**3onedata**
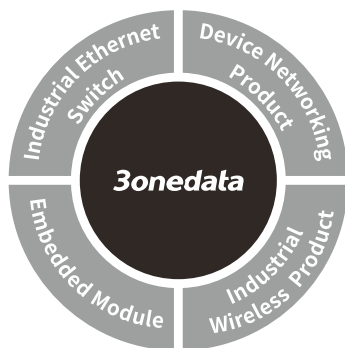Make network communication more reliable

# TNS5500 Series
# Managed Rack-mounted Industrial Ethernet Switch Quick Installation Guide



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## 【Package Checklist】

Please check whether the package and accessories are intact while using the switch for the first time.

1.    Industrial Ethernet switch     2.    CD
3.    Quick installation guide        4.    Certification
5.    Warranty card                        6.    Power line

If any of these items are damaged or lost, please contact our company or dealers, we will solve it ASAP.
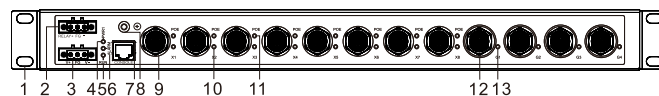
## 【Product Overview】

The series of product is 100M/Gigabit layer 2 managed rack-mounted industrial Ethernet switch designed for rail transit industry. Modules as follows:

Model I     TNS5500-4GT-8POE (4 Gigabit copper ports + 8 100M PoE copper ports)
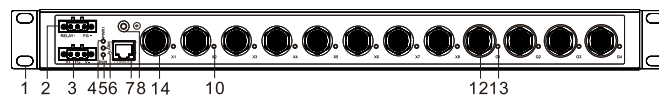Model II   TNS5500-4GT-8T (4 Gigabit copper ports + 8 100M copper ports)
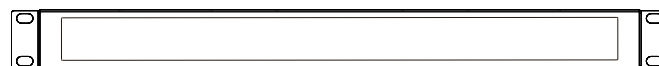
## 【Panel Design】

➤    **Front view**



1 2   3  456 78 9       10     11                        12 13

Model I



1 2   3  456 78 14     10                                12 13

Model II

➤    **Rear view**



➤    **Left view**
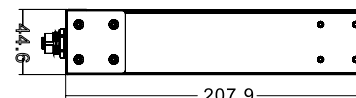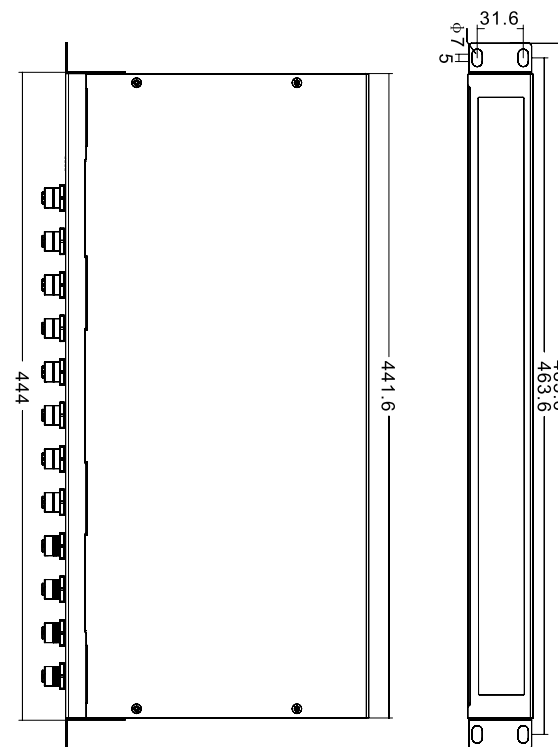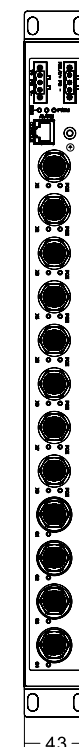


➤    **Right view**



1.    Hanger
2.    Relay alarm output terminal block
3.    Power input terminal block
4.    Power supply indicator   (PWR)
5.    Running indicator (RUN)
6.    Alarm indicator (ALARM)
7.    Console port
8.    Grounding screw
9.    100M PoE copper port (M12)
10.    100M copper port connection indicator

