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# TNS5800D 20-Port Series Layer 3 Wall Mounting Industrial Ethernet Switch Quick Installation Guide


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## 【Package Checklist】

Please check the integrity of package and accessories while first using the switch.

1 Switch 2. Warranty card

3. Certificate

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

## 【Product Overview】

This series products are layer-3 wall-mounted industrial Ethernet switches. For convenience, the products of this series adopt the following number on the left in this guide, please confirm the number of your product:

Model I. TNS5800D-16T4GT-P24 (16 100M M12 + 4 Gigabit M12 (with 2 pairs of Bypass), 2 24VDC (18~36VDC) power inputs).

Model II. TNS5800D-16T4GT-P110 (16 100M M12 + 4 Gigabit M12 (with 2 pairs of Bypass), 2 110VDC (66~156VDC) power inputs).

Model III. TNS5800D-16P4GT-P24 (16 100M PoE M12 + 4 Gigabit M12 (with 2 pairs of Bypass), 2 24VDC (18~36VDC) power inputs).

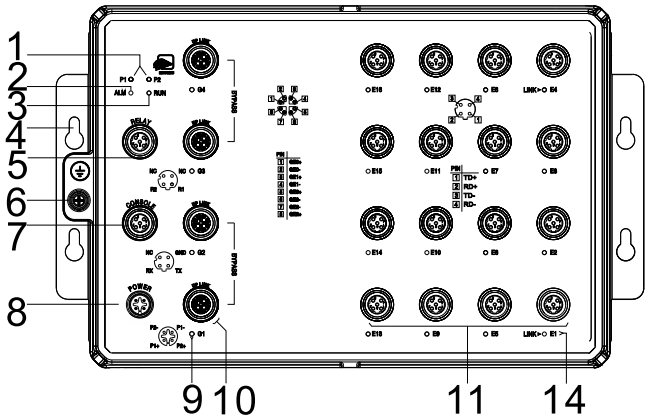
Model IV. TNS5800D-16P4GT-P110 (16 100M PoE M12 + 4 Gigabit M12 (with 2 pairs of Bypass), 2 110VDC (66~156VDC) power inputs).

Model V. TNS5800D-16GP4GT-P24 (16 Gigabit PoE M12 + 4 Gigabit M12 (with 2 pairs of Bypass), 2 24VDC (18~36VDC) power inputs).

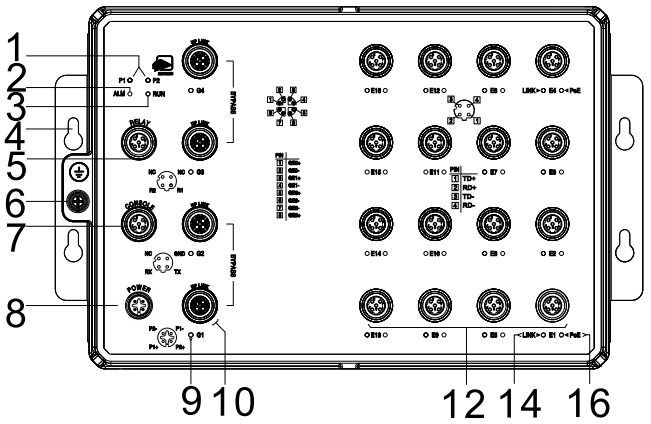
Model VI. TNS5800D-16GP4GT-P110 (16 Gigabit PoE M12 + 4 Gigabit M12 (with 2 pairs of Bypass), 2 110VDC (66~156VDC) power inputs).

