User Guide

UFO METROLED
LED TRACK LIGHTING SYSTEM

Rev. D1 USA

This guide contains important safety information and installation instructions.

Please read fully before installing, operating or performing any maintenance on the product.

02 Introduction & Safety

Thank you for purchasing the UFO MetroLED Lighting System. This user guide contains important information and should be read fully before any installation work commences. Please keep for future reference.

The UFO MetroLED is a fully configurable track lighting system which offers both linear and spotlight luminaires which can be mixed and matched as necessary.

A basic MetroLED system consists of a length of track, a number of LED luminaires and control gear as specified on order.

Spotlights and linear modules are available in a choice of 3000K or 4000K color temperatures. Luminaires are dimmable using a UFO supplied dimmer/driver system. MetroLED supports 2 channel dimming so spots and linear can be controlled independently.

Important

This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product, its component parts and the hazards involved.

Electrical wiring and connection must be carried out by a suitably qualified person observing all local and statutory electrical regulations.

The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.

The MetroLED system should only be connected to a class 2 power supply unit.

Important Safety Information

t_a40°C  5V DC

MetroLED operates on a constant voltage low voltage supply. Constant voltage and constant current LEDs cannot be inter-mixed on the same driver. Please refer to the specific section within this manual for connection guidance..

MetroLED systems operate on 5V DC only. Connecting the system to a driver with excessive voltage output will result in catastrophic damage to the LED devices within the luminaires. Always check the output voltage of the driver to ensure correct output voltage prior to powering up the system.

MetroLED systems are suitable for indoor / dry area use only and must not be installed in damp or wet locations.

The maximum length of supply cable between the class 2 PSU and the driver must not exceed 5 metres.

It is the end users responsibility to ensure electrical, mechanical and thermal compatibility between the track system and luminaires attached to it.

04 Model Overview

Systems Covered In This User Guide

Product Code	Description
UFO MetroLED-LG	Round extrusion, L shaped gantry
UFO MetroLED-UG	Round extrusion, U shaped gantry
UFO MetroLED-FS	Round extrusion, Freestanding Stalk
UFO MetroLED-SP	Round extrusion, Horizontal mounting
UFO MetroLED-MS	Modular stalk systems
UFO MetroLED-R-SP	Rectangular extrusion, horizontal or vertical mounting

MetroLED systems are generally supplied fully built in the factory, however larger systems - particularly larger gantries - may come in multiple parts and will therefore require a small amount of self-assembly.

Electrical components may also need connected together.

See the appropriate sections in this user guide for more details.

Track Types and Parts

MetroLED extrusion is manufactured from aluminium which is supplied as standard in either anodised black or powdercoated in white or grey.

Extrusion can be supplied in lengths between 250mm and 2900mm. In straight systems the ends of the track are terminated by a power-in connector at one end and an end cap at the other. In gantry systems, corner pieces are employed to provide a right angled connection between the parts of the structure.

Track Types and Parts

The open part of the track is filled with a combination of one or more:

- Twistlock spotlight luminaires
- Linear luminaire modules or various lengths
- Cut to length plastic infill extrusion which hides the inside of the track and provides a decorative finish

For systems which consist of one extrusion as either a horizontal or vertical stalk we can supply plastic c-clips for fixing the extrusion to its mounting surface, or alternatively, we offer 4 different types of mounting feet which allow the stalk to be freestanding and secured at the bottom, top, or at both ends.

For gantry type systems, which normally consists of one horizontal bar with a leg at either end, we can supply a choice of the same 4 mounting feet.

The horizontal and vertical extrusions in a gantry system are connected to each other with rotating corners. These allow the horizontal extrusion to be angled up or down which is especially useful when linear LED modules are installed.

Dual Channel Dimming System

The inside of the MetroLED track consists of 3 copper wires mounted in an insulated plastic extrusion. The outer copper wires carry a 5V DC electrical current and the central one acts as an earth. This provides the MetroLED track with 2 distinct electrical channels which can each be dimmed separately.

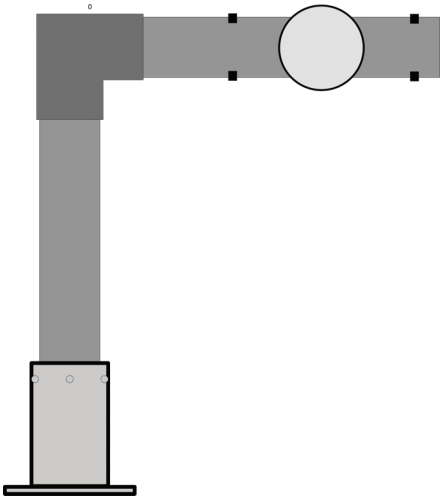
When fitting twistlock or linear led strips to the track, care must be taken to ensure the connectors on the base of these parts match up with the copper carrier of the desired channel.

