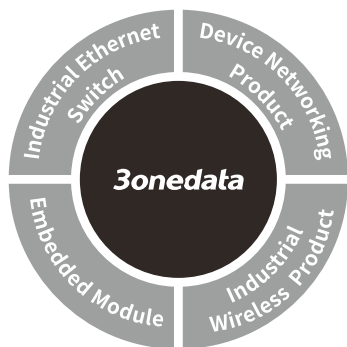


## TNS5800 Series Layer 3 Rack-mounted Industrial Ethernet Switch Quick Installation Guide



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### 【Package Checklist】

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

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

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

### 【Product Overview】

This series of products are layer 3 rack-mounted industrial Ethernet switches designed for the rail transit industry. Models as follows:

Model I. TNS5800-8P4GT-2P110 (8 100M PoE M12 + 4 Gigabit M12, 110VDC dual power supply input)

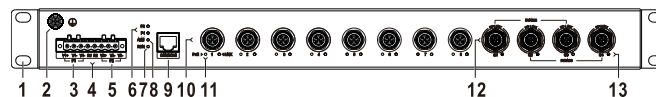
Model II. TNS5800-8GP4GT-2P110 (8 Gigabit PoE M12 + 4 Gigabit M12, 110VDC dual power supply input)

Model III. TNS5800-16P4GT-2P110 (16 100M PoE M12 + 4 Gigabit M12, 110VDC dual power supply input)

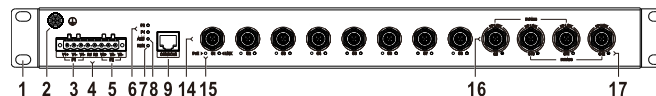
Model IV. TNS5800-16GP4GT-2P110 (16 Gigabit PoE M12 + 4 Gigabit M12, 110VDC dual power supply input)

### 【Panel Design】

#### ➤ Front view



Model I

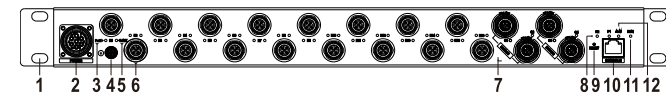


Model II

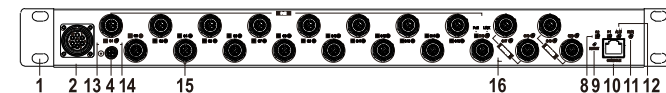
1. Lugs
2. Grounding screw
3. Power P1 input terminal (P1)
4. Relay alarm output terminal block
5. Terminal block for power P2 input (P2)
6. Power supply indicator (P1-P2)
7. Running indicator (RUN)
8. Alarm indicator (ALM)
9. CONSOLE port
10. 100M PoE M12 interface (1-8)
11. PoE indicator (1-8)
12. Gigabit Bypass M12 interface (Bypass: G1-G3, G2-G4)
13. Ethernet port indicator(1-8, G1-G4)
14. Gigabit PoE M12 interface (G1-G8)
15. PoE indicator (G1-G8)

16. Gigabit Bypass M12 interface (Bypass: G9-G11, G10-G12)

17. Ethernet port indicator (G1-G12)



Model III



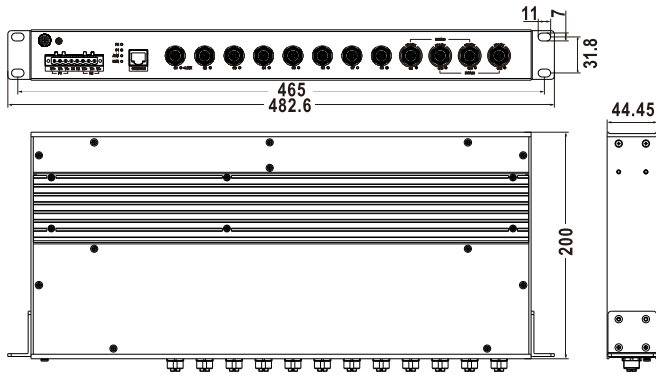
Model IV

1. Lugs
2. Power supply input and relay output interface
3. PoE indicator (E1-E16)
4. Grounding screw
5. Ethernet port indicator (E1-E16, G1-G4)
6. 100M PoE M12 interface (E1-E16)
7. Gigabit Bypass M12 interface (Bypass: G1-G2, G3-G4)
8. Power supply indicator (P1-P2)
9. RESET button
10. CONSOLE port
11. Running indicator (RUN)
12. Alarm indicator (ALM)
13. PoE indicator (G1-G16)
14. Ethernet port indicator (G1-G20)
15. Gigabit PoE M12 interface (G1-G16)
16. Gigabit Bypass M12 interface (Bypass: G17-G18, G19-G20)

