

PDS-400 48V EO

High-wattage, outdoor rated power/data supply
for large scale architectural lighting installations

Product Guide

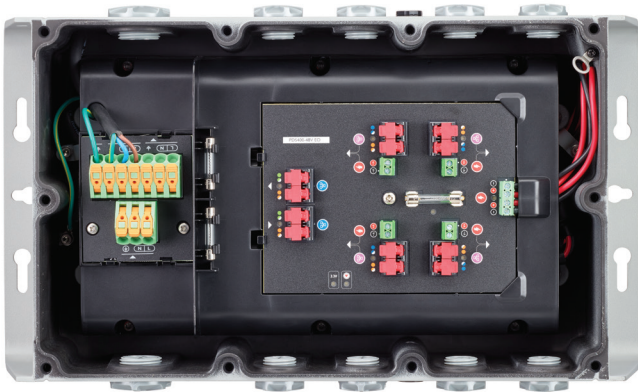
PDS-400 48V EO

High-wattage, outdoor rated power/data supply for large scale architectural lighting installations

PDS-400 48V EO delivers integrated data and power to intelligent color and tunable white LED lighting luminaires. PDS-400 48V EO is the single solution for all large scale outdoor Ethernet intelligent installations, whether color or white.



Take a closer look



Easy installation

Accessible, clearly labeled terminal block connectors for Ethernet, line voltage, and luminaires make installation easy. Tethered cover with captive screws ensures convenient removal and replacement.

Designed for Accent Compact

PDS-400 48V EO works with Accent Compact luminaires and can accommodate up to twelve 1228.5 mm (4 ft) luminaires per PDS with various wiring configurations.

Supports Ethernet intelligent luminaires

PDS-400 48V EO merges line voltage and control data and delivers them to the luminaires over a single cable, dramatically simplifying installation and lowering total system cost.

On-board diagnostics

On-board indicator LEDs provide visual feedback for normal operation, Ethernet connection detection, and Ethernet data transmission.

Replaceable power supply

PS-600 48V can be easily installed to replace the power supply of any existing PDS-400 48V EO device without the need to remove the entire PDS-400 48V EO device.

Outdoor-rated for use in damp and wet environments

PDS-400 48V EO offers superior leakage protection in a cast aluminium, IP66-rated enclosure.

Multiple conduit entries

PDS-400 48V EO conduit entries accommodate NPT conduit in US trade sizes of 1/2 in and 3/4 in, or metric sizes of PG13.5 and PG16.

Universal power input range

PDS-400 48V EO automatically senses line voltages ranging from 100 to 277 VAC, and passes line voltages through AC daisy chain to all connected PDS-400 48V EO devices.

Power and Durability

PDS-400 48V EO is designed to handle large scale outdoor applications and comply with modern shock and vibration standards.

Specifications and information

Due to continuous improvements and innovations, specifications may change without notice.

General information

Electrical

Input Voltage	100 to 277 VAC, auto-ranging, 50/60 Hz
Maximum Input Current	16 A maximum
Load Current	8.5 A

Connections

Power Input	3-wire terminal block connector†
Power/Data Output (To luminaire)	2-wire terminal block connector† Double-pair, double-entry IDC connectors‡
Ethernet Input/Output	Double-pair, double-entry IDC connectors‡

Physical

Dimensions (Height x Width x Depth)	105 x 231.8 x 399.7 mm (4.1 x 9.1 x 15.7 in)
Weight	9 kg (19.8 lb)
Construction	Cast aluminium enclosure with slots for surface mounting
Finish	Powder-coated industrial gray matte
Threaded Openings	3/4 in NPT for power, 1/2 in NPT for data (UL) PG16 for power, PG13.5 for data (CE)
Temperature Ranges	-40 to 50 °C (-40 to 122 °F) Operating -20 to 50 °C (-20 to 122 °F) Startup -40 to 80 °C (-40 to 176 °F) Storage
Humidity	0 to 95%, non-condensing
Cooling	Convection
Data Input Source	Color Kinetics full range of controllers, including Light System Manager, iPlayer 3, Antumbra iColor Keypad, and ColorDial Pro, or third-party controllers

Certification and Safety

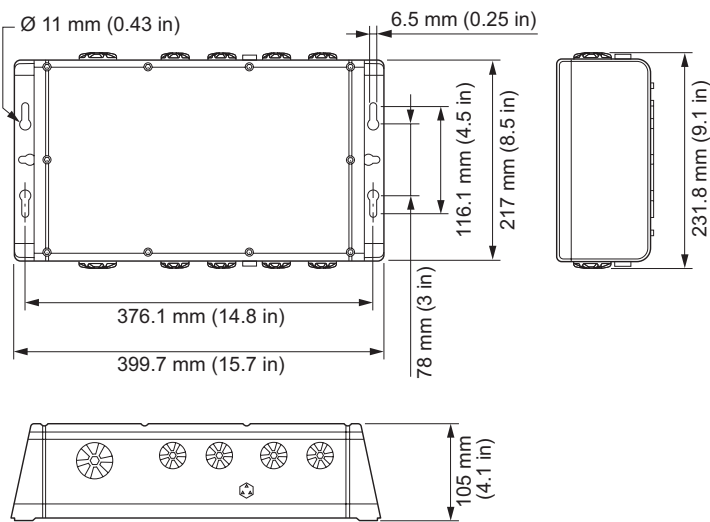
Certification	UL/cUL, FCC Class A, CE, RCM
Environment	Dry/Damp/Wet Location, IP66

