solid state luminaires

Date:	**Approved:**
Type:	
Fixture:	
Project:	

ColourLine Lazer Micro

Part of our LAZER series

ColourLine Lazer Micro (CLZMF) is the newest part of our Lazer Series, featuring high-performance Zero Lumens Compromised, superior optics with long-casting grazer, wall wash, flood and spot flood capabilities in a compact form factor. It's based on our ColourLine RGBW technology that utilizes advanced RDM-DMX protocols combined with a unique optical system to offer one of the most impressive long-throw RGBW lighting solutions in the market. Lazer is equipped with an integrated yoke mount and 180° incremental adjustment setting to direct fixture lighting. Typical applications include large buildings, arenas, towers, monuments, bridges, tunnels, and more.

SPECIFICATIONS

color temperature	**RGBW / RGBA**

PHYSICAL

beam spread	9°	10°x 30°	10°x 60°	15°x 25°	30°	30°x 60°	50°x 80°	80°
LEDs	12 LEDs per module
dimensions	7.3"W x 7.3"H x 6.6"D
weight	11 lbs
housing	marine grade, corrosion resistant, low copper, solid die-cast aluminum, extruded 6061 body with captive stainless steel fasteners
lens	anti-reflective-clear, tempered glass w/RTV silicone gasketing
mounting	3G Vibration rated, standard mounting is an integrated steel yoke system, optional accessories availble
ingress protection	IP66 rated for dry, damp or wet locations
impact resistance	IK08 lens impact rating, IK10 w/ Rock Guard (RG)
fixture connections	daisy chain fixtures with male/female twist & lock, 6-pin, IP68 rated connector cables

PERFORMANCE

lumen output [all on]	2500 lm (RGBW - full on)
maximum delivered intensity	52,000 cd @ 8 degrees* (RGBW Full On) * native optical beam
lumen maintenance	> 70,000 hours / L70 or better
operating temperature	-40°F to 122°F (-40°C to 50°C)
protocols	DMX 512, RDM (ANSI E1.20)
ColourFULL (See pg. 4)	Custom Tooled Native Optic with a collimating color mixing chamber that mixes at the phosphor level enabling unique color combinations.
ColourQuick (See pg. 4)	provides uniform beam saturation instant color mix 0" from fixture surface
ColourClone (See pg. 4)	manufacturing process uses robotic systems to provide 1 SDCM like consistency between luminaires by calibrating every fixture to the same exact X, Y, chromaticity coordinates
ColourSoft (See pg. 4)	embedded firmware enables 16-bit resolution using only 8-bits of data to enhance the low trim curve for no-flicker at the slowest transition speeds
warranty	5 year limited warranty (refer to website for details)

ELECTRICAL

input voltage	Universal 120–277V AC
power supply	integral Class II, electronic high-power factor 99% @ 120V
controls	SSL ColourSelect Controller | 3rd party DMX 512, RDM standard based control system (ANSI E1.20)
certification	ETL / cETL, FCC Part 15
standards	UL-Class I
power consumption	85W @ 120V (per module)

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US Commercial Lighting Manufacturer Since 1982

Specification Sheet

ColourLine Lazer Micro

PART NUMBER

CLZMF	UNV		BK		

MODEL	VOLTAGE	MODE	FINISH	OPTICS nominal	ACCESSORIES
CLZMF ColourLine Lazer Micro	**UNV** 120V–277V	**RGBW** RGBW*	**BK** black	**9** 9°x 9° Beam† (native optic)	**MFV** Full Visor
		RGBA RGBA (Amber)		**1030** 10°x 30° Beam†	**MHV** Half Visor
				1060 10°x 60° Beam	**MRG** Rock Guard†
		*W = 3K		**1525** 15°x 25° Beam†	†MRG recommended only with narrow beam optics: 9°, 30°, 1030°, 1525°
				30 30°x 30° Beam†	
				3060 30°x 60° Beam	
				5080 50°x 80° Beam	
				80 80°x 80° Beam	

Cable Accessories (order seperately)

REQUIRED: Each run requires a Starter Cable and Terminator Cap. **Max Run Length** = 9 Modules (120V), 18 Mods (277V)

_____ **SC10CLZ** 10 ft. Starter Connection Cord
_____ **SC25CLZ** 25 ft. Starter Connection Cord
_____ **SC50CLZ** 50 ft. Starter Connection Cord
_____ **TCAPDCLZ** Data Terminator Cap
_____ **EC24CLZ** 24 in. Extension Cord
_____ **EC60CLZ** 60 in. Extension Cord
_____ **EC120CLZ** 120 in. Extension Cord
_____ **EC240CLZ** 240 in. Extension Cord

Control Components (Indicate the quantity needed for each item.)

