PDS-60ca 7.5V
PDS-60ca 12V
PDS-60ca 24V

INSTALLATION INSTRUCTIONS

DMX/ETHERNET CONTROL

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GETTING STARTED

PDS-60ca 7.5V, PDS-60ca 12V and PDS-60ca 24V are compact, robust power/data supplies for indoor and outdoor installations. The PDS-60ca 7.5V, PDS-60ca 12V and PDS-60ca 24V provide power and data to Chromasic® driven product lines, and include both DMX and Ethernet control options.

This guide contains important information on installing and using your new PDS-60ca. Please read it carefully and save it for future reference.

Included In This Box

• Power/data supply with cover, gasket mounting screws, and NPT threaded seal plugs
• 2 Spare fuses
• Installation Instructions

Additional Items Needed

• Mounting hardware and tools.
• Electronic-grade RTV Silicone (UL recognized) to seal conduit connections as required.
• 5/16" hex wrench or adjustable wrench for seal plugs.
• Standard strain relief cable clamps (Indoor applications).
• Water-tight conduit and fittings (As required per local codes).
• Wire nuts.

Scope of This Document

The scope of this document is to explain the steps necessary to install the PDS-60ca with DMX and Ethernet control and assure peak performance. Its intended use is for reference only, by persons who are fully qualified. This document should never be considered a substitute for any provisions of a regulation or state and/or local code.

Identification and Warnings of Safety Hazards

In accordance with ANSI Z535.4-2002 the following system of identifying the severity of the hazards associated with the products is used:

"**DANGER**"   Imminently hazardous situation which, if not avoided, will result in death or serious injury.

"**WARNING**"   Potentially hazardous situation which, if not avoided, could result in death or serious injury.

"**CAUTION**"   Potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage. Also used to alert against unsafe practices.

IGNORING A HAZARD WILL VOID ANY WARRANTY.

DANGER: Ensure that main power supply is off before installing, wiring, or servicing the PDS-60ca power supply.

WARNING: The PDS-60ca power supply must be installed by a qualified professional in accordance with NEC and relevant local codes.

WARNING: Do not attempt to install or use the PDS-60ca until you read and understand the installation instructions and safety labels.

WARNING: Do not use the PDS-60ca if power cables are damaged.

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. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to take adequate measures.

CAUTION: Ensure that the PDS-60ca is securely attached, properly mounted, and free of excessive vibration.

CAUTION: When sealing the PDS-60ca, ensure that the gasket is   seated properly, that no wires are pinched, and that the housing is free of foreign material and debris.

CAUTION: Do not hot swap. Ensure the power supply is off before connecting or disconnecting fixtures.

CAUTION: Do not modify or alter the PDS-60ca.

CAUTION: For outdoor installations, seal on points of entry and exit with electronic grade RTV Silicone.

NOTE: The instructions and precautions set forth in this user guide are not necessarily all-inclusive, all conceivable, or relevant to all applications as Color Kinetics cannot anticipate all conceivable or unique situations.

Owner/User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate the PDS-60ca in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standard Institute Safety Code.
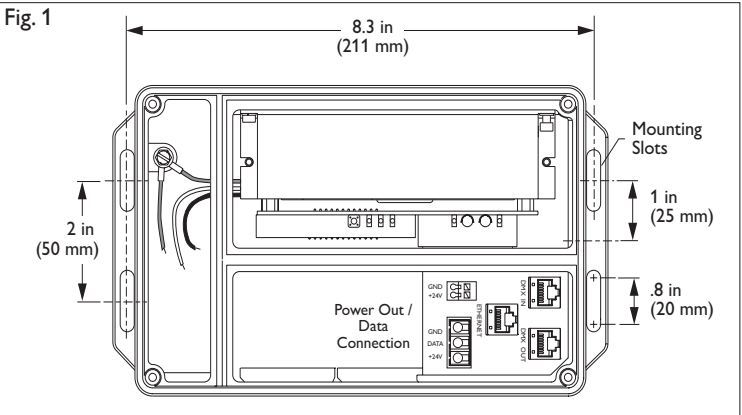
INSTALLING THE PDS-60ca

The PDS-60ca shall be installed by a qualified electrician in accordance with NEC and relevant local codes for power supplies.

Mounting the Housing

• Select the location to mount the housing, keeping the PDS-60ca within the maximum distance specified for your fixture. Refer to your fixture user guide for the cable run information.

