![3One data logo]

NP304T Series

4-port RS-232/485/422 to Ethernet

User Manual

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【Summarize】

NP304T series is an high performance, industrial grade serial to Ethernet server, it can satisfy some kinds of customer requirements in consumption, temperature, volume and handle ability. 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 can flexible configure IP address, server and client mode, data bag size etc.

NP304T series adopts EMC protection design, can work in rugged environment. It provides 2 kinds of wall mounting installation, easy to use for your project

【Packing list】

The first time use this product, please check the packaging is intact or not and the attachment is complete or not at first.
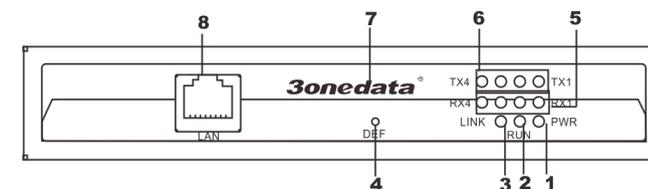
- NP304T series x1
- User manual x1
- Straight-through cable x1
- Power adapter x1
- CD x1
- Product qualified card x1
- Warranty card x1

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
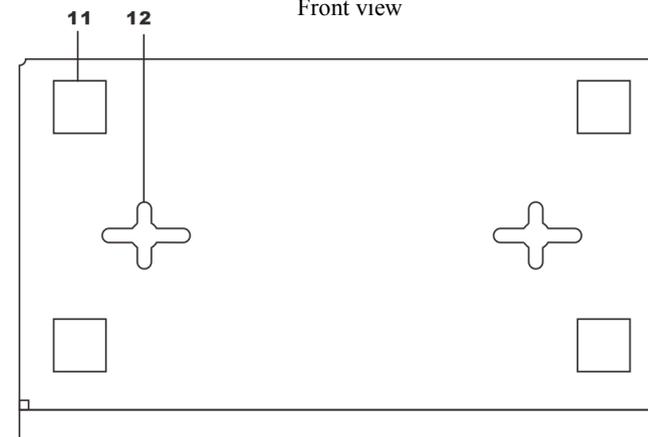
【Feature】

- NP304T-4D(RS-232) provide 4 port RS-232
- NP304T-4DI(RS-485) provide 4 port RS-485/422
- Support WEB and Telnet configuration
- Support Sever and Client working mode
- Support TCP, UDP, ARP, ICMP, DHCP and DNS protocol
- Support link automatic when network cut off function
- Support cross-gateway and cross-router communication
- Provide Windows configuration tools for easy to use, easy to bath install
- Industrial grade design, IP30 protect grade
- No fan, low consumption design
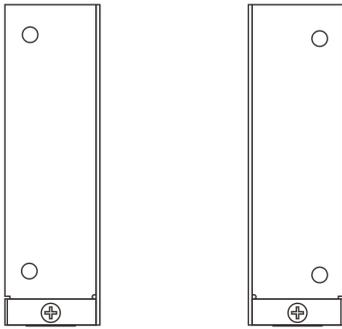- Working temperature: -40-85℃

【Panel design】

Front view

Rear view

Left view   Right view
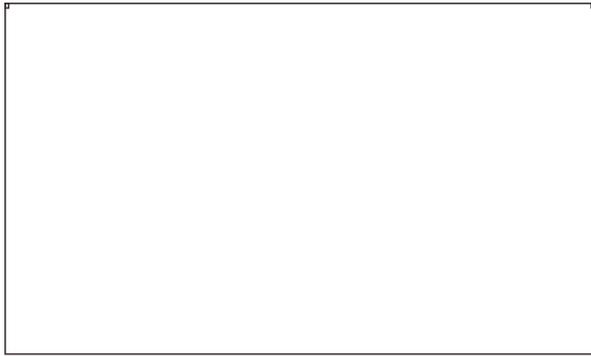
Vertical view

NP304T-4D（RS-232）：
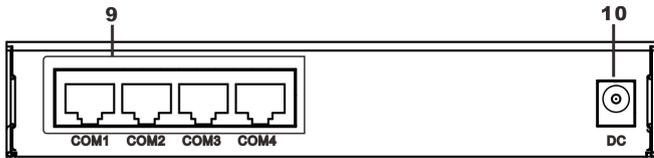
9   10

COM1 COM2 COM3 COM4   DC

Back view

1. Power indicator
2. Running statues indicator
3. Network connection/statues indicator
4. Factory default button(DEF)
5. COM1~COM4 receive data statues indicator
6. COM1~COM4 transmit data statues indicator