Controller Data Cables/DMX listed are exterior rated.
(Belden 3105A or equivalent) CD cables have male XLR at one end.

_____ **PHAROS XPT-5-W** Expert Touch Panel; 5" Display in White
_____ **PHAROS XPC1** Expert Controller; 512 channels of eDMX/DMX
_____ **PHAROS XPC2** Expert Controller; 1024 channels of eDMX/DMX
_____ **PHAROS XPR** Expert Repeat (DMX Splitter with 1 in 4 out, 24V DC)
_____ **PHAROS TPS-5-B** 5" Designer Touch Panel Station
_____ **PHAROS TPC-BB** Touch Panel Controller - Black on Black *(512 Channels EDMX)*
_____ **PHAROS TPC-FBB** Flush Mount Back Box for drywall installation
_____ **PHAROS TPC-SBB** Surface Mount Back Box for drywall installation
_____ **PHAROS EXT** Extension for TPC Connectivity
_____ **PHAROS LPC1** Lighting Playback Controller 1 (512 channels DMX/eDMX)
_____ **PHAROS LPC2** Lighting Playback Controller 2 (1,024 channels DMX/eDMX)
_____ **EDN 10** 10 Ethernet Data Node (1+1 Ethernet, 10 DMX/RDM)
_____ **EDN 20** 20 Ethernet Data Node (1+1 Ethernet, 20 DMX/RDM)
_____ **DMXCat** DMX/RDM configuration tool
_____ **PDX2** Power Data Wiring Box *(exterior rated)*
_____ **PDX-S** Power Data Wiring Box w/2-port splitter
_____ **PDX-RS4** Power Data Wiring Box w/4-port splitter
_____ **CL-RS4** 4 Port RDM splitter w/120V power supply
_____ **SCSC-2WH** White or Black Slim ColourSelect Wall Controller *(2 universe)*
_____ **PS-SCSC** Power Supply for SCSC *(Slim ColourSelect)*
_____ **CSC-E** ColourSelect Controller *(2 universe)*
_____ **PS-CSC** Power Supply AC Adapter for CSC-E *(replacement)*
_____ **DE3BK(WH)** Nicolaudie STICK DE-3 Black or White Wall Mount Controller w/color dial
_____ **CW4-WH** Nicolaudie STICK White Touch Screen with Internal WiFi
_____ **GA2WH(BK)** Nicolaudie STICK-GA2 White or Black Wall Mount Controller
_____ **DINA-DR1** 3072 Channel (DMX, eDMX), DIN Rail
_____ **DINA-DR1 LITE** 1024 Channel (DMX), DIN Rail - upgradeable to DR-1
_____ **DINA-DR2** 1024 Channel (DMX), DIN Rail
_____ **DINA-DR2-LITE** 512 Channel (DMX), DIN Rail - upgradeable to DR-2
_____ **DINA PS** DINA Power Supply (by Nicolaudie)
_____ **NATOUCH-1** Wall mounted touch screen for remote control
_____ **DXC-25** 25 foot Exterior rated DMX cable
_____ **DXC-50** 50 foot Exterior rated DMX cable
_____ **DXC-100** 100 foot Exterior rated DMX cable
_____ **CD-10** 10 foot controller data cable (for CSC only)
_____ **CD-25** 25 foot controller data cable (for CSC only)
_____ **CD-50** 50 foot controller data cable (for CSC only)
_____ **CD-100** 100 foot controller data cable (for CSC only)
_____ **MV 5900** Multiverse Show Baby DMX Wireless Bridge (Indoor)
_____ **7400-5707M** Show DMX Vero DMX Wireless Bridge (Exterior)