CAUTION: Ensure proper installation for outdoor applications to maintain NEMA 4 ratings. Failure to do so may result in minor or moderate injury or property damage and will void the warranty.

• Using the seal plugs and gaskets provided, seal all conduit holes not needed for the installation. Tighten plugs until gaskets are slightly compressed. Do not over tighten.
• Mount the housing to a flat surface using four screws suitable for the mounting surface. Mounting slots are located on the flanges at each end of the housing. (See Fig. 1 for mounting details.)

Fig. 1

8.3 in (211 mm)
2 in (50 mm)
Mounting Slots
1 in (25 mm)
.8 in (20 mm)
Power Out / Data Connection

CAUTION: PDS-60ca must be installed in a location that allows air to move freely. Packing insulation around the housing or mounting in a sealed location that raises ambient temperature above 104° F (40° C) may result in minor or moderate property damage and will void the warranty.
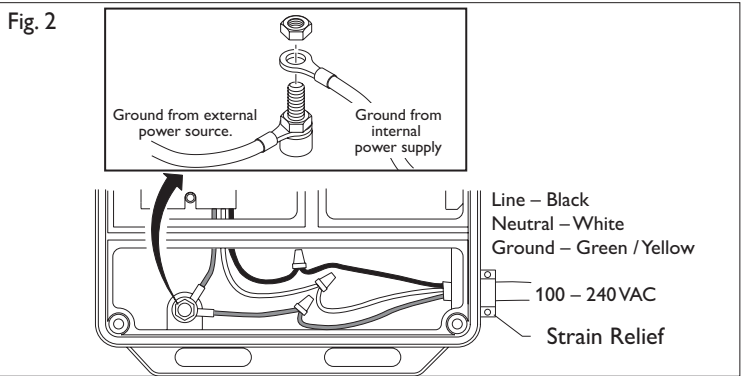
WIRING THE PDS-60ca

After mounting the power/data module, you are ready to connect power, lights, and data to the PDS-60ca.

Connecting Power to the PDS-60ca

DANGER: Turn off main power supply before wiring the PDS-60ca. Failure to do so will result in death or serious injury.
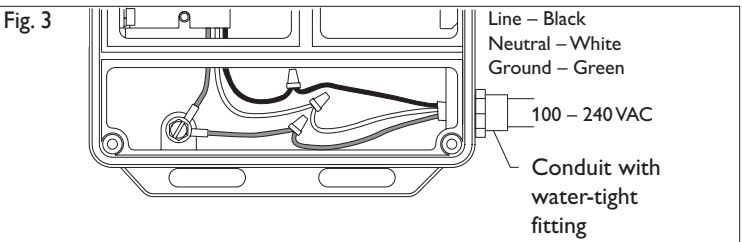
Indoor Installation

• Insert the power cable into the power connection chamber of the PDS-60ca.
• Using pig tails and wire nuts, connect Line (black), Neutral (white), and Ground (green/yellow). Follow local electrical codes for internal wire bending.
• Use a standard strain relief to hold the cable. (See Fig. 2.)

Fig. 2

Ground from external power source.
Ground from internal power supply
Line – Black
Neutral – White
Ground – Green / Yellow
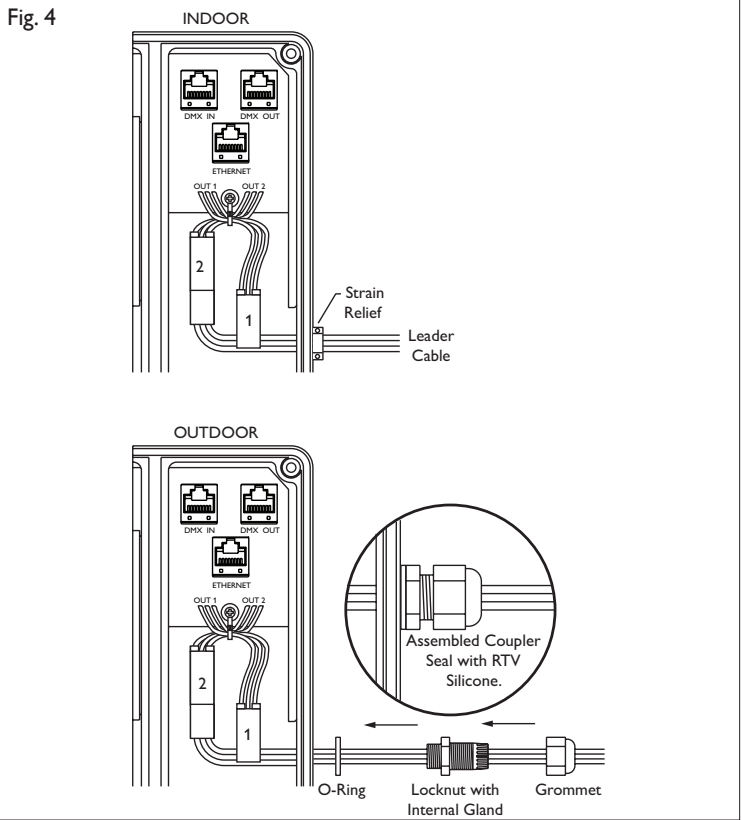100 – 240 VAC
Strain Relief

