

sPDS-60ca 24V

INSTALLATION INSTRUCTIONS

DMX/Ethernet Control

Color Kinetics
3 Burlington Woods Drive
Burlington, Massachusetts 01803 USA
Tel 888.Full.RGB
Tel 617.423.9999
Fax 617.423.9998
www.colorkinetics.com

ITEM # 109-000021-04 (DMX/Ethernet, N.A. Cord Set)
ITEM # 109-000021-05 (DMX/Ethernet, EU/UK Cord Set)

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GETTING STARTED

sPDS-60ca 24V is a compact power/data supply for indoor installations. sPDS-60ca 24V provides power and data to 24VDC Chromasic®-driven product lines, and is available for DMX and Ethernet control options.

The "s" type of power supply provides additional features, such as base address and grouping of light fixture addresses, without the need for external components.

This guide contains important information on installing and using your new sPDS-60ca 24V. Please read it carefully and save it for future reference.

Included In This Box

- Power/data supply
- US or EU/UK Grounded IEC Cord Set
- RJ45 Terminator
- 3 clamp-on EMI Suppression Cores (1-Black, 2-White)
- User Guide

Additional Items Needed

- Mounting hardware – 4 flat head screws M3.5 or #6

Scope of this Document

The scope of this document is to explain the steps necessary to install sPDS-60ca 24V for DMX and Ethernet control to 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 identifies the severity of the hazards associated with the products:

- “**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.

WARNING: Ensure that power is disconnected before installing, wiring, or servicing the sPDS-60ca 24V power supply.

WARNING: The sPDS-60ca 24V 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 sPDS-60ca 24V until you read and understand the installation instructions and safety labels.

WARNING: The sPDS-60ca 24V power supply must be installed without ventilation openings facing down.

WARNING: Do not use sPDS-60ca 24V 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 sPDS-60ca 24V is securely attached, properly mounted, and free of excessive vibration.

CAUTION: sPDS-60ca 24V 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 122° F (50° C) will result in property damage and will void the warranty.

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

CAUTION: Do not modify or alter sPDS-60ca 24V.

NOTE: The instructions and precautions set forth in this installation guide are not necessarily all-inclusive 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 sPDS-60ca 24V in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standards Institute Safety Code.

NOTE: sPDS-60ca 24V is shipped with a US IEC power cable. For international customers, use a country-specific IEC cable meeting the following specifications: 3-conductor, 18 AWG (1.00mm²), HAR rating for Europe, and JET rating for Japan. (Hard Service Type ST or equivalent.)

NOTE: Ensure the IEC inlet plug fits in the supplied lock. The lock may not accommodate all plug styles.

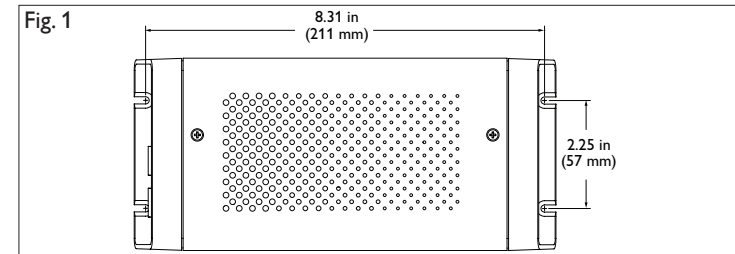
INSTALLING sPDS-60ca 24V

sPDS-60ca 24V must be installed by a qualified electrician in accordance with NEC and relevant local codes for power supplies. A power screwdriver is recommended for mounting the unit.

Mounting the Housing

- Select the location to mount the housing, keeping sPDS-60ca 24V within the maximum distance specified for your fixture. Refer to your fixture user guide for the cable run information.
- **NOTE:** Ensure that there is adequate space to make all connections to the front and rear of the unit.
- Mount the housing to a flat surface using four M3.5 or #6 flat head screws suitable for the mounting surface. Mounting slots are located on each end of the housing. (See Fig. 1.)

NOTE: Do not overtighten the mounting screws.

