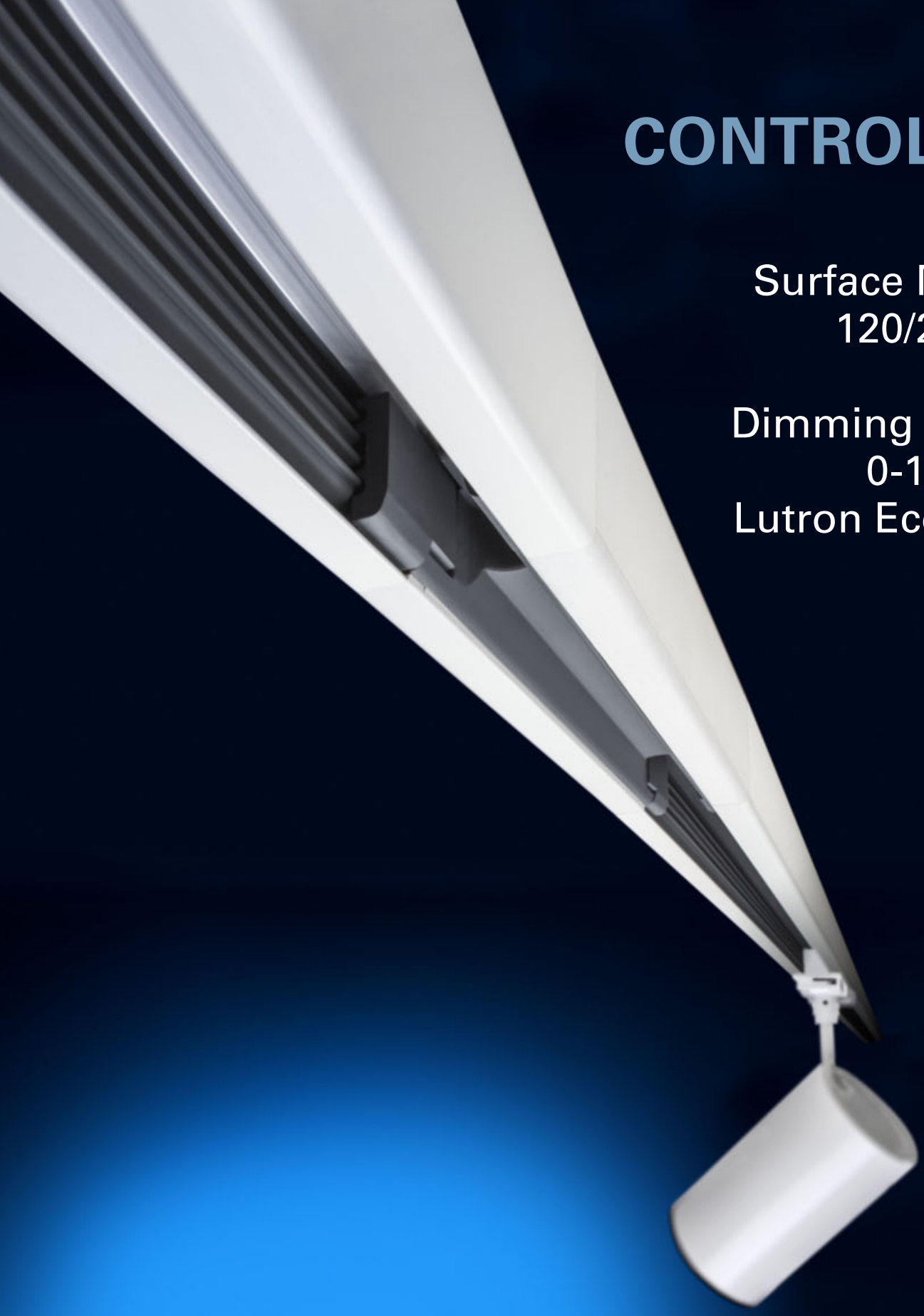


CONTROLTrack

Surface Mounted
120/230/277V

Dimming Systems
0-10V, DMX
Lutron EcoSystem

Lighting Services Inc

SURFACE CONTROLTrack • SPECIFICATIONS

GENERAL CONTROLTrack shall allow fixtures to be located anywhere along the track length. Fixtures shall be easily focused, switched, dimmed, accessorized and removed as desired. Track system shall have a twelve year warranty from date of shipment.

MECHANICAL CONTROLTrack shall be constructed of .070 (2mm) extruded aluminum with overall height of 1.42 (36mm) and overall width of 1.812 (46mm).

