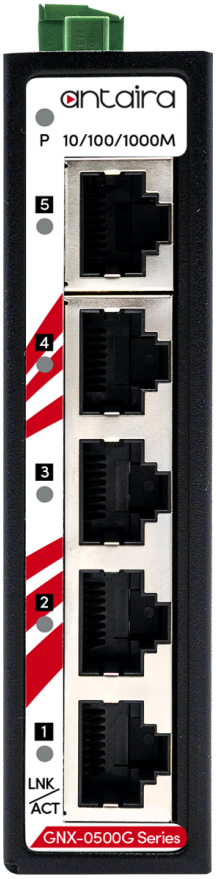
GNX-0500G Series

5-Port Industrial Gigabit Unmanaged Ethernet Switch, w/5*10/100/1000Tx



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:

- GNX-0500G
- GNX-0500G-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' GNX-0500G is an ultra-compact, rugged industrial 5-port 10/100/1000Mbps Ethernet switch designed for reliable performance in demanding environments. Featuring a slim, space-saving housing and wide-range VDC power input, the GNX-0500G is well suited for hazardous industrial sites, centralized control stations, and other space-constrained installations. Its compact form factor makes it an ideal solution for industrial automation, IP surveillance, traffic monitoring, security, transportation, telecom, and a wide range of other industrial networking applications.

1.1 Product Hardware Features

System Interface and Performance

- 5*10/100/1000BaseT(X) auto negotiation, auto MDI/MDI-X function, full/half duplex

