## Overview

The NXA-PDU-1508-8 Power Distribution Unit (FG673-01) provides switching of mains power to each of eight ACRMS 2020 power outlets. The two built-in AxLink bus strips provide connectivity (AxLink data / power) for up to eight AxLink connections.
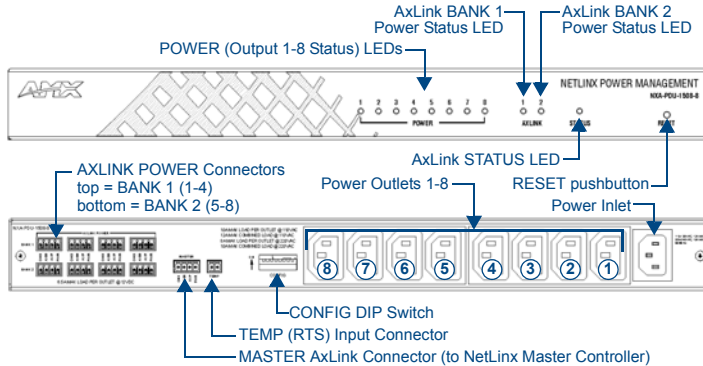


**FIG. 1** NXA-PDU-1508-8

*Note: AMX recommends no more than 4 PDUs per master, due to AxLink addressing and bus traffic.*

## Product Specifications

### NXA-PDU-1508-8 Specifications

| Power:<br>***Note***: *The PDU auto-senses the voltage of the supplied power.* | • Powered via 110-220 VAC, 50/60Hz mains power on an IEC-320 C-14 connector<br>• Required voltage = 110 to 220 VAC, 50/60Hz<br>• Total Combined Current (including AxLink):<br>  10A at 220V-240V<br>  12A at 110V-120V<br>• Idle power draw: 1.0W max | |
|---|---|---|
| AC Current: | • 110-120VAC: | Input: 15A Regulatory Derated Input Current (North America)12A @ 110 VAC<br>10A Max Load Per Outlet @ 110VAC<br>12A Max Combined Load @ 110VAC |
| | • 220-240VAC: | Input: 10A @ 220 VAC<br>8A Max Load Per Outlet @ 220VAC<br>10A Max Combined Load @ 220VAC |
| Overcurrent Notification: | • 110-120VAC: | Single Outlet: 10A<br>Overall: 12A |
| | • 220-240VAC: | Single Outlet: 8A<br>Overall: 10A |
| **Front Panel Components:** | | |
| POWER LEDs (1-8): | Eight green LEDs illuminate to indicate that the associated Power Outlet (#1 - #8) is in use. | |
| AXLINK Power Status LEDs: | Two red LEDs illuminate to indicate when the associated AxLink Bus Strips (Bank 1 or Bank 2) on the PDU are in use. | |
| AXLINK STATUS LED: | Green LED illuminates to indicate AxLink communication activity between the PDU and the NetLinx Master:<br>• ON - power, no master connection<br>• OFF - no power<br>• Blink - powered, communicating with master | |
| RESET pushbutton: | The RESET pushbutton serves as a momentary reset switch for the MASTER AxLink power connection, as well as a reset switch for the PDU itself:<br>• Press/hold for 3 seconds: Resets the MASTER AxLink power connection (minimum 0.5 second toggle). Note: A master powered externally from the PDU will not be reset by the RESET pushbutton.<br>• Press/hold for 17 seconds: Resets the PDU (similar to a full power-cycle of the unit). | |
| **Rear Panel Components:** | | |
| AXLINK POWER connectors (8): | A 13.5VDC, 6.5A power supply is provided for AxLink power.<br>Eight 3.5mm (4-pin) AxLink captive-wire connectors provide power and data for up to eight AxLink connections.<br>• AxLink power is switched in two banks of four outputs each.<br>  BANK 1 contains AxLink connectors 1-4<br>  BANK 2 contains AxLink connectors 5-8<br>• The PDU provides up to 6.5A total across all AxLink outputs. | |
| MASTER connector | 3.5mm Phoenix (4-pin) AxLink connector provides connectivity to the NetLinx Master (always on). | |
| TEMP (RTS) input: | 3.5mm Phoenix (2 pin) connector provides connection to a Remote Temperature Sensor (RTS). | |
| CONFIG DIP Switch: | Eight-position DIP switch sets the AxLink device address. | |

