# NP304T Series

# 4-Port RS-232/485/422 to Ethernet

# User manual

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## 【Summarize】

NP304T series is a high performance, industrial grade serial to Ethernet server, it can satisfy some kinds of customer requirements in consumption, temperature, volume and handle ability. This series of products provide 9~48VDC power supply terminal input. It provides 4 port RS232 (RS-232 connector: RJ45) or RS485 (RS485 connector: terminal block) and 1 port 10/100Base-Tx Ethernet, can focus manage disperse serial device, master through network, easy, convenience. In application, can configure, upgrade through WEB.

Moreover, NP304T series provide strong function configuration tools based in Windows platform, it can guide user configure the device step by step, all configurations are coming true by WEB or Telnet, support cross-gateway and cross-router, user can flexible configure IP address, server and client mode, data bag size etc.

NP304T series adopts EMC protection design, can work in rugged environment.

## 【Packing list】

Please check the packaging and accessories by your first using.

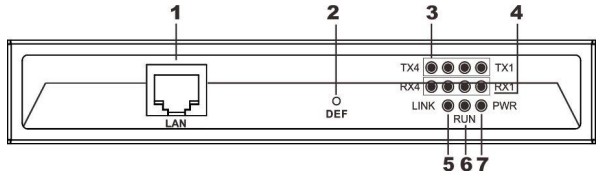
- Serial device server x 1
- User manual x 1
- CD x 1
- Certificate of quality x 1
- Warranty card x 1

Please handle with care for there are precision components in the device, and it's better to protect the device from excessive vibration to avoid affecting its performance. If you find that the device is damaged or any parts of it is missing during transportation, please notify the Company or the Company's distributor, we will give you proper solution as soon as possible.

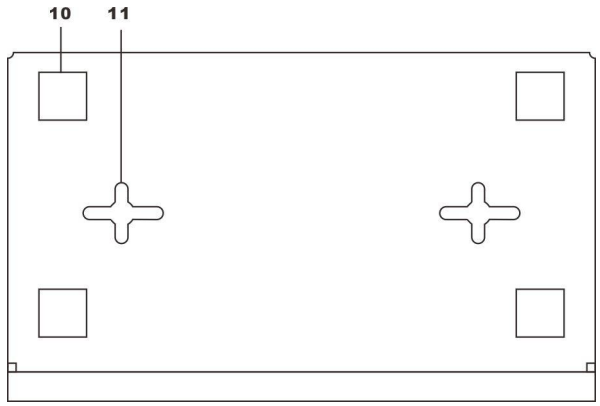
## 【Feature】

- Support 10/100M Ethernet
- Support 4 Port RS-232 or 4 Port RS-485/422
- Support WEB and Telnet configuration
- Support TCP, UDP, ARP, ICMP, DHCP and DNS protocol
- Support TCP Server, TCP Client, TCP Auto, UDP and Real COM driver working mode
- Support UDP multicast and UDP subnet mode
- Support heartbeat time and time over disconnect function
- Support virtual serial COM port access and Network interruption automatic recovery
- Provide Windows configuration tools for easy to use, easy to bath install.
- Industrial grade design, IP30 protect grade
- No fan, low consumption design
- Working temperature: -40～75℃

