NetPortServer Wireless Din-Rail RS485 to WiFi Device Server with Modbus and MQTT Support

NPS6131A / 6131AI

RS485 Wireless Serial Device Server

The NPS6131A is a compact industrial wireless RS485 device server and IoT gateway, ideal for industrial use. It combines functions like a serial device server, Modbus gateway, MQTT gateway, RS485-to-JSON gateway, and virtual COM port tool. Equipped with RS485, 802.11b/g WiFi, and an RJ45 Ethernet port, it ensures reliable connectivity. The NPS6131AI model adds isolation protection to the RS485 interface. It converts RS485 to WiFi TCP/IP and integrates Modbus RTU to TCP, with WiFi functioning as a client or AP. Its DIN-rail mount design supports easy installation, while the wide power input range (10–30VDC) and Virtual COM tool make it a cost-effective, space-saving solution.

-25~70°C | **Windows 10** | **Windows 11** | **Modbus** | **MQTT**

Features & Benefits

Modbus RTU /Ethernet Gateway

• Integrated Serial Port Server (Serial Device Server)

• Modbus RTU Server/ Client

• Modbus RTU to MQTT Gateway

• Cloud JSON data to Modbus RTU

• TCP Server/ Client, UDP, UDP Multicast

• TCP Server

• Auto-Polling Storage Multi Modbus/TCP Client to Single Modbus RTU Server