## 【Panel Design】

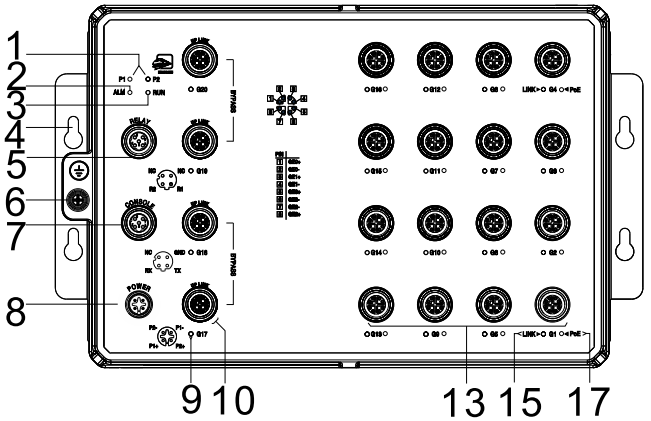
➢ **Front view**




Model I, II

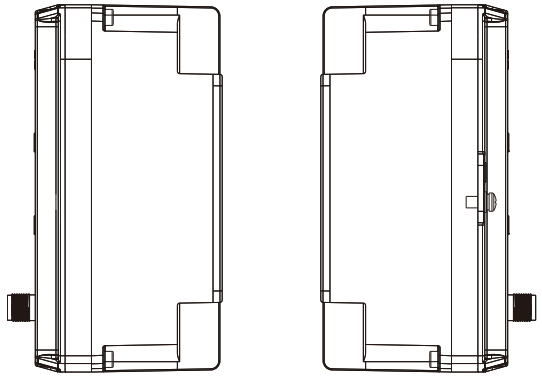



Model III, IV



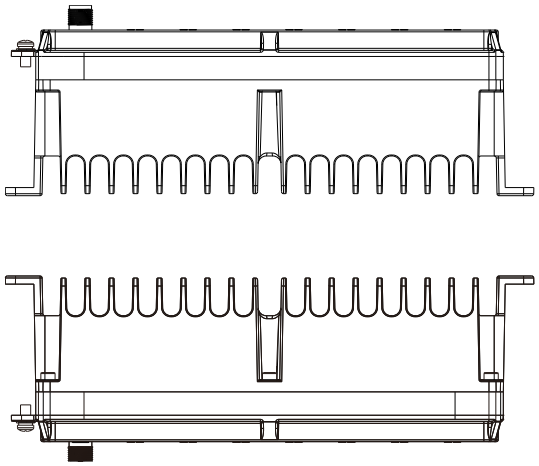

Model V, VI

➢ **Right view and left view**



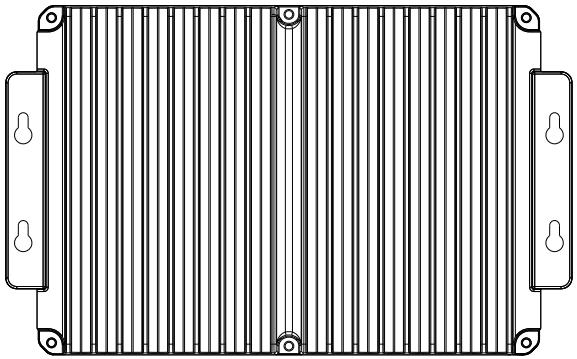
Model I-VI

➢ **Bottom view and top view**



Model I-VI

➢ **Rear view**

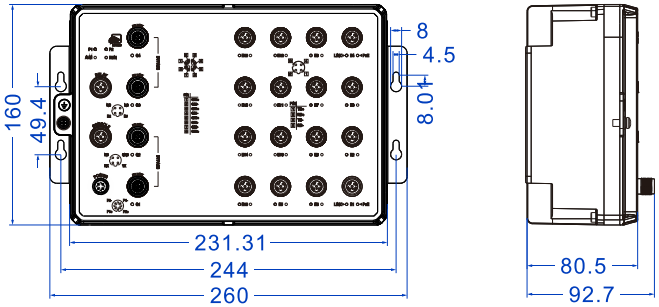


Model I-VI

1. Power supply indicator (P1-P2)
2. Alarm indicator (ALM)
3. Running indicator (RUN)
4. Lugs
5. Relay alarm output interface (RELAY)
6. Grounding screw (M5)
7. CONSOLE port
8. Power input interface (POWER: P1-P2)
9. Gigabit M12 interface indicator (Link: G1-G4, G17-G20)
10. Gigabit Bypass M12 interface (Bypass: G1-G2, G3-G4; G17-G20)
11. 100M M12 interface (E1-E16)
12. 100M PoE M12 interface (E1-E16)
13. Gigabit PoE M12 interface (G1-G16)
14. 100M M12 interface indicator (Link: E1-E16)
15. Gigabit PoE M12 interface indicator (Link: G1-G16)
16. 100M PoE indicator (PoE: E1-E16)
17. Gigabit PoE indicator (PoE: G1-G16)

## 【Mounting Dimension】

Unit: mm




**Notice Before Mounting:**

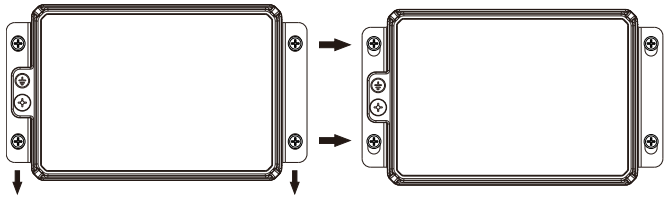
- Don't place or install the device in area near water or moisture, keep the relative humidity of the device surrounding between 5%~95% without condensation.
- Before powering on the device, check the power specifications supported by the device to prevent device damage due to overvoltage.
- The device surface temperature is high after running; please don't directly contact to avoid scalding.