### NXA-PDU-1508-8 Specifications (Cont.)

| Power Outlets (8): | • Connector Type: IEC C-13, 12A/10A<br>• Maximum allowable current on a single high-voltage output:<br>  10A@110VAC / 8A@220VAC |
|---|---|
| Power Inlet (1): | • Connector Type: IEC C-14, 12A/10A<br>  110-120VAC: 12A Input<br>  220-240VAC: 10A Input |
| Dimensions (HWD): | • 1 3/16" x 17" x 9 11/16" (2.97cm x 43.18cm x 24.54 cm)<br>• 1 RU |
| Weight: | 9 lbs (4.08 kg) |
| Enclosure: | Steel, black powder coated finish |
| Environmental: | • Operating Environment: 0°C - 40°C (32°F - 104°F)<br>• Storage Environment: -10°C - 60°C (14°F - 140°F)<br>• Relative Humidity: 5% - 85%, non-condensing |
| Certifications: | • CE  • FCC<br>• CB Scheme  • CSA<br>• UL  • C-Tick |
| Included Accessories: | • Power Cord, NEMA 5-15P TO C13, 15A, 14/3, 6' (64-0673-01)<br>  *Note: See Power Cord Requirements below for details.*<br>• ENV-VST-TSO, Temperature Sensor (FG2050-22)<br>• (2) Removable mounting brackets<br>• (9) 4-pin, 3.5mm captive-wire connectors (41-5047)<br>• (1) 2-pin captive-wire connector (41-5026) |
| Other AMX Equipment: | • ENV-VST-TSF, Flush Mount Temperature Sensor (FG2050-21)<br>• CC-C13-C14: C13 to C14 Power Cable (FG10-673-01)<br>• CC-C14-NEMA: C14 to NEMA Power Cable (FG10-673-02) |

## SAFETY INSTRUCTIONS

- There are NO user serviceable parts within the NXA-PDU-1508-8.
- The NXA-PDU-1508-8 is intended for indoor use only.
- *DO NOT install or operate the NXA-PDU-1508-8 in an area where the ambient temperature exceeds 40ºF (104ºF) or falls below 0ºC (32ºF).*
- *DO NOT install or operate the NXA-PDU-1508-8 in an area in which the ambient relative humidity exceeds 85% or an area that is prone to condensation.*
- *DO NOT install or operate the NXA-PDU-1508-8 near water or in a location which may be prone to water seepage, dripping or splashing.*
- *DO NOT place objects containing liquids on the NXA-PDU-1508-8.*

### 安全上のご注意

- NXA-PDU-1508-8 内には、ユーザーが利用できるパーツは含まれていません。
- NXA-PDU-1508-8 は、屋内での使用を目的とします。
- 周囲温度が 40°C（104°F）を超える、あるいは 0°C（32°F）以下に下がる場所に NXA-PDU-1508-8 を設置、または、稼働をしないでください。
- 周囲の相対的湿度が８５％を超える場所、あるいは結露しやすい場所に NXA-PDU-1508-8 を設置、または、稼働をしないでください。
- 水の近く、水につかる所、あるいは水滴、水しぶきのある場所に NXA-PDU-1508-8 を設置、または、稼働をしないでください。
- NXA-PDU-1508-8 上に液体を含む物を置かないでください。

**FIG. 2** SAFETY INSTRUCTIONS

注 意

　この製品はクラスＡ情報技術装置です。住宅環境で使用する場合は、電波障害を発生させる恐れがあります。その際、この製品の利用者は、適切な手段を講ずることが必要とされることがあります。

**FIG. 3** CLASS A NOTIFICATION

### Power Cord Requirements

The NXA-PDU-1508-8 ships with a power cord, except to those countries which prohibit the shipment of the power cord selected. When selecting a power cord for use in Japan, please consider the following:

*The NXA-PDU-1508-8 requires a type VCTF or HVCTF and 1.25 or 2.0 sq.mm jacketed power cord with connectors and plugs that are 125V-12A or 125V-15A rated should be used.*

### Rack-Mounting

***Note***: *For safety, the PDU should be installed near the socket-outlet providing power (which must be easily accessible by the PDU's power cord).*

Before rack mounting the PDU, pay particular attention to the following factors:

- ***Temperature***: *Since the temperature within a rack assembly may be higher than the ambient room temperature, check that the rack-environment temperature is within the specified operating temperature range.*
- ***Mechanical Loading***: *Do not place any equipment on top of a rack-mounted unit.*
- ***Circuit Overloading***: *Be sure that the supply circuit to the rack assembly is not overloaded.*
- ***Grounding***: *Rack-mounted equipment should be properly grounded. Particular attention should be given to supply connections other than direct connections to the mains.*

