

NT-L series IoT M2M gateway



Overview

For acquiring the remote operating parameters and process management, NT-L series IOT M2M Gateway help machine to access internet via GPRS/4G/ and establish TCP/IP connection with server.

NT-L Series can be widely used in industrial automatic control, base station / computer room monitoring, environmental monitoring, water conservancy project, power industries, agriculture, etc.



Basic Features

1. RS485 to GPRS/4G/Wi-Fi to server

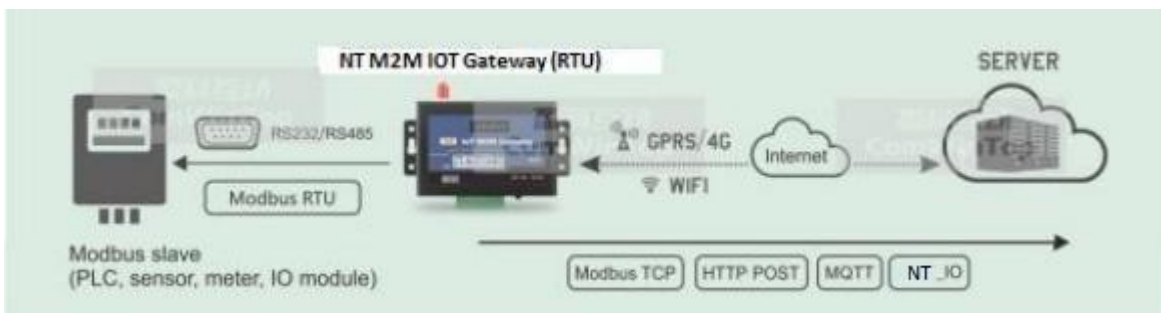
Mode A: Two-way data transparent forward between RS485 and server

Not change the communication data format

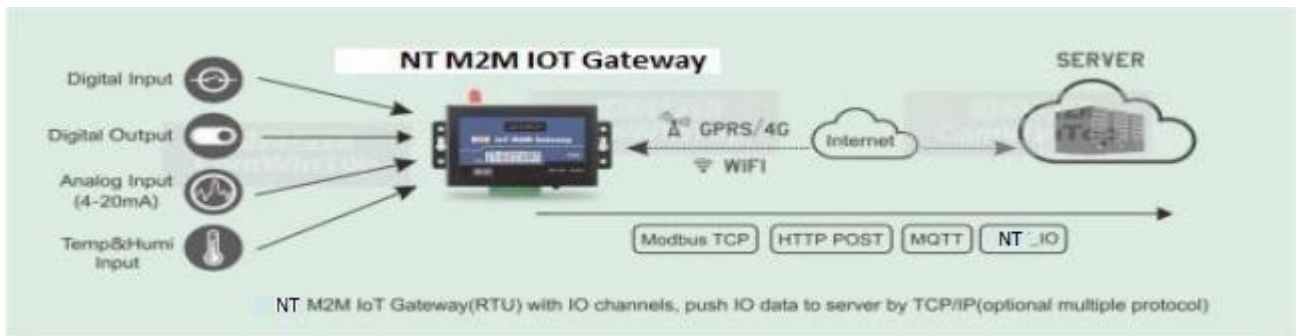


Mode B: Modbus master mode on RS485

NT M2M IoT Gateway(RTU) as modbus master read slave over RS232/RS485, then push slave data to server by TCP/IP(optional multiple protocol)



2. IO to GPRS/4G/Wi-Fi to server



NT-L series model list

Model	Port	Note
NT-L0000S	RS485	
NT-L1101S	1DI+1DO+1TI+RS485	DI: digital input DO: digital output
NT-L1101	1DI+1DO+1TI	AI: analog input
NT-L0111S	1DO+1AI+1TI+RS485	TI: temperature (humidity) input
NT-L0111	1DO+1AI+1TI	Device network Option: 2G, 4G, Wi-Fi
NT-L0040S	4AI+RS485	1. Only choose a network from 2G, 4G, Wi-Fi
NT-L0040	4AI	2. 4G is compatible with 3G and 2G
NT-L2020S	2DI+2AI+RS485	3. Simcard is necessary for GSM, 4G version
NT-L2020	2DI+2AI	4. Wi-Fi version don't need simcard, but without sms features



Port Features

Port	Features
DI (digital input)	<ul style="list-style-type: none"> ● Accept dry contact ● Optional pulse counter input (counting frequency: 0-50Hz)
DO (digital output)	<ul style="list-style-type: none"> ● Transistor output (drive voltage=power supply voltage, Drive current≤500mA) ● Remote or local event activate DO on/off/pulse ● Remember status when power lost
AI (analog input)	<ul style="list-style-type: none"> ● Accept 4-20mA (option: 0-5V), Sampling frequency: 33Hz, 16-bit precision ● Convert signal to actual measure value, support adjustment ● Configurable parameters for signal acquisition, alarm, data communication ● Detect connect or disconnect to alarm
TI (temperature & Humidity input)	<ul style="list-style-type: none"> ● Accept DS18B20 temperature probe (measure -40~80°C) ● Accept AM2301 temperature & humidity probe (measure -40~80°C, 0~100%RH) ● Configurable parameters for alarm (high or lower), data uploading ● Fahrenheit or centigrade units for temperature ● Detect probe connect or disconnect to alarm
RS485	<ul style="list-style-type: none"> ● Two-way data transparent forward mode between RS485 and server ● Modbus master mode on RS485 to read/write 16 data from slaves