Outdoor Installation

• Pull the power cable through outdoor rated conduit and into the power connection chamber of the PDS-60ca. Use RTV Silicone on the conduit coupler and ensure that conduit connection to the PDS-60ca is water-tight.
• Using wire nuts, connect Line (black), Neutral (white), and Ground (green/yellow). Follow local electrical codes for internal wire bending. (See Fig. 3.)

Fig. 3

Line – Black
Neutral – White
Ground – Green
100 – 240 VAC
Conduit with water-tight fitting

NOTE: It is the end user's responsibility to use the proper conductors to permanently connect the incoming facility power, and to provide means for disconnecting the system.

Connecting Lights to the PDS-60ca

• Insert the fixture leader cable into the power out/data connection chamber of the PDS-60ca.
  NOTE: Outdoor rated lights have water-tight couplers on the cables. Ensure that the water-tight coupling is properly installed and sealed with RTV Silicone to ensure NEMA 4 protection. Refer to the user guide for your lights for instructions. These couplers also provide strain relief. (See. Fig. 4.)
• Plug connector into a power output receptacle. Power outputs are labeled Out 1 and Out 2. (See Fig. 4.)
• For indoor rated lights, use a standard screw connector strain relief to hold the cable. (See Fig. 4.)

Fig. 4

INDOOR
DMX IN   DMX OUT
ETHERNET
OUT 1   OUT 2
Strain Relief
Leader Cable

OUTDOOR
DMX IN   DMX OUT
ETHERNET
OUT 1   OUT 2
Assembled Coupler Seal with RTV Silicone.
O-Ring   Locknut with Internal Gland   Grommet

• Refer to Table 1 to determine maximum number of fixtures supported. Refer to the Installation Instructions of the fixture for specific wiring requirements.

Table 1: Maximum Fixtures Supported per PDS-60ca 7.5V

Fixture	Maximum per PDS-60ca 7.5V	Maximum per Power Port
iColor Flex MX	2	1
iColor Module Fx 6:9	16	8
iColor Module Fx 6:36	4	2
iColor Tile Fx 2:2	1	½

COLOR KINETICS

Maximum Fixtures Supported per PDS-60ca 24V

Fixture	Maximum per PDS-60ca 24V	Maximum per Power Port
iColor Cove EC, 12 in	30	15
iColor Cove EC, 6 in	30	15
iColor Cove QLX, 12 in	20	10
iColor Cove QLX, 6 in	30	15
eW Flex Micro (60 nodes)	120 nodes	60 nodes
eW Flex Compact (30 nodes)	60 nodes	60 nodes
eW Flex LMX (30 nodes)	60 nodes	60 nodes

DMX/Ethernet Modes

When the PDS-60ca is first powered on, it listens for data on both the DMX and Ethernet ports. (The red status light blinks once per second while waiting for data.) When the PDS-60ca detects valid data on either port, it switches to either DMX mode or Ethernet mode, as appropriate. The PDS-60ca stays in that mode until power is cycled.
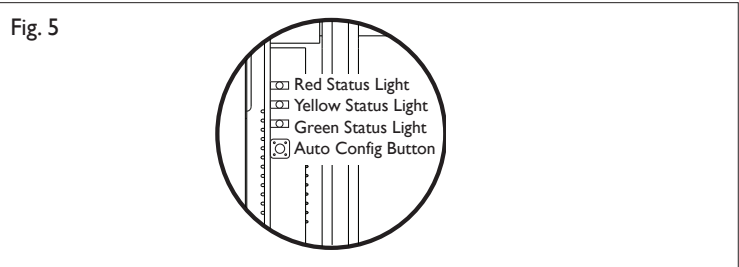
• In DMX mode, the red status light is lit continuously.

