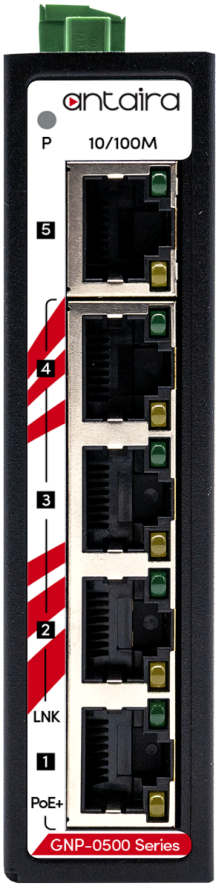
# GNP-0500 Series

**5-Port Industrial PoE+ Unmanaged Ethernet Switch,**
**w/4*10/100Tx (30W/Port) + 1*10/100Tx**




# Hardware Manual

Version 1.0
(June 2026)

www.antaira.com

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## FCC Warning

This equipment has been tested and found to comply with the limits for a Class-A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Caution:** Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

## Avertissement FCC

Cet équipement a été testé et déclaré conforme aux limites d'un appareil numérique de classe A, conformément à la partie 15 des règles de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre de l'énergie radiofréquence. Cela peut provoquer des interférences nuisibles aux communications radio si l'équipement n'est pas installé et utilisé conformément aux instructions. Cependant, il n'y a aucune garantie qu'aucune interférence ne se produira dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou télévision, ce qui peut être déterminé en éteignant puis en rallumant l'équipement, l'utilisateur est encouragé à essayer de corriger les interférences par une ou plusieurs des mesures suivantes:

- Réorientez ou déplacez l'antenne de réception.
- Augmentez la distance entre l'équipement et le récepteur.
- Connectez l'équipement à une prise sur un circuit différent de celui auquel le récepteur est connecté.
- Consultez le revendeur ou un technicien radio / TV expérimenté pour obtenir de l'aide.

## CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## Avertissement de marque CE

Ceci est un produit de classe A. Dans un environnement domestique, ce produit peut provoquer des interférences radio, auquel cas l'utilisateur peut être amené à prendre des mesures adéquates.

## Industrial PoE Injector

Hardware Manual
Version 1.0 (June 2026)

The manual supports the following models:

- GNP-0500
- GNP-0500-T

This document is the current official release hardware manual. Please check our website (www.antaira.com) for any updated manual or contact us by e-mail (support@antaira.com).

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# 1 Overview

Antaira Technologies' GNP-0500 Series is an ultra-compact, rugged industrial 5-port 100Mbps Ethernet switch featuring four 30W PoE PSE ports. Designed for demanding environments, including hazardous industrial sites and centralized control stations, the GNP-0500 Series delivers reliable performance in a slim, space-saving form factor. Its compact design makes it well suited for industrial automation, IP surveillance, traffic monitoring, security, transportation, telecom, and other space-constrained applications requiring dependable network connectivity.

## 1.1 Product Hardware Features

System Interface and Performance

- 5*10/100BaseT(X) auto negotiation, auto MDI/MDI-X function, full/half duplex
- 4*IEEE 802.3af/at PSE ports (30W per port)

Product Input

- 48~56VDC Power Input
- 90W Maximum total power with 56VDC power input

Operating Temperature

- Standard operating temperature: -10°C to 70°C
- Extended operating temperature: -40°C to 75°C

