

# NP301

## Serial Device Server

### User manual

#### 【Summarize】

The NP301 serial server 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 1 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, serial device server 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.

Serial device server adopts EMC protection design, can work in rugged environment.

#### 【Packing list】

Please check the packaging and accessories by your first using.

- Serial device server × 1
- User manual × 1
- CD × 1
- Power adapter × 1

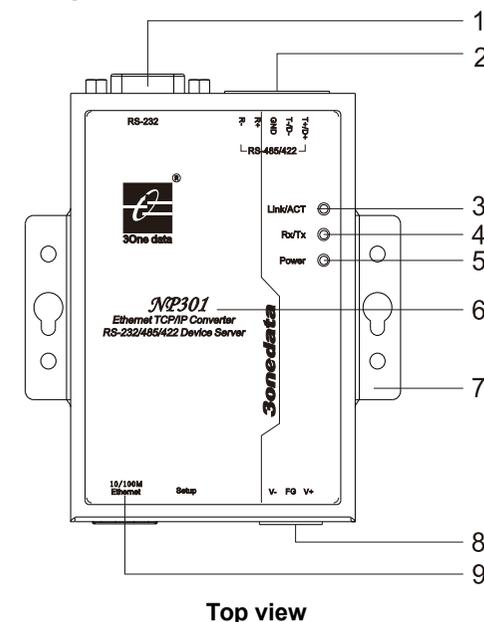
Please inform us or our distributor if your equipments have been damaged or lost any accessories, we will try our best to satisfy you.

#### 【Feature】

- Support 10/100M Ethernet
- Support 1 Port RS-232 or 1 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 cross-gateway and cross-router communication
- 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, IP40 protect grade
- No fan, low consumption design
- Working temperature: -40~75℃

#### 【Panel layout】



#### Shenzhen 3onedata Technology Co., Ltd.

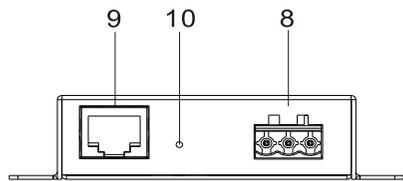
Add: 3/B, Zone 1, Baiwangxin High Technology Industrial park, Nanshan District, Shenzhen, 518108 China

Tel: +86-755-26702668

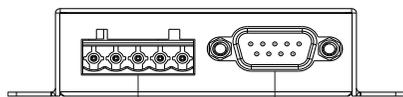
Fax: +86-755-26703485

E-mail: sales@3onedata.com

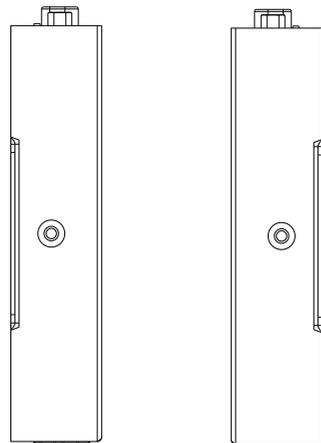
Website: www.3onedata.com



Front view



Rear view



Left view and Right view

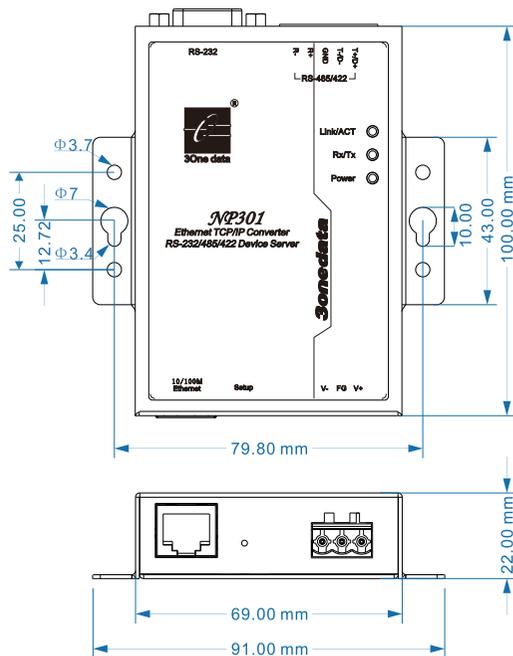
1. RS-232 Serial
2. RS-485/422 Serial
3. Ethernet port LED indicator
4. Serial receive/ transmit data indicator
5. Power LED indicator
6. Equipment information
7. Wall mounting installation
8. Power input 9~48VDC

9. 10Base-T /100Base-TX Ethernet port

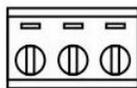
10. Restore default settings (setup)

### 【Appearance and dimension】

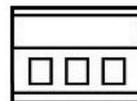
Unit (mm)



### 【Power supply input】



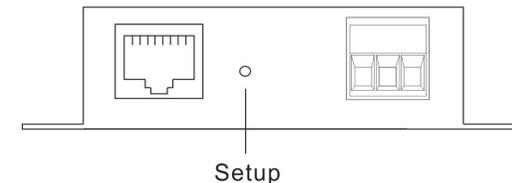
Top View



Front View

Serial device server provide DC power input, voltage input is the three terminal form, plug type 3 core spacing of 5.08mm terminals, wherein the power input range of 9 ~ 48VDC. (V+, FG, V-)

### 【Factory Default】



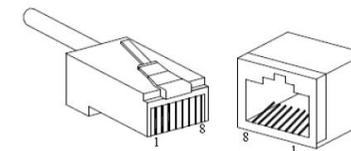
Setup

Setup: restore the factory settings button, press and hold the SETUP button, disconnect the power supply and then give the device to power up, continue for about 5 seconds to restore the factory settings.

