NAT-108 Series
Quick Installation Guide

Moxa Industrial NAT Device

Version 1.0, April 2025

Technical Support Contact Information
www.moxa.com/support

P/N: 1802001081010

Package Checklist

The NAT-108 Series is shipped with the items listed below. If any of these items are missing or damaged, please contact your customer service representative for assistance.

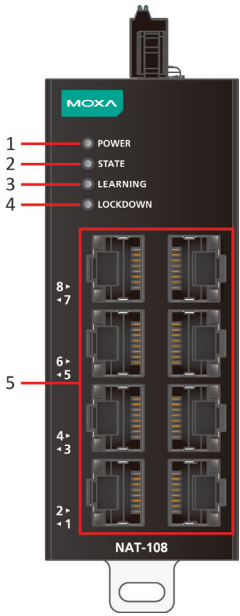
- 1 Industrial NAT device
- 1 USB-C-to-DB9 cable
- 1 Console port cover
- Quick installation guide (printed)
- Warranty card

Features

- Comprehensive NAT functionality with unique " IP Twins Mapping" NAT mode that supports 1-to-1 NAT same IP conversion
- Enhanced security through automatic or manual network access control, including auto-allowlisting of locally connected devices
- Ultra-compact size for cabinet installation
- Rugged hardware that supports a -40 to 75°C operating temperature (T model)

Panel Views of NAT-108 Series

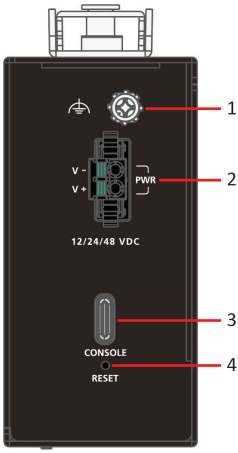
Front Panel



Front Panel:

1. POWER LED indicator
2. STATE LED indicator
3. LEARNING LED indicator
4. LOCKDOWN LED indicator
5. 10/100 Mbps copper ports

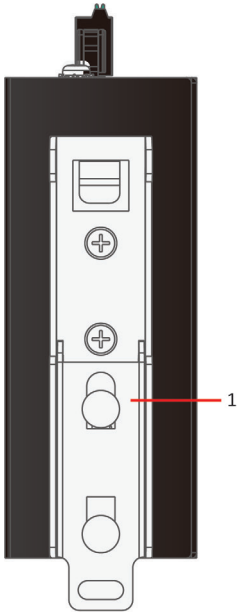
Top Panel



Top Panel:

1. Grounding screw
2. Terminal block with latch for power input
3. Type-C serial console port
4. Reset button

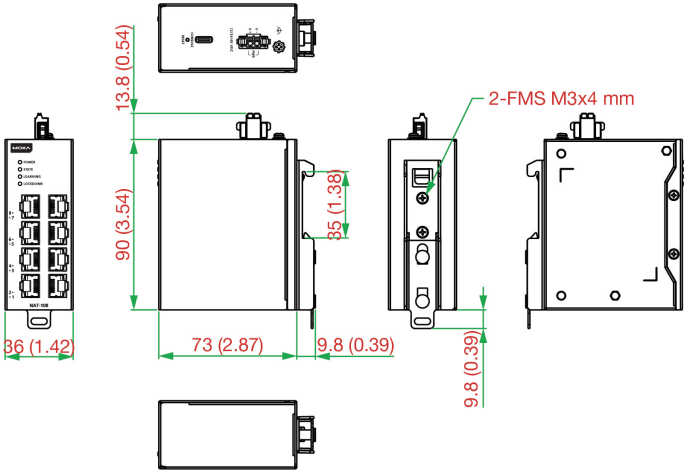
Rear Panel



Rear Panel:

1. DIN-rail mounting kit

Mounting Dimensions



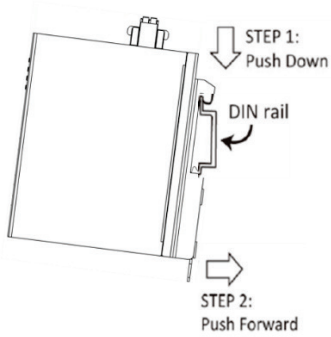
DIN-rail Mounting

The metal DIN-rail mounting kit is fixed to the back panel of the NAT-108 Series by default when shipped. Mount the NAT-108 Series on a corrosion-free mounting rail that adheres to the EN 60715 standard.

Suggested Installation Method

STEP 1:
Insert the upper lip of the DIN-rail kit into the mounting rail.

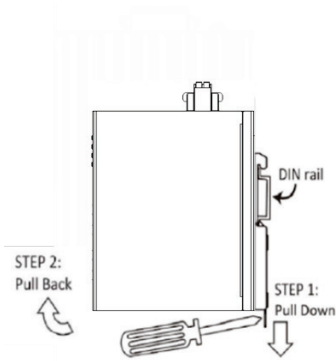
STEP 2:
Press the NAT-108 Series towards the mounting rail until it snaps into place.