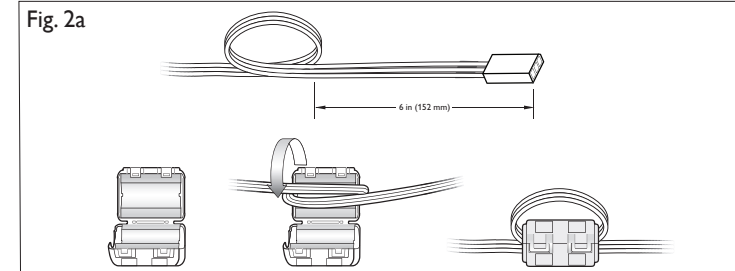


WIRING sPDS-60ca 24V

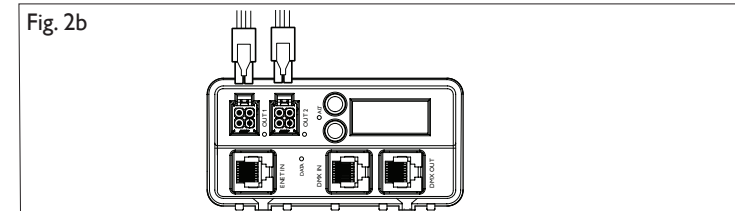
After mounting the power/data supply, you are ready to connect power, lights, and data to sPDS-60ca 24V.

Connecting Lights to sPDS-60ca 24V

- Install white clamp-on EMI Suppression Core on fixture leader cable. Follow instructions in figure 2a for method of installation.
- Plug the leader cable connector into a power output receptacle on



the front of sPDS-60ca 24V. Power outputs are labeled Out 1 and Out 2. (See Fig. 2b.) **NOTE:** When using one light run per sPDS-60ca 24V, use Output 1.



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

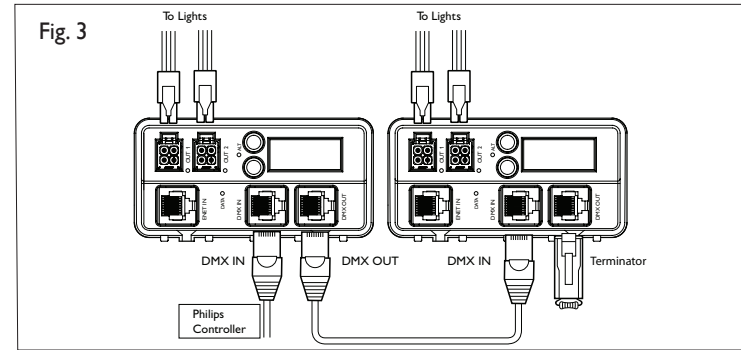
Table 1: Maximum Fixtures Supported per sPDS-60ca 24V

Fixture	Maximum Quantity per sPDS-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	120 nodes	1
eW Flex Compact	60 nodes	1

Connecting DMX Data to sPDS-60ca 24V

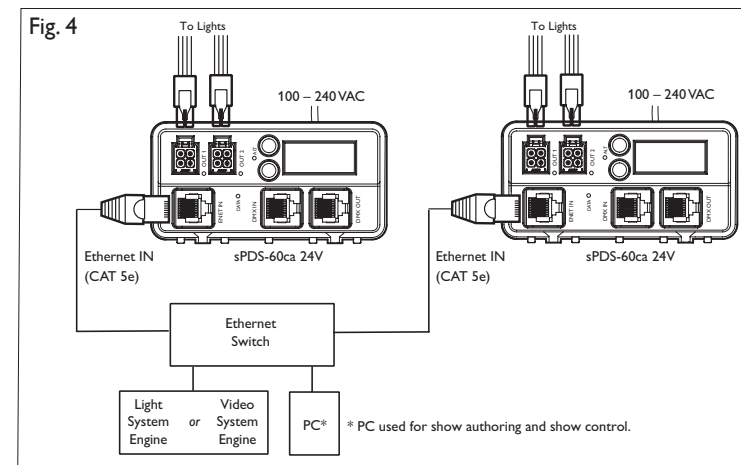
sPDS-60ca 24V receives DMX data from, and can be controlled by, Color Kinetics full line of DMX512 controllers or any third party DMX512 controller.

- Plug the data RJ45 connector from the controller into the DMX IN port.
- To daisy-chain DMX data to another sPDS-60ca 24V, connect a CAT 5 cable with RJ45 connectors between the DMX OUT port of the first unit and the DMX IN port of the next unit. Plug a terminator into the DMX OUT port of the last power supply in a data chain. (See Fig. 3.)