06 Model Variants

UFO MetroLED-LG

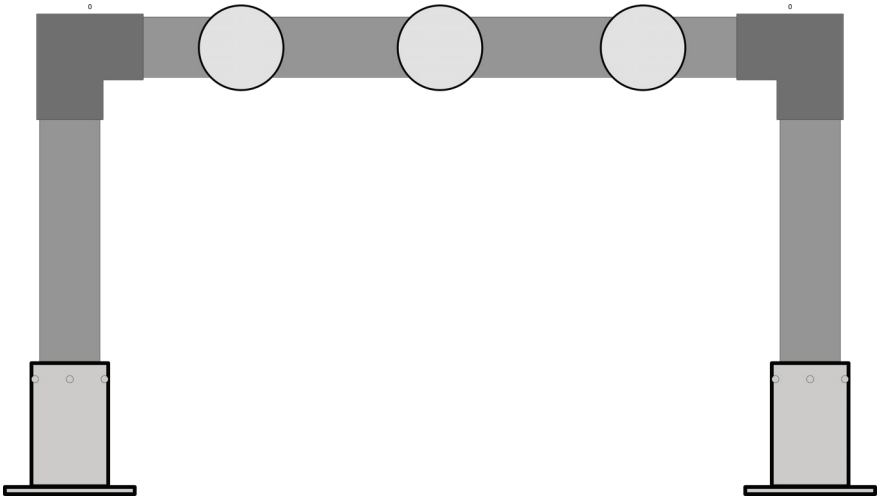
This system uses a round profile and comprises a single vertical leg together with a horizontal bar.

In most systems of this type the leg will be fixed into a mounting foot and the horizontal bar will be supported with c-clips.



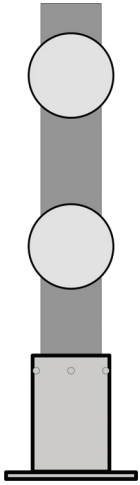
UFO MetroLED-UG

This system uses a round profile and comprises two vertical legs together with a horizontal bar. In most systems of this type the vertical legs will be fixed into mounting feet.



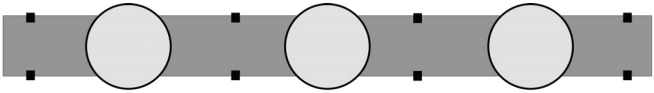
UFO MetroLED-FS

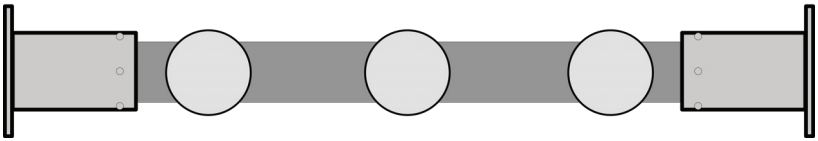
This system uses a round profile and comprises a single vertical stalk which has a mounting foot at one end.



UFO MetroLED-SP

This system uses a round profile and comprises a horizontal extrusion which is attached to its mounting surface either with plastic c-clips or with a mounting foot at both ends.

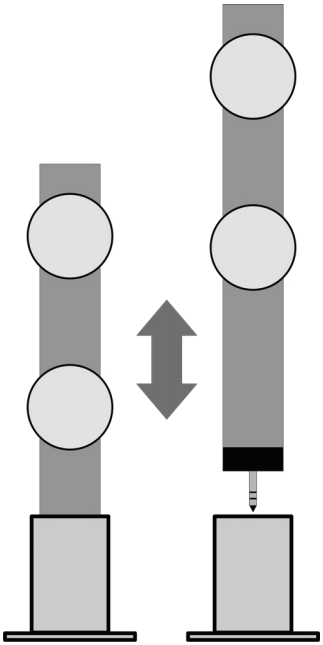




08 Model Variants

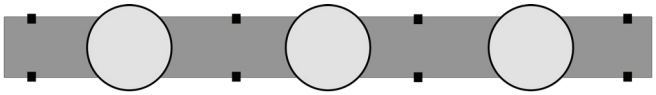
UFO MetroLED-MS

This system uses a round profile and comprises a single vertical extrusion which is plug & play and can be easily removed from its mounting foot.



UFO MetroLED-R-SP

This system uses a rectangular profile and comprises a horizontal extrusion which is attached to its mounting surface with plastic c-clips.



Control Overview

All MetroLED systems run on a 5V DC constant voltage power input and are driven by the UFO D7 driver / dimmer combination.

The D7 driver can be connected to a maximum of 2 MetroLED extrusions. If 3 or 4 extrusions need to be attached then a splitter box can be fitted between the driver and the extrusions.