Suggested Removal Method

STEP 1:
Pull down the latch on the DIN-rail kit with a screwdriver.

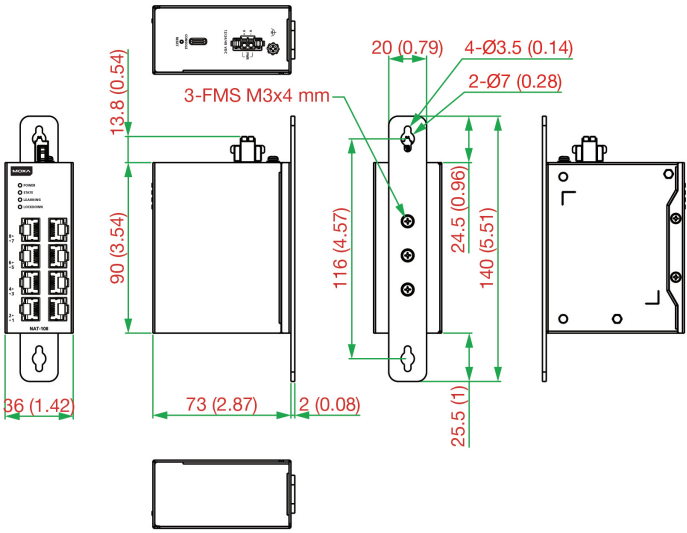
STEPS 2 & 3:
Slightly pull the NAT-108 Series forward and lift it up to remove it from the mounting rail.



Wall Mounting

For some applications, it may be more convenient to mount the NAT-108 Series on the wall, as shown in the following illustrations.

STEP 1: Remove the aluminum DIN-rail attachment plate from the rear panel of the NAT-108 Series, and then attach the wall mount plates with three M3 screws.



STEP 2: Mounting the NAT-108 Series on the wall requires two screws. Use the NAT-108 Series with the wall mount plates attached as a guide to mark the correct location of the two screws.

NOTE The screws should have a screw head diameter of 3.5 to 6.0 mm, a shaft diameter of 2.5 to 3.5 mm, and a length of at least 10 mm.

Wiring Requirements

WARNING

Do not disconnect modules or wires unless power has been switched off or the area is known to be non-hazardous. The devices may only be connected to the supply voltage shown on the type plate.

ATTENTION

This unit is a built-in type. When the unit is installed in another piece of equipment, the equipment enclosing the unit must comply with fire enclosure regulation IEC 60950-1/EN60950-1 (or similar regulation).

ATTENTION

Safety First!

Be sure to disconnect the power cord before installing and/or wiring your NAT-108 Series.

Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.

If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

Please read and follow these guidelines:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.
  NOTE: Do not run signal or communications wiring and power wiring through the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring sharing similar electrical characteristics can be bundled together.
- You should separate input wiring from output wiring.
- We advise that you label the wiring to all devices in the system.
- This product is intended for installation in Restricted Access Location.

WARNING

Hot Surface. Do not touch.

Grounding the NAT-108 Series

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw (M3 type) to the grounding surface prior to connecting devices.

The grounding wire must be connected to the grounding screw using a cable lug. The grounding cable must have a cross-sectional area that is the same or larger than the 0.08 mm² (28 AWG) to 1.31 mm² (16 AWG) terminal input conductor wire.

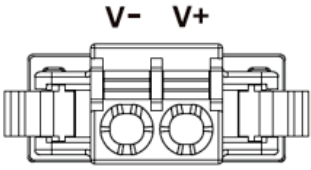
ATTENTION

This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.

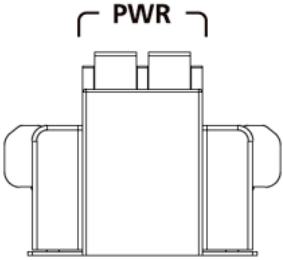
Wiring the Power Inputs

The NAT-108 Series has one power input. The top and side views of the terminal block connector are shown below.

NOTE
- The input terminal block (J1) should be installed using 16-28 AWG wires with 8 to 9 mm of the conductor insulation stripped.
- Wire type: Cu.
- Wiring the input should be done by a skilled person.



Top View



Right View

STEP 1:
Use a small flat-blade screwdriver to press a wire locker.

STEP 2:
Insert a positive/negative DC wire into the V+/V- terminals respectively.

STEP 3:
Release the wire locker and check whether the wire is fixed.

If using a Class I adapter, the power cord must be connected to a socket-outlet with an earthing connection.

This product is intended to be supplied by a UL Listed Power Adapter or DC power source marked 'L.P.S' or 'Limited Power Source', rated 12 to 48 VDC, 0.35 A (min.), and Tma 75°C (min.). If you require further assistance, please contact your Moxa representative.

