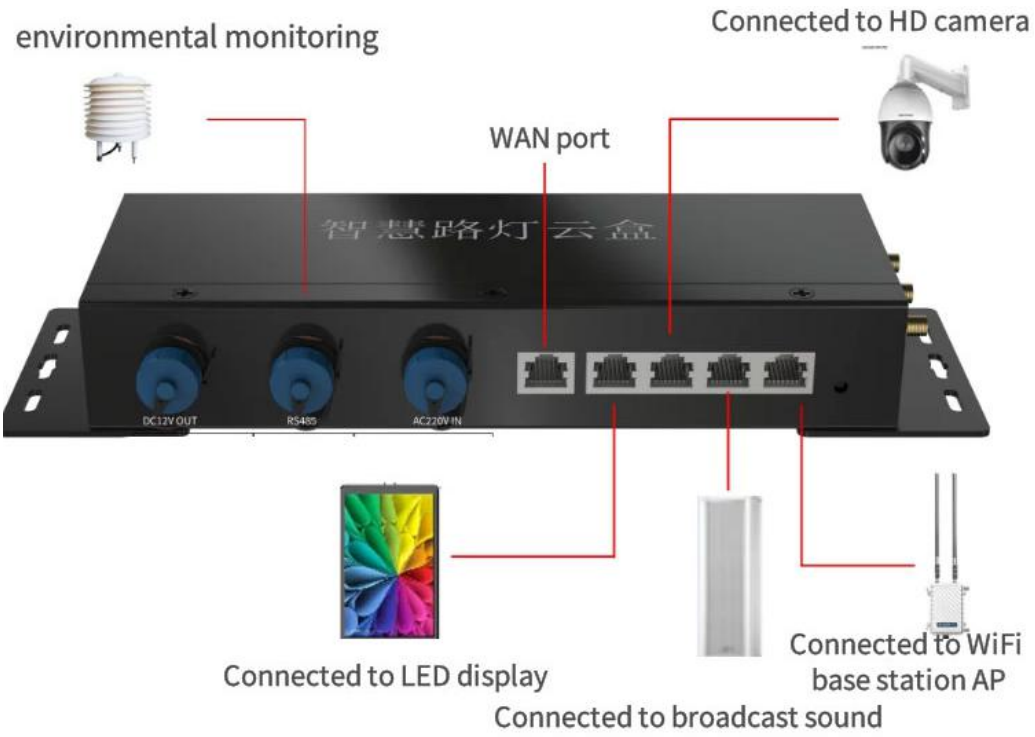
# VI. installation instructions

Multiple installation methods are supported, with 2 typical installation methods:

Wiring errors and rain immersion should be avoided when installing and placing the gateway.Antenna (top cover) should be avoided from directly touching with metal (including shielding function items), and at least 4cm should be reserved over the antenna.In addition, installation should be firmly, and avoid line scratches and insulation damage.

1、Installation of lamp head

# VII. Wiring mode




# VIII. work environment

| | |
|---|---|
| temperature | -40~85° |
| relative humidity | relative humidity<95% |
| classification of waterproof | IP65 |

# IX. Transportation and storage considerations

| | |
|---|---|
| Storage temperature range | temperature-40~85° |
| Storage environment | Avoid damp and water environment |
| Precautions for transportation | No falling from high altitude, and excessive accumulation is strictly prohibited |

# X. Technical support

www.xmnengjia.com