

# 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.



### 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

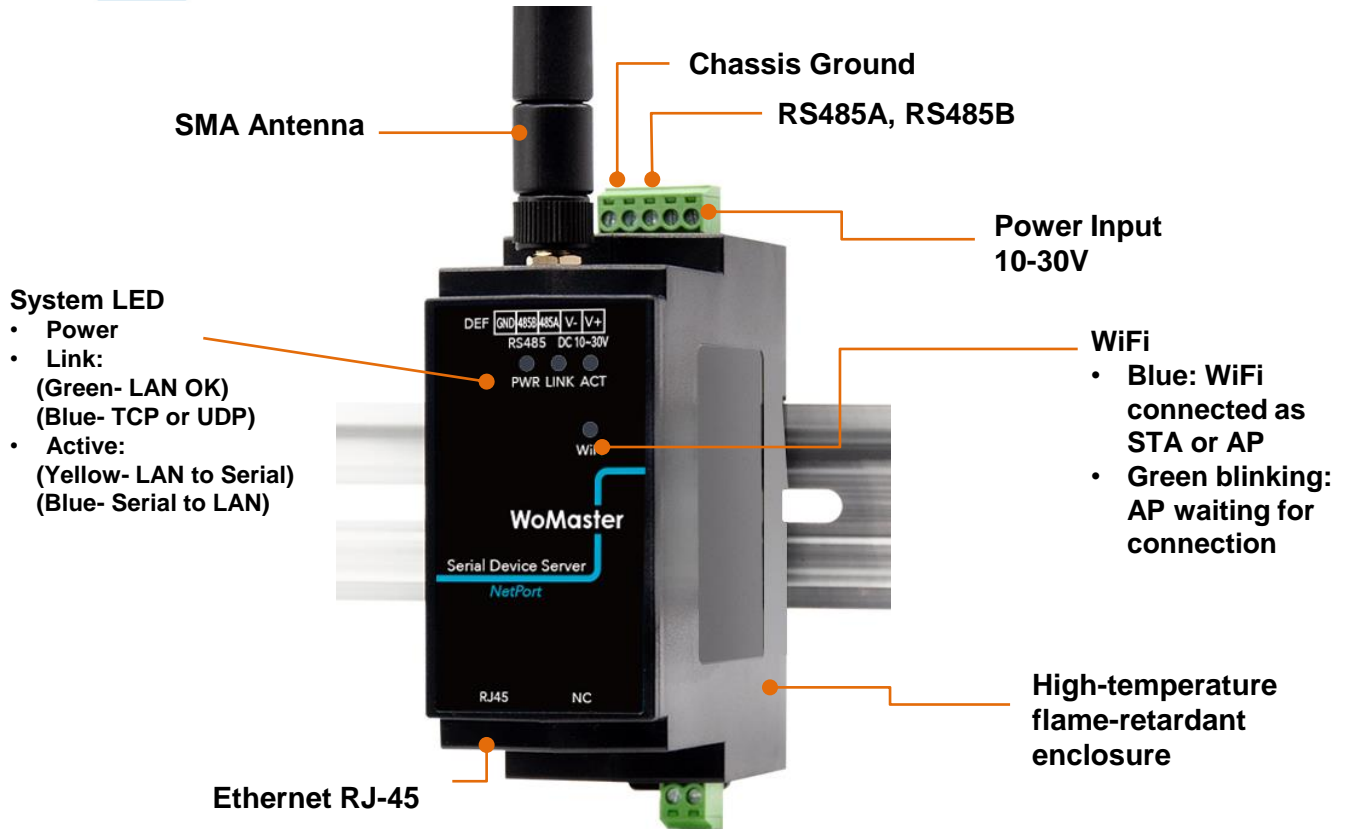
- One RS485 terminal with RS485-A, RS485-B, 2-Wires, up to 32 devices
- Baud Rate Support – 300bps ~115200bps, 5-9bits
- Parity Check – None, Odd, Even, Mark, Space