CONTROLTrack shall be available in actual 4 foot (1.2m), 8 foot (2.4m), and 12 foot (3.7m) lengths, in Silver, Black, and White high temperature baked paint finish. Track shall be field cuttable to any length with a single flush cut.

CONTROLTrack system shall be available with End Feed, End Cap, Straight Mini-Joiner, Straight Joiner/Feeder, L Joiner/Feeder, T Joiner/Feeder, and X Joiner/Feeder as standard components.

Track shall have the ability to be directly surface mounted. Track shall have pre-punched mounting slots for direct mounting to any surface. Track shall have the ability to: be mounted 1/2 inch (13mm) from a surface by extruded aluminum mounting clips, be suspended from a surface by a field cuttable stainless steel cable system, be suspended from a surface by a field cuttable steel stem system, and be mounted into UniTrack/Gemini housing.

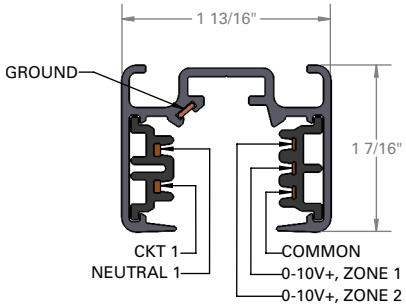
ELECTRICAL CONTROLTrack and components shall be ETL listed, CE Certified, and comply with the National Electric Code standards for Lighting Track. One circuit CONTROLTrack shall be rated for 120/250V or 277V at 50/60 Hz. 20 amp maximum each circuit. Each circuit shall be comprised of flat copper busbars and have a separate neutral busbar for each circuit. Each circuit must be switched (non-dim) only. **Track shall have integral wiring channels for four (4) additional #12 THHN wire. This shall allow the creation of two (2) additional 20 amp circuits, which can be dropped into any Joiner/Feeder, for a total track power capacity of 60 amps.** All busbars shall be insulated to prevent contact with aluminum extrusion.

Track shall have electric feed capability through all Joiner/Feeders (except Mini-Joiner) using either ½" or ¾" U.S. trade size knock-outs (.875 diameter [22mm] or 1.125 diameter [29mm]). All Joiner/Feeder circuits can be easily field modified by changing connector locations. All Joiner/Feeders shall be available in Black, White, and Silver GE fiber reinforced Lexan.

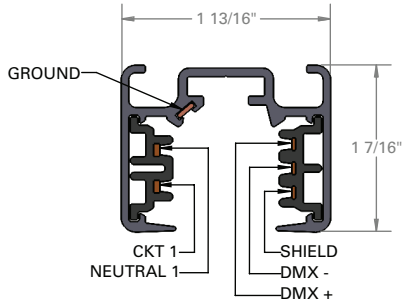
CONTROLTrack shall have one set of AC busbars equivalent to 12 AWG wire and an a dditional 3 flat copper busbars equivalent to 14 AWG wire, for use with low voltage data communication to control fixtures connected to track. Protocols include up to two zones of 0-10V control, DMX and Lutron EcoSystem.

FIXTURE FITTING INTERFACE Track shall accept GE fiber reinforced Lexan™ fixture fittings which positively lock into track and cannot be energized by the integral switch until safety interlock handle is in the closed position. Safety interlock shall also prevent fixture fitting removal from track unless the switch is in the "off" position. Upon insertion of fixture fitting into track, grounding connection from fixture fitting to track shall be automatically completed before any electrical contact is made with busbars. When removing fixture fitting from track, the grounding connection shall automatically be disconnected last. The fixture fitting shall recess into the track, creating a minimal profile below the track. Fixture fitting shall not allow connection of data circuit to high voltage supply.