• In Ethernet mode, the red status light blinks approximately once per second.

• The green status light is lit when a valid Ethernet link is detected.

• The yellow status light will flicker as Ethernet data is received.

Fig. 5 shows the location of the status lights.

Connecting DMX Data to the PDS-60ca

The PDS-60ca receives data from a DMX512 controller.

• Pull the CAT-5 data cable, with the RJ45 connector, into the power

Fig. 5

out/data connection chamber of the PDS-60ca. Secure the cable with standard screw connection strain relief.

NOTE: For outdoor applications, pull the data cable through the outdoor rated conduit and ensure that the conduit connection is water-tight. Do not connect the conduit on the top side of the PDS-60ca.

• Plug the data RJ45 connector into the DMX IN port.

NOTE: The DMX controller connected to the RJ45 port must be powered by another source.

• To send data to another PDS-60ca , connect a CAT-5 cable between the DMX OUT port of the sending unit and the DMX IN port of the receiving unit. Plug a terminator into the DMX OUT port of the last power supply in a data chain. (See Fig. 6.)
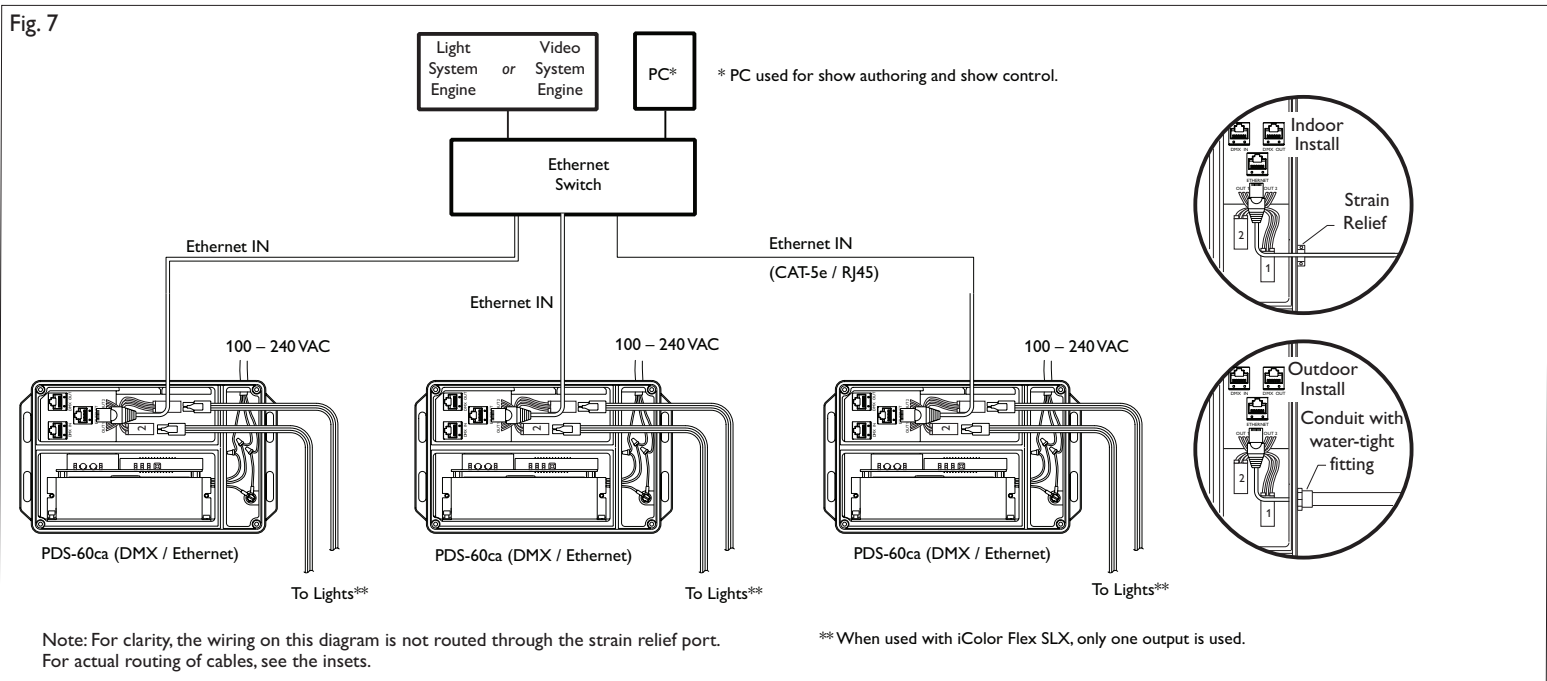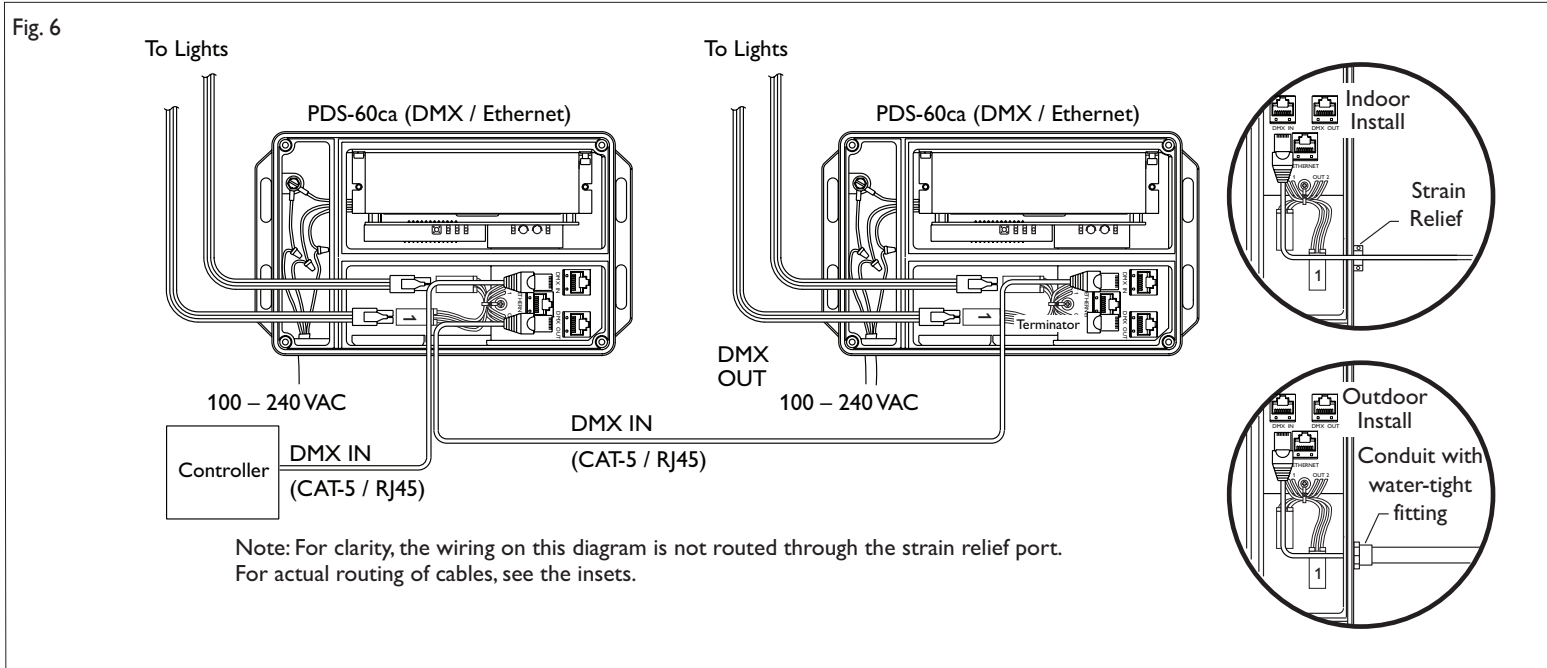
Addressing the Lights (for DMX Control)

• Once the PDS-60ca installation is complete, the DMX interface must be configured for the number of lights attached.

• To automatically set the light numbers for each run of lights on the PDS-60ca, press the auto-configuration button. The light numbers are set sequentially starting at 1. The ending number depends on the type of fixtures connected to the PDS-60ca.

• To set a unique base number and define the number of lights, download the PDS-60ca Configuration Tool from the Color Kinetics web site. Connect the PDS-60ca to an iPlayer2 unit connected to a PC via a USB cable. This tool is an executable file that lets you define the number of attached lights and set the base light address. After you define the number of lights and the base address, the PDS-60ca addresses each light sequentially beginning with the first light on Out 1 through the last light on Out 2.