† Terminal block connectors accept recommended wire sizes from 10 to 24 AWG (0.2 to 6 mm²) for 3-wire, and 12 to 20 AWG (0.5 to 3.3 mm²) for 2-wire.

‡ IDC connectors accept wire sizes from 22 to 26 AWG (0.326 to 0.129 mm²).

Dimensions

PDS-400 48V EO



Part Numbers

	Item Number	Item 12NC
PDS-400 48V EO, UL	109-000200-00	912400133799
PDS-400 48V EO, CE	109-000200-01	912400134110

For further information

PDS-400 48V EO details including Installation Instructions, Specification Sheets, and product drawings, can be found at: www.colorkinetics.com/global/products/pds/pds400



PDS-400 48V EO
Power/Data Supply

Configuration and planning

Multi-language installation instructions can be found at: www.colorkinetics.com/global/products/pds/pds400

Installation

PDS-400 48V EO integrates data and power transmission for Accent Compact luminaire family. Installation specifics will vary depending on luminaire types, controller, environment (dry or damp/wet).

Owner / User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate PDS-400 48V EO in such a manner as to comply with all applicable codes, state and local laws, ordinances, and regulations. Consult with the appropriate electrical inspector to ensure compliance.

Installing in Damp or Wet Locations

When installing in damp or wet locations, seal all junction boxes, power supplies, and other devices with electronics-grade RTV silicone sealant so that water or moisture cannot enter or accumulate in any wiring compartments, cables, luminaires, or other electrical parts. You must use suitable outdoor-rated junction boxes when installing in wet or damp locations. Additionally, you must use gaskets, clamps, and other parts required for installation to comply with all applicable local and national codes.

Plan the Installation

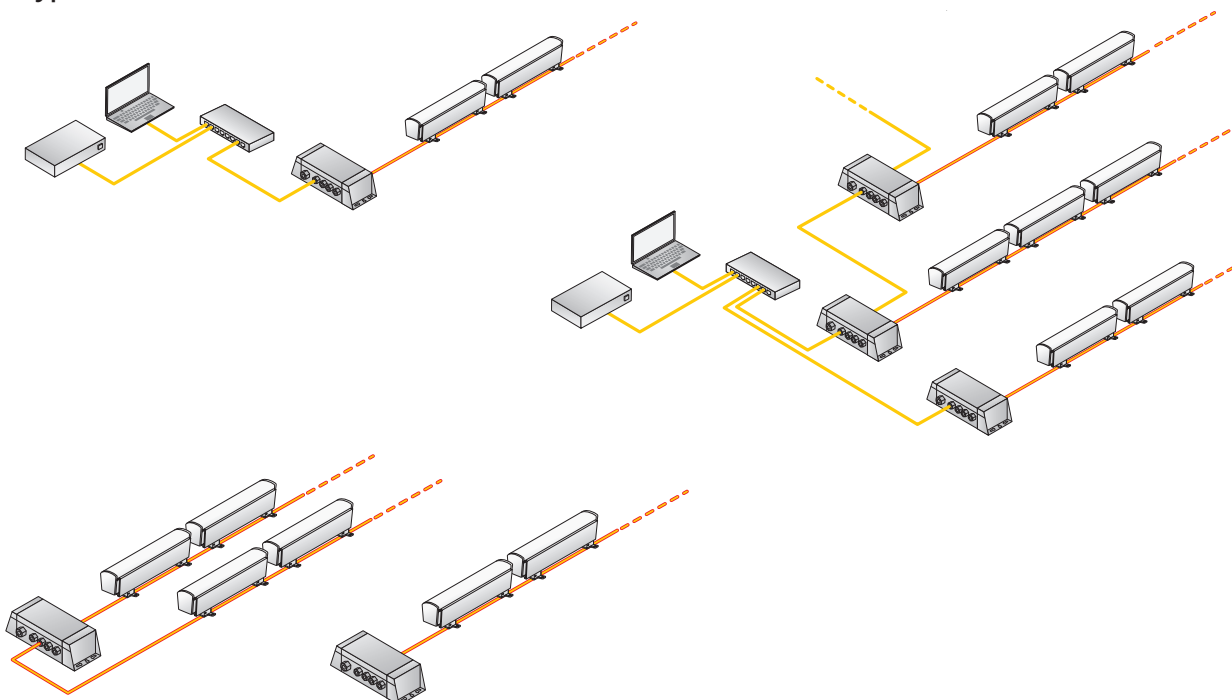
To streamline installation and ensure accurate configuration, start with a layout or a lighting design plan that shows the physical layout of the installation and identifies the locations of all luminaires, PDS-400 48V EO devices, controllers, switches, and cables.

