

NJ-iot600

5G RedCap Smart Gateway



Version Revision

The revision log accumulates notes for each document update

Number	Document Version	Revisionist	Release Date	Modification instructions
1	V1.0.0	Lu Tingzhen	2021.02.15	Changing the picture

Xiamen Nengjia New Energy Technology Co.

www.xmnengjia.com

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I. Product Functional Features

The NJ-iot600 smart gateway adopts 5G RedCap technology for intelligent data collection and is equipped with rich industry application interfaces. It meets the needs of smart terminal data collection and intelligent control, with scalability. It can realize long-distance large data transmission, cloud connection, and power supply output control through 5G and Ethernet networks. It has strong edge computing capabilities and reserved interfaces to support secondary development.

The product integrates a 2.4GHz IEEE 802.11b/g/n Wi-Fi transceiver, MediaTek MT7621AT dual-core 880MHz CPU, 4GB EMMC flash memory, 4 high-speed Ethernet port physical layers, HNAT memory accelerator, and multiple general-purpose input/outputs. It uses Linux as the software support platform and provides 8*RS485 interfaces, 4 Ethernet LANs, 1 Ethernet WAN, 1 channel of AC12V output, 2 sets of RS232 interfaces, 2 sets of DI/DO ports, and 2 sets of 5G antennas. It can connect various Ethernet devices, serial devices, Wi-Fi devices, etc., to realize transparent data transmission and routing functions.

The main performance features of the smart gateway are as follows:

- Supports 5G RedCap, with flexible deployment and stable and strong signals, providing high-speed and low-latency network connections, suitable for various scenarios with high network requirements.
- Supports multiple Ethernet access methods: Wi-Fi, 5G, Gigabit Ethernet ports, and Gigabit fiber ports.
- Equipped with rich interfaces such as RS485, RS232 serial ports, and DI/DO, meeting the needs of different application scenarios.
- 1 channel of DC 12V power output, which is convenient and reliable.
- Equipped with 2 fiber interfaces and has Layer 2 networking capabilities, suitable for ring and interactive chain networking scenarios. When network ports are insufficient, the number of network ports can be increased by adding switching communication components.
- Rich protocols, easy to interface with, supporting transparent data

transmission, MODBUS RTU to TCP/IP, MQTT, and supporting secondary customization and development.

- Intelligently collects data from various devices, realizes real-time data transmission and analysis, and provides a basis for decision-making.
- Supports Micro SIM cards and adopts an anti-dropping mechanism, suitable for various complex application environments.
- Wired and wireless backup each other to ensure normal and stable data transmission, with intelligent network backup switching. In case of network disconnection, data is stored offline, and data can be retransmitted after the network is restored.
- Powerful Wi-Fi function, supporting free switching between AP, STA, and Repeater modes.
- Supports active polling of MODBUS devices in different address segments, making operations easier.
- Industrial design with an aluminum alloy shell, capable of stable 7x24-hour uninterrupted operation in various outdoor environments, industrial environments, and strong interference.

li. Appearance Dimensions

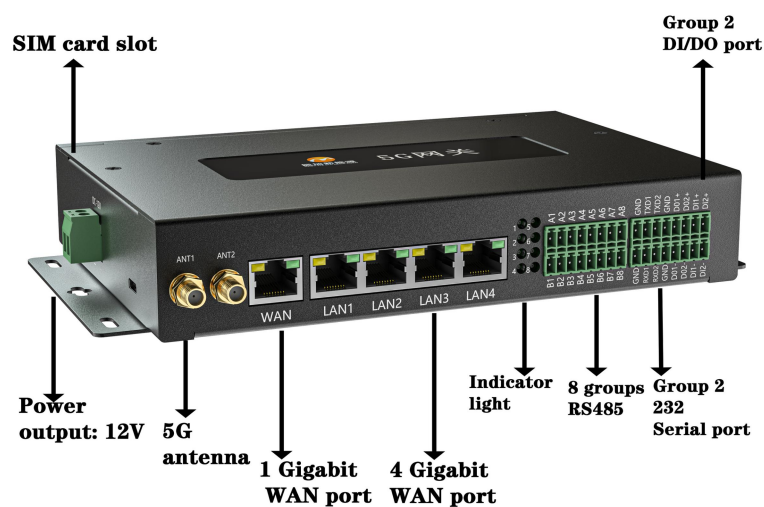


Length × Width × Height = 150mm × 120mm × 36mm

iii. Technical Parameters

Specification	Parameter	Remarks
Model	NJ-iot600	Smart Gateway
Sensors	Temperature sensor, humidity sensor	Built-in
Network Standards	1 WAN port	10/100/1000 adaptive
	4 LAN ports	10/100/1000 adaptive
	5G	
Serial Ports	8 sets of RS485	
	2 sets of RS232	
	2 sets of DI/DO ports	
Power Input	Range	12V/3A
Power Output	1 channel of DC12V	
Protection Grade	IP65	IP65
Dimensions	Length × Width × Height (mm)	150mm × 120mm × 36mm
Temperature	Storage temperature: -40℃ ~ 85℃ Operating temperature: -25℃ ~ 70℃	Storage temperature: -40℃ ~ 85℃ Operating temperature: -25℃ ~ 70℃
5G	Operating frequency	FDD LTE: B1/B3 TDD LTE: B38/B39/B40/B41 TDSCDMA: B34/B39 CDMA2000 1x/EVDO: BC0 GSM: 900/1800MHz
	Transmission rate	LTE-FDD: Max 100Mbps(DL) Max
Mobile communication technology	Transmission rate	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)
	Transmit power	FDD LTE: 23dbm±2db TDD LTE: 23dbm±2db TDSCDMA : 24dbm +1/-3db GSM 900Mhz: 33dbm±2dbm GSM 1800Mhz: 30dbm±2dbm
	Receive sensitivity	23dbm±2db 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 band	Supports IEEE802.11b/g/n
	Bandwidth	Up to 300Mbps
	Power	20dbm
System	Processor CPU	Marvell 88F3720 ARM A53 dual-core 1Ghz
	Memory	1GB
	Flash	4GB EMMC



Interface introduction diagram

IV. Communication Parameters

1. Antenna Performance Parameters

Transmit Power	23dBm±2dB
Sensitivity	-129dBm
Antenna Gain	3dB
Antenna VSWR	≤2.0
Antenna Type	External

2. Communication Modes

Product Model	NJ-iot600
Frequency Band	850MHz
Communication Method	Ethernet/5G
Communication Protocol	MQTT, TCP

V. Technical Support

Guangming System Website: <https://gm.xmnengjia.com>



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