## 【Wall-mounted Device Mounting】

Step 1 On the wall of device mounting, place the device on the wall for reference or refer to the mounting dimension to mark two screw positions.

Step 2 Hang the device on the labeled wall, align the bolt to the labeled position, then fix them with a certain gap.

Step 3 Slide the device down to hang on the screw, then tighten the screw, and the installation is finished.



## 【Wall-mounted Device Disassembling】

Step 1 Power off the device.

Step 2 Hold the device steady and unscrew the screw on the wall.

Step 3 Take out the device, disassembling ends.

**Notice Before Powering on:**

- Power ON operation: First insert the power supply terminal block into the device power supply interface, and then plug the power supply plug and power on.
- Power OFF operation: First, remove the power plug, then remove the wiring section of terminal block. Please pay attention to the above operation sequence.

## 【Power Supply Connection】




The series device support two sets of independent DC power inputs (P1 and P2). The power interface adopts M12 A-Coded 4-Pin male pin connectors, and the power connection features reverse polarity protection—in case of reverse connection, the device will not power on yet suffer no damage. The pin definitions of M12 (male) are shown in the figure:

- Model I, III, V power input range: 24VDC (18~36VDC).
- Model II, IV, VI power input range: 110VDC (66~156VDC).

## 【Relay Connection】




The series device provides 1 M12 D-Coded 4-Pin slot (female), supports 1 relay alarm output. The relay supports power supply output alarm or network abnormality alarm. It can be connected to alarm light or alarm buzzer or other switching value collecting devices, which can timely inform operators when the alarm occurs. Relay pin definitions are shown in the figure, and relay status

is shown in the table:

| Device Status | Relay Contacts | Alarm |
|---|---|---|
| Not powered on or powered off | Closed | Yes |
| Powered on, but not working properly | Closed | Yes |
| Powered on, and working properly without triggering any alarm | Disconnected | None |
| Powered on, and working properly, but it triggered alarms | Closed | Yes |

## 【Console Port Connection】



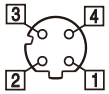

The series device provides 1 program debugging port based on RS-232 serial port which can conduct device CLI command management after connecting to PC. The interface adopts M12 D-Coded 4-Pin slot (female). The pin definitions of M12 are shown in the figure.

Connect the CONSOLE port through software. The default configuration is as follows:

| Serial Port Connection | Default |
|---|---|
| Baud rate | 115200 bps |
| Data bit | 8 bits |
| Parity bit | None |
| Stop bit | 1 bit |

## 【Communication Interface Connection】

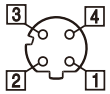
➢ **100M M12 Interface**




Model I, II device provides 10/100Base-T(X) self-adaptive 100M M12 interfaces, the interface type is M12 D-Coded 4-Pin slot (female). The definitions of M12 pin are as follows:

| Pin No. | Pin Definition | Pin Description |
|---|---|---|
| 1 | TD+ | Positive send data of 100M Ethernet |
| 2 | RD+ | Positive receive data of 100M Ethernet |
| 3 | TD- | Negative send data of 100M Ethernet |
| 4 | RD- | Negative receive data of 100M Ethernet |

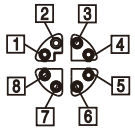
➢ **100M PoE M12 interface**




The Model III, IV device provides 10/100Base-T(X) self-adaptive 100M M12 interface, the interface type is M12 D-Coded 4-Pin slot (female). Single port supports up to 30W PoE power output, PoE power supply Pin 1 and 3 are positive, 2 and 4 are negative, and M12 pin is defined as follows:

| Pin No. | Pin Definition | Pin Description |
|---|---|---|
| 1 | TD+ | Positive send data of 100M Ethernet |
| 2 | RD+ | Positive receive data of 100M Ethernet |
| 3 | TD- | Negative send data of 100M Ethernet |
| 4 | RD- | Negative receive data of 100M Ethernet |