Communication Features



Wireless network communication

- TCP/IP connect at most 4 servers(support Static IP address or domain)
- Events(e.g. alarm, timer) trigger upload data
- Communication protocol: Modbus TCP, http post, NT_IO(two-way communication)
- Support two-way data transparent transmission between RS485 to server



SMS Communication
(Wi-Fi version don't support)

- Preset 10 phone numbers (support distribute authority to receive sms)
- Sms alarm when value out of preset normal range
- Editable alarm and recover sms with time stamp
- Query status or value via sms command
- Sms report status or value on schedule
- Remote setting via sms commands
- Can query SIM card balance, sms forward
- support power lost sms alarm and recover sms(works with inside battery)

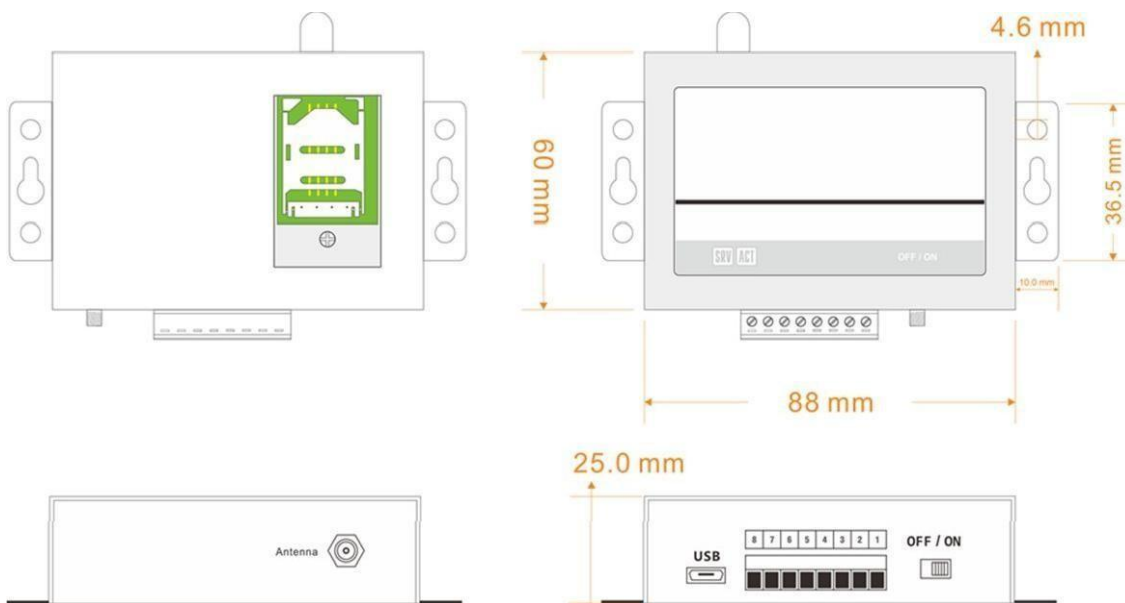
System Features

- Adopted highly integrated industrial 32-bit ARM MCU
- Reliable performance with built-in double watchdog, 24×7 operation
- With signal filtering mechanisms
- Network-reconnect and retransmission to ensure data accurately transmit
- Update RTC automatically or manually, clock source support Sms, NTP, NT IO Server
- Can set multiple timers(second, minute, day, week, month) to upload data
- Provide configure software, visual programming
- Optional inside battery that life is 8-20 hours, cellular module Intelligent sleep when power lost
- Optional OLED displayer

Universal Specifications

Core	MCU	Cortex M3 32-bit ARM
Power	Power supply	9-28V DC (Standard adapter: DC 12V/1.5A)
	Consumption	12V input Max. 150mA/Average 50mA
Network	Optional Network	GSM/GPRS (4 band 850/900/1800/1900Mhz) FDD LTE(4G) Wi-Fi, 802.11 b/g security WEP/WPA/WPA2
Config port	Mini USB	PL2303 chip
Other interface	SIM/UIM	Standard user card interface
	Antenna	Standard SMA female interface (50Ω)
Others	Optional Battery	lithium-polymer, 500mAh/3.7V, life:8-20 hours
Working Environment	temperature	-30℃~+70℃
	humidity	5~95%(non-condensing)
Physical	Terminals	1×8pin 3.81mm spacing, pluggable
	Housing	Providing IP30 protection
	Dimension	88×60×25mm
	Weight	150G

Size Diagram



Package list

gateway×1, antenna×1, USB cable×1, configure Software.