Ethernet Configuration Guidelines

PDS-400 48V EO can be used in Ethernet connections. Ethernet is the preferred environment for large-scale, color-changing light shows and media displays, both of which require large numbers of unique addresses.

Typical Ethernet installations with Color Kinetics LED luminaires use an Ethernet switch, an Ethernet controller such as Light System Manager or Video System Manager Pro, Ethernet Controller Keypads for push-button light show triggering, and one or more PDS-400 48V EO devices. While your specific lighting network configuration may allow for additional devices, we recommend that you limit individual Ethernet runs to eight or fewer PDS-400 48V EO devices. For additional PDS-400 48V EO devices in a network, use additional Ethernet switch ports.

Typical Ethernet Installation



Electrical Configuration Guidelines

The maximum number of luminaires each PDS-400 48V EO can support depends on the luminaire type and method of connection, as well as on additional configuration details such as luminaire spacing, circuit size, wire gauge, and line voltage. As an example, the table below lists the maximum number of iColor Accent Compact luminaires each PDS-400 48V EO can support at various voltages, assuming a 20 A circuit and 1.5 m (5 ft) jumper cables between luminaires. Keep in mind that these figures, provided as a guideline, are accurate for the specified configuration only, and that changing the configuration can affect the number of luminaires per PDS-400 48V EO.

iColor Accent Compact run length examples

12 @ 28 W (1220 mm luminaire) with 15 m (50 ft) cable

11 @ 28 W (1220 mm luminaire) with 30 m (100 ft) cable
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20 @ 16 W (610 mm luminaire) with 15 m (50 ft) cable
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18 @ 16 W (610 mm luminaire) with 30 m (100 ft) cable

31 @ 10 W (305 mm luminaire) with 15 m (50 ft) cable
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28 @ 10 W (305 mm luminaire) with 30 m (100 ft) cable

You can connect up to eight PDS-400 48V EO devices in a series if on a 277 VAC AC line. Up to three devices can be connected if on a 100 VAC AC line.

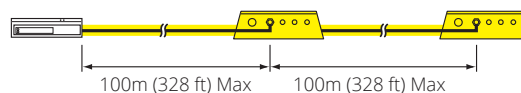
PDS-400 48V EO must be installed in a location that allows air to move freely around the device. Startup and operating temperatures are rated to 50 °C (122 °F). Exceeding this temperature limit may cause device damage or failure.

Data Configuration Guidelines

In addition to maximum luminaire run lengths determined by the electrical configuration, each PDS-400 48V EO imposes maximum run lengths based on data integrity.

When selecting mounting locations for the PDS-400 48V EO devices in your installation, keep cable and luminaire run length maximums in mind:

- In Ethernet networks, maximum data cables lengths are 100 m (328 ft) between Ethernet devices without a repeater (for example, controller to switch, or switch to PDS-400 48V EO).



Ethernet maximum data cable length between PDS-400 48V EO

Assemble Additional Items

Installation Instructions can be found at:

www.colorkinetics.com/global/products/pds/pds400

The following additional items are required to mount and connect PDS-400 48V EO:

- 4 mounting screws suitable for the mounting surface
- For installations using US trade size conduit, 3/4 in NPT watertight conduit and fittings for power, and 1/2 in NPT watertight conduit and fittings for data, as required by local codes
- For installations using metric size conduit, PG16 watertight conduit and fittings for power, and PG13.5 watertight conduit and fittings for data, as required by local codes
- Cat. 5e or better data cable, as required
- Associated cable listed in Accessory Part Numbers table can be ordered
- Electronics-grade RTV silicone for installations in damp and wet locations
- Screwdrivers, wire strippers, and other tools as needed

Configuration

QuickPlay Pro 2 enables discovery, configuration, testing and demonstration of all luminaires and devices, including PDS-400 48V EO Control Modules, on your lighting network.

Commissioning PDS-400 48V EO with QuickPlay Pro 2 software (Optional)

You can commission PDS-400 48V EO devices using **QuickPlay Pro 2 software**. Automatically discover luminaires, PDS-400 48V EO devices, and power supplies using QuickPlay Pro 2 with a computer connected to your lighting network.

The **Quick Start Guide** is a comprehensive guide to help you start using QuickPlay Pro2. It contains everything from Device Configuration through to Live Demonstration.

Updating PDS-400 48V EO Firmware

PDS-400 48V EO firmware is periodically updated to improve system performance and functionality. We recommend confirming that your devices are running the most recent firmware version at: www.colorkinetics.com/global/support/downloads/firmware

After downloading firmware, you can use QuickPlay Pro 2 to update your PDS-400 48V EO devices.