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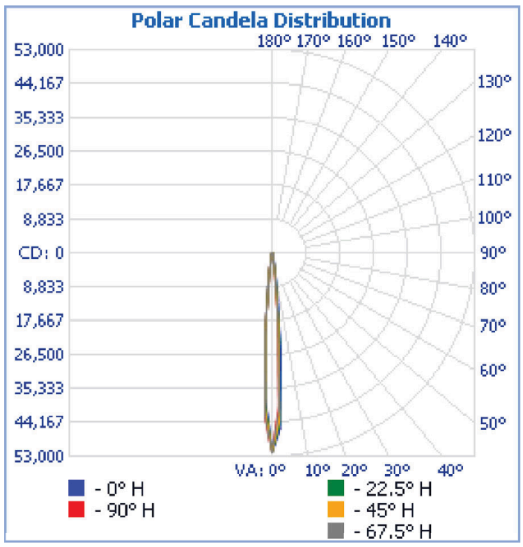
US Commercial Lighting Manufacturer Since 1982

Specification Sheet

Photometry

ColourLine Lazer Micro

PHOTOMTERIC DATA



Flood Summary

	Efficiency	Lumens	Horizontal Spread	Vertical Spread
Field (10%):	52.5%	1,292.7	16.3	17.7
Beam (50%):	26.8%	660.5	8.5	9.2
Total:	100.8%	2,482.0		

Illuminance at a Distance

	Center Beam fc	Beam Width	
1.7ft	18,007 fc	0.3 ft	0.3 ft
3.3ft	4,779 fc	0.5 ft	0.5 ft
5.0ft	2,082 fc	0.8 ft	0.7 ft
6.7ft	1,159 fc	1.1 ft	1.0 ft
8.3ft	755 fc	1.3 ft	1.2 ft
10.0ft	520 fc	1.6 ft	1.5 ft

Vert. Spread: 9.2°
Horiz. Spread: 8.5°

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	2,063.6	83.8%
0-40	2,245.9	91.2%
0-60	2,398.0	97.4%
60-90	51.7	2.1%
70-100	19.2	0.8%
90-120	3.1	0.1%
0-90	2,449.7	99.5%
90-180	12.0	0.5%
0-180	2,461.7	100%

RGBW

CLZMF
RGBW

RGBW supports up to 4.6 billion colors available to use with ColourLine Lazer Micro.

Like all ColourLine products any controllers that support the latest ESTA RDM and ACN standards will allow optimal control of the huge RGBW color spectrum. Regardless of the surface color you're casting light across, you'll be able to adjust color to capture your specific brand colors or add unique settings for subtle or intense color-changing hues.

RGBA

with Amber

CLZMF
RGBA

Amber is used in place of white in the RGBA color gamut. Adjusting to the lighter color spectrum adds warm tones of amber.

As subjective as color selection is, using amber for a more chromatically warmer color palette allows for a broader yellow color spectrum. The warm rich colors create a more inviting setting for night lighting applications. RGB alone will produce white and yellow but in a smaller color spectrum.

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ColourLine Technology RGBW

ColourLine Lazer Micro

All These Features In A Single Fixture

ColourFull

FULL LUMEN COLOR CHANGING

- Full Power LED with any color transition
- Consistent rich color acoss the light spectrum
- Full output power with any color

ColourFull fixtures provide maximum output at all times – with all colors, so your application receives the maximum color saturation. Using a Custom Tooled Native Optic with a collimating color mixing chamber that mixes at the phosphor level enabling unique color combinations.

ColourQuick

RAPID-MIX COLOR

- Instantaneous Color Mixing – Within 1 inch
- Shortest Distance in Industry for Blending Colors
- 4-in-1 RGBW LED designed to SSL Specifications

ColourLine RGBW fixtures provide the quickest color mixing in the industry. The SSL ColourQuick technology enables our ColourLine Linear Indoor Cove and Graze, as well as, our Outdoor Floods to color-mix almost instantly, within one inch.

