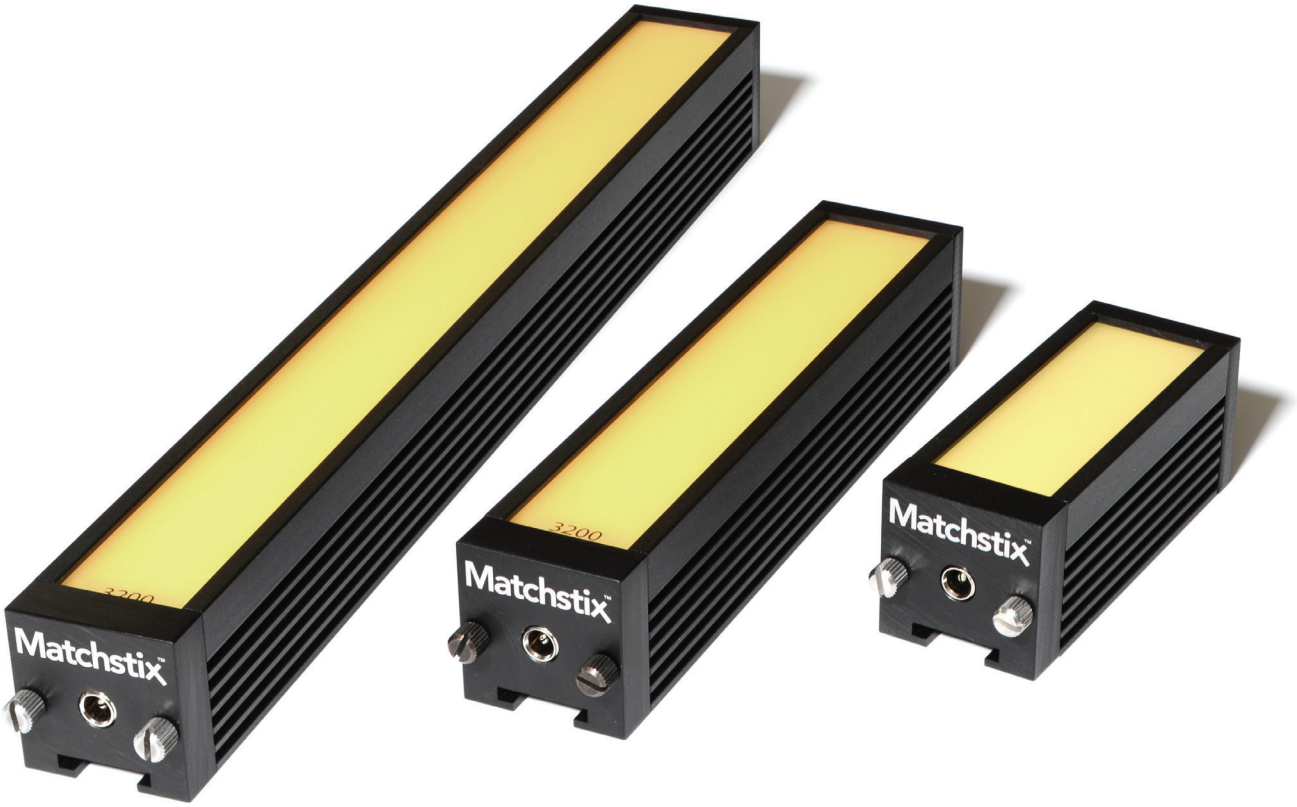
CINEO LIGHTING™



Matchstix™

User Guide

Revision 1.0 — July, 2014

Information and specifications in this document are subject to change without notice.

cineolighting.com

Welcome to Cineo Matchstix

Matchstix™

Cineo Lighting and Litegear™ have teamed up to develop the Matchstix series of small, linear Remote Phosphor light sources. Matchstix operate from any DC power source from 11 to 18 VDC, including many battery options. The power connection uses 5.5mm x 2mm co-ax DC power connector Matchstix are available in 3", 6" and 12" lengths and draw approximately 100mA per inch of length. Matchstix are optimized for flawless, flicker-free control with Litegear dimmers. Like all Cineo soft lights, Matchstix allow the user to change the Remote Phosphor panels, supporting CCT of 2700K, 3200K, 4300K and 5600K. Their color quality perfectly matches all other Cineo softlights, with CRI ratings of 90-98, depending on color temperature. The back side of all Matchstix features a standard cold-shoe slot running the entire length of the fixture for limitless mounting options virtually anywhere.

Rather than traditional diffusion to soften the light source, the light actually emits from the Remote Phosphor panels on the front of the fixture, providing a light characteristic that radiates equally in a 160° radius, providing Matchstix the ability to "wrap" your subject with soft light with edgeless shadows. The phosphor panels are excited by blue LEDs, which are automatically turned off when the phosphor panels are removed. The color temperature of Matchstix is extremely consistent fixture to fixture, and will not change over time like other lighting technologies.