Product Input

- 9.6~60VDC 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

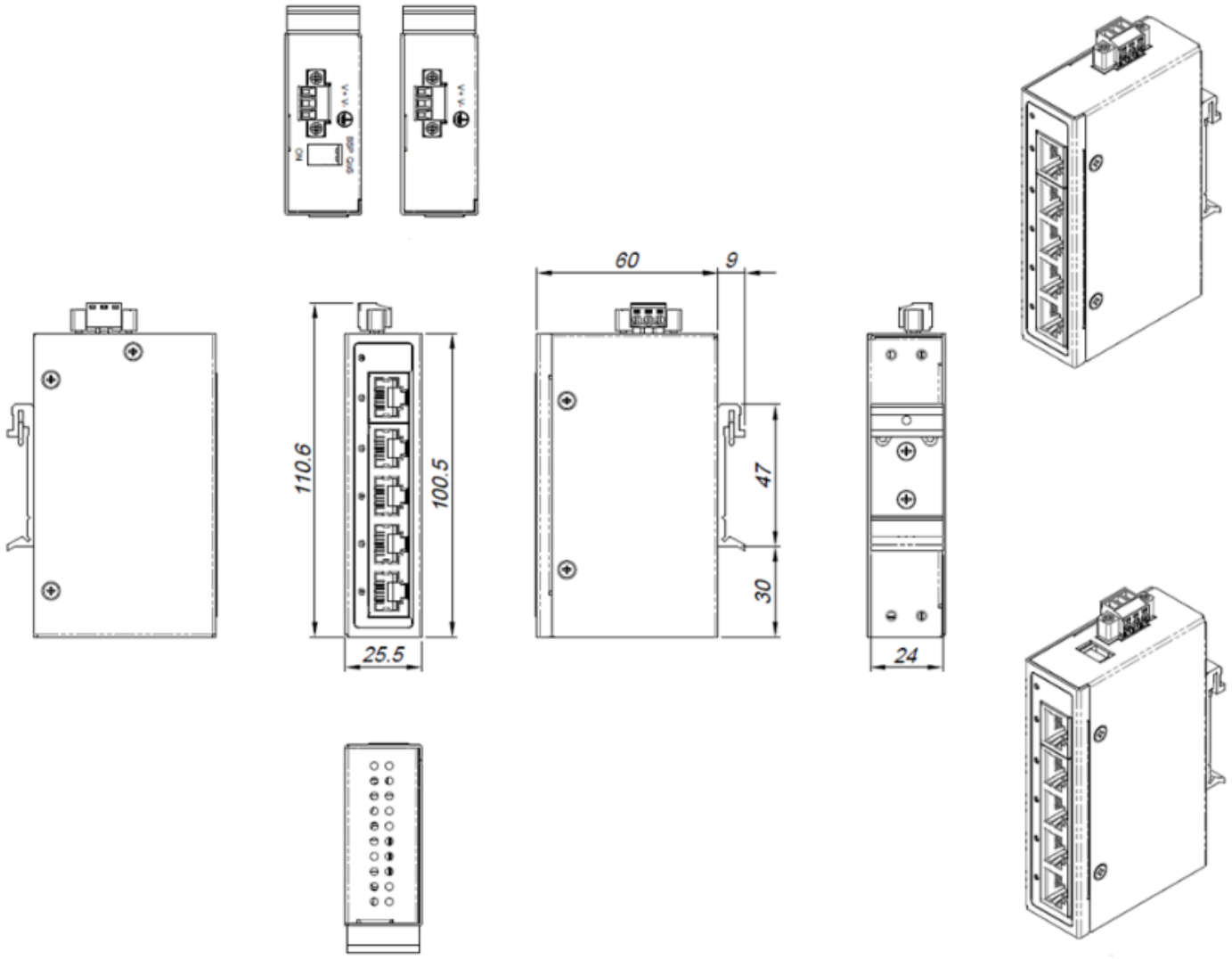
1.2 Package Contents

- GNX-0500G(-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.

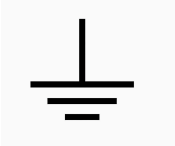


Figure 2.5 - Grounding Screw Symbol

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

2.4 DIP Switch Indicators

DIP Switch	Position	Description
Broadcast Storm Protection (BSP)	UP	Disable BSP
	DOWN (default)	Enables BSP (only allows a maximum of 200 broadcast packets per second) for each Ethernet port.
Quality of Service (QoS)	UP	Disable QoS

<table>
<tr>
<td></td>
<td>DOWN (default)</td>
<td>Enables QoS to handle packet priorities in four Weighted Round Robin (WRR) queues.
Class of Service (CoS) and Type of Service (ToS) / Differentiated Services Code Point (DSCP) priority mapping matrix in each queue.
<table>
<tr><td>CoS Priority</td><td>7,6</td><td>5,4</td><td>3,2</td><td>1,0</td></tr>
<tr><td>ToS/DSCP Priority</td><td>63 to 48</td><td>47 to 32</td><td>31 to 16</td><td>15 to 0</td></tr>
<tr><td>Queues</td><td>3</td><td>2</td><td>1</td><td>0</td></tr>
<tr><td>WRR</td><td>8</td><td>4</td><td>2</td><td>1</td></tr>
</table>
</td>
</tr>
</table>

When QoS is enabled, network traffic is prioritized using a four-queue Weighted Round Robin (WRR) scheduling system, where packets are assigned to queues based on CoS (Class of Service) and ToS/DSCP (Type of Service/Differentiated Services Code Point) priority values. CoS priorities 7 and 6 are mapped to Queue 3, CoS priorities 5 and 4 are mapped to Queue 2, CoS priorities 3 and 2 are assigned to Queue 1, and CoS priorities 1 and 0 are assigned to Queue 0. Similarly, ToS/DSCP priority values 63 to 48 correspond to the highest-priority queue (Queue 3), while values 47 to 32, 31 to 16, and 15 to 0 are mapped to Queues 2, 1, and 0, respectively. The WRR scheduling assigns different transmission weights to each queue: Queue 3 has the highest priority with a weight of 8, Queue 2 has a weight of 4, Queue 1 has a weight of 2, and Queue 0 has the lowest priority with a weight of 1. This ensures that higher-priority traffic, such as real-time applications (voice, video conferencing), receives the most bandwidth and lowest latency, while lower-priority traffic, such as bulk data transfers, is processed with a lower share of network resources but is not entirely blocked. 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.

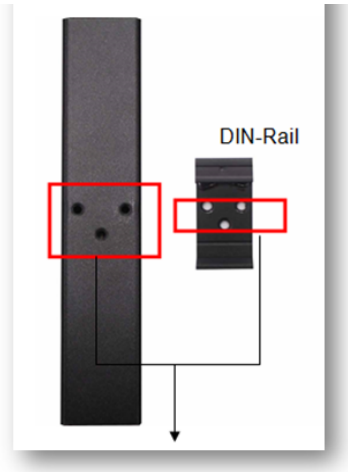


Figure 3.1 - Rear View of the Surge Protector and DIN-Rail

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

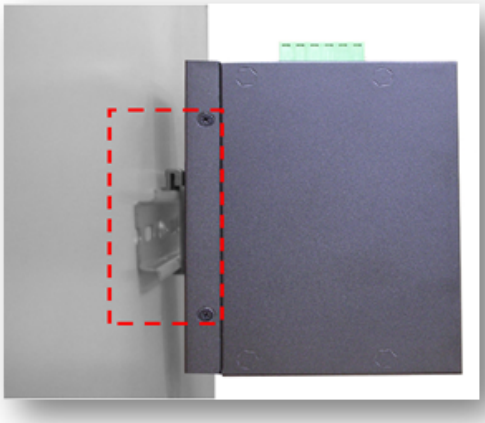


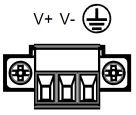
Figure 3.3 - Stable the Surge Protector on the DIN-Rail

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.