Scalable

- Full DMX, RDM control capability with latest industry standards
- A wide variety of DMX protocol controls and system accessories
- SSL has many RGBW products utilizing the ColourLine Technology
- Control 1000's of DMX channels with multiple universes & zones
- Powerful luminaires with super optics for long-throw applications
- SSL provides turnkey design and technical integration support

ColourSoft

SMOOTH LOW-TRIM DIMMING

- Flicker-Free Color Transitions and Dimming
- 16-bit performance (65,536 steps) using *only 8-bit addressing*
- SSL Engineered Custom Software and Firmware

Standard dimming technology uses 8-bit resolution for 256 individual steps. Our 32-bit on-board MCU uses SSL developed software to provide 16-bit resolution that allows 65,536 steps of resolution and only use 8-bits of addressing space! We also use a logarithmic delineation of the resolution to concentrate in the lower third of the dimming curve so the low-end dimming and color transitions have zero flicker.

ColourClone

TRU-COLOR RGBW MATCHING

- Robotic Calibration of every fixture provides 1-Step consistency
- Every fixture has same X, Y color coordinates
- Perfect match for add-ons and replacements

As part of our manufacturing process, SSL Automated Manufacturing Robots calibrate every fixture to the exact same X,Y color coordinates to provide Step-1 like consistency. This process enables every fixture to be an exact clone. At the end of the process, a bar code is generated for every board. This allows for exact matching for job add-ons or warranty replacements.

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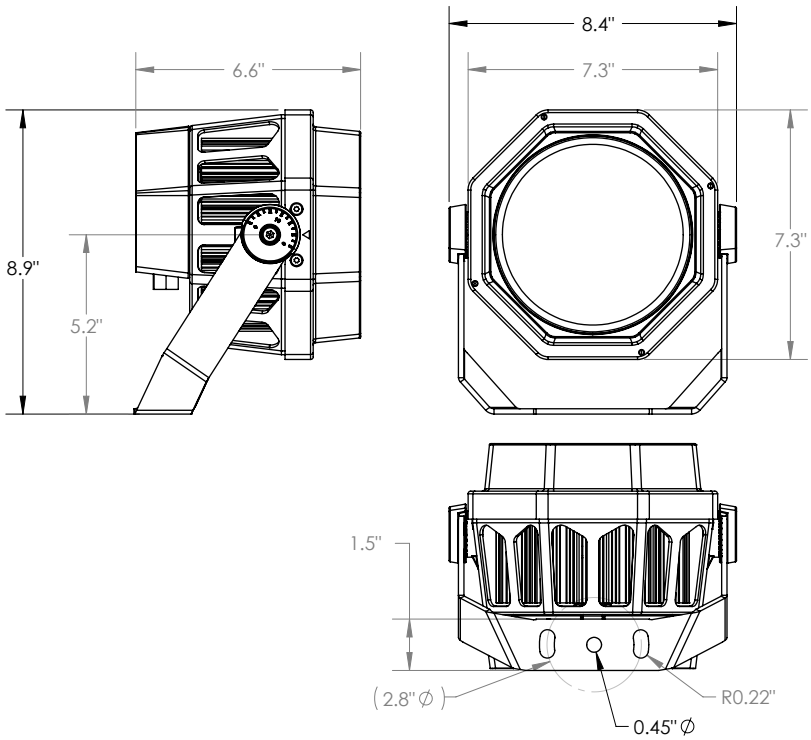
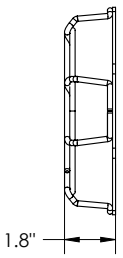
Dimensions

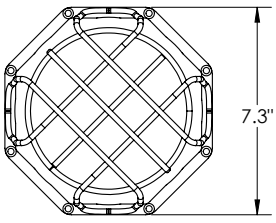
SINGLE MODULE FIXTURE (1M)	
overall length	7.3" L
overall height	7.3" H
overall depth (1M)	6.6" D