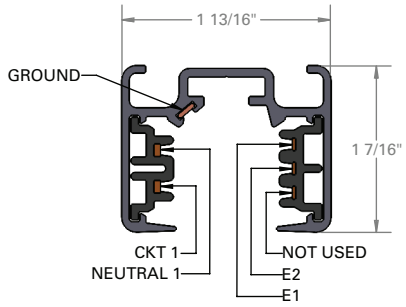
One Ckt 120/277V CONTROLTrack
0-10V



One Ckt 120/277V CONTROLTrack
DMX

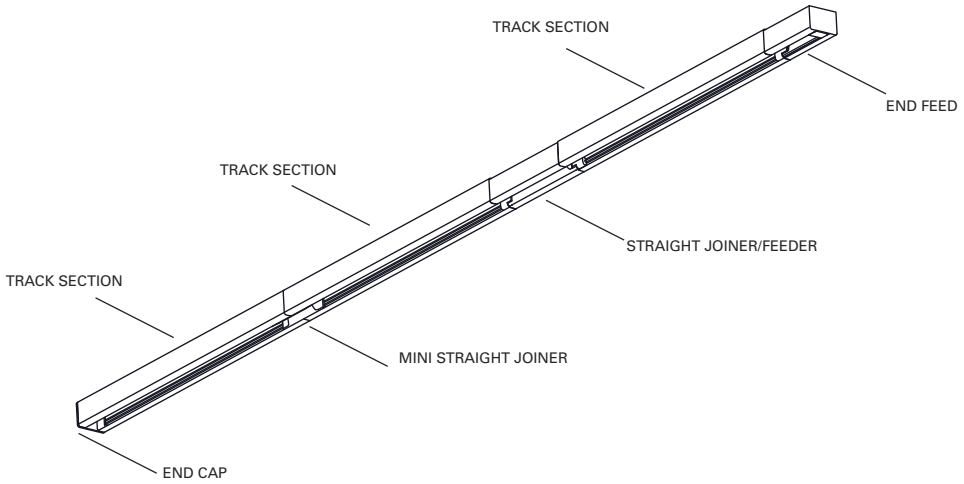


One Ckt 120/277V CONTROLTrack
LUTRON ECOSYSTEM

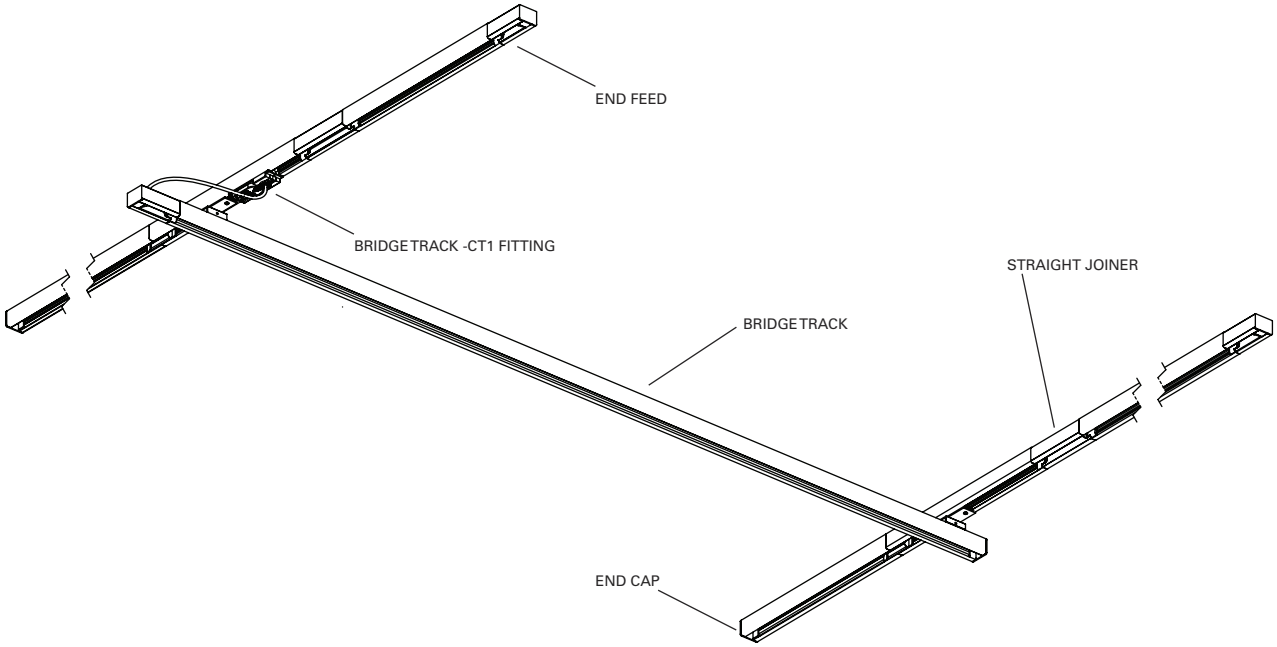


SURFACE CONTROLTrack • CONFIGURATIONS

Straight Run Application



Bridge Track Application

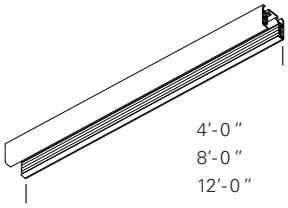


SURFACE CONTROLTrack • COMPONENTS

Key Features / Applications

ETL listed, Dry Location • IBEW union made at LSI plant in USA • Specification grade heavy duty .070 (2mm) extruded aluminum track • 4 foot (1.2m), 8 foot (2.4m) and 12 foot (3.7m) field cuttable lengths • One circuit 20 amp capacity/120/277 volt • 100 amp total capacity when using integral wireways • Copper busbars equivalent to #12 AWG wire used as circuit • Separate neutral track conductor used for each circuit • Black, White, and Silver finishes • All Joiner/Feeders, Mini-Joiners, End Feeds and End Caps are injection molded of GE fiber reinforced Lexan™ • All Joiner/Feeders are easily wired via plug-in connector system • All Joiner/Feeder circuits can be easily field modified by changing connector locations • Fixture fitting recesses into track for minimum profile • LSI surface CONTROLTrack can be mounted directly to any surface at least 5'-0" above finished floor.