The D7 driver is a 2 channel unit which allows dimming levels to be varied between the 2 different track inputs in the extrusion. This allows, for example, the spotlights to be on one channel and the linear modules on the other. Both luminaire types can then be dimmed independently.

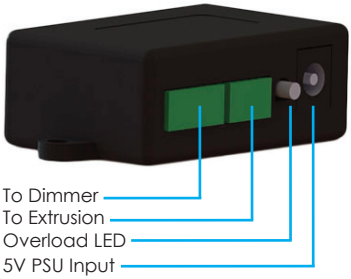
To control the dimming, the D7 driver is paired with either a 1 channel (CVD1) or 2 channel (CVD2) dimmer unit. These units are fitted with either 1 or 2 potentiometers to alter the dimming level.

All these units are discrete enough to be easily hidden and affixed inside a display case.

D7 Driver Unit

Dimensions:

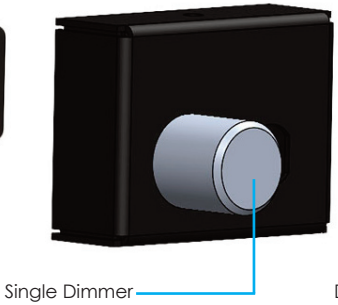
69mm x 35mm x 20.5mm



CVD1 Dimmer

Dimensions:

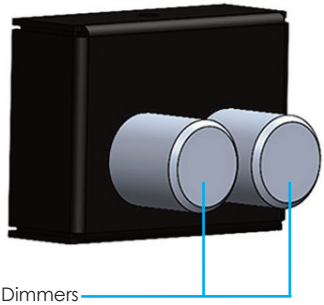
62mm x 35mm x 37.5mm



CVD2 Dimmer

Dimensions:

62mm x 35mm x 37.5mm



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Driver and Dimmer Connections

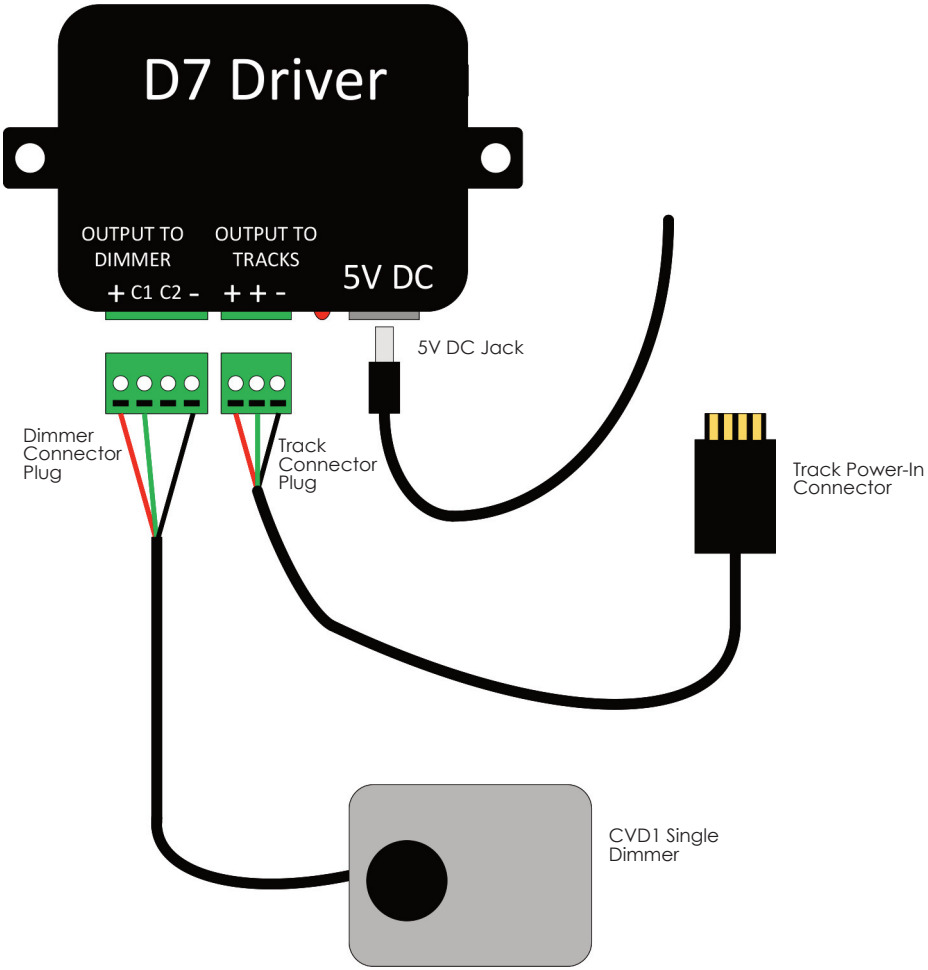
There are 3 connections required before the system can be connected to mains and powered up.