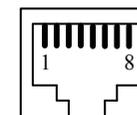
### 【Communication connector】

#### 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.



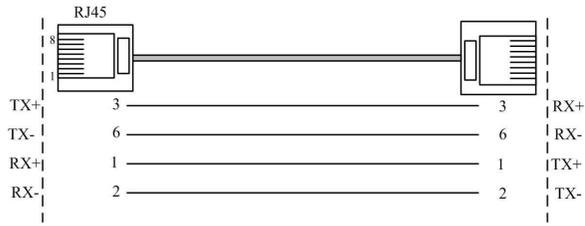
RJ45 port support automatic MDI/MDI-X operation. Can connect the PC, Server, Converter and HUB .Pin 1,2,3,6 Corresponding connections in MDI. 1→3, 2→6, 3→1, 6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as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



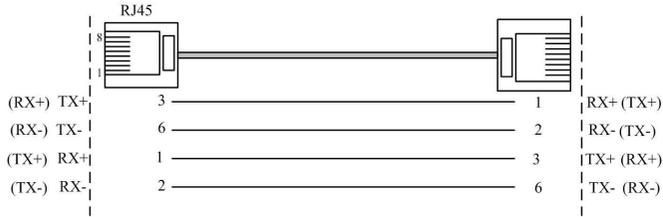
NO.	MDI signal	MDI-X signal
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4, 5, 7, 8	—	—

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

### MDI (straight-through cable)

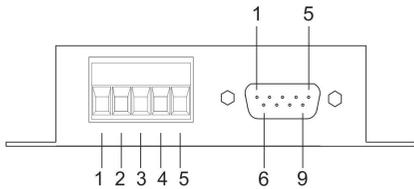


### MDI-X (Cross over cable)

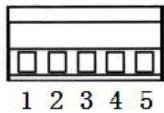


MDI/MDI-X auto connection makes switch easy to use for customers without considering the type of network cable.

### Serial port connection



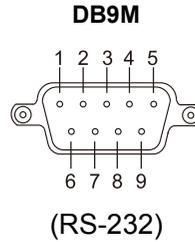
RS-485/422 side is 5 bit terminal block. The PIN definition is as follows:



(RS-485/422)

serial number	1	2	3	4	5
RS-422	T+(A)	T-(B)	GND	R+(A)	R-(B)
RS-485	D+	D-	GND		

RS-232 side is DB9 male. The PIN definition is as follows:



Pin	RS-232
1	—
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	—

### 【LED Indicator】

LED indicator light on the front panel of product, the function of each LED is described in the table as below.

System status 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
RX/TX	OFF	None data receive/transmit
	Flashing	In receiving data

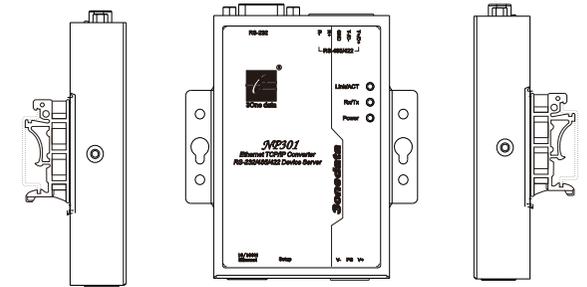
### 【Installation】

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%

### DIN-Rail mounting

Product support wall or rail mounted, DIN rail accessories can purchase in the purchase of the product.



### 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.

Working mode: Support TCP Server and Client

Transfer distance: 100m

Connector: RJ45

#### **Serial port**

Serial port: RS-232/485/422

RS-232 signal: 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: 5 bits terminal block

#### **LED Indicator**

Power (PWR)

Ethernet port connect statue (Link)

Serial port data indicator: TX/RX

#### **Power requirements**

Input voltage: 9~48VDC

No-load consumption: 1.33W@9VDC

Full-load consumption: 1.48W@9VDC

#### **Mechanical**

Shell: IP40 protection, metal shell

Installation: Wall mounting

Weight: 240g

Size (L×W×H): 100mm×69mm×22mm

#### **Environment limits**

Working temperature: -40~75°C

Storage temperature: -40~85°C

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

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

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

EN 61000-4-5 (Surge), Level 2

EN 61000-4-6 (CS), Level 2

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)

## **【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