Case / Installation

- IP30 protection
- DIN-Rail mount design

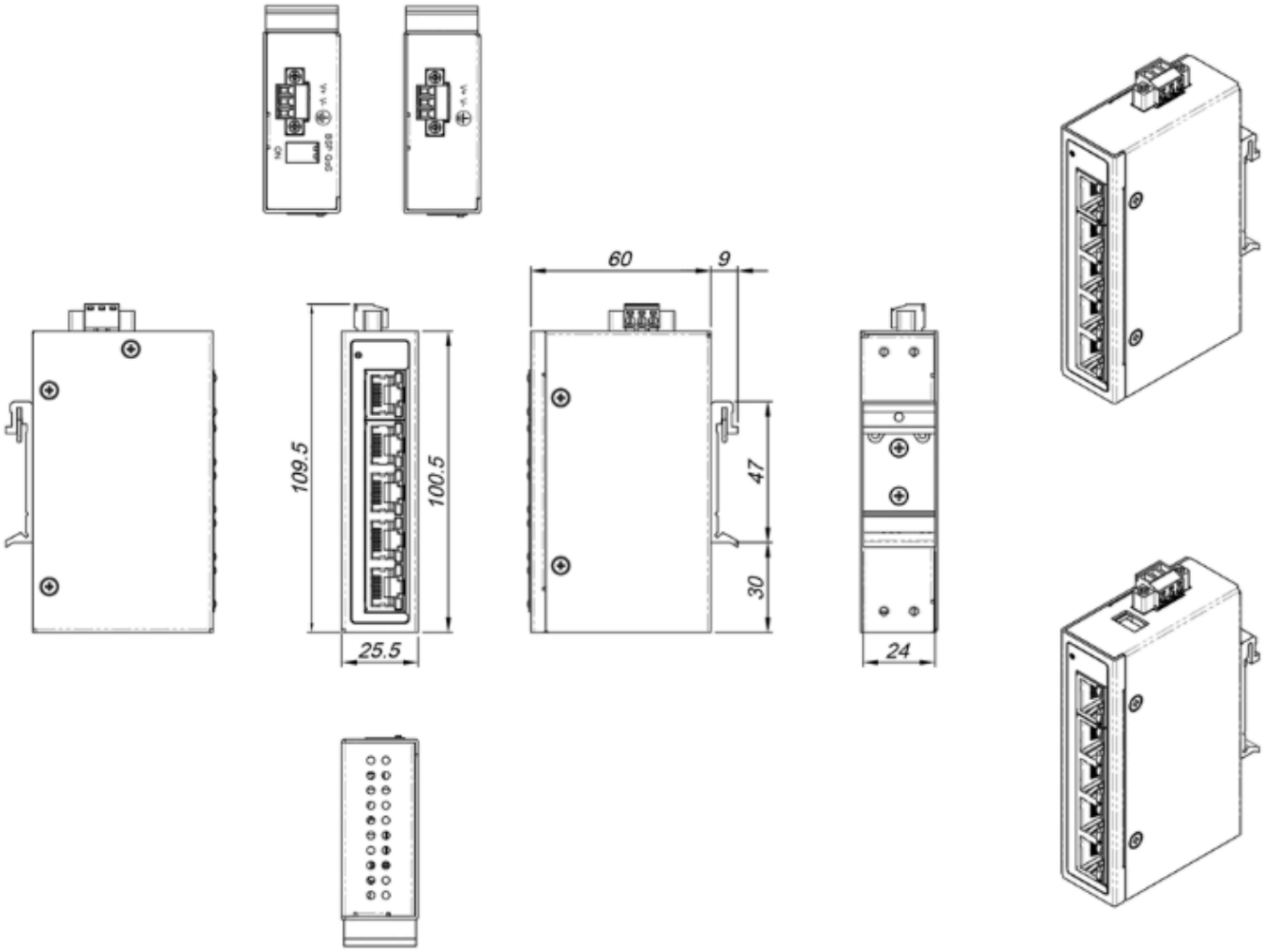
## 1.2 Package Contents

- GNP-0500(-T)
- Quick Installation Guide
- DIN-Rail bracket

# 2 Hardware Description

## 2.1 Physical Dimensions

*Figure 2.1*, below, shows the physical dimensions of this product series:




**(W x H x D) is 25.5mm x 100.5mm x 60mm**
*Figure 2.1 - Physical Dimensions*

## 2.2 Grounding Note

Ensure proper grounding by connecting the unit's chassis ground to an earth ground using an appropriate grounding wire.

**Important:** Unit must be properly grounded before operation.

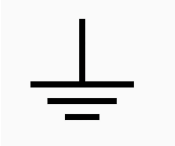


*Figure 2.5 - Grounding Screw Symbol*

**Caution:** Using a shielded cable achieves better electromagnetic compatibility.

**Attention:** L'utilisation d'un câble blindé permet une meilleure compatibilité électromagnétique

## 2.3 LED Indicators

| LED | Color | Description | |
|---|---|---|---|
| P | Green | On | Power is detected |
| | | Off | Power is not detected |
| LNK/ACT | Green | On | TX port is detected |
| | | Flashing | TX data is transmitting/receiving |
| PoE | Amber | On | PD is detected and PSE is activated |
| | | Off | PD is not detected |

Please allow 2 minutes for the PoE chip initialization to finish when performing cold starts in conditions of extreme low temperature.

## 2.4 DIP Switch Indicators

| DIP Switch | Position | Description |
|---|---|---|
| Broadcast Storm Protection (BSP) | UP | Disable BSP |

<table>
<tr><td></td><td>DOWN (default)</td><td>Enables BSP (only allows a maximum of 200 broadcast packets per second) for each Ethernet port.</td></tr>
<tr><td rowspan="2">Quality of Service (QoS)</td><td>UP</td><td>Disable QoS</td></tr>
<tr><td>DOWN (default)</td><td>Enables QoS to handle packet priorities in two Weighted Round Robin (WRR) queues.<br>Class of Service (CoS) priority mapping matrix in each queue.
<table>
<tr><td>CoS priority</td><td>7,6,5,4</td><td>3,2,1,0</td></tr>
<tr><td>Queues</td><td>1</td><td>0</td></tr>
<tr><td>WRR</td><td>16</td><td>1</td></tr>
</table></td></tr>
</table>