7. Company name, products series
8. Ethernet RJ45 port
9. Serial port: COM1~COM4
10. DC power input port
11. Mat
12. Installation aligning plug

NP304T-4DI（RS-485）：

9   10

COM1   COM2   COM3   COM4

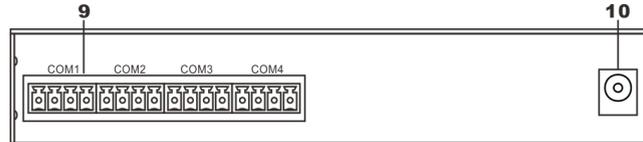Back view

1. Power indicator
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8. Ethernet RJ45 port
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【Dimension】

Unit（mm）

28.00

3onedata®   TX4 ○○○○ TX1
RX4 ○○○○ RX1
LINK ○○○ PWR
LAN   DEF   RUN

160.00

100.00

Ø7   Ø3.5

95.50
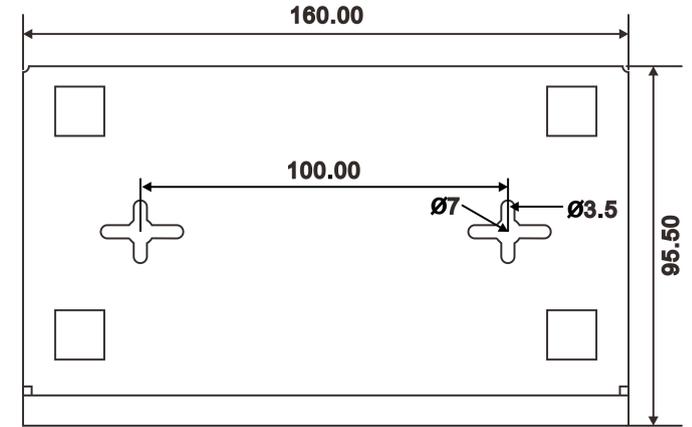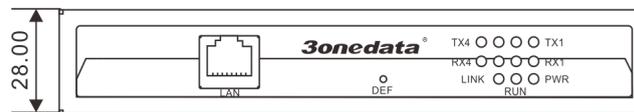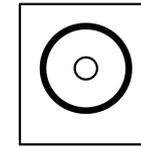
【Power input】

DC

NP304T series provide DC power input, voltage input is, DC power adapter specification is internal size 2.5mm, external size 5.5mm.

【Communication connector】

NP304T series provide 1pcs 10Base-T/100BaseTX Ethernet port （RJ45） and 4 port RS-232（RJ45）or 4 port RS-485/422.

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 100Ωof UTP 5 , 10Mbps is used 100Ωof UTP 3,4,5.

8   1   8   1
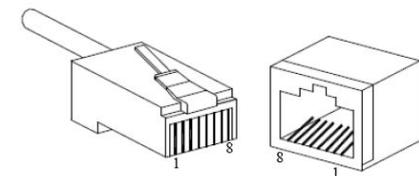
RJ45 port support automatic MDI/MDI-X operation. can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connection in MDI. 1→3,2→6,3→1,6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.
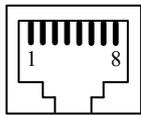
NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4、5、7、8	—	—

Note："TX±"Transmit Data±，"RX±"Receive Data±，"—" Not use.