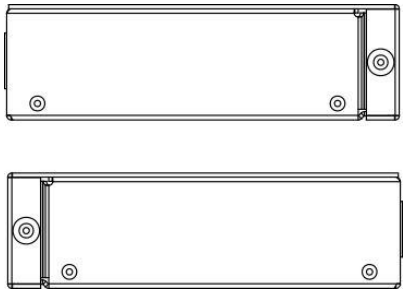
## 【Panel layout】




**Front view**

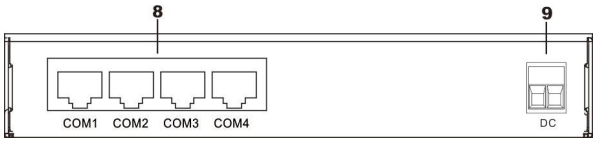



**Bottom view**



**Left view and Right view**

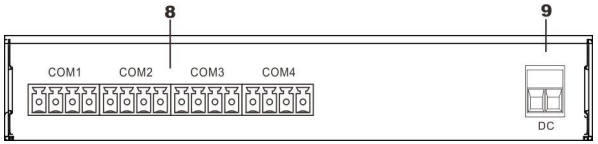
**NP304T-4D (RS-232)-P (9~48VDC)**




**Rear view**

1. 10Base-T /100Base-TX Ethernet port
2. Restore default settings(DEF)
3. Serial transmit data indicator
4. Serial receive data indicator
5. Ethernet port LED indicator
6. Running statues indicator
7. Power LED indicator
8. RS-232 Serial（COM1～COM4）
9. Power input 9~48VDC
10. Mat
11. Installation aligning plug

**NP304T-4DI (RS-485)-P (9~48VDC)**

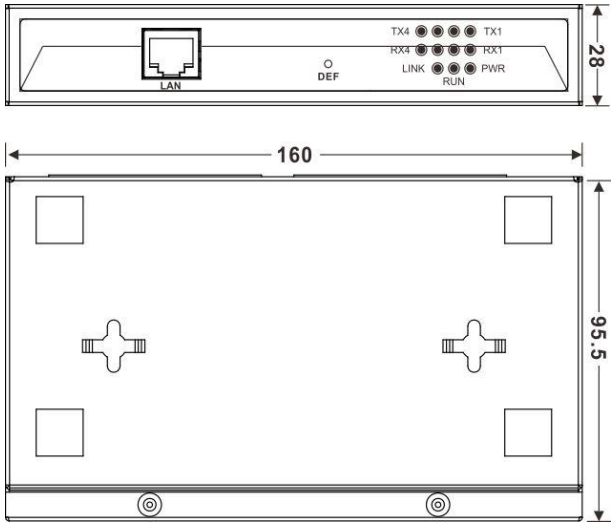



**Rear view**

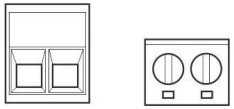
1. 10Base-T /100Base-TX Ethernet port
2. Restore default settings(DEF)
3. Serial transmit data indicator
4. Serial receive data indicator
5. Ethernet port LED indicator
6. Running statues indicator
7. Power LED indicator
8. RS-485/422 Serial（COM1～COM4）
9. Power input 9~48VDC
10. Mat
11. Installation aligning plug

## 【Appearance and dimension】

**Unit（mm）**




## 【Power supply input】



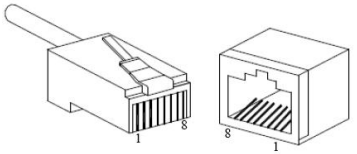
Front View Top View

NP304T series provide DC power input, voltage input is the two terminal form, plug type 2 core spacing of 5.08mm terminals, wherein the power input range of 9 ~ 48VDC. (V+, V-)

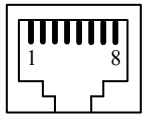
## 【Communication connector】

**10/100BaseT(X) Ethernet port**

The pinout of RJ45 port display as below, connect by UTP or STP. The connect distance is no more than 100m. 100Mbps is used 120Ω of UTP 5; 10Mbps is used 120Ω of UTP 3, 4, 5.



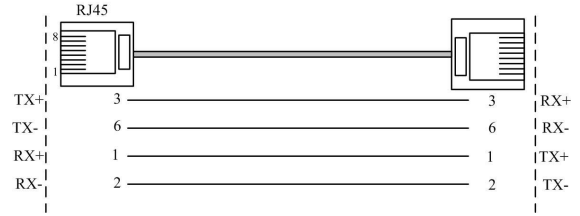

RJ45 port support automatic MDI/MDI-X operation. Can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connections in MDI. 1→3, 2→6, 3→1, 6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.