1. Connect the extrusion power cable to the D7 driver
2. Connect the D7 driver to the dimmer
3 Plug the 5V DC plug from the PSU into the socket on the D7 driver

Ensure that the wire colors are connected as detailed in the diagrams and tables in the following pages.

Some custom configurations may have slightly different wiring. Please contact UFO for advice if required.

One Extrusion, Single (CVD1) Dimmer



Plug	Color	Control
Dimmer Connector	Red	+ (positive)
Dimmer Connector	Green	C1
Dimmer Connector	Black	- (negative)
Track Connector	Red	+ (positive)
Track Connector	Green	+ (positive)
Track Connector	Black	- (negative)

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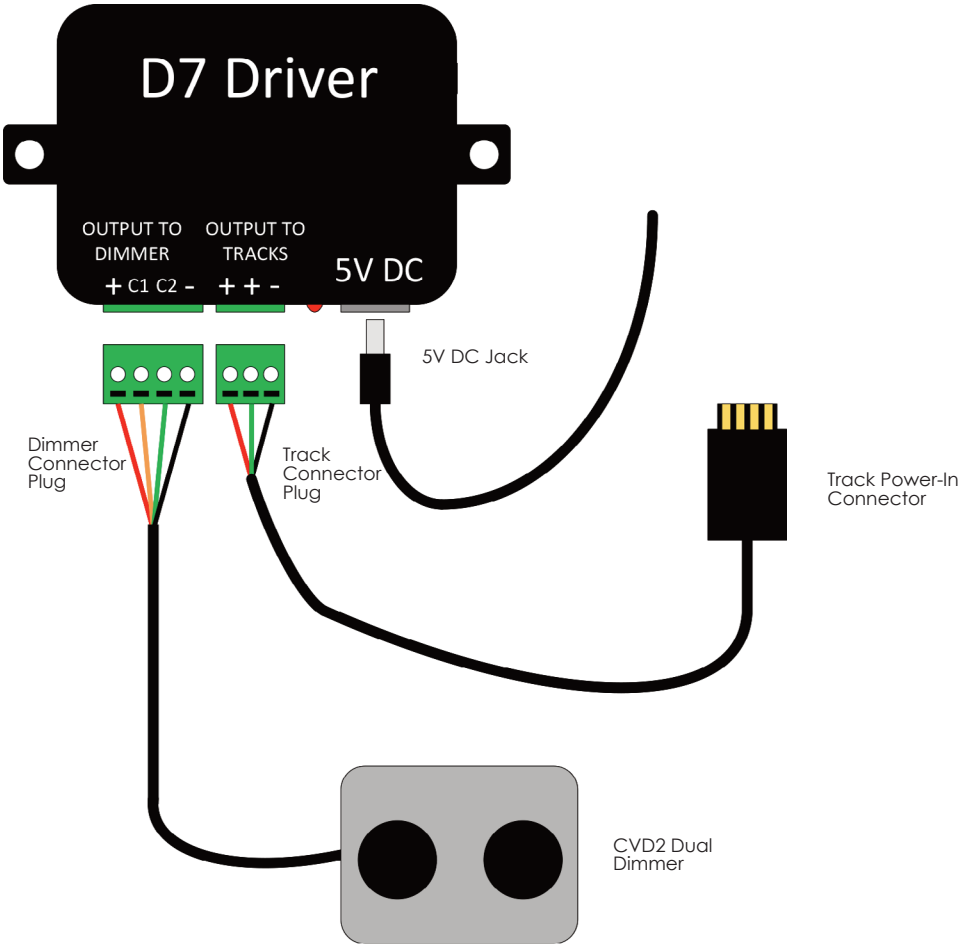
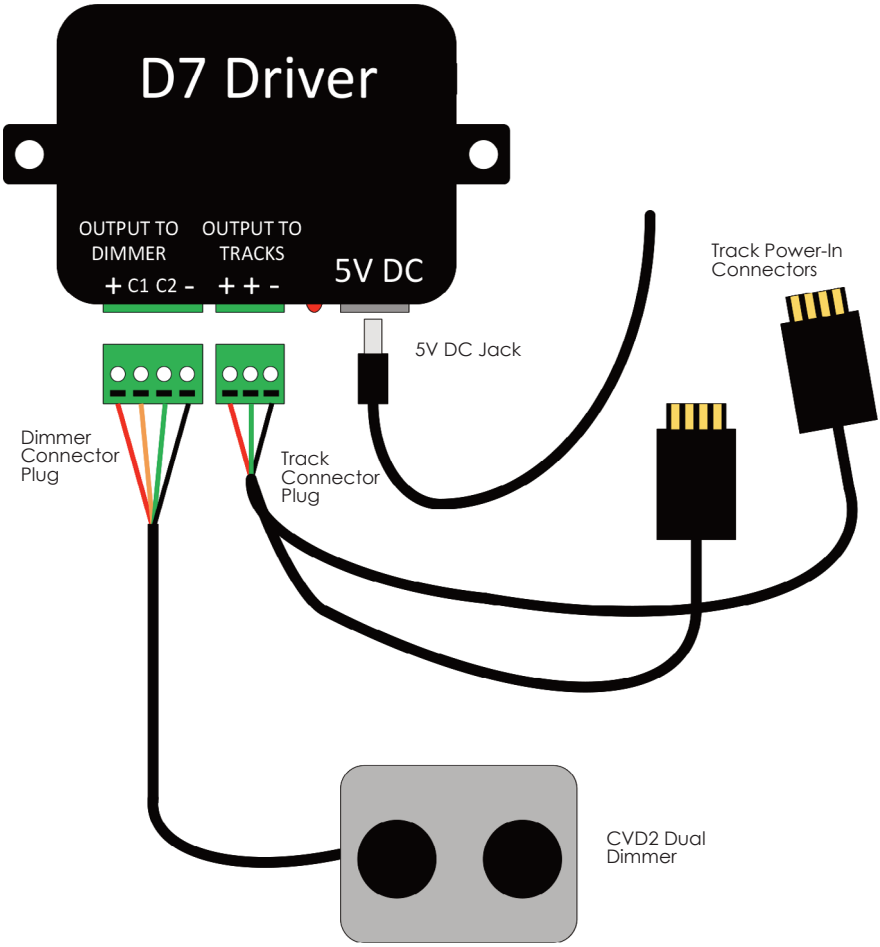
One Extrusion, Dual (CVD2) Dimmer