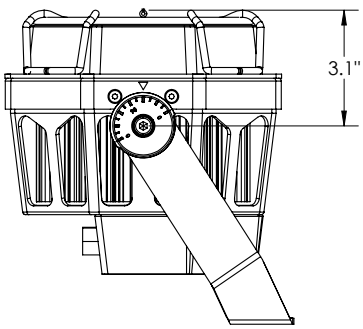
Accessories

ROCK GUARD†	
Part #	MRG





†Recommended only with narrow beam optics: 9°, 30°, 1030°, 1525°



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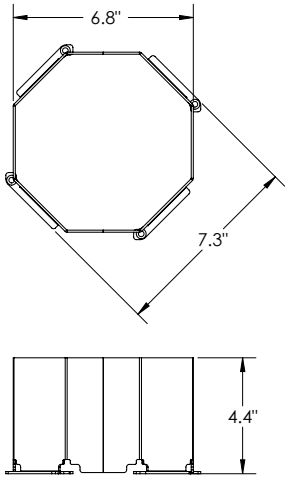
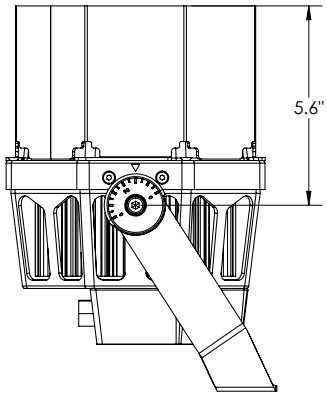
FULL VISOR

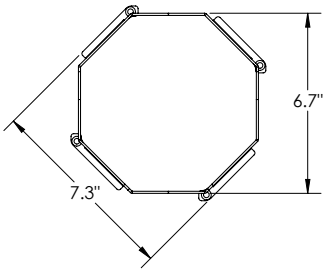
Part #	MFV

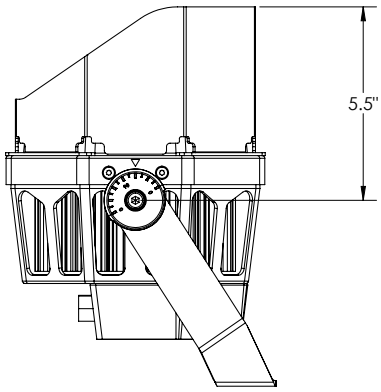


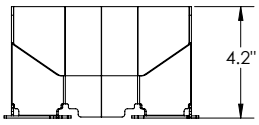


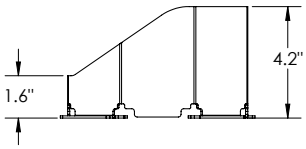
HALF VISOR

Part #	MHV









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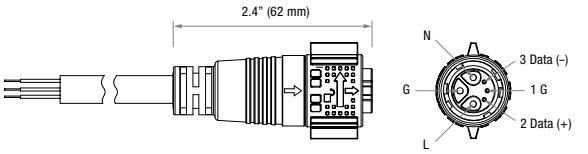
Connectivity Options

ColourLine Lazer Micro

CONNECTIONS & CABLES

6-PIN CONNECTORS

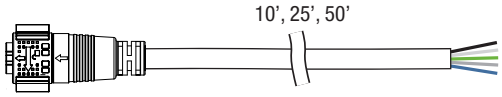
STARTER CABLE (**SCxxCLZ**)



TERMINATOR CAP (**TCAPDCLZ**)

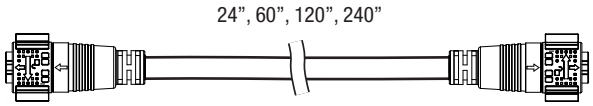
STARTER CORD (SCxxCLZ)

Required Starter Cord comes in multiple lengths with a fixture connector at one end and lead wires at the other end for connecting power & data.



EXTENSION CORD (ECxxCLZ)

The Extension Cord comes in multiple lengths with a fixture connection at each end for power & data and adding space between fixtures in a linear run.