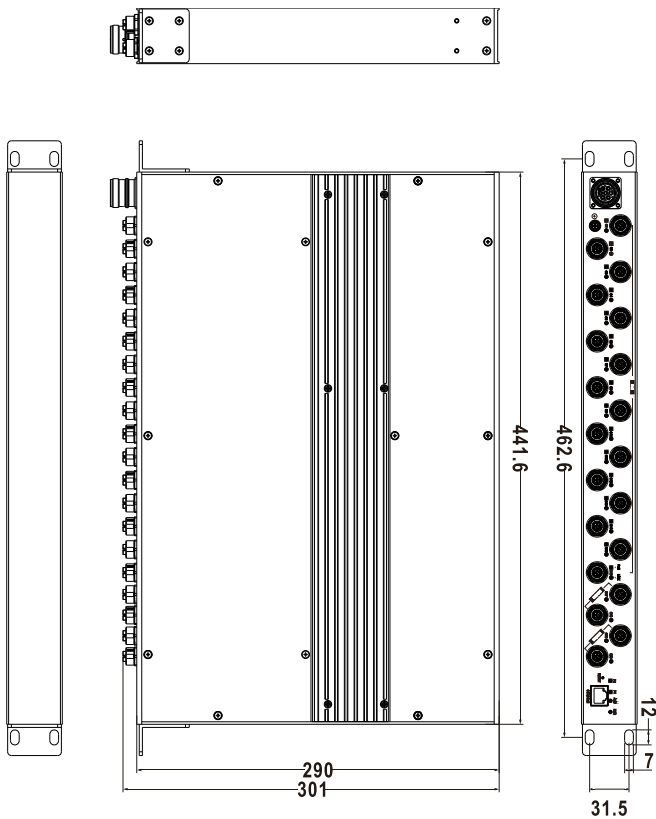
### 【Mounting Dimension】

Unit: mm

#### ➤ Model I and Model II



➤ **Model III and Model IV**



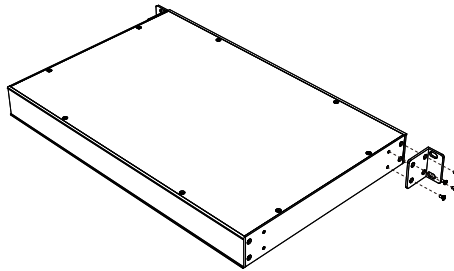
**Notice Before Mounting:**

- 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.

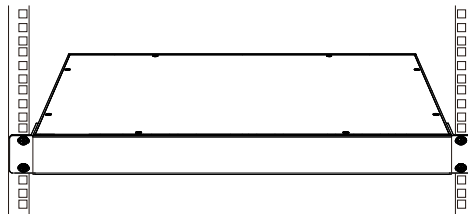
**【Rack-mounting】**

Step 1 Select the device mounting position and ensure enough mounting size is reserved.

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



Step 3 Place the device in the rack; adopt 4 bolts to fix two sides mounting lugs in the rack.



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

**【Disassembling Device】**

- Step 1 Device power off.
- Step 2 Unscrew the fixed mounting lug screw on the rack.

Step 3 Shift out the device from rack, disassembling ends.

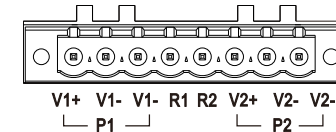


**Notice before power on:**

- Power ON operation: First insert the power supply terminal block into the device power supply interface, then plug the power supply plug contact 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】**

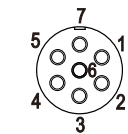
➤ **Model I and Model II**



The Model I and II device of this series provide two independent DC power supply systems, P1 and P2,

which support reverse connection protection and power redundancy backup. Power interface adopts 8-pin 5.08mm pitch terminal blocks (includes 6-pin power supply), pin definition are shown as above. Power supply input range: 110VDC (66~156VDC).

➤ **Model III and Model IV**



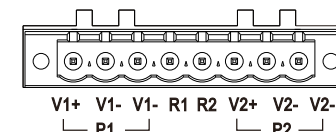
The Model III and IV device of this series provide two independent DC power supply systems, P1 and P2, which support reverse connection protection and power redundancy backup. The

power supply interface adopts M23 7-Pin pin (male) connector. Input voltage of power supply: 110VDC The pin definitions of M23 (male) are shown as follows:

Pin No.	1	2	3	4	5	6	7
Definition	V1+	V1-	V2+	V2-	R1	GND	R2

**【Relay Connection】**

➤ **Model I and Model II**

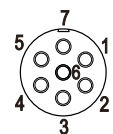


The Model I and II device of this series adopts 8-pin 5.08mm pitch terminal blocks and supports 1 relay

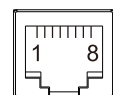
alarm output, the relay occupies 2 pins, pin definition are shown as above. R1 and R2 are a group of normally open contacts of the device alarm relay, which is open in normal no-alarm state and closed when any alarm information appears. For example, they are closed when powered off, and send out alarm. The relay supports the output of DC power supply alarm information 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.