#### Industrial Application

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

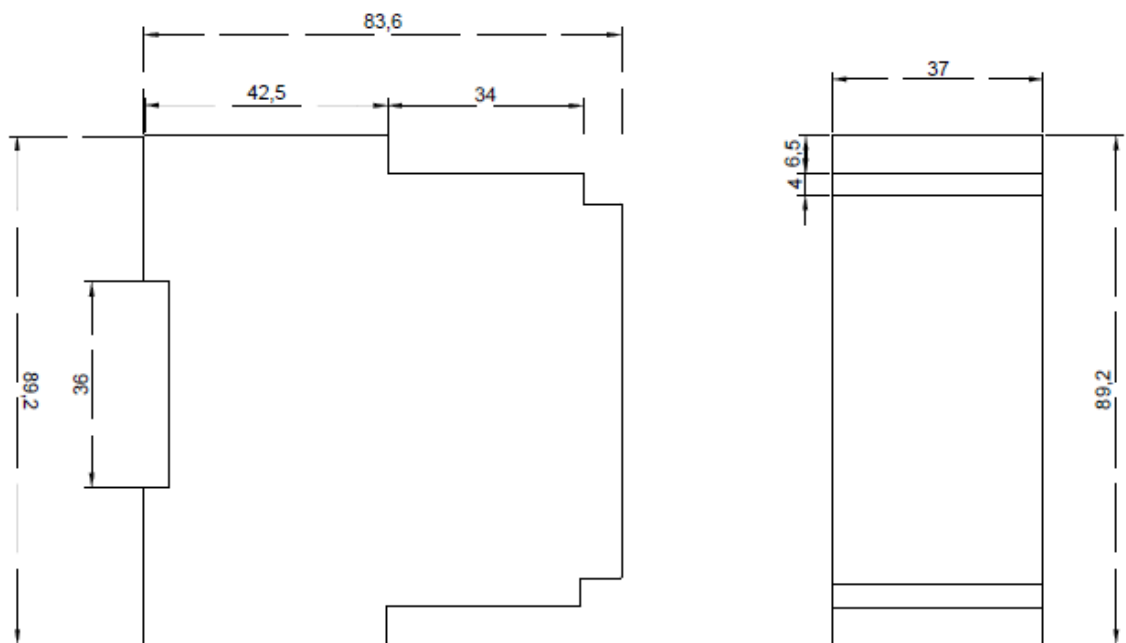


## Interfaces



## Dimensions

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



## ✓ Virtual COM Device Discovery and Management

vir.com Virtual Serial & Device Management - VirCom

Manage(M) Config(C) View(V) Help(H)

Start Stop Device Serial About

ID	Status	Com Na...	COM Name	Type	Device IP	Discription	Dev
1	Connected	COM5	Virtual COM	Bind ID	192.168.0.188	Name : DEV0001	A12

Device Settings

Device Info: Virtual Serial: COM5, Dev Type: , Dev Name: DEV0001, Dev ID: 2878A1282BD3, MAC Addr: 04EEE8182BEB, Firmware Ver: V1.523

Function of the device:  Web Download,  DNS System,  REAL\_COM Protocol,  Modbus TCP To RTU,  Serial Commnad,  DHCP Support,  Storage Extend,  Multi-TCP Connection

Network: IP Mode: Static, IP Address: 192.168.0.188, Port: 4196, Work Mode: TCP Server, Net Mask: 255.255.255.0, Gateway: 192.168.0.1, Dest. IP/Domain: 192.168.0.84, Local IP, Dest. Port: 4196,  UDP Dynamic

Serial: Baud Rate: 9600, Data Bits: 8, Parity: None, Stop Bits: 1, Flow Control: None

Advanced Settings: DNS Server IP: 8.8.4.4, Dest. Mode: Dynamic, Transfer Protocol: None, Keep Alive Time: 60 (s), Reconnet Time: 12 (s), Http Port: 80, UDP Group IP: 230.90.76.1,  Register Pkt.,  ASCII,  Restart If No Data every 300 Sec.,  Enable Parameter Send every 5 Min.

Information: [2025-01-06 17:07:54] Connected to 192.168.0.188 ok. [2025-01-06 17:07:54] Connecting... 192.168.0.188. [2025-01-06 17:07:54] COM5 Create ok! [2025-01-06 17:07:54] Listen at port 4196 OK.

## ✓ Device Setting

More Advanced Settings...

Save Setting

Advanced Settings: DNS Server IP: 8.8.4.4, Dest. Mode: Dynamic, Transfer Protocol: Modbus\_TCP Protocol, Keep Alive Time: None, Reconnet Time: REAL\_COM Protocol, Http Port: 80, UDP Group IP: 230.90.76.1,  Register Pkt.,  ASCII,  Restart If No Data every 300 Sec.,  Enable Parameter Send every 5 Min.