Matchstix are extremely durable, built to last with anodized alloy construction, flexible polycarbonate panels, and field-serviceable components. Power supply and dimming options include both local and DMX control, connecting to the lamphead with up to 25' (7.5m) of cable.

Cineo Matchstix are perfect for any film or television project, in the studio or on location, or anywhere flicker-free, color-accurate softlight is required.

General Notes

1. Please read through this manual carefully before operating Cineo Matchstix, and keep this manual for future reference.
2. There are numerous safety instructions and warnings that must be adhered to for your own safety.
3. Matchstix not intended for residential use. It is intended for use in a professional studio.
4. Matchstix must be serviced by a qualified technician.
5. Although Matchstix are weather-resistant, they are intended primarily for indoor use.
6. Cineo products are not certified for use in hazardous locations.
7. Matchstix have a typical operating temperature of 120° F (50° C).

Fixture Set Up

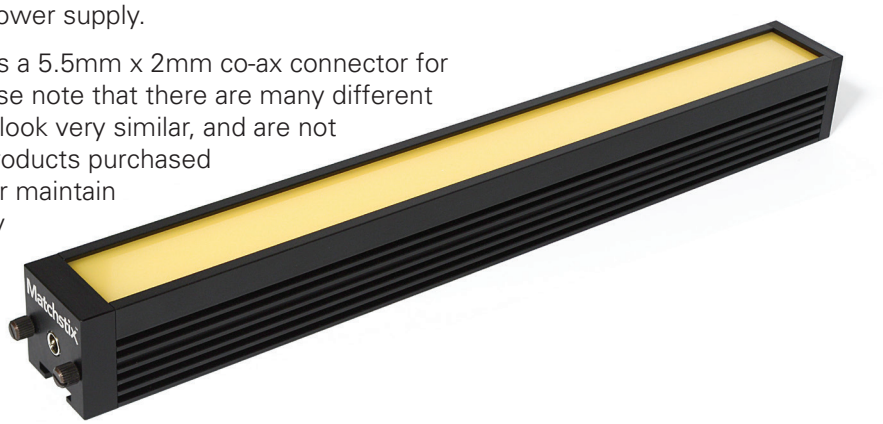
1. Read these safety instructions carefully to ensure fixture and accessories are used safely.
2. It is suggested that the fixture is correctly mounted onto the supporting surface before use.
3. Ensure the Matchstix, power supplies and dimmers are operated within an ambient temperature range of -4 to 122°F (20 to +50°C)

System Components, Connections and Controls

Cineo Matchstix Lamphead

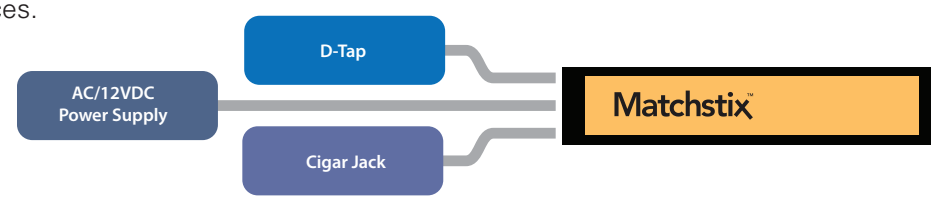
The Matchstix lamphead is externally powered by any 12vDC power source capable of delivering 100 mA per inch, i.e. a 12" Matchstix will require 1.2A of DC power at 12V; a 6" model requires 600mA @ 12VDC. Multiple Matchstix can be attached to a single power source using optional 2-way and 4-way splitters. Make sure that the total load does not exceed the current rating of the power supply.

The lamphead includes a 5.5mm x 2mm co-ax connector for supplying power. Please note that there are many different co-ax connectors that look very similar, and are not interchangeable. All products purchased from Cineo or LiteGear maintain complete compatibility by adhering to the 5.5mm x 2mm connectors.



LiteGear Power Supplies

Matchstix can be used with virtually any nominal12VDC power source, including camera batteries, car lighter sockets, etc. Accessory cables are sold for connection to various power sources.



Cineo includes DC power supplies from LiteGear with the Matchstix Power kits and DuoPro kits. These kits are shipped by default with the 12V, 4A power supply, although 8A and 15A power supplies are also available for larger installations.