#### ➤ Model III and Model IV

The Model III and IV device of this series provides 7-pin M23 interface, pin 5 and 7 are relay pins. The relay is a group of normally open contacts, which is open in normal no-alarm state and closed when any alarm information occurs. For example, they are closed when powered off, and send out alarm. The device supports 1 relay alarm information output that can output 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.



#### 【Console Port Connection】



The device provides 1 program debugging port based on RS232 serial port which can conduct device CLI command management after connecting to PC. The interface adopts RJ45 port, the pin definition as follows:

Pin No.	2	3	5
Definition	TXD	RXD	GND

#### 【Communication Interface Connection】

##### ➤ 100M M12 Interface

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

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

1	TX+	Positive send data of 100M Ethernet
2	RX+	Positive receive data of 100M Ethernet
3	TX-	Negative send data of 100M Ethernet
4	RX-	Negative receive data of 100M Ethernet

##### ➤ Gigabit M12 interface

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

Pin No.	Definition	Description
1	D0+ (DA+)	Positive bi-directional data of Gigabit Ethernet group 1
2	D0- (DA-)	Negative bi-directional data of Gigabit Ethernet group 1
3	D1+ (DB+)	Positive bi-directional data of Gigabit Ethernet group 2
4	D1- (DB-)	Negative bi-directional data of Gigabit Ethernet group 2
5	D3+ (DD+)	Positive bi-directional data of Gigabit Ethernet group 4
6	D3- (DD-)	Negative bi-directional data of Gigabit Ethernet group 4
7	D2- (DC-)	Negative bi-directional data of Gigabit Ethernet group 3
8	D2+ (DC+)	Positive bi-directional data of Gigabit Ethernet group 3

#### 【Checking LED Indicator】

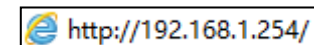
The device provides LED indicators to monitor its operating status, which has simplified the overall troubleshooting process. The function of each LED is described in the table below:

LED	Indicate	Description
P1/P2	ON	P1/2 is connected and running normally
	OFF	P1/2 is disconnected and running abnormally
ALM	ON	Power supply or port link has alarm
	OFF	Power supply or port link has no alarm
RUN	ON	The device is powering on or the device is abnormal.
	OFF	The device is powered off or the device is abnormal.
	Blinking	Blinking 1 time per second, system is running normally
LINK	ON	Ethernet port has established a valid network connection
	Blinking	Ethernet port is in an active network status
	OFF	Ethernet port has not established valid network connection
POE	ON	POE port is powering other PD devices normally
	OFF	POE port is not powering other PD devices

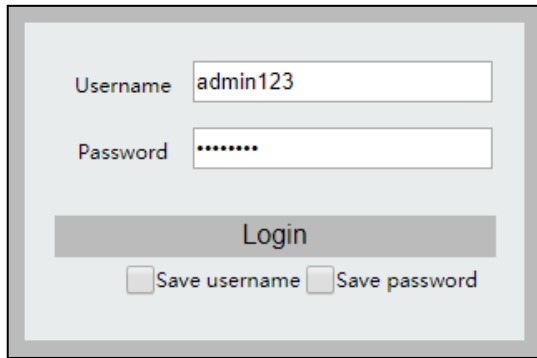
#### 【Logging in to WEB Interface】

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 autotunning; The maximum capacity of a single port is 30W PoE power supply output. 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 Autotunning; 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; The single port supports up to 30W PoE power supply output. Pin 1 and 3 of PoE power supply are positive, while pin 2 and 4 are negative
Console port	CLI command line management port (RS-232), RJ45
Alarm interface	8-pin 5.08mm pitch terminal blocks (includes 2-pin relay) or 7-pin Male M23 interface (includes 2-pin relay), support 1 relay alarm output, the current load capability is 1A@30VDC or 0.3A@125VAC.
Indicator	Power indicator, alarm indicator, running indicator, interface indicator, PoE indicator
Switch Property	
Backplane bandwidth	128G
Packet buffer size	12Mbit
MAC table size	16K
Power Supply	

Model I, Model II	<ul style="list-style-type: none"> <li>• Power input: 110VDC(66~156VDC), dual power supply redundancy, support anti-reverse connection protection</li> <li>• Connection method: 8-pin 5.08mm pitch terminal blocks (includes 6-pin power supply)</li> </ul>
Model III, Model IV	<ul style="list-style-type: none"> <li>• Power input: 110VDC, dual power supply redundancy, support anti-reverse connection</li> <li>• Connection method: 7-PIN Male M23 interface (includes 4-pin power supply)</li> </ul>
Power Consumption	
Full-load(without PoE)	<20W
Full-load(with PoE)	<120W
Working Environment	
Working temperature	-40~75°C
Storage temperature	-40~85°C
Working humidity	5%~95% (no condensation)
Protection grade	IP40 (metal shell)