Plug	Color	Control
Dimmer Connector	Red	+ (positive)
Dimmer Connector	Yellow	C1
Dimmer Connector	Green	C2
Dimmer Connector	Black	- (negative)
Track Connector	Red	+ (positive)
Track Connector	Green	+ (positive)
Track Connector	Black	- (negative)

Two Extrusions, Dual (CVD2) Dimmer



Plug	Color	Control
Dimmer Connector	Red	+ (positive)
Dimmer Connector	Yellow	C1
Dimmer Connector	Green	C2
Dimmer Connector	Black	- (negative)
Track Connector	Red	+ (positive) 2 wires into connector
Track Connector	Green	+ (positive)2 wires into connector
Track Connector	Black	- (negative)2 wires into connector

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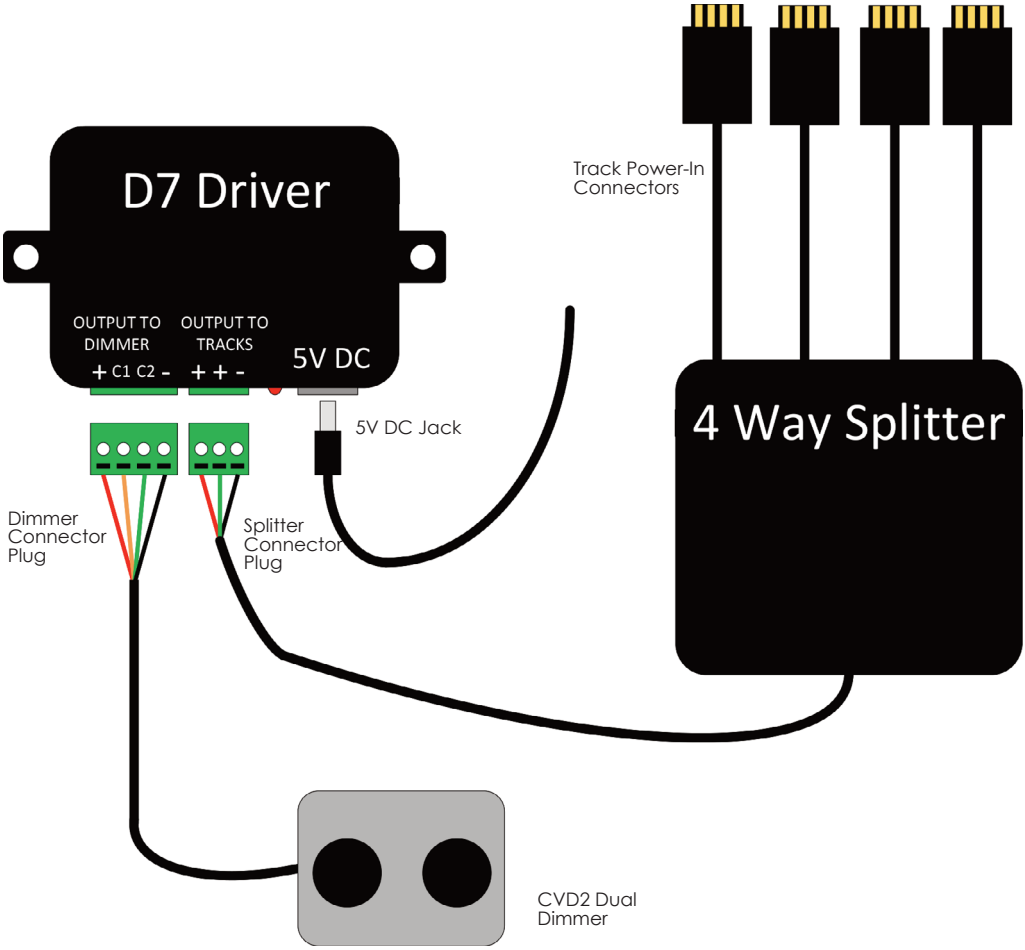
One Extrusion, Dual (CVD2) Dimmers