Connecting Ethernet Data to sPDS-60ca 24V

sPDS-60ca 24V receives Ethernet data from Light System Manager (LSM) or Video System Manager (VSM). LSM consists of Light System Composer software and Light System Engine hardware, and VSM consists of Video System Manager software and Video System Engine hardware. A dedicated network and one or more Ethernet switches are required for your installation. (See Fig. 4.) Refer to the LSM User Guide or VSM User Guide for setup and configuration information.

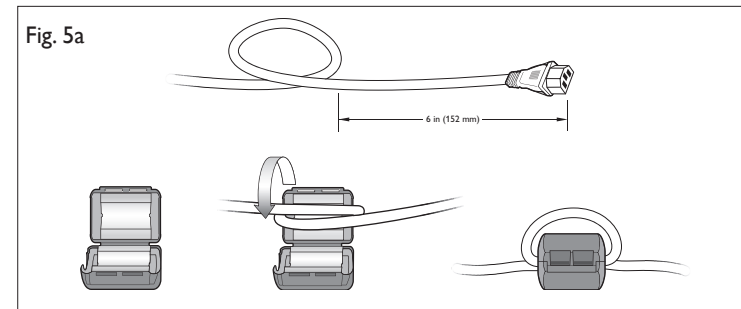


- Connect the CAT-5e data cable, with RJ45 connectors on both ends, to the Ethernet switch and to the ENET IN port on the sPDS-60ca 24V power/data supply.

NOTE: End-run Ethernet data to each sPDS-60ca 24V in an installation. Ethernet cannot be daisy chained. (See Fig. 4.)

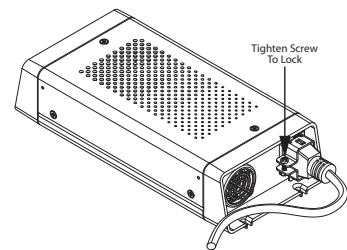
Connecting Power to sPDS-60ca 24V

- Install black clamp-on EMI Suppression Core on IEC power cable. Follow illustrations in Figure 5a for method of installation.



- Connect the IEC power cable to the back of sPDS-60ca 24V. Plug the IEC power cable into a standard 100 – 240 VAC outlet. Tighten the screw to secure the clamp. (See Fig. 5b.)

Fig. 5b



ADDRESSING THE LIGHTS

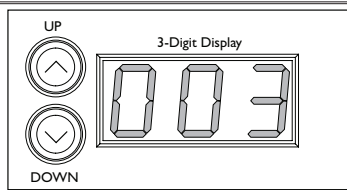
When using the DMX control input, you are required to set the base address for sPDS-60ca 24V and configure the lights connected to it.

The base address for the supply will be the starting address for the first light connected to Output 1. You can also group more than one fixture to the same address or reverse the addressing sequence of the fixtures on Output 1.

Setting Base Addresses

1. Press and release the UP or DOWN address buttons to step through the base address. The address numbers 1 through 170 will appear in the display. Press and hold either button to rapidly advance to the desired light number. Stop when the desired base number appears on the display. (See Fig. 6.)

Fig. 6



2. After selecting a base address, press and hold the UP and DOWN buttons simultaneously to enter configuration mode. "CFG" appears in the display. (See Fig. 7.)

When entering Configuration mode, sPDS-60ca 24V automatically

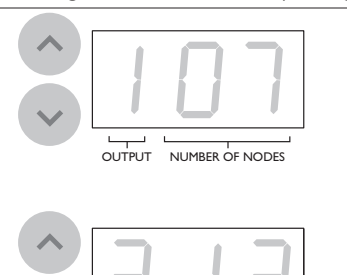
Fig. 7



discovers all lights that are connected and addresses them sequentially, beginning with the base address on the first light on Output 1 through the last light on Output 2. This step ensures that sPDS-60ca 24V correctly identifies all of the lights connected to its outputs.

After the discovery is complete, two 3-digit numbers are briefly displayed. The first digit indicates the output port and the last two digits denote the number of lights connected to that output. For example, the number 107 represents 7 lights on Output 1, while the number 213 indicates 13 lights on Output 2. If there are no lights attached to an output, the last two digits are 00, as in 200. (See Fig. 8.)

