



NP3116T Series

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

User manual

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【Summarize】

NP3116T 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. This series of products provide two power supply input one kind is to use the 85-265VAC/DC power adapter input. It provides 16 port RS232 (RS-232 connector: RJ45) or RS485/422 (RS485/422 connector: terminal block) and 2 port 10/100Base-TX Ethernet, Support two IP addresses and two MAC addresses, can focus manage disperse serial device, master through network, easy, convenience. In application, can configure, upgrade through WEB.

Moreover, NP3116T 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.

NP3116T series adopts EMC protection design, can work in rugged environment.

【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.

1. 3onedata NP3116T series x1
2. User manual x1
3. Quick Installation Guide x1
4. Straight network cable x1
5. 220V power line x1
6. Software CD-ROM x1
7. Product Warranty booklet 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

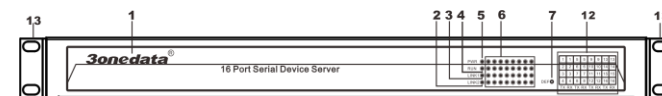
device is damaged or any parts of it is missing during transportation, please notify the Company or the Company's distributor, we will give you proper solution as soon as possible

【Feature】

1. Support 16 Port RS-232 or 8 port RS485/422
2. Support two IP addresses and two MAC addresses
3. Support all windows native COM and network outages automatically restore connectivity
4. Support 64 IP address mapping table
5. Support WEB and Telnet configuration
6. Support TCP, UDP, ARP, ICMP, DHCP and DNS protocol
7. Support TCP Server, TCP Client, TCP Auto, UDP and Real COM driver working mode
8. Support cross-gateway and cross-router communication
9. Support virtual serial COM port access and Network interruption automatic recovery
10. Provide Windows configuration tools for easy to use, easy to bath install.
11. Industrial grade design, IP30 protection grade
12. No fan, low consumption design
13. Working temperature: -25~55℃

【Panel design】

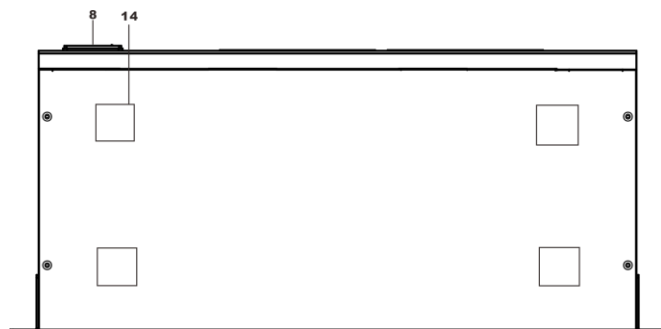
NP3116T-16D(RS-232)



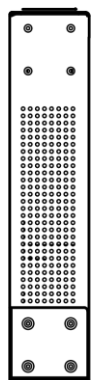
front panel



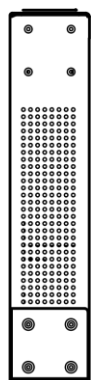
rear panel



top panel



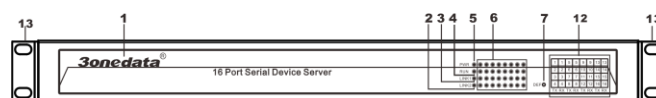
Left panel



Right panel

14.Install deck

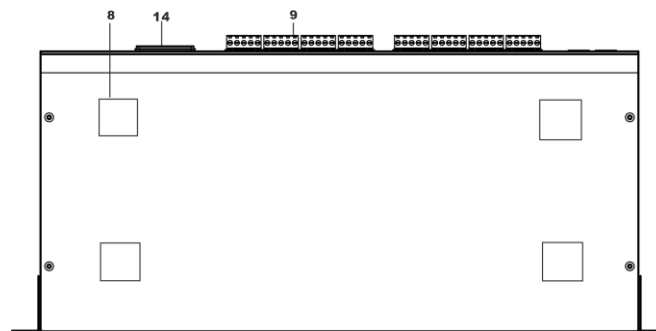
NP3116T-16DI(RS-485)



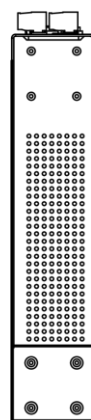
front panel



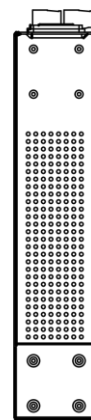
rear panel



top panel



Left panel



Right panel

1.Company logo

2.Network interface LAN1 LED

3.Network interface LAN2 LED

4.Equipment operating status LED

5.PWR LED

6.Serial operating status LED

7.Restore factory settings DEF button

8.Power jack and switch

9.RS-232 serial port

10.Network interface LAN2

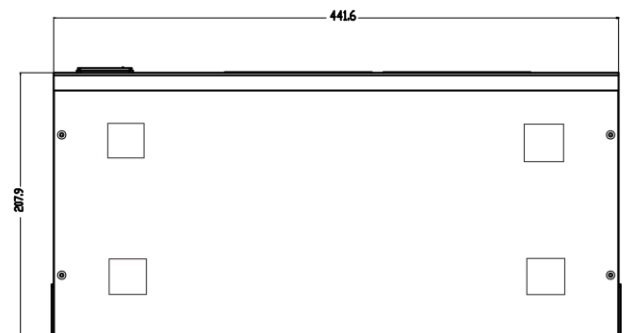
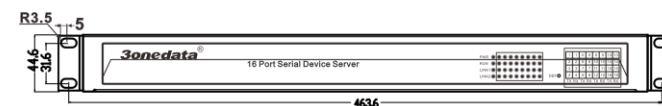
11.Network interface LAN1