Connecting Ethernet Data to the PDS-60ca

The PDS-60ca can receive data from, and be controlled by, Light System Manager (LSM) or Video System Manager (VSM). A dedicated network and one or more Ethernet switches are required for such an application. (See Fig. 6.) Refer to the LSM or VSM user guides for setup and configuration information.

• Pull the CAT-5e data cable, with the RJ45 connector, from the Ethernet switch into the power out/data connection chamber of the PDS-60ca. Secure the cable with standard screw connection strain relief.

NOTE: For outdoor applications, pull the data cable through the outdoor rated conduit and ensure that the conduit connection is water-tight. Do not connect the conduit on the top side of the PDS-60ca.

• Plug the data RJ45 connector into the Ethernet IN port.

NOTE: End-run Ethernet data to each PDS-60ca in an installation. Ethernet cannot be daisy chained. (See Fig. 7.)

Mapping the Lights (for Ethernet Control)

• Once the PDS-60ca installation is complete, use the Color Kinetics Light System Manager (LSM) or Video System Manager (VSM) to map the light installation.

• Light System Composer lets you query the Light System Engine to discover all power/data supplies and lights attached.

Sealing the PDS-60ca

• After all the power and data connections have been made and all conduit holes are water-tight, replace the cover and attach it with the provided screws. Tighten the screws to 8 to 10 in-lbs, being careful to apply equal pressure on all screws (1 in-lb = 11.2985 N-cm).

NOTE: Before attaching the cover, ensure the gasket is seated properly and that no wires are pinched.

Fig. 6

Note: For clarity, the wiring on this diagram is not routed through the strain relief port. For actual routing of cables, see the insets.

Fig. 7

* PC used for show authoring and show control.

** When used with iColor Flex SLX, only one output is used.

Note: For clarity, the wiring on this diagram is not routed through the strain relief port. For actual routing of cables, see the insets.

Note: For the PDS-60ca 12V, only 50 nodes of iColor Flex SLX can be driven from a single PDS-60ca 12V. If two strings of iColor Flex SLX are connected to the PDS-60ca 12V, the TOTAL number of nodes allowed (on both strings) cannot exceed 50.
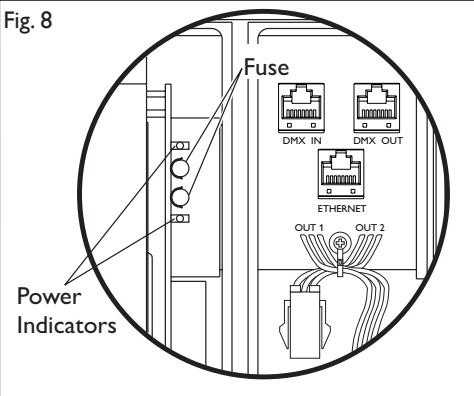
Replacing Fuses

WARNING: Ensure that the power supply is off before connecting or disconnecting fuses. Failure to do so could result in death or serious injury and will void the warranty.

Each power output terminal of the PDS-60ca is equipped with a fuse. Red LEDs are located next to each fuse to indicate that a voltage potential is present across the connector. If an output terminal is not functioning, replace the fuse as follows:

• Turn off power.

• Remove the fuse from the malfunctioning fuse terminal.

• Insert the replacement fuse into the fuse terminal. Use only correct fuse size as noted on the Power Supply. (See Fig. 8.)

PDS-60ca

Fig. 8

SPECIFICATIONS

Power Output	7.5, 12, or 24 VDC, 62W
Power Input	100 – 240 VAC (auto ranging), 50 – 60 Hz; 1.7 A Power factor correction (PFC)
Heat Dissipation	25 percent of total power output
Ambient Temp	14° – 104°F (-10° – 40°C)
Packaging	NEMA 4 enclosure
Dimensions	8.27 x 5.36 x 3.57 in (210 x 136 x 91 mm)
Connectors	Data: RJ45 input and output connectors
	Power: 4-pin output connectors
Data Input compatible	Color Kinetics DMX controllers or DMX512
	Ethernet: Light System Manager or Video System Manager
Data Output	Chromasic 7.5 V, 12 V, 24 V
Environment	Dry/Damp/Wet Location, IP66
Fused Protection	Two 4 amp, 3AG fuses
Classification	Class 2
Listing	UL/cUL, CE, PSE