CLZMF - LAZER CONFIGURATION EXAMPLE

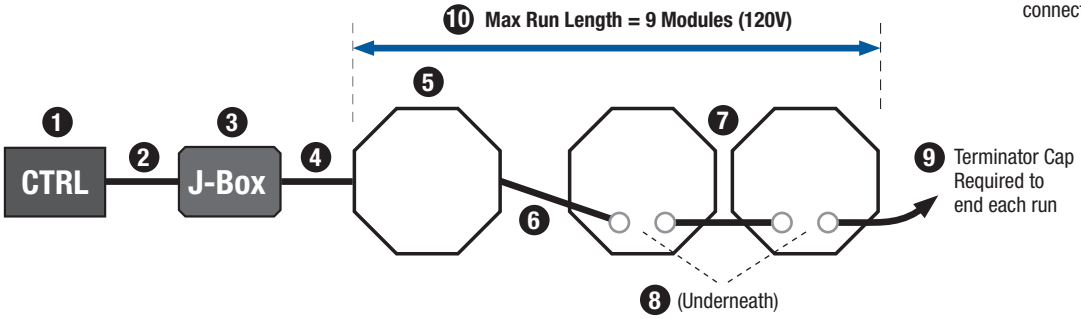
Component Identification

1) DMX Color Controller (see last page)
2) DMX Data Cable **DXC-xx** or **CD-xx** (CSC only)
3) PDX Power Data Wiring Box
4) Starter Cord **SCxxCLZ**
5) ColourLine Lazer (**CLZMF**)
6) Extension Cord **ECxxCLZ** (connect at back of fixture)
7) Connected ColourLine Lazer Micro (**CLZMF**)
8) Extension Cords connect fixtures **ECxxCLZ**
9) Terminator Cap **TCAPDCLZ** (required at end of run)
10) Max Run Length (before adding more power):
9 Modules (120V), **18** Modules (277V)

Back of Fixture Connections

Connect to either side, both connectors are the same.

Back of Fixture Connections



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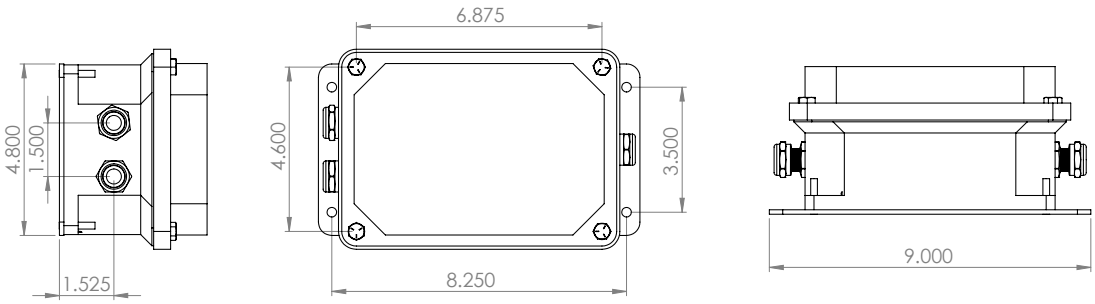
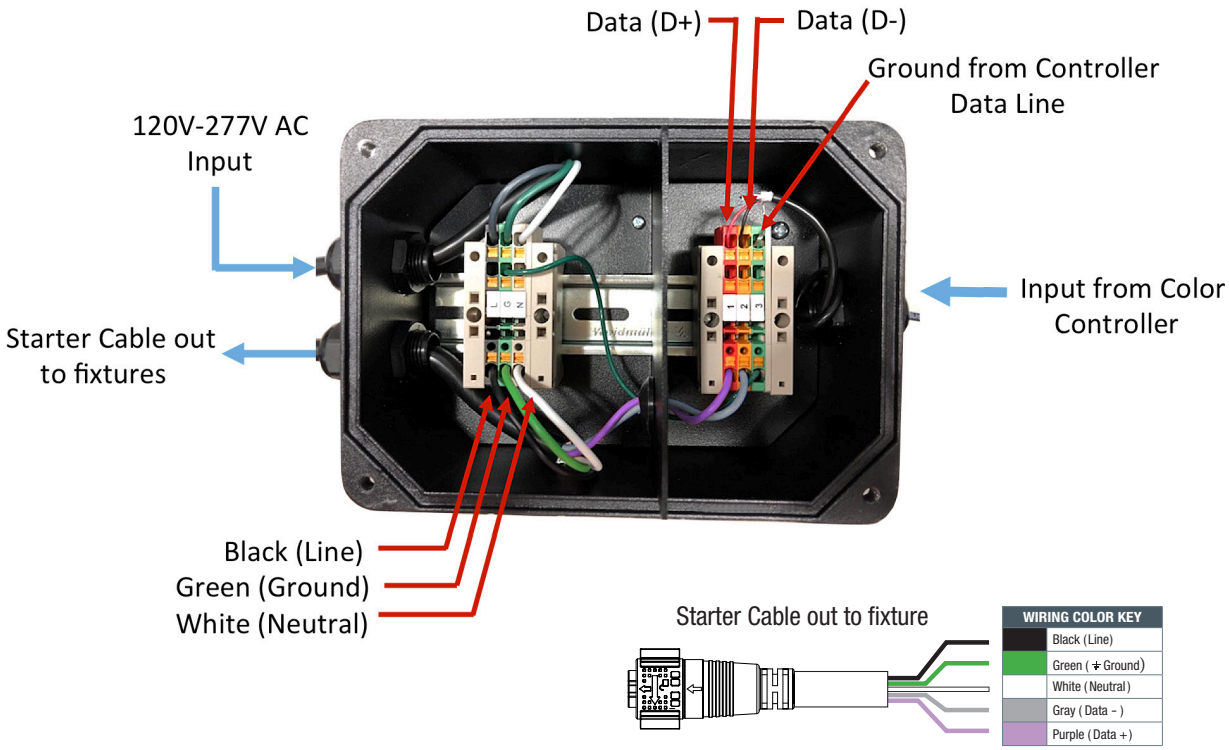
PDX - POWER DATA WIRING BOX