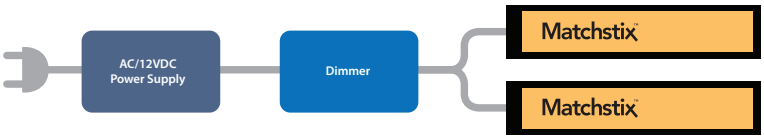
When configuring lighting arrays, be sure that the overall amperage load of the Matchstix does not exceed the output of the power source. Overall load calculation is simple: every one inch of Matchstix on a 12V power source draws 100mA.

Dimming

Matchstix can be used with many in-line DC dimmers, although flicker-free operation is guaranteed by using LiteGear local and DMX dimmers.

LiteDimmer Single

The LiteGear LiteDimmer Single is a basic flicker-free controller for nearly all configurations of Matchstix implementations. The maximum current load that can be controlled on a singe LiteDimmer is 8A, meaning that up to a combined 8 feet of Matchstix can be controlled on a single dimmer. DC power is passed through the LiteDimmer and can operate at within the voltage range of the Matchstix, passing through the dimmed power to the attached Matchstix using cables and splitters.



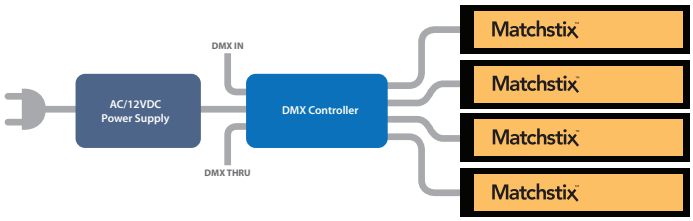
Note that, in addition to the rotary dimming control, the power switch on the dimmer offers two dimming ranges for precise control of low light levels.

LiteGear E-Control 4x4 V3 DMX Dimmer

For installations requiring remote control, the LiteGear E-Control 4x4 V3 DMX Dimmer provides up to 4 channels of DMX control from a single unit, each channel capable of a 4A load, i.e. up to 4 feet of Matchstix per channel.

The DMX dimmer and subsequent loads require a 15A power supply for full operation.

Power is provided for the unit by passing DC power for the Matchstix through the unit, as shown:



The DMX dimmer is provided with adapter cables for use with standard 5-pin XLR connections for both DMX IN and THRU. The DMX pin-out wiring is as follows:

- Pin 1: Signal Common
- Pin 2: Data -
- Pin 3: Data +
- Pin 4: Spare
- Pin 5: Spare

The DMX control line is self-terminating and does not require external DMX termination when used in a control chain.

DMX Operation

The DMX Controller can be addressed using the onboard control buttons (✖, ▲, ▼) to set the DMX start value. To access DMX Mode, press ✖ until you see → appear next to "DMX ADDR" on the digital display. From this screen, use the ▲ and ▼ buttons to set the desired start address for the controller. Note that the process of addressing the DMX Controller only sets the start address for the first output. The three subsequent outputs are then automatically assigned the three subsequent channels (e.g. addressing a start address 217 would assign channels 217, 218, 219, and 220).

There is an additional DMX address (000) that acts as a test channel for the LED outputs. Please refer to the LiteGear troubleshooting guide: http://www.litegear.com/wp-content/uploads/2014/07/4x4-V3Instructions.pdf

The DMX Controller has a built-in "lock out" function that will automatically save the current settings should there be a power outage. The settings will only save once the controller has locked out, which takes approximately five seconds. It will then return to the last saved settings on startup.

Matchstix Cables and Splitters

Cineo Matchstix use a 2-conductor, 26AWG cable with 5.5mm x 2mm coax female connector to mate with the lamphead. Lampheads are typically supplied with 12 feet (4m) cables, although shorter lengths are available friom Cineo, LiteGear or other suppliers. Cineo and LiteGear also supply specialized cables for connecting Matchstix to automobile power ports and D-Tap connectors commonly found on camera batteries.

Maximum cable length between lamphead and power supply or dimmer should not exceed 25 feet (6.4m).

Output of power supplies and dimmers can be split into 2 or 4 outputs to allow multiple Matchstix on a single circuit or DMX channel.

Keep in mind that when using splitters the total load is calculated by adding all the Matchstix on a single circuit, and that the use of splitters does not increase the capacity of the available current.

Remote Phosphor Panels

Color temperature (CCT) for the Matchstix fixtures is changed by replacing the remote phosphor panels on the front of the lamphead. The CCT is clearly labeled on the respective panels.

To change color temperatures:

1. Remove power to the lamphead before removing the end cap. This will assure that the LEDs do not ignite while panels are being exchanged.
2. Loosen the two captive thumbscrews located on the end cap with the power connector and remove the end cap.
3. Remove panels and replace with panels correlating to the desired CCT, making sure that the panels are well-seated in the slot in the opposite endcap. Panels should always be inserted with the glossy side out.
4. Avoid touching LEDs and the white reflective material.
5. Re-attach endcap. NOTE: Please make sure that thumbscrews are securely fastened but not overly-tightened.