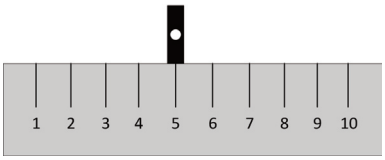
Plug	Color	Control
Dimmer Connector	Red	+ (positive)
Dimmer Connector	Yellow	C1
Dimmer Connector	Green	C2
Dimmer Connector	Black	- (negative)
Track Connector	Red	+ (positive) to splitter
Track Connector	Green	+ (positive) to splitter
Track Connector	Black	- (negative) to splitter

Mounting with C-Clips

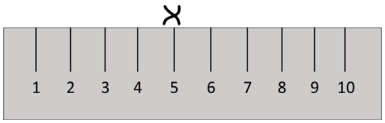
The track is straight and the clips MUST be installed in a straight line. Any bend in the installation or attempt to make the track fit in improperly aligned clips could damage the track, fittings and clips.

Clips must be installed no more than 500mm apart. A clip must be installed within 50mm of each end of the track.

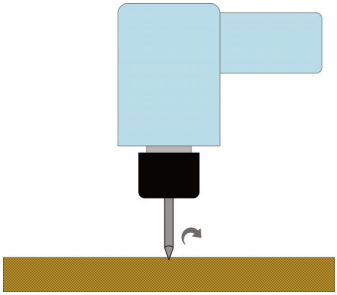
1. Using a straight edge or laser mark the track position.



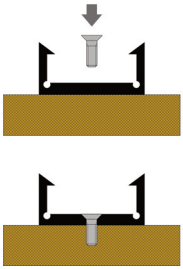
2. Mark the centre position of each clip on the straight line.



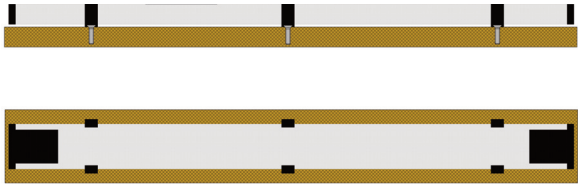
3. Use a 2mm or smaller drill bit to create pilot holes for the mounting screws.



4. Use 3mm countersunk screws suitable for the mounting surface to secure the clips.



5. Fit the track by gently pushing the track into the clips



Note that these diagrams show the installation procedure based on the rectangular track. The procedure for round track is identical.

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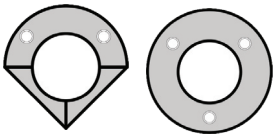
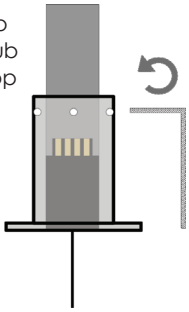
Surface Mount Feet Installation

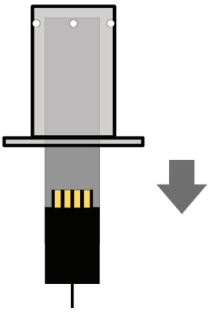
These feet can be specified in a round or a corner mounting profile. The installation procedure is the same for both. Gantry systems and straight posts are supplied with the feet attached. These will need removed for installation.



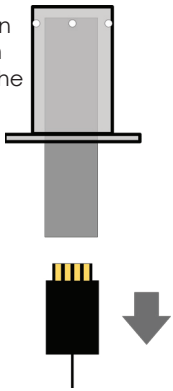
1. Use a hex key to loosen the 3 grub screws at the top of the foot.



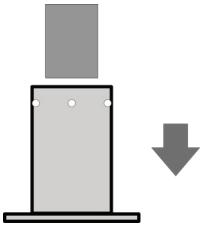
2. Allow the MetroLED bar to protrude from the bottom of the foot.