When QoS is enabled, the system categorizes network traffic into two Weighted Round Robin (WRR) queues based on the Class of Service (CoS) priority values. High-priority traffic, with CoS values of 7, 6, 5, and 4, is assigned to Queue 1, while lower-priority traffic, with CoS values of 3, 2, 1, and 0, is assigned to Queue 0. WRR scheduling ensures that Queue 1 receives significantly more transmission opportunities, with a weight of 16, compared to Queue 0, which has a weight of 1. This configuration prioritizes critical traffic such as voice and video communications, ensuring minimal delay, while still allowing background traffic to be processed without being completely dropped. If QoS is disabled, all traffic is treated equally without prioritization.

# 3 Mounting Installation

## 3.1 DIN-Rail Mounting

Please refer to *Figure 3.3* for DIN-Rail bracket installation reference.

Follow below steps for installing the industrial switch on the DIN-Rail track:

1. Insert the top of the DIN-Rail onto the track as shown below in *Figure 3.1*.
2. Lightly pull down the bracket onto the rail as shown below in *Figure 3.2*.
3. Check if the bracket is mounted tightly on the rail.
4. To remove the industrial Ethernet switch from the rail, do the opposite from the above steps.

**NOTE**: Make sure all cables from the surge protector are disconnected before removing the unit.

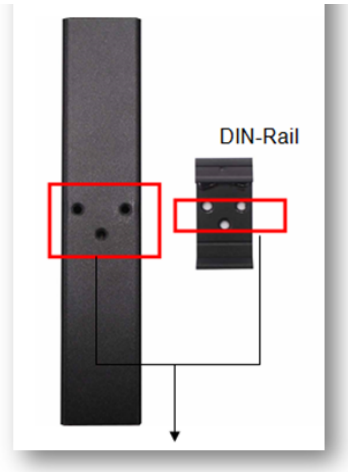



*Figure 3.1 - Rear View of the Surge Protector and DIN-Rail*

*Figure 3.2 - Insert the Surge Protector on the DIN-Rail*

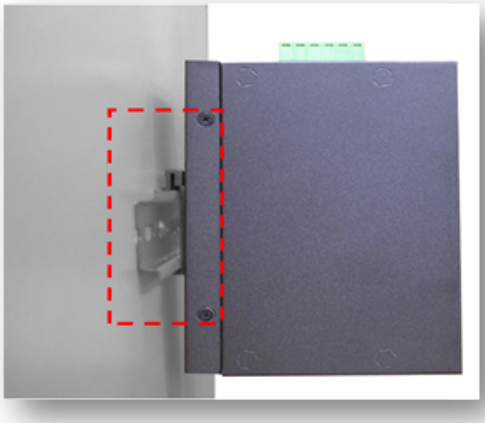


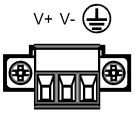
*Figure 3.3 - Stable the Surge Protector on the DIN-Rail*

# 3.2 Power Connection

This unit provides a 3-pin terminal block. It can be operated using 48~56VDC power source. Always make sure your input voltage is within this supported voltage range.

Follow the printed polarity for V+, V-, and Ground. Connect positive wire to V+, connect negative wire to V-, and connect a wire from the unit's chassis ground to the earth ground.

**Wiring the Power Connection**




Step 1 - Pull out the 3-pin terminal block.

Step 2 - Connect the wire to V+,V-, and Ground.

Step 3 - Plug back the 3-pin terminal block to its place.

**[Warning]** Always shut off the power source to connect the power wire.

**[Warning]** Always ground the power source to maintain a clean power input. Using low quality power supplies create too much noise and will cause the power input to fluctuate when connected to this unit. To avoid this, always ground the power source to maintain a clean power input.

# 4 Hardware Installation

## 4.1 Maintenance and Service

- If the device requires servicing of any kind, the user is required to disconnect and remove it from its mounting. The initial installation should be done in a way that makes this as convenient as possible.
- Voltage/Power lines should be properly insulated as well as other cables. Be careful when handling them so as to not trip over.
- Do not under any circumstance insert foreign objects of any kind into the heat dissipation holes located in the different faces of the device. This may not only harm the internal layout, but might cause harm to the user as well.
- Do not under any circumstance open the device for any reason. Please contact your dealer for any repair needed or follow the instructions within the manual.

**WARNING**: When connecting PoE ports of an Ethernet Switch to non-standard Ethernet ports of a device, such as those with GND or low voltage surge protection and other alterations to IEEE 802.3 standard, DAMAGE MAY OCCUR to either or both devices. Devices with ports like these should be connected to non-PoE ports on the switch.