Although no harmful UV emanates from the fixture, Matchstix should only be used with the remote phosphor panels in place. Although the panels are extremely durable, avoid exposing them to abrasive surfaces. Please reference the Cineo Matchstix catalogue for available color temperature options.

Mounting and Accessory Attachment

Cineo Matchstix feature a standard camera cold-shoe running the length of the lamphead, which is ideally suited for connecting the fixtures to virtually any surface using commonly available grip equipment. All Matchstix kits are shipped with a swiveling adapter that provides a standard ¼" x 20 tapped mounting hole. Additionally, both the back and side surfaces are capable of accepting self-adhesive Velcro for attaching the Matchstix to a surface, or a lighting control device to the front of the unit.

Specifications

Matchstix lampheads

Input voltage:	11-18 VDC
Power consumption:	100mA per inch 12": 1.2A 6": 600mA 3": 300mA
Lamp head dimensions:	1.2" x 1.2" x 3.75" / 6.75" / 12.5" (35mm x 35mm x 95mm / 171.5mm / 317.5mm)
Lamp head weight:	3" = .3 lbs. / 6" = .6 lbs / 12" = 1.2 lbs (.136 kg / .272 kg / .544 kg)
Beam Angle:	>160°
Environmental temperature range:	-20 - +50 C
Fixture temperature in-use:	55 C
IP20 Rated	
35,000 hr. L70 rated	
2-year parts and labor warranty	
Zero UV light emitted	
Made in USA	

LiteGear Power Supplies

4 AMP: Dimensions: 2.05"w x 4.70"l x 1.29"ht (52.1mm x 119.4mm x 32.8mm)
8 AMP: Dimensions: 2.40"w x 5.57"l x 1.40"ht (61.0mm x 141.5mm x 35.6mm)
15 AMP: Dimensions: 3.35"w x 8.25"l x 1.88"ht (85.0mm X 209.6mm X 47.8mm)

Cables and Splitters

Available Cable Lengths: 3' (.9m), 6' (1.8m), 12' (3.6m)
Available Power Splitters: 1 x 2, 1 x 4

LiteGear Dimmers

LiteDimmer Single Dimmer

Weight: 0.682 lb. (10.912 oz), (309 g)
Dimensions: 3 3/4"l x 2 7/8"w x 1 1/2d"
Suitable AWG sizes for I/O: 26AWG to 12AWG max.
DC Power Rating: 12V/24V DC, 5A per channel or 16A total current.
DC Connector: Phoenix Contact, Combiconn 5.08mm, 7 pin (or 2+5)

E-Control 4x4 V3 DMX Controller

Weight: 0.682 lb. (10.912 oz), (309 g)
Dimensions: 6 3/4" x 2 9/16" x 7/8"
Suitable AWG sizes for I/O: 26AWG to 12AWG max.
DC Power Rating: 12V/24V DC, 5A per channel or 16A total current.
DC Connector: Phoenix Contact, Combiconn 5.08mm, 7 pin (or 2+5)

Warnings, Disclaimers and Warranty

Burning Injuries
Be aware of high temperatures in excess of 50ºC inside the lamphead during and after fixture use. Do not touch the LEDs to avoid burning injuries.

Flammable Materials
Keep flammable materials away from the installation. Insure that the amount of air flow required for safe operation of the equipment is not compromised. Proper ventilation must be provided.

ESD and LED's
LED components used in Matchstix are ESD (Electro-Static Discharge) sensitive. To prevent the possibility of destroying LED components do not touch either in operation or while switched off.

Blue Light Output
Do not bypass the lamphead safety switches that turn off the blue LEDs when phosphor panels are removed. The light-output intensity may be harmful to human eyes. No UV or IR is emitted at any time from this fixture.

AC Power Supplies and DC Cables
Use only a rated AC power supply. The user is responsible for ensuring DC power cables are of adequate condition for each application. If the cables are damaged, replace them with new ones.

Environmental: Disposal of Old Electrical & Electronic Equipment
This product shall not be treated as household waste.

CINEO LIGHTING LIMITED PRODUCT WARRANTY

Reseller shall pass through to Customers CINEO's limited product warranty for Products it resells set forth on CINEO's website at www.cineolighting.com.

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Matchstix™

Cineo Matchstix Photometrics				
LUX@3m				
Size	2700	3200	4300	5600
12″	250	270	286	287
6″	120	129	141	145
3″	60	65	71	73
FC@3'				
Size	2700	3200	4300	5600
12″	28	30	32	33
6″	13	15	16	16
3″	7	7	8	8
R14 CRI:	95	94	91	90

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