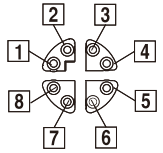
➢ **Gigabit M12 Interface**




The series device provides 10/100/1000Base-T(X) self-adaptive Gigabit M12 interfaces, the interface type is M12 X-Coded 8-Pin slot (female). Two groups of Bypass interfaces are supported, in which G1 and G2 are a group and G3 and G4 are a group. The pin definitions of M12 are shown as follows:

| Pin No. | Pin Definition | Pin Description |
|---|---|---|
| 1 | GE0+ | Positive bi-directional data of Gigabit Ethernet group 1 |
| 2 | GE0- | Negative bi-directional data of Gigabit Ethernet group 1 |
| 3 | GE1+ | Positive bi-directional data of Gigabit Ethernet group 2 |
| 4 | GE1- | Negative bi-directional data of Gigabit Ethernet group 2 |
| 5 | GE3+ | Positive bi-directional data of Gigabit Ethernet group 4 |
| 6 | GE3- | Negative bi-directional data of Gigabit Ethernet group 4 |
| 7 | GE2- | Negative bi-directional data of Gigabit Ethernet group 3 |
| 8 | GE2+ | Positive bi-directional data of Gigabit Ethernet group 3 |

➢ **Gigabit PoE M12 interface**




Model V and VI provide 10/100/1000Base-T(X) interfaces, the interface type is M12 X-Coded 8-Pinslot (female). Support PoE power supply, the maximum output power of single-port PoE is 30W, and the maximum output power of the whole machine PoE is 90W, PoE power supply Pin 1 and 2 are positive, 3 and 4 are negative, and M12 pin is defined as follows:

| No. | Pin Definition | Pin Description |
|---|---|---|
| 1 | GE0+ | Positive bi-directional data of Gigabit Ethernet group 1 |
| 2 | GE0- | Negative bi-directional data of Gigabit Ethernet group 1 |
| 3 | GE1+ | Positive bi-directional data of Gigabit Ethernet group 2 |
| 4 | GE1- | Negative bi-directional data of Gigabit Ethernet group 2 |
| 5 | GE3+ | Positive bi-directional data of Gigabit Ethernet group 4 |
| 6 | GE3- | Negative bi-directional data of Gigabit Ethernet group 4 |
| 7 | GE2- | Negative bi-directional data of |

| No. | Pin Definition | Pin Description |
|---|---|---|
| | | Gigabit Ethernet group 3 |
| 8 | GE2+ | Positive bi-directional data of Gigabit Ethernet group 3 |

## 【Checking LED Indicator】

The device provides LED indicators to monitor its operating status, which has simplified the overall troubleshooting process. The function of each LED is described in the table below:

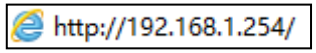
| LED | Indicate | Description |
|---|---|---|
| P1/P2 | ON | Power P1/2 is running normally |
| | OFF | Power P1/2 is disconnected or running abnormally |
| ALM | ON | Power supply or port link has alarm |
| | OFF | Power supply, port link without alarm |
| RUN | ON | The device is running abnormally |
| | Blinking | Blinking 1 time per second, system is running normally |
| | OFF | The device is powered off or the device is abnormal. |
| LINK (E1-E16, G1-G20) | ON | Ethernet port has established a valid network connection |
| | Blinking | Ethernet port is in an active network status |
| | OFF | Ethernet port has not established a valid network connection |
| PoE (E1-E16; G1-G16) | ON | POE port is powering other PD devices normally |
| | OFF | POE port is not powering other PD devices |

## 【Logging in to WEB Interface】

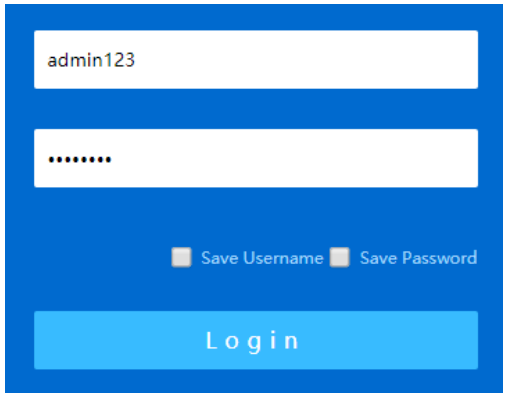
This device supports WEB management and configuration. Computer can access the device via Ethernet interface. The way of logging in to device's configuration interface via IE browser is shown as below:

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.