Communication Connections

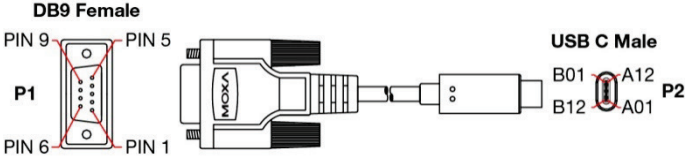
Each NAT-108 Series has two types of communication ports:

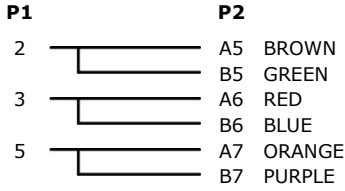
- 1 Type-C console port (RS-232 interface, baudrate: 115200, 8-N-1)
- 8 10/100BaseT(X) Ethernet ports

Type-C Console Port Connection

The NAT-108 Series provides one TYBP-C console port located on the top panel. Connect the industrial secure router to a PC COM port using the Type-C-to-DB9 connection cable, and then launch a console terminal software, e.g. Moxa PComm Terminal Emulator, to access the NAT-108 Series' console configuration utility.

TYPE-C-to-DB9 Cable Wiring





PIN Definition

Description	P1	P2
TXD	2	A5, B5
RXD	3	A6, B6
GND	5	A7, B7

10/100BaseT(X) Ethernet Port Connection

The 10/100BaseT(X) ports located on the NAT-108 Series front panel are used to connect to Ethernet-enabled devices. Most users will choose to configure these ports for Auto MDI/MDI-X mode, in which case the port's pinouts are adjusted automatically depending on the type of Ethernet cable used (straight-through or cross-over), and the type of device (NIC-type or HUB/Switch-type) connected to the port. No matter which case you are connecting, we share pinouts for both MDI (NIC-type) ports and MDI-X (HUB/Switch-type) ports.

10/100Base T(x) RJ45 Pinouts

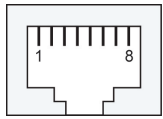
MDI Port Pinouts

Pin	Signal
1	Tx+
2	Tx-
3	Rx+
6	Rx-

MDI-X Port Pinouts

Pin	Signal
1	Rx+
2	Rx-
3	Tx+
6	Tx-

8-pin RJ45



The Reset Button

Using a pointed object such as a straightened paperclip or toothpick, depress the Reset button for five seconds to load the factory default settings. When pressing down, the STATE LED will start to blink about once per second. Continue to depress until the STATE LED begins blinking more quickly, indicating that the device is resetting and you can release.

NOTE DO NOT power off the device when loading default settings.

LED Indicators

The front panel of the NAT-108 Series has several LED indicators. The function of each LED is described in the following table:

LED	Color	State	Description
PWR	Amber	On	Power is being supplied to the power input.
		Off	Power is **NOT** being supplied to the power.
STATE	Green	On	The system passed the self-diagnosis test on boot-up and is ready to run.

LED	Color	State	Description
		Blinking	Device reset is in progress, blinking once per second.
		Off	The system failed the self-diagnosis test on boot-up.
LEARN	Amber	Blinking	The device lockdown learning is in progress.
		Off	Learning finished.
LOCKDOWN	Green	On	The device lockdown allowlist is enabled.
		Off	The device lockdown allowlist is disabled.

Specifications

Input Current	0.35 A @ 12 V 0.18 A @ 24 V 0.09 A @ 48 V
Input Voltage	12/24/48 VDC
Power Consumption	4.46 W (max.)
Operating Temperature	-10 to 60°C (14 to 140°F), standard models -40 to 75°C (-40 to 167°F), wide-temp. models
Storage Temperature	-40 to 85°C (-40 to 185°F)

Standards and Certifications

WARNING

사 용 자 안 내 문
이 기기는 업무용 환경에서 사용할 목적으로 적합성 평가를 받은 기기로서
가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱: 8 埠工業網路位址轉譯(NAT)裝置 型號（型式）: NAT-108 系列 Equipment name Type designation (Type) (系型號參考頁)						
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
外殼	○	○	○	○	○	○
印刷電路板及其電子組件	—	○	○	○	○	○
電纜/電線/連接器	—	○	○	○	○	○
機械部件-金屬	○	○	○	○	○	○
機械部件-非金屬	○	○	○	○	○	○

備考 1. "超出 0.1 wt %"及 "超出 0.01 wt %"係指限用物質之百分比含量超出百分比含量基準值。

Note 1: "Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考 2. "○"係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2: "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考 3. "－" 係指該項限用物質為排除項目。

Note 3: The "－" indicates that the restricted substance corresponds to the exemption.

警告：為避免電磁干擾，本產品不應安裝或使用於住宅環境。

警告：更換不正確之電池形式會有爆炸的風險，請依製造商說明書處理用過之電池。

製造商資訊

Moxa 四零四科技股份有限公司

+886-3-2737575

桃園市八德區和平路 1111 號