Fig. 8



3. To exit Configuration mode, press both buttons simultaneously. The base address for sPDS-60ca 24V will appear on the display.

Grouping Light Addresses

sPDS-60ca 24V allows you to conserve the total number of light addresses in an installation by grouping light fixtures together. When you group light addresses, you can assign multiple lights to the same address. The number of lights per group is limited to the maximum number of lights connected to Output 1. (For example, if you have 10 lights connected to Output 1 and 12 lights connected to Output 2, the maximum group number is 10.)

To set grouping of light addresses:

1. Press and hold the UP and DOWN buttons simultaneously to enter configuration mode. "CFG" appears in the display.
2. When entering Configuration mode, sPDS-60ca 24V automatically discovers all lights that are connected.
3. Use the UP button to set a positive group number (the number of lights per group), according to the following table.

Group Address	How Lights Are Addressed
ALL	ALL lights are assigned the selected Base Address. If you have 20 lights with a Base Address of 1, they are addressed as follows: Light #: 1 2 3 4 5 6 7 8 ... 18 19 20 Address: 1 1 1 1 1 1 1 1 ... 1 1 1
1	All lights are addressed sequentially, starting with the Base Address. If you have 20 lights with a Base Address of 1, they are addressed as follows: Light #: 1 2 3 4 5 6 7 8 ... 18 19 20 Address: 1 2 3 4 5 6 7 8 ... 18 19 20
2	Every two lights are assigned the same address. For example, if you have 20 lights with a Base Address of 1, they are addressed as follows: Light #: 1 2 3 4 5 6 7 8 ... 18 19 20 Address: 1 1 2 2 3 3 4 4 ... 9 10 10
3	Every three lights are assigned the same address. For example, if you have 20 lights with a Base Address of 1, they are addressed as follows: Light #: 1 2 3 4 5 6 7 8 ... 18 19 20 Address: 1 1 1 2 2 2 3 3 ... 6 7 7
4 to 20	...

NOTE: It is recommended that you set your group number to a number that evenly divides the number of lights connected to Output 1 and you balance the number of lights on each output. Otherwise, you may have a smaller amount of lights at the end of each output port that would receive the next address.

4. Use the DOWN button to set reverse addressing.

NOTE: sPDS-60ca 24V allows you to reverse the addressing sequence on Output 1 ONLY.

Using reverse addressing, the last light on Output 1 receives the Base Address, and then the addresses are assigned sequentially from the last light to the first.

Reverse addressing is particularly useful if you mount your power supply in the center of a linear feed or if you want to feed an installation that uses multiple power supplies from each side. Use reverse addressing to chase from one end of the light run to the next. (See Fig. 9 for examples.)

Use the DOWN button to set a "negative" group number, according to the following table. Set a negative group number to use reverse addressing.

Group Address	How Lights Are Addressed
-1	All lights are addressed sequentially, starting with the Base Address. If you have 20 lights with a Base Address of 1, they are addressed as follows: Light #: 1 2 3 4 5 6 7 8 ... 18 19 20 Address: 20 19 18 17 16 15 14 13 ... 3 2 1
-2	Every two lights are assigned the same address. For example, if you have 20 lights with a Base Address of 1, they are addressed as follows: Light #: 1 2 3 4 5 6 7 8 ... 18 19 20 Address: 10 10 9 9 8 8 7 7 ... 2 1 1
-3	Every three lights are assigned the same address. For example, if you have 20 lights with a Base Address of 1, they are addressed as follows: Light #: 1 2 3 4 5 6 7 8 ... 18 19 20 Address: 7 7 6 6 6 5 5 5 ... 1 1 1
-4 to -20	...

NOTE: It is recommended that you set your group number to a number that evenly divides the number of lights connected to Output 1 and you balance the number of lights on each output. Otherwise, you may have a smaller amount of lights at the end of each output port that would receive the next address.