The PDX is an exterior-rated enclosure that consolidates multiple input sources into one output to the Lazer Flood fixtures. Data input from the RDM Color controller and AC input combine to provide one output to a Starter Cord.





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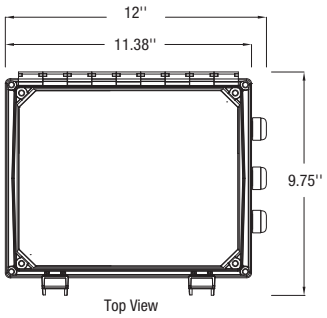
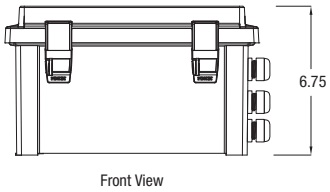
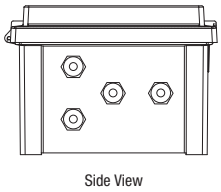
PDX-S - POWER DATA WIRING BOX - WITH 2-PORT SPLITTER

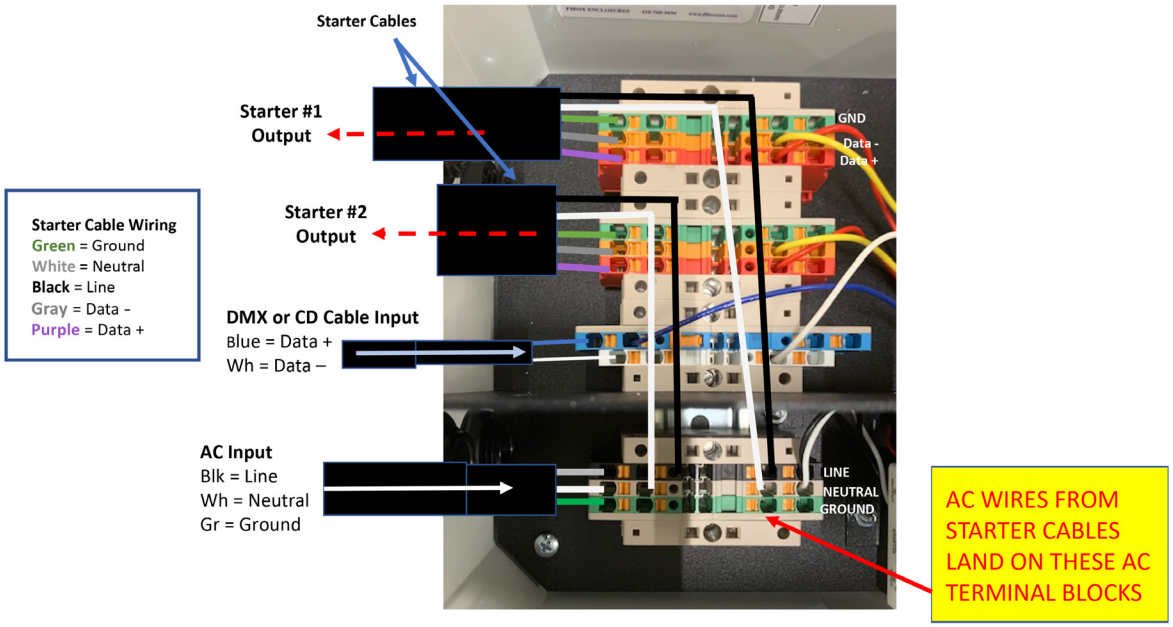
The PDX-S is an exterior-rated enclosure with a transparent, hinged cover that latches and seals using a formed in place PUR gasket and a stainless steel hinge pin. It consolidates multiple input sources into two outputs to the fixtures. Data input from the RDM Color controller and AC input combine to provide output to two Starter Cords.