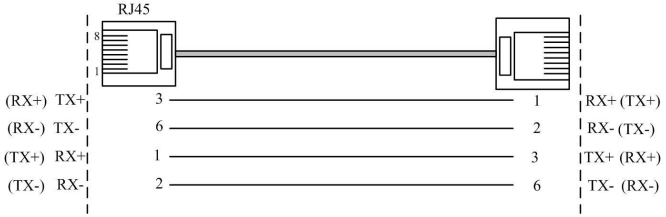

| NO. | MDI signal | MDI-X signal |
|---|---|---|
| 1 | TX+ | RX+ |
| 2 | TX- | RX- |
| 3 | RX+ | TX+ |
| 6 | RX- | TX- |
| 4, 5, 7, 8 | — | — |

Note：“TX±”Transmit Data±，“RX±”Receive Data±，“—”Not Use.

**MDI (straight-through cable)**




**MDI-X (Cross over cable)**

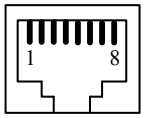


MDI/MDI-X auto connection makes switch easy to use for customers without considering the type of network cable.

**Serial port connection**

NP304T-4D(RS-232) adopts RJ45 connector. The PIN define is as follows:

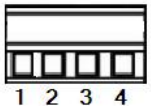
RS-232 port:




| PIN | PIN define | Description |
|---|---|---|
| 1 | TXD | Transmit data |
| 2 | RXD | Received Data |
| 3 | RTS | Request to send |
| 4 | CTS | Clear to send |
| 5 | DSR | Data set ready |
| 6 | GND | Signal ground |
| 7 | DTR | Data terminal ready |
| 8 | DCD | Data carrier detect |

NP304T-4DI(RS-485) back panel provide 3.81mm 4bit industrial terminal block, the PIN define is as follows:

RS-485/422 port:




| Serial port | PIN | RS-485 PIN define | RS-422 PIN define |
|---|---|---|---|
| COM1~COM4 | 1 | D+(A) | T+(A) |
| | 2 | D-(B) | T-(B) |
| | 3 | -- | R+(A) |
| | 4 | -- | R-(B) |

## 【LED Indicator】

The LED indicator on the front panel of serial device server can indicate the running system and the operation status, which makes it easy to find and solve problems, the specific meaning of indicator are shown in the table.

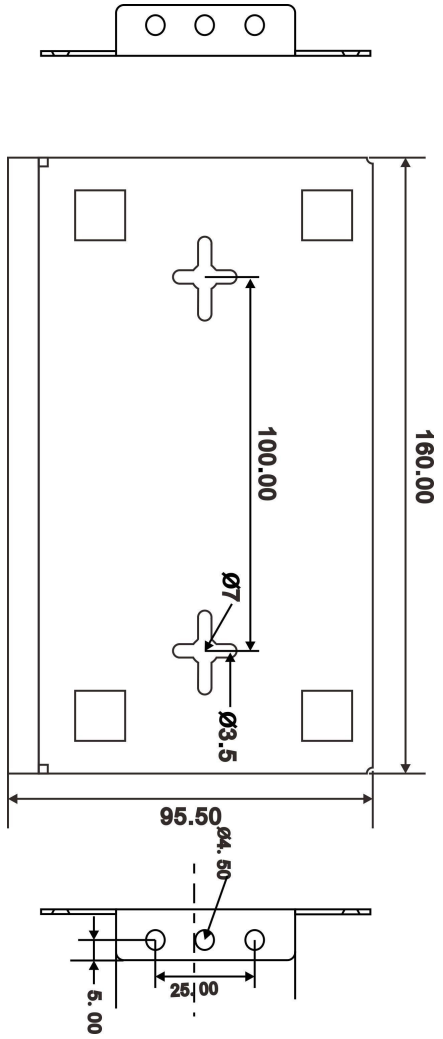
| System statue LED | | |
|---|---|---|
| LED | Indicate | Description |
| PWR | ON | Power is connected/Function natural |
| | OFF | Power is disconnected or function nu-natural |
| LINK | ON | Ethernet port connect successfully |
| | Flashing | Ethernet port has data transmission |
| | OFF | Ethernet port connect unsuccessfully |
| RUN | ON | System did not run or running un-steadily |
| | Flashing | System Running steadily |
| | OFF | System Running un-steadily |
| RX1~RX4 | OFF | None data receive |
| | Flashing | In receiving data |
| TX1~TX4 | OFF | None data transmit |
| | Flashing | In transmitting data |

## 【Installation】

Before installation, confirm that the work environment meet the installation require, including the power needs and abundant space. Whether it is close to the connection equipment and other equipments are prepared or not.