• Cloud Modbus/TCP to Modbus RTU Client Access

Modbus Gateway

• Modbus RTU protocol to Modbus/TCP

• RTU/Register Auto Polling and Storage

• Allows Multiple points access same serial device

• Scheduling Polling Modbus RTU register

JSON to Modbus RTU

• CSV JSON Table

• Scheduling Polling Modbus RTU register

• Scheduling Publish in JSON format

• Subscribe support request and Setting Modbus Register

Wireless

•   WiFi AP, WiFi Client, WiFi to Ethernet Router

•   Security WEP/WPA-PSK/WPA2-PSK

•   Data Encryption WEP64/WEP128/TKIP/AES

Modbus RTU to MQTT

• Publish RTU data in JSON format

• Subscribe JSON to Modbus RTU by HTTP Post, HTTP Get

• NTP support for Network Time Synchronize

Serial Device Server

• TCP/UDP Transmission to virtual serial port

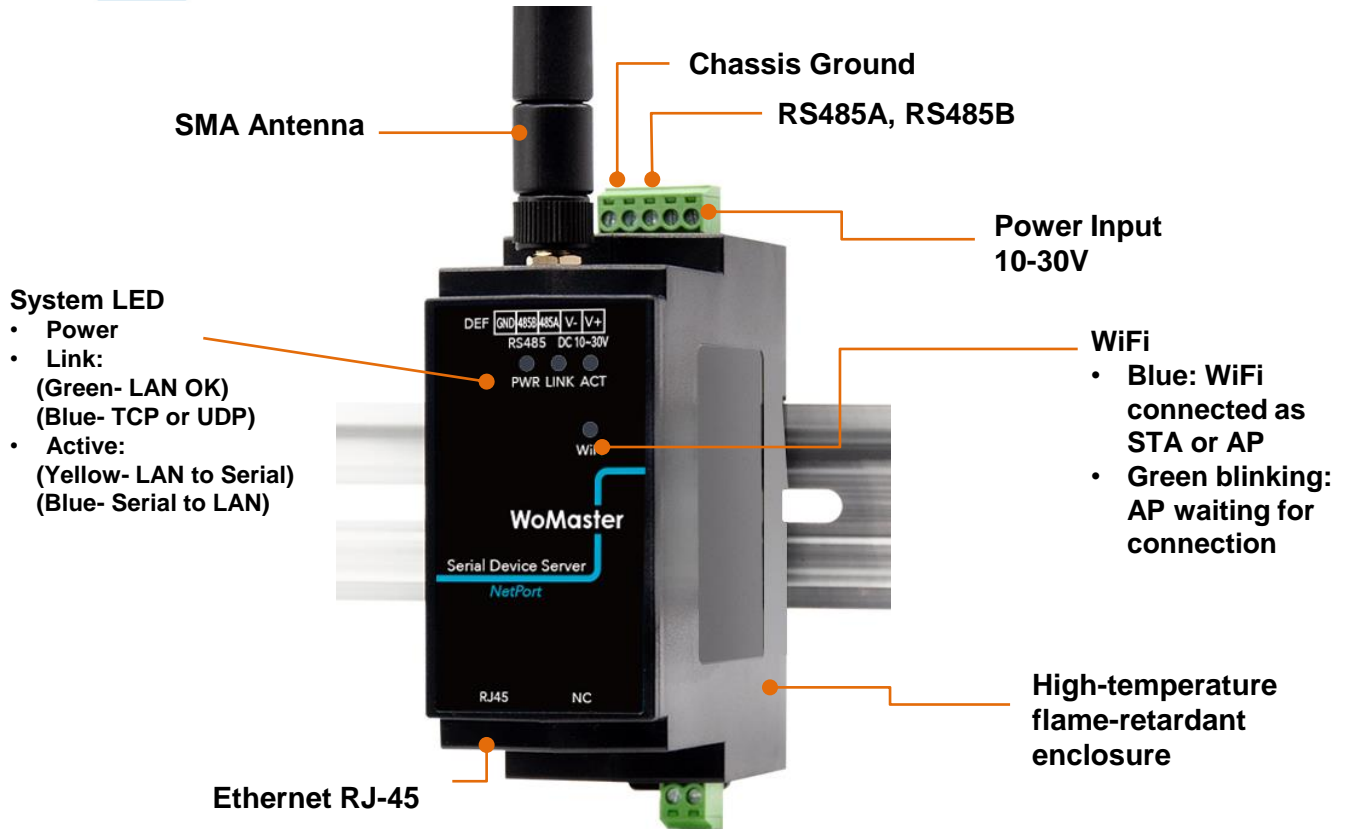• Support Virtual COM Software tool

Serial Interface

• One RS485 terminal with RS485-A, RS485-B, 2-Wires, up to 32 devices

• Baud Rate Support – 300bps ~115200bps, 5-9bits

• Parity Check – None, Odd, Even, Mark, Space

Industrial Application

• DC 10~30V Power Input, Terminal Connector
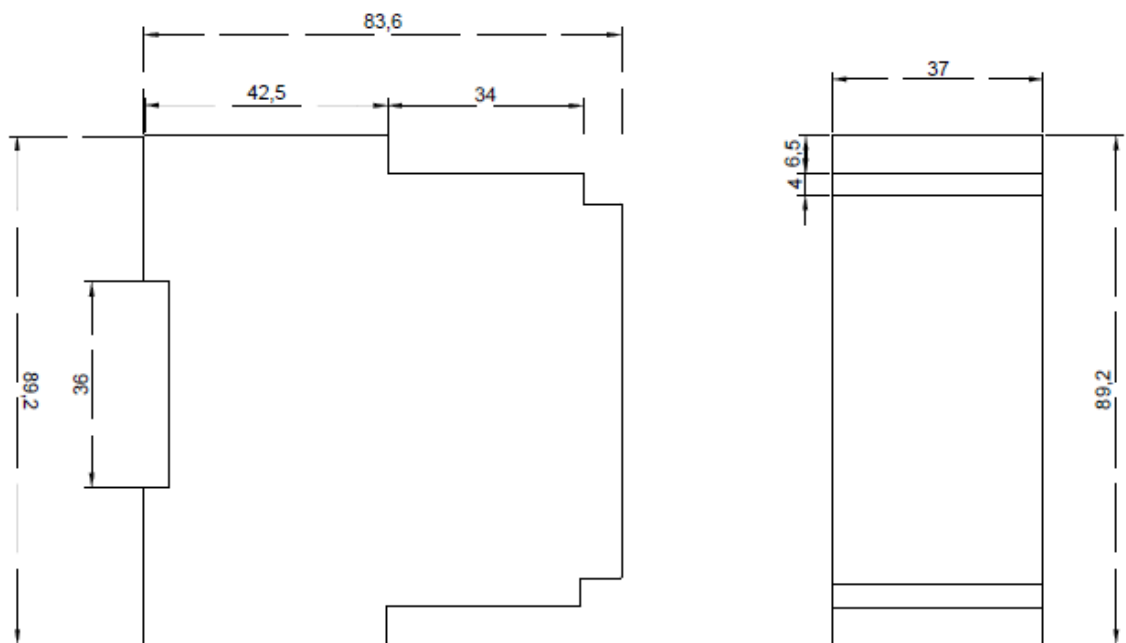
• -25~75˚C / 5~95% RH Environment Operating Temperature