11.    POE indicator
12.    Gigabit copper port (M12)
13.    Gigabit copper port connection indicator
14.    100M copper port (M12)

## 【Mounting Dimension】

Unit: mm



31.6

444

441.6

483.6
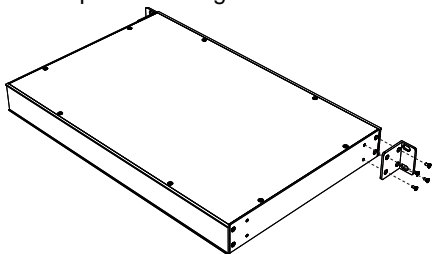463.6

43

44.6

207.9

 **Attention before mounting:**

●    Don't place or install the device in area near water or moist, keep the relative humidity of the device surrounding between 5%~95% without condensation.

- Before power on, first confirm the supported power supply specification to avoid over-voltage damaging the device.
- The device surface temperature is high after running; please don't directly contact to avoid scalding.
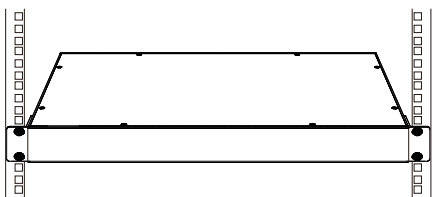
## 【Rack-mounting the Device】

Step 1    Select the device installation location to reserve sufficient size.

Step 2    Adopt screws to install the mounting lugs in the device position as figure below.



Step 3    Place the device in the rack; adopt 4 screws to install the mounting lugs on the left and right side in the rack.



Step 4    Check and confirm the product is firmly installed on the rack, then mounting ends.

## 【Rack-mounting Device Disassembling】

Step 1    Power off the device.

Step 2    Unscrew the fixing screw of mounting lug on the rack.

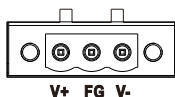Step 3    Remove the device from the rack, disassembling ends.

⚠️ **Note:**

- Power ON operation: first connect power line to the connection terminal of device power supply, then power on.
- Power OFF operation: first unpin the power plug, then remove the power line, please note the operation order above.
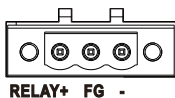
## 【Power Supply Connection】



The series devices provide 3-pin 5.08mm pitch power supply terminal blocks. Power supply range: 110VAC/DC (100-240VAC/DC).

## 【Relay Connection】

This device provides 3-pin 5.08mm pitch relay terminal blocks.



Relay terminal blocks is a pair of normally open contacts of device alarm relay. They are open circuit in normal non alarm state, closed when any alarm information occurs. Such as: it's closed when power off, and send out alarm. This series switches support 1 channel relay alarm information output, support DC power alarm information or network abnormal alarm output, it can be connected to alerting lamp, alarm buzzer, or other switching value collecting devices for timely warning operating staffs when alarm information occurs.

## 【Communication Interface Connection】
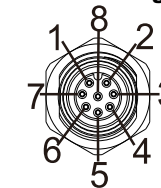
### ➢ M12 100M Copper Port

This device provides 8 10/100Base-T(X) ports. The interface



type is M12 D-Coded 4-pin slot (female). The pin definitions of M12 are as follows:

| No. | Definition | Description |
|---|---|---|
| 1 | TD+ | 100M Ethernet transmitted signal Positive |
| 2 | TD- | 100M Ethernet transmitted signal Negative |
| 3 | RD+ | 100M Ethernet received signal Positive |
| 4 | RD- | 100M Ethernet received signal Negative |

### ➢ M12 Gigabit Copper Port



This device provides 4 10/100/1000Base-T(X) interfaces. The interface type is M12 A-Coded 8-Pin slot (female) and its pin definitions are as follows:

| No. | Definition | Description |
|---|---|---|
| 1 | D0+ (DA+) | The first group of bi-directional data of Gigabit Ethernet positive |
| 2 | D0- (DA-) | The first group of bi-directional data of Gigabit Ethernet negative |
| 3 | D1+ (DB+) | The second group of bi-directional data of Gigabit Ethernet positive |
| 4 | D1- (DB-) | The second group of bi-directional data of Gigabit Ethernet negative |
| 5 | D3+ (DD+) | The fourth group of bi-directional data of Gigabit Ethernet positive |
| 6 | D3- (DD-) | The fourth group of bi-directional data of Gigabit Ethernet negative |
| 7 | D2- (DC-) | The third group of bi-directional data of Gigabit Ethernet negative |
| 8 | D2+ (DC+) | The third group of bi-directional data of Gigabit Ethernet positive |