The NXA-PDU-1508-8 can be mounted in a standard 19-inch equipment rack:
1. Attach the brackets to the PDU using the bracket screws provided in the Bracket Mounting Kit (FIG. 4).
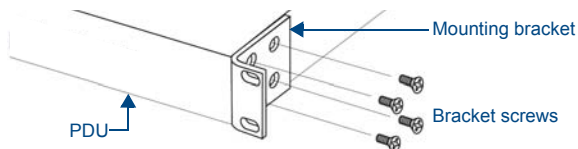


**FIG. 4**  Attaching the Brackets

2. Mount the PDU in the rack, using 4 rack-mounting screws (not provided, see FIG. 5).
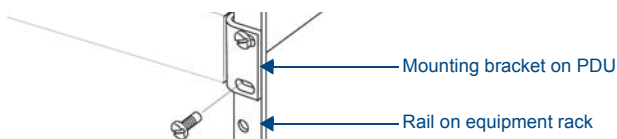


**FIG. 5**  Installing the PDU in a Rack

## Front Panel Components

The front panel components of the NXA-PDU-1508-8 (see FIG. 1) are described below. See the Specifications table for descriptions of the LEDs on the front panel.

### RESET Pushbutton

The RESET pushbutton serves as a momentary reset switch for the MASTER AxLink power connection, as well as a reset switch for the PDU itself:

• Press/hold for 3 seconds: Resets the MASTER AxLink power connection (minimum 0.5 second toggle).
  *Note: A master powered externally from the PDU will not be reset by the RESET pushbutton.*

• Press/hold for 17 seconds: Resets the PDU (similar to a full power-cycle of the unit).

## Rear Panel Components

The rear panel components of the NXA-PDU-1508-8 (see FIG. 1) are described below:

### AXLINK POWER Connectors 1-8

The eight AxLink connectors (labelled "AXLINK POWER") are standard 4-pin AxLink captive-wire connectors that provide data and power for up to 8 AxLink connections.

The AxLink device connectors are separated into two Banks:

• BANK 1 (top) includes AxLink connectors 1-4, numbered from right-to-left (see FIG. 1)
• BANK 2 (bottom) contains AxLink connectors 5-8, numbered from right-to-left (see FIG. 1)

The PDU provides switched power to banks 1 and 2.

*Note: The AxLink bus strip does not provide switching on AxLink data lines.*

### MASTER Connector

The 3.5mm 4-pin captive-wire AxLink connector labelled "MASTER" provides AxLink connectivity between the PDU and the NetLinx Master (see FIG. 1).

*Note: This connector is always ON.*

### TEMP Connector

The 3.5mm 2-pin captive-wire connector labelled "TEMP" (see FIG. 1) provides the option to connect a Remote Temperature Sensor (RTS). The NXA-PDU-1508-8 comes with one ENV-VST-TSO Temperature Sensor (FG2050-22).

Connect either wire from the RTS to either pin on the TEMP connector (FIG. 6).
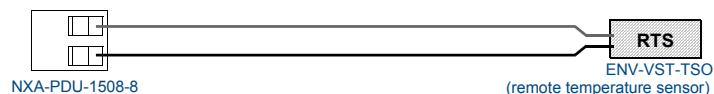


NXA-PDU-1508-8                ENV-VST-TSO
                             (remote temperature sensor)

**FIG. 6**  TEMP Connector

*Note: The NXA-PDU-1508-8 is also compatible with the ENV-VST-TSF Indoor Flush Mount Temperature Sensor (FG2050-21 - not included).*

### Preparing Captive Wires

1. Strip 0.25 inch (6.35 mm) of wire insulation off all wires.
2. Insert each wire into the appropriate opening on the connector according to the wiring diagrams and connector types described in this section.
3. Turn the flat-head screws clockwise to secure the wires in the connector.

*Note: Do not over-torque the screws; doing so can bend the seating pins and damage the connector.*

### AxLink Data and Power Connections

Connect the AxLink device's AxLink connector to one of the AxLink connectors (1-8) on the rear panel of the PDU for data and 12 VDC power as shown in FIG. 7.
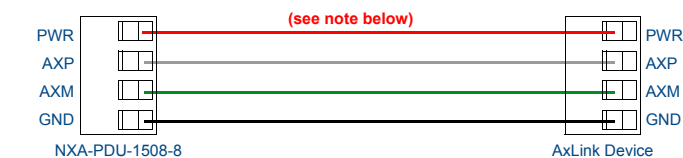


**FIG. 7**  AxLink straight-thru wiring

*Note: If the PDU is connected to a NetLinx Master that is self-powered (powered by a stand-alone power supply other than the PDU, or the DVX-2100HD which features an internal power supply), do not use the AxLink Power connection between the PDU and the NetLinx Master.*

## AxLink Wiring Guidelines

AxLink devices require 12 VDC power to operate properly. The necessary power is supplied via the AxLink cable. The maximum AxLink wiring distance is determined by power consumption, supplied voltage, and the wire gauge used for the cable.