More Advanced Settings...

## ✓ Cloud MQTT Configuration

Webpage&code download tool

Direct download mode

Configuration save location: G:\MQTT Config

Special configs: Config file source: Read from local directory

Modbus cfg. **MQTT cfg.** JSON cfg. Reg packet. Cmd change. HTTP cfg. Param file. Clear local dir.

Code file download mode

Select code file: C:\lsn2003.bin

Download through the network: Device IP address or domain: 192.168.0.200, Download port (Don't modify): 1092

Download through serial port: Serial port: COM1, Baud Rate: 115200

Flash size: 256 KB, DevID: 2875FC662A2F, Bind ID

Please close any other configuration window before downloading.

Download

## Multi Modbus Host

Modbus Multi-Host Support Settings

Modbus Gateway Type: Auto query storage type

Modbus RTU or ASCII: Auto query storage type

Enable RS485 Multi-Host

Maximum wait time of RS485: 196 ms(0-8191)

Enable RS485 bus conflict detection

Send data only when RS485 bus is idle for 20 ms

## ✓ Web Configuration

SpisovConfig 192.168.0.200 (external)

Logout

Device Information: Device Name: DEV0001, Device MAC: 04EEE8182BEB, Firmware Version: V1.523

Serial Settings: Baudrate: 9600, Data Bits: 8, Parity: None, Stop Bits: 1, Flow Control: None

Multi-Master Settings: Protocol: None, Response Timeout: 0 (0-60000ms), Multi-Master: Disabled, Transfer Delay: 20 (0-255ms)

Network Settings: IP Addressing: Static, IP Address: 192.168.0.200, Local Port: 4196, Mode: TCP Server, Subnet Mask: 255.255.255.0, Gateway: 192.168.0.1, Destination IP/DNS: 192.168.0.84, Destination Port: 4196, Web Port: 80

Advanced Settings: Watchdog Reset: Disable, Watchdog Reset Time: 300 (0-1270), Reconnet Time: 12 (0-255x)

Modify Web Password: New Password: , Confirm Password:

Submit

Network Interface	
<b>Ethernet</b>	10/100M RJ45
<b>Wireless</b>	802.11b/g WiFi
Serial Interface	
<b>Connector</b>	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
<b>Isolation (NPS6131AI)</b>	1.5KV RS485
<b>Serial Parameters</b>	Baud Rate: 1200~115200bps, Data Bit: 5~9 Parity Check: None, Odd, Even, Space, Mark Flow Control: None Flow Control
Service Mode	
<b>Virtual COM Driver</b>	Windows XP / Windows 7 / Windows 10/ Windows 11
<b>Wireless</b>	STA (Client) / AP
<b>Security</b>	WEP/WPA-PSK/WPA2-PSK
<b>Encryption</b>	WEP64/WEP128/TKIP/AES
<b>TCP</b>	TCP Server for up to 30 TCP clients, or TCP client to up to 7 destination IP
<b>UDP / UDP Multicasting</b>	UDP Polling & Response by UDP packet between stations UDP Multicast to all station by UDP packet
<b>Modbus</b>	Modbus RTU to Modbus TCP Modbus TCP to Modbus RTU
<b>Cloud</b>	MQTT, JSON to Modbus RTU, HTTP Post, HPPT Get
Network Feature	
<b>Protocol</b>	Ethernet, IP, TCP, UDP, HTTP, ARP, ICMP, DHCP, DNS, Modbus
<b>Security</b>	TCP with authentication key
<b>DHCP</b>	DHCP Client for IP and DNS information from DHCP server
<b>NTP</b>	Network Time Precision (NTP)
Management	
<b>System Management</b>	Windows Utility, Virtual COM, WEB Management
<b>Windows DLL Library</b>	Device management function library (Windows DLL dynamic link library) by VC, VB, Delphi, or C++ Builder with functions such as <i>read</i> and <i>write</i> .
Power Input & Interface Connector	
<b>Power Input</b>	10~30VDC Input, Terminal Block
Wireless	
<b>Frequency</b>	2.412GHz-2.484GHz
<b>Transmit Power</b>	802.11b: +20dBm(Max.); 802.11g: +18dBm(Max.)
<b>Sensitivity</b>	802.11b: -89dBm; 802.11g: -81dBm;
<b>Antenna</b>	SMA External

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