5. To exit Configuration mode, press both buttons simultaneously. The base address for sPDS-60ca 24V will appear on the display.

sPDS-60ca 24V SPECIFICATIONS

POWER INPUT	100 – 240 VAC, 50Hz – 60Hz, 1.1-0.4A
POWER OUTPUT	24 VDC (62W Max.)
HEAT DISSIPATION	22% of total power input at maximum load
AMBIENT OPERATING TEMP	14° – 122°F (-10° – 50° C)
ENVIRONMENT	Dry Location/Indoor
HOUSING	8.8 x 4 x 2 in (224 x 102 x 51 mm) Weight: 2 lb (907 g)
CONNECTORS	Data: RJ45 input and output connectors Power: 4-pin output connectors (24 VDC), IEC power connector (100 – 240 VAC)
DATA INPUT INTERFACE	Color Kinetics DMX Controllers, DMX512 compatible controllers, Video System Manager, or Light System Manager
DATA OUTPUT INTERFACE	Chromatic 24V
CLASSIFICATION	Class 2
LISTINGS	UL/cUL, CE, PSE

FOR USE IN JAPAN ONLY

株式会社カラーキネティクスジャパン
株式会社フィリップス エレクトロニクス ジャパン



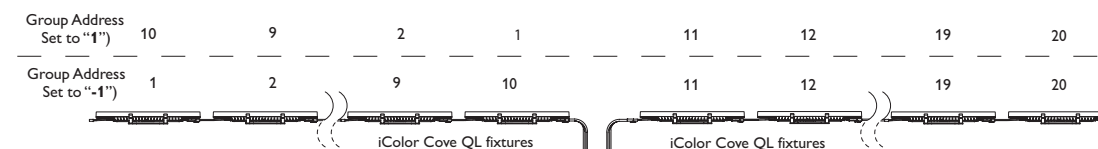
sPDS-60ca 24V

Used with iColor Cove QLX, Cove EC or Equivalent
Input: 100 – 240 VAC, 50 – 60 Hz, 0.9 A, 0.35 A, 90 VA Max
Output: 24 VDC, 62 W Max, 2.58 A Max

Fig. 9

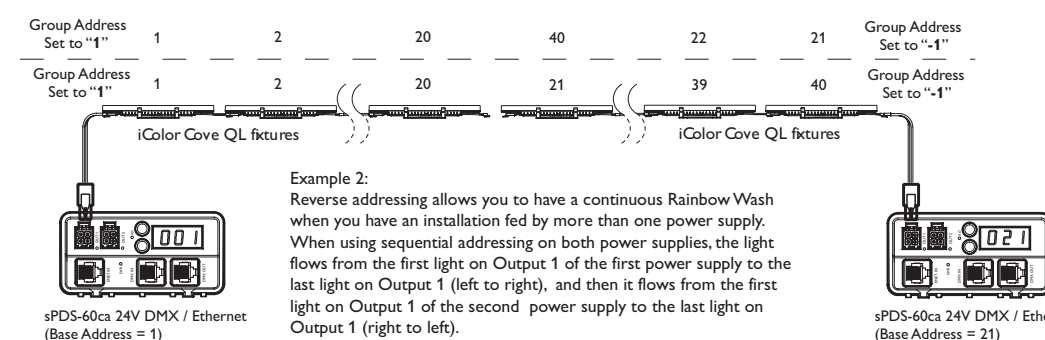
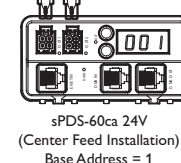
EXAMPLES OF SEQUENTIAL AND REVERSE ADDRESSING

NOTE: Reverse addressing only reverses the addresses on Output 1 of the sPDS-60ca 24V.



Example 1: When using a Rainbow Wash with sequential addressing (group address set to 1), the light flows from the center (the first light on Output 1) to the last light in Output 1, and then back to the first light on Output 2.

When using a Rainbow Wash with reverse addressing (group address set to -1), the light flows from left to right across all fixtures. The light goes from the last fixture on Output 1 to the first fixture on Output 1, and then to the first fixture on Output 2 to the last fixture on Output 2.



Example 2: Reverse addressing allows you to have a continuous Rainbow Wash when you have an installation fed by more than one power supply. When using sequential addressing on both power supplies, the light flows from the first light on Output 1 of the first power supply to the last light on Output 1 (left to right), and then it flows from the first light on Output 1 of the second power supply to the last light on Output 1 (right to left).

Using reverse addressing on the second power supply allows you to set up the flow from left to right across all fixtures. With this setup, the light flows from the first light on Output 1 of the first power supply to the last light on Output 1, and from the last light on Output 1 of the second power supply to the first light on Output 1.