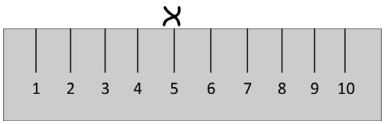
3. Pull the power-in connector from the bottom of the track.

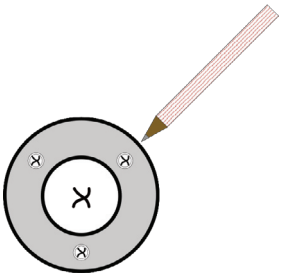


4. Pull the foot from the track and lay track to the side.

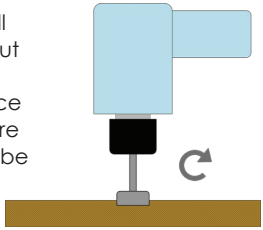


5. Measure and mark the positions for the mounting feet.A mark will be needed for each of the screw holes and also one in the centre of the foot.

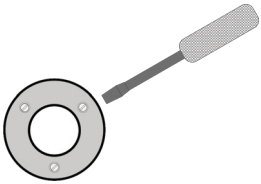




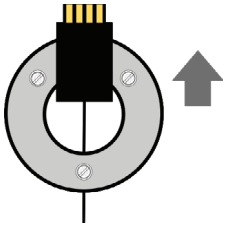
6. Use a 20mm drill or holesaw to cut through the mounting surface where the centre of the foot is to be located.



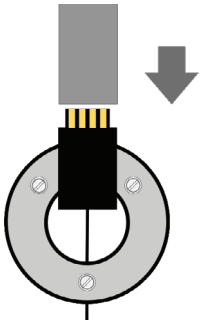
7. Align the foot with the marked screw holes and then secure the foot to the mounting surface.



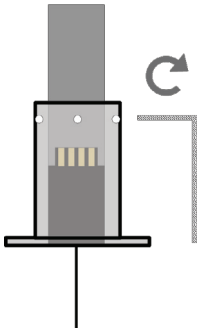
8. Feed the power-in connector through the mounting surface and then through the centre of the foot.



9. Reconnect the power-in connector to the extrusion.



10. Use a hex key to tighten the 3 grub screws at the top of the foot.

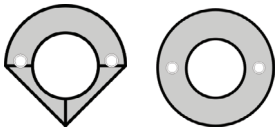


Note:
The modified version of the above procedure can also be followed when installing an extrusion which does not contain a power-in connector - for example at the other end of a gantry system. Simply miss out steps 3, 6, 8 and 9.

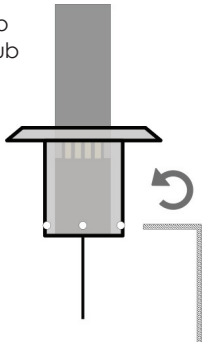
18 Installation

Recessed Mounting Feet Installation

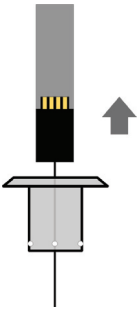
These feet can be specified in a round or a corner mounting profile. The installation procedure is the same for both. Gantry systems and straight posts are supplied with the feet attached. These will need removed for installation.



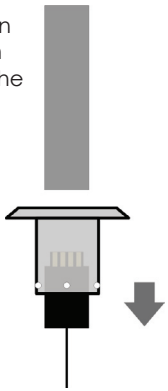
1. Use a hex key to loosen the 3 grub screws at the bottom of the foot.



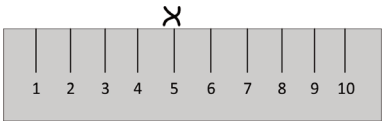
2. Pull the MetroLED bar to protrude up through the top of the foot.

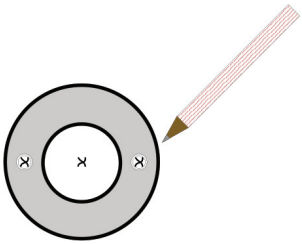


3. Pull the power-in connector from the bottom of the track and out through the bottom of the foot.

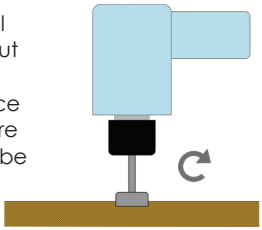


4. Measure and mark the positions for the mounting feet.A mark will be needed for each of the screw holes and also one in the centre of the foot.

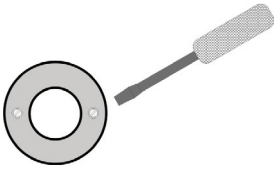




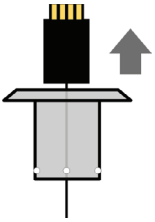
5. Use a 24mm drill or holesaw to cut through the mounting surface where the centre of the foot is to be located.