Interfaces

SMA Antenna

Chassis Ground

RS485A, RS485B

Power Input 10-30V

System LED
- Power
- Link:
  (Green- LAN OK)
  (Blue- TCP or UDP)
- Active:
  (Yellow- LAN to Serial)
  (Blue- Serial to LAN)

WiFi
- Blue: WiFi connected as STA or AP
- Green blinking: AP waiting for connection

High-temperature flame-retardant enclosure

Ethernet RJ-45

WoMaster
Serial Device Server
NetPort

DEF | GND 485B 485A V- V+
RS485 DC 10~30V
PWR LINK ACT
Wifi
RJ45 NC

Dimensions

37 (w) x 89.2 (H) x 83.6 (D) (mm)

83,6

42,5   34

89,2   96

37

4   6,5

89,2

Features & Benefits

✓ Virtual COM Device Discovery and Management

✓ Device Setting

Save Setting

✓ Cloud MQTT Configuration

Multi Modbus Host

✓ Web Configuration

⚙️ Specifications ──────────────────────────

Network Interface	
Ethernet	10/100M RJ45
Wireless	802.11b/g WiFi

Serial Interface	
Connector	Screw Terminal Connector, 2-wire RS-485-A / -B Max 32 x RS-485 Nodes, Max 1200 Meter Distance, 120 Ohm Terminal Resistor for > 300Meters
Isolation (NPS6131AI)	1.5KV RS485
Serial Parameters	Baud Rate: 1200~115200bps, Data Bit: 5~9 Parity Check: None, Odd, Even, Space, Mark Flow Control: None Flow Control

Service Mode	
Virtual COM Driver	Windows XP / Windows 7 / Windows 10/ Windows 11
Wireless	STA (Client) / AP
Security	WEP/WPA-PSK/WPA2-PSK
Encryption	WEP64/WEP128/TKIP/AES
TCP	TCP Server for up to 30 TCP clients, or TCP client to up to 7 destination IP
UDP / UDP Multicasting	UDP Polling & Response by UDP packet between stations UDP Multicast to all station by UDP packet
Modbus	Modbus RTU to Modbus TCP Modbus TCP to Modbus RTU
Cloud	MQTT, JSON to Modbus RTU, HTTP Post, HPPT Get

Network Feature	
Protocol	Ethernet, IP, TCP, UDP, HTTP, ARP, ICMP, DHCP, DNS, Modbus
Security	TCP with authentication key
DHCP	DHCP Client for IP and DNS information from DHCP server
NTP	Network Time Precision (NTP)

Management	
System Management	Windows Utility, Virtual COM, WEB Management
Windows DLL Library	Device management function library (Windows DLL dynamic link library) by VC, VB, Delphi, or C++ Builder with functions such as *read* and *write*.

Power Input & Interface Connector	
Power Input	10~30VDC Input, Terminal Block

Wireless	
Frequency	2.412GHz-2.484GHz
Transmit Power	802.11b: +20dBm(Max.); 802.11g: +18dBm(Max.)
Sensitivity	802.11b: -89dBm; 802.11g: -81dBm;
Antenna	SMA External

Mechanical & Installation	
Installation	Din-Rail
Enclosure	Durable, flame-retardant enclosure that withstands up to 100°C without deformation and self-extinguishes when removed from a fire source
IP Protection	IP40
Dimension	87x36x59mm (LxWxH), Packing Box160x123x79mm, 52pcs per Carton
Environmental	
Operation Temperature	-25°C~70°C, 0% ~ 90%, Non-Condensing
Storage Temperature	-40°C~80°C, 0% ~ 90%, Non-Condensing
Reliability & Warranty	
MTBF	> 200,000 Hours
Warranty	3 Year

Ordering Information

Model	Description
NPS6131A	Wireless One port RS485 Device Server, Modbus, MQTT Gateway, 10~30Vdc, antenna included
NPS6131AI	Wireless One port RS485 Isolation Device Server, Modbus, MQTT Gateway, 10~30Vdc, antenna included