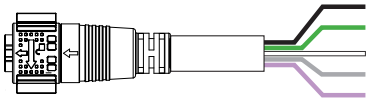






PDX-S WIRING CONNECTIONS





WIRING COLOR KEY	
	Black (Line)
	Green (⏚ Ground)
	White (Neutral)
	Gray (Data -)
	Purple (Data +)

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DMX / RDM PROTOCOL CONTROLLERS

PHAROS TPC-BB - Pharos Touch Panel Controller - Black on Black finish

TPC Touch Panel Controller is an elegant lighting controller with a customizable 4.3" touch screen, 512 channels of eDMX output and flexible interfacing potential. The TPC must work in conjunction with the EXT or LPC. Pharos Backbox is available for mounting.

PHAROS EXT - Extension Device for TPC Connectivity

The Pharos EXT is an extension for the Pharos TPC for making the physical DMX or eDMX output connections. It also provides a PoE connection for the TPC. It's DIN rail monted. This device supports electrical input of 120-240V AC power.

PHAROS LPC - Lighting Playback Controller

Pharos offers two playback controllers, LPC1 (512 channels DMX/eDMX) and LPC2 (1024 channels DMX/eDMX) Pharos LPC (Lighting Playback Controller) is a versatile control solution. The LPC family features individually controllable and independently running timelines and scenes, letting you build dynamic, precise, fully customizable lighting effects. The LPC can be ordered with 1 to 100 Universe capability. It requires a TPC or PC to interface and is powered via 9V to 48V DC or PoE (IEEE802.3af, Class 2), 4W typical.

DE3BK(WH) - Nicolaudie STICK-DE3 Black or White Wall Mount Controller with color dial

STICK DE3 provides an elegant solution to controlling your DMX fixtures. The glass, touch-sensitive panel can be used in multiple ways to select a programmed scene, change a color attribute or directly select a color from the color wheel. Scenes are displayed on the graphical color display. The DE3 provides 1024 DMX Channels with up to 500 scenes and 10 separate zones can be created and controlled separately. 120V AC is required for operation. The DE3 is programmed via Nicolaudie's ESA2 or ESA PRO software. Programs are stored on the internal MicroSD card.

CW4-WH - Nicolaudie STICK CW4 White Touch Screen with Internal WiFi CW4 touch controller provides 1024 channels of control. 36 scenes can be created in 1 zone. An internal access point provides remote control via any WiFi device using the LIghtpad app from Nicolaudie.

GA2BK(WH) - Nicolaudie STICK-GA2 Black or White Wall Mount Controller

GA2 is an economical controller with glass, touch-sensitive screen for basic control of up to 99 scenes and 1 available zone. It can control 512 DMX Channels. An LED display makes it easy to determine which scene number is playing.

CSC-E - SSL ColourSelect Controller

ColourSelect Controller 2 Universe provides (1024 Channels) of output data capable of controlling 5 zones independently. CSC-E has two 3-pin female XLR connectors to connect to your DMX network and is defaulted in splitter mode, so two separate runs can be connected and controlled. It can store a total of 80 programmable presets. Additionally buttons control speed, dimming, scenes and static colors. The CSC can be powered via a PC USB port or with the PS-CSC external 120V AC power supply included.

SCSC-2WH (or 2BK) - SLIM White ColourSelect Controller Wall mount versions of the CSC-E, includes power supply.

Due to continuous development and improvements, specifications are subject to change without notice. Solid State Luminaires reserves the right to change lab test details or specifications without notice. Product use certifies agreement to Solid State Luminaires terms and conditions. All stated specifications have a tolerance of +/- 7%.