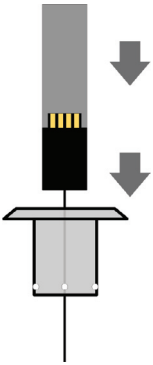
6. Push the foot into the 24mm diameter hole. Align the foot with the marked screw holes and then secure the foot to the mounting surface.



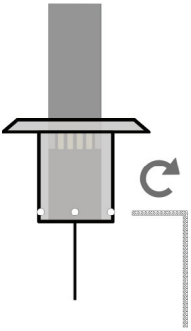
7. Feed the power-in connector through the mounting surface and then through the centre of the foot.



8. Reconnect the power-in connector to the extrusion and push the whole assembly back through the foot until it's flush with the bottom.



9. Use a hex key to tighten the 3 grub screws at the bottom of the foot.



Note:
The modified version of the above procedure can also be followed when installing an extrusion which does not contain a power-in connector - for example at the other end of a gantry system. Simply miss out steps 3, 6, 8 and 9.

20 Installation

Component Parts - Moving, Removing & Refitting

Since MetroLED is a modular system, all the component parts can be removed / moved and refitted to the track extrusion.

Power-In and End Caps

The power-in and end cap can be removed by sliding them from their respective ends of the MetroLED extrusion. A small amount of force may be required to remove them. Re-installation is the reverse procedure but please take care not to damage the electrical connections on the bottom of the power in connector.

Infill Extrusion

Pieces of infill extrusion can be removed by sliding it off the ends of the track extrusion. The power-in or end cap must be removed first as well as any linear strips or twistlock fittings which are in the way.

Refitting is the reverse procedure to removal.

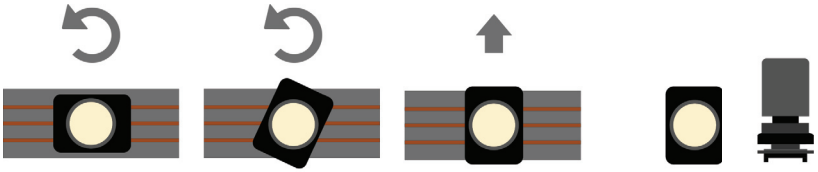
Infill extrusion is cut to size as per the original system specified. If the system needs reconfigured additional lengths of infill can be supplied which can then be cut to size.

Linear LED Strips

Linear LED strips can be removed by sliding them off the end of the track extrusion. The power-in or end cap must be removed first as well as any infill or twistlock fittings which are in the way.

Refitting is the reverse procedure to removal, however be aware of aligning with the correct copper track for the required dimming channel (see page 5). You also ned to ensure that the linear strip electrical connector is pushed onto the track correctly. See the diagrams below. Pushing the linear strip on the wrong way round will damage the connector.

Twistlock LED Fittings



Twistlock fittings can be removed by twisting the upper part of the fitting 90° clockwise. The fitting can be lifted from the track.

Refitting is the reverse procedure to removal, however be aware of aligning with the correct copper track for the required dimming channel (see page 5).

Note that twistlock fittings require spacers to be fitted if they are installed next to infill. These should be pushed in from the end of the track so that they are between the twistlock and the infill.

22 Maintenance

Note that a record of all maintenance **must** be kept in the table below. This must be dated and is required for warranty purposes.

Date	Maintenance Undertaken

Problem	Possible Cause	Possible Solution
System is dead. No light output from any LED modules	Main supply turned off	Check supply and reinstate
	Loose mains plugs	Check all plugs
	Loose DC output wire or connection	Check all connections
	PSU failed	Check output with digital voltage meter. Replace PSU if faulty
	Dimmer failed	Check output with digital voltage meter. Replace dimmer if faulty
LED modules on one track not lit and dimmer overload indicator not illuminated	Loose DC output wire or connection to that particular track	Check all connections
	Dimmer output channel failed. Confirm by swapping output wires over	Replace dimmer or move channel wire from faulty channel to working channel
LED modules on one track not lit. Dimmer overload LED illuminated	Track overloaded	Remove LED fittings until driver overload indicator turns off.
	Dimmer faulty	Disconnect positive wire to overloaded track at dimmer. If LED remains illuminated replace dimmer unit.
LED modules on one part of the fixture are not illuminating	Bad connection on rotating joint	Inspect joint, check connection & ensure fully inserted into track
	Faulty rotating joint or failed cable	Open joint and inspect wire connections. If broken, replace joint
LED modules do will not respond to dimmer	Bad connection on dimmer cable	Check connections
	Dimmer faulty	Replace dimmer
Poor light output	Poor light output on individual LED module	Replace LED module

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