1. Avoid in the sunshine, keep away from the heat fountainhead or the area where in intense EMI.
2. Examine the cables and plugs that installation requirements.
3. Examine whether the cables be seemly or not (less than 100m) according to reasonable scheme.
4. Power: 9~48VDC power input

5. Environment：working temperature -40～75℃
   Storage Temperature: -40～85℃
   Relative humidity 5%～95%




**Wiring Requirements**

Cable laying need to meet the following requirements,

1. It is needed to check whether the type, quantity and specification of cable match the requirement before cable laying;

2. It is needed to check the cable is damaged or not, factory records and quality assurance booklet before cable laying;

3. The required cable specification, quantity, direction and laying position need to match construction requirements, and cable length depends on actual position;

4. All the cable cannot have break-down and terminal in the middle;

5. Cables should be straight in the hallways and turning;

6. Cable should be straight in the groove, and cannot beyond the groove in case of holding back the inlet and outlet holes. Cables should be banded and fixed when they are out of the groove;

7. User cable should be separated from the power lines. Cables, power lines and grounding lines cannot be overlapped and mixed when they are in the same groove road. When cable is too long, it cannot hold down other cable, but structure in the middle of alignment rack;

8. Pigtail cannot be tied and swerved as less as possible. Swerving radius cannot be too small (small swerving causes terrible loss of link). Its banding should be moderate, not too tight, and should be separated from other cables;

9. It should have corresponding simple signal at both sides of the cable for maintaining.

## 【Specification】

**Ethernet port**

Standard: 10Base-T, 100Base-TX

Protocol: Support TCP, UDP, APR, ICMP and DHCP

Signal: Rx+, Rx-, Tx+, Tx-

Speed: 10/100Mbps

Working: Full-duplex and half duplex

Working mode: Support TCP Server and Client

Transfer distance: 100m

Connector: RJ45

**Serial port**

Serial port number: 4 port RS-232 or 4 port RS-485/422

RS-232 signal: DCD, RXD, TXD, DTR, GND, DSR, RTS, CTS

RS-485 signal: D+, D-

RS-422 signal: T+, T-, R+, R-

Parity bit: None, Even, Odd, Space, Mark

Data bit: 5bit, 6bit, 7bit, 8bit

Stop bit: 1bit, 2bit

Band rate: 300bps～115200bps

RS-232 Transfer distance: no more than 15m

RS-232 connector: RJ45

RS-485 transfer distance: 1200m

RS-485 connector: 5 bits terminal block

Protection: RS-232 side, class 4 static

RS-485/422 side, class 3 static, 1.5KV isolation

**LED Indicator**

Power: PWR

Working statue indicator: RUN

Ethernet port connect statue: Link

Serial port data indicator: TX1~TX4, RX1~RX4

**Power requirements**

Input voltage: 9~48VDC

NP304T-4DI(RS-485)-P(9~48VDC)

No-load consumption: 1.35W@12VDC

Full-load consumption: 1.44W@12VDC

**Mechanical**

Shell: IP30 protection, metal shell

Installation: Wall mounting

Weight: 460g

Size (L×W×H): 160mm×95.5mm×28mm

**Environment limits**

Working temperature: -40~75℃

Storage temperature: -40~85℃

Relative humidity: 5%~95%（non-condensing）

**Standard**

EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A

EMS: EN 61000-4-2 (ESD), Level 4 (RS-232)

EMS: EN 61000-4-2 (ESD), Level 3 (RS-485/422)

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

**Warranty**

Warranty time: 3 years

**Certificates**

CE, FCC, RoHS, UL508 (pending)