Use the 3-step formula below to calculate the maximum wiring lengths allowable between the PDU and connected AxLink devices.

1. <Total current consumption of all connected AxLink devices> x <Resistance/Foot> x 2 = *<voltage drop per foot>* (*see table below for Resistance/Foot values.*)
2. <Power supply voltage> - 12 VDC = *<surplus voltage dissipation for cable run>*.
3. *<surplus voltage dissipation for cable run>* / *<voltage drop per foot>* = Max. distance.

The following table lists the resistance factors used in the formula.

### Cable Gauge/Resistance Factors

| Wire gauge | Solid Copper Wiring Resistance/Foot | Stranded Copper Wiring Resistance/Foot |
|---|---|---|
| 18 AWG | .00639 | .00692 |
| 20 AWG | .0101 | .01090 |
| 22 AWG | .0162 | .01690 |
| 24 AWG | .0257 | .02770 |

## CONFIG DIP Switch

The NXA-PDU-1508-8 uses an 8-position DIP Switch (labelled "CONFIG") to specify a unique device address for itself in a NetLinx Control System (FIG. 8).



**FIG. 8**  CONFIG DIP Switch

### Setting the Device Address of the PDU

The NXA-PDU-1508-8 firmware implements 8 AxLink device IDs, starting from the device ID denoted by the DIP switch. The device IDs used by the NXA-PDU-1508-8 are as follows:

• **Dev 1**: (Power Outlet 1) + (AxLink-Bank 1 Power) + (Input Voltage) + (Temp)
• **Dev 2**: (Power Outlet 2) + (AxLink-Bank 2 Power)
• **Dev 3-8**: (Power Outlets 3-8)

*Note: AxLink devices IDs are always in the range of 1-255. However, the PDU requires seven open device numbers above the PDU device number setting to accommodate its sub-devices. Therefore, device addresses 249-255 are not valid for the PDU.*

To set the Device Address:
1. If connected, disconnect the power supply.
2. Set the CONFIG DIP switch according to the values shown below:

| Switch | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Value | 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 |

The device number is set by the total value of DIP switch positions that are in the ON position. Note that the ON position is indicated on the DIP Switch.

If you later change the device number, remove and reconnect the power connector to enter the new device number into memory.

*Note: Use the "Dip Switch2" software application to calculate dip switch position values (available to download from www.amx.com).*

### Power Outlets 1-8

The eight 110-220VAC 50/60Hz, IEC C-13, 15A AC Power Outlet Connectors provide AC power to connected devices (see FIG. 1).

*Note: Maximum load on a single outlet = 10A @ 110-120 VAC / 8A @ 220-240VAC.*

### Power Inlet

The IEC C-14, 15A power inlet connector provides 110-220VAC, 50/60Hz mains power to the PDU.

## Powering Up The NXA-PDU-1508-8

When power is applied to the PDU for the first time, the outlets are powered in sequence (1-8), with a delay of 0.5 second between outlets.

By default, the state of all outlets upon initial power-up is ON.

### Initial Response Time

Allow the PDU approximately ten seconds *after it appears online* to register internal processes before attempting to turn on a channel.

### Persistence of On/Off States for All Outlets

By default, *Persistence* for all outlets is set to ON.

Persistence can be turned off via the PERSIST Send_Command (see the *NXA-PDU-1508-8 Operation/Reference Guide* for programming information).

For subsequent power-ups (from a power off state or on system reset), the PDU will restore the last recorded state of any outlet in a sequenced fashion, starting from outlet 1 in numerical order, with a delay of 0.5 second between energizing any two outlets, assuming the default Persistence setting of ON has not been changed.

## NetLinx Programming

The NXA-PDU-1508-8 is controlled via NetLinx Programming, primarily through the use of Channels and Levels. Refer to the *NXA-PDU-1508-8 Operation/Reference Guide* for programming information.

## Additional Documentation

Refer to the *NXA-PDU-1508-8 Operation/Reference Guide* for programming information and instructions on upgrading Firmware on the PDU.

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