MDI (straight-through cable)
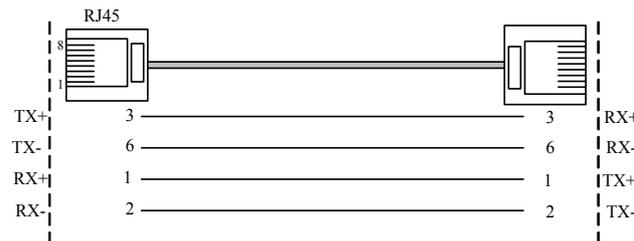
MDI-X (Cross over cable)
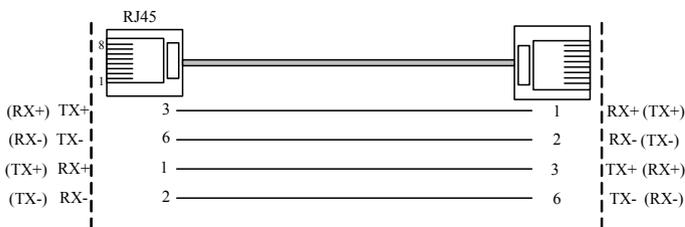
Serial port connection

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

RS-232 port:
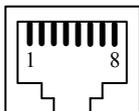
PIN	PIN define	Description
1	TXD	Transmit data
2	RXD	Received Data
3	RTS	Request to send
4	CTS	Clear to send
5	DSR	Data set ready
6	GND	Signal ground
7	DTR	Data terminal ready
8	DCD	Data carrier detect

NP304T-4DI（RS-485）：

Back panel provide 3.81mm 4bit industrial terminal block, the PIN define is as follows:
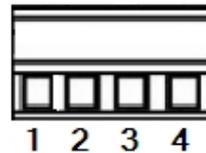
RS-485:

PIN	Define
1	D+(A)
2	D-(B)

RS-422:

PIN	Define
1	T+(A)
2	T-(B)
3	R+(A)
4	R-(B)

【LED Indicator】

The LED indicator on the front panel of NP304T series 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
RUN	Flashing	System Running steadily
	OFF	System did not run or running un-steadily
	ON	System Running un-steadily
LINK	ON	Ethernet port connect successfully
	Flashing	Ethernet port has data transmission
	OFF	Ethernet port connect unsuccessfully
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. Screw, nut, tool provide by yourself.

5.Power need: 5VDC power inputs

6. Environment: -40°C to 85°C

Relative humidity 10% to 95%

7. Installation: support 2 kinds of wall mounting installation

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

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-, GND

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

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

Data bit; 5bit,6bit,7bit,8bit

Stop bit: 1bit,1.5bit,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: 4 bits terminal block

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

LED Indicator

Working statue indicator: RUN

Power (PWR)

Ethernet port connection statue (Link)

Serial port transmit data indicator: TX1~TX4

Serial port receive data indicator: RX1~RX4

Power requirements

Input voltage: 5VDC±5%

NP304T-4D（RS-232）：

No-load consumption: 0.945W@5VDC

Full-load consumption: 1.095W@5VDC

NP304T-4DI（RS-485）：

No-load consumption: 1.34W@5VDC

Full-load consumption: 1.57W@5VDC

Mechanical

Shell: IP30 protection, metal shell

Installation: Wall mounting

NP304T-4D（RS-232）weight: 0.46kg

NP304T-4D（RS-232）weight: 0.45kg

Size (L×W×H): 160mm×95.5mm×28mm

Environment limits

Working temperature: -40~85℃

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 55024,

      EN 61000-4-2 (ESD) Level 3,

      EN 61000-4-3 (RS) Level 3,

      EN 61000-4-4 (EFT) Level 4,

      EN 61000-4-5 (Surge) Level 3,

      EN 61000-4-6 (CS) Level 3,

      EN 61000-4-8,

      EN 61000-4-11

Shock: IEC 60068-2-27

Free fall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Warranty

Warranty time: 5 years

Certificates

CE, FCC, RoHS, UL508(pending)