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




Step 4 Click "Login" 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 are "admin123".
- If the username or password is lost, user can restore it to factory settings via 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 | |
|---|---|
| Gigabit PoE M12 | 10/100/1000Base-T(X), M12 (Female), 8-Pin X-Coded, automatic flow rate control, full/half duplex mode, MDI/MDI-X autotuning; Support PoE power supply, the maximum output power of single-port PoE is 30W, and the maximum output power of the whole machine PoE is 90W. Pin 1 and 2 of PoE power supply are positive, while pin 3 and 4 are negative |
| Gigabit M12 | 10/100/1000Base-T(X), M12(Female), 8-Pin X-Coded, Automatic Flow Control, Full/half Duplex Mode, MDI/MDI-X Autotuning; support two groups of Bypass |
| 100M PoE M12 | 10/100base-T(X), M12 (Female), 4-Pin D-Coded, automatic flow control, full/half duplex mode, MDI/MDI-X automatic detection; Support PoE power supply, the maximum output power of single-port PoE is 30W, and the maximum output power of the whole machine PoE is 90W. Pin 1 and 3 of PoE power supply are positive, while pin 2 and 4 are negative |
| 100M M12 | 10/100Base-T(X), M12(Female), 4-Pin D-Coded, Automatic Flow Control, Full/Half Duplex Mode, MDI/MDI-X Autotuning |
| Console port | CLI command line management port (RS-232), M12(Female), 4-Pin D-Coded |
| Alarm port | M12(Female), 4-Pin D-Coded, support 1 relay alarm output, with current load capacity of 1A@30VDC or 0.3A@125VAC |
| Indicator | Power indicator, alarm indicator, running indicator, interface indicator, PoE indicator |

| Switch Property | |
|---|---|
| Backplane bandwidth | 128Gbps |
| Buffer size | 12Mbit |
| MAC address table | 16K |
| **Power Supply** | |
| Model I, III, V | 2 24VDC (18~36VDC) power inputs, support anti-reverse connection |
| Model II, IV, VI | 2 110VDC (66~156VDC) power inputs, support anti-reverse connection |
| Connection Mode | M12(Male), 4-Pin A-Coded |
| **Power Consumption** | |
| Model I | No-load at normal temperature 25℃: 7.17W@24VDC<br>Full-load at normal temperature 25℃: 10.82W@24VDC<br>Full-load at high temperature 75℃: 11.54W@24VDC |
| Model II | No-load at normal temperature 25℃: 8.86W@110VDC<br>Full-load at normal temperature 25℃: 12.17W@110VDC<br>Full-load at high temperature 75℃: 13.28W@110VDC |
| Model III | No-load at normal temperature 25℃: 10.56W@24VDC<br>Full-load at normal temperature 25℃: 14.88W@24VDC<br>Full-load at high temperature 75℃: 116.4W@24VDC (with PoE load) |
| Model IV | No-load at normal temperature 25℃: 9.905W@110VDC<br>Full-load at normal temperature 25℃: 13.20W@110VDC<br>Full-load at high temperature 75℃: 101.2W@110VDC (with PoE load) |
| Model V | No-load at normal temperature 25℃: 10.08W@24VDC<br>Full-load at normal temperature 25℃: 18.48W@24VDC<br>Full-load at high temperature 75℃: 112.5W@24VDC (with PoE load) |
| Model VI | No-load at normal temperature 25℃: 9.906W@110VDC<br>Full-load at normal temperature 25℃: 18.70W@110VDC<br>Full-load at high temperature 75℃: 117.7W@110VDC (with PoE load) |
| **Working Environment** | |
| Working temperature | -40~75℃ |
| Storage temperature | -40~85℃ |
| Working humidity | 5%~95% (no condensation) |
| Protection grade | IP67 (metal shell) |

## 【Disposal of Waste Electrical and Electronic Equipment (WEEE 2012/19/EU)】

(Applicable in the EU-member states)



The crossed-out wheeled bin symbol on the equipment or its packaging indicates that the product, at the end of its service life, shall not be mixed with unsorted municipal waste but should be collected separately, in accordance with local laws and regulations.

A proper separate collection of end-of-life equipment for the subsequent recycling, treatment and environmentally compatible disposal, will help prevent potential damage to the environment and human health, facilitating the reuse, recycling and/or recovery of its component materials.

Private users should contact their vendor or municipal waste management service and ask for disposal information.

Professional users should contact their suppliers and check the terms of their selling agreement.

This product must not be disposed of with other commercial waste.

Users' cooperation in the correct disposal of this product will contribute to saving valuable resources and protecting the environment.