## 【Console Port Connection】

This device provides 1 program debugging port based on

RS232, which could be connected to PC for device CLI command management. The interface adopts RJ45 port. The pin definitions of RJ45 are as follows:

| No. | 2 | 3 | 5 |
|---|---|---|---|
| Definition | TXD | RXD | GND |

## 【Checking LED Indicator】

This device provides LED indicators for monitoring the work status of the device, which has simplified the troubleshooting process comprehensively. The function of each LED is described in the table as below:
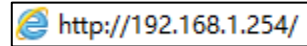
| LED | Status | Description |
|---|---|---|
| PWR | ON | PWR is connected and running normally |
| | OFF | PWR is disconnected and running abnormally. |
| ALARM | ON | Power supply, port link alarm |
| | OFF | Power supply, port link without alarm |
| RUN | ON | The device is powered on or the device is abnormal. |
| | OFF | The device is powered off or the device is abnormal. |
| | Blinking | Blink 1 time/s, system is running well. |
| Link/Act (X1-X8/G1-G4) | ON | Ethernet port connection is active. |
| | Blinking | Data transmitted |
| | OFF | Ethernet port connection is inactive. |
| POE(X1-X8) | ON | POE port is powering other devices. |
| | OFF | POE port is not powering other devices. |

## 【Logging in to WEB Interface】

This device supports WEB management and configuration. Computer can access the device via Ethernet interface. The way of logging in to device's configuration interface via IE browser is shown as below:

Step 1    Configure the IP addresses of computer and the device to the same network segment, and the network between them can be mutually accessed.

Step 2    Enter device's IP address in the address bar of the computer browser.


http://192.168.1.254/

Step 3    Enter device's username and password in the login window as shown below.



Step 4    Click "OK" button to login to the WEB interface of the device.

**Note:**

- The default IP address of the device is "192.168.1.254".
- The default username and password of the device is "admin".
- If the username or password is lost, user can restore it to factory settings via device DIP switch or management software; all modified configurations will be cleared after restoring to factory settings, so please backup configuration file in advance.
- Please refer to user manual for specific configuration method of logging in to WEB interface and other configurations about network management function.

## 【Specification】

| Panel | |
|---|---|
| 100M M12 | 10/100Base-T(X), M12 (Female), 4-Pin D-Coded, automatic flow control, full/half duplex mode, MDI/MDI-X automatic detection; Optional PoE output. |
| Gigabit M12 | 10/100/1000Base-T(X)，M12(Female)，8-Pin A-Coded automatic flow control, full/half duplex mode, MDI/MDI-X automatic detection; support Bypass function |
| POE | PoE power supply pin：1, 2 are negative；3, 4 are positive |
| Console port | CLI command management port, RJ45 |
| Alarm interface | 3-pin 5.08mm pitch terminal blocks, 1 relay alarm information output, the current loading capability is 5A@30VDC or 10A@125VAC |
| Indicator | Power indicator, run indicator, interface indicator, alarm indicator POE indicator (only for PoE product) |
| **Exchange attributes** | |
| Backplane bandwidth | 12.8G |
| Packet buffer size | 3Mbit |
| MAC table size | 8K |
| **Power supply** | |
| Input power supply | 110VAC/DC (100~240VAC/DC) |
| Input terminal | 3-pin 5.08mm pitch terminal blocks |
| **Consumption** | |
| TNS5500-4GT-8T | No-load：14.30W@110VDC Full-load：14.85W@110VDC |

| TNS5500-4GT-8POE | No-load：14.08W@110VDC |
|---|---|
| | Full-load：100.54W@110VDC |
| **Working environment** | |
| Working temperature | -40～75℃ |
| Storage temperature | -40～75℃ |
| Working humidity | 5%～95%(no condensation) |
| Protection grade | IP30 (metal shell) |