12.serial port receive/Send data status LED

13.Hanger

14.Install deck

【Dimension (mm)】



1.Company logo

2.Network interface LAN1 LED

3.Network interface LAN2 LED

4.Equipment operating status LED

5.PWR LED

6.Serial operating status LED

7.Restore factory settings DEF button

8.Power jack and switch

9.RS-232 serial port

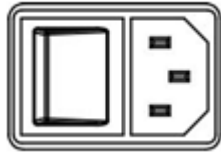
10.Network interface LAN2

11.Network interface LAN1

12.serial port receive/Send data status LED

13.Hanger

【Power input】



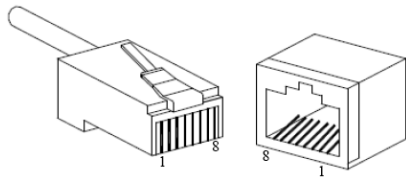
Rear panel provides AC power NP3116T series access ports, port comes with a switch, wherein the power supply input range of 85VAC ~ 265VAC. Recommends using 220VAC power supply input.

【Communication connector】

NP3116T series provide 2pcs 10Base-T/100BaseTX Ethernet port (RJ45) and 2 port RS-232 (RJ45) or 2 port RS-485/422.

10/100BaseT(X) Ethernet port

The pin out 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.

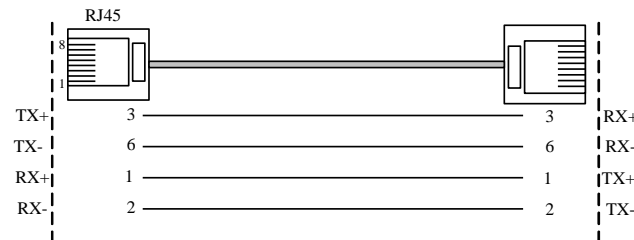


RJ 45 port support automatic MDI/MDI-X operation. can connect the PC, Server, Converter and HUB. Pin 1,2,3,6 Corresponding connection in MDI. 1→3,2→6,3→1,6→2 are used as cross wiring in the MDI-X port of Converter and HUB. 10Base-T/100Base-TX are used in MDI/MDI-X, the define of Pin in the table as below.

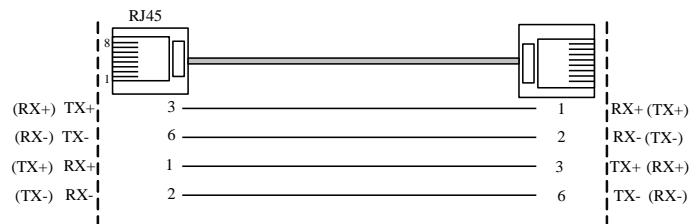
| NO. | MDI signal | MDI-X signal |
|---------|------------|--------------|
| 1 | TX+ | RX+ |
| 2 | TX- | RX- |
| 3 | RX+ | TX+ |
| 6 | RX- | TX- |
| 4、5、7、8 | — | — |

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

MDI (straight-through cable)



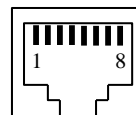
MDI-X (Cross over cable)



Serial port connection

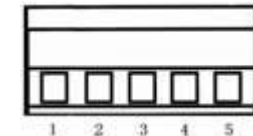
NP3116T series adopts RJ45 connector. The PIN define is as follows:

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 |

RS-485/422 port:



RS-485 Serial Interface

| PIN | PIN define |
|-----|------------|
| 1 | D+(A) |
| 2 | D-(B) |

RS-422 Serial Interface

| PIN | PIN define |
|-----|------------|
| 1 | T+(A) |
| 2 | T-(B) |
| 3 | GND |
| 4 | R+(A) |
| 5 | R-(B) |

【LED Indicator】

The LED indicator on the front panel of NP3116T 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 | ON | System operating normally |
| | Flashing | system is not operating or operating abnormal |
| | OFF | System operating abnormal |
| LINK | ON | Ethernet port connect successfully |
| | Flashing | Ethernet port has data transmission |
| | OFF | Ethernet port connect unsuccessfully |
| RX1-16 | OFF | None data receive |
| | Flashing | In receiving data |
| TX1-16 | 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: 85VAC~265VAC power inputs

6. Environment: -25 ℃ to 55 ℃

Relative humidity 5% to 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

Serial port

Serial port number: 2 port RS-232 or 2 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, 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

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

LED Indicator

Power (PWR)

Ethernet port connect statue (Link)

Serial port data indicator: TX, RX

Power requirements

Input voltage: 85VAC~265VAC

NP3116T-16D(RS-232):

No-load consumption : 1.9W@220VAC

Full-load consumption : 3.4W@220VAC

NP3116T-16DI(RS-485):

No-load consumption : 8.7W@220VAC

Full-load consumption : 10.1W@220VAC

Mechanical

Shell: IP30 protection, metal shell

Installation: 1U 19" rack mount

Weight: 2096g

Size (L×W×H): 441.6mm×207.9mm×44.6mm

Environment limits

Working temperature: -25~55℃

Storage temperature: -30~85℃

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

Standard

EMI: EN 55022 Class A, FCC Part 15 Sub part B Class A

EMS: EN55024,

EN61000-4-2(ESD)Level3

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)