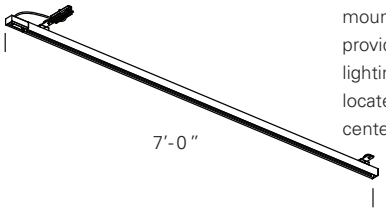
Surface Track Sections



Surface Track Sections are used in conjunction with an end feed, end cap and a variety of Joiner/Feeders to form track runs and configurations. Track section lengths are actual 4 foot (1.2m), 8 foot (2.4m), and 12 foot (3.7m) which are field cuttable.

	Part Number	
One Circuit Control	**TRK-SC-XX1-YYYZ**	
XX=Length	YYY=Voltage	Z=Paint Color
☐ **04**=4FT. Track	☐ **120**=120V	☐ **B**=Black
☐ **08**=8FT. Track	☐ **230**=220V-240V	☐ **W**=White
☐ **12**=12FT. Track	☐ **277**=277V	☐ **S**=Silver

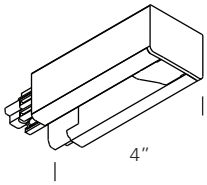
Bridge Track



Bridge Track (7 feet) is a complete, portable, field cuttable, surface track system that mechanically and electrically mounts to and spans parallel runs of LSI track. Bridge Track provides an additional range of striking angles for track lighting fixtures or for centering a fixture over a target located between parallel runs of track up to 6 foot (1.8m) on center. Consult factory for DMX options.

	Part Number	
One Circuit Control	**TRK-SC-BT1-YYYZ**	
	YYY=Voltage	Z=Paint Color
	☐ **120**=120V	☐ **B**=Black
	☐ **230**=220V-240V	☐ **W**=White
	☐ **277**=277V	☐ **S**=Silver

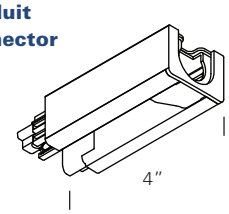
End Feed



End Feed is used in conjunction with a Canopy Kit for top feeding from a recessed outlet box and can also be top fed directly with cable.*

	Part Number	
One Circuit Control, Left	**TRK-SC-EF1L-YYYZ**	
One Circuit Control, Right	**TRK-SC-EF1R-YYYZ**	
	YYY=Voltage	Z=Paint Color
	☐ **120**=120V	☐ **B**=Black
	☐ **230**=220V-240V	☐ **W**=White
	☐ **277**=277V	☐ **S**=Silver

End Feed for Conduit Connector



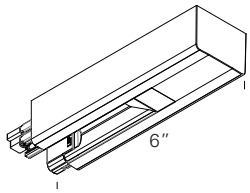
End Feed for Conduit Connector is used when feeding directly into the end of an End Feed. Connector supplied with 1/2" US trade size hole (.875 diameter [22mm]).*

	Part Number	
One Circuit Control, Left	**TRK-SC-EFC1L-YYYZ**	
One Circuit Control, Right	**TRK-SC-EFC1R-YYYZ**	
	YYY=Voltage	Z=Paint Color
	☐ **120**=120V	☐ **B**=Black
	☐ **230**=220V-240V	☐ **W**=White
	☐ **277**=277V	☐ **S**=Silver

* Due to the possibilities of electronic interference, it is recommended to feed power and data lines from opposite ends of a track run. Data and power may be fed from one end provided that proper armored/shielded cable is used. Install per NEC and local codes.

SURFACE CONTROLTrack • COMPONENTS

Extended End Feed/ Unwired

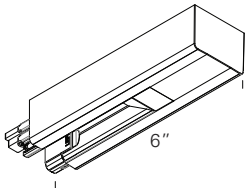


Extended End Feed Unwired includes two knock outs to allow two separate conduits for power and data. It is used in conjunction with canopy kit for extended end feed for top feeding from a recessed outlet box and can also be top fed directly with cable. Allows daisy chaining data from track to track. Wire management allows for flexible wire routing.

	Part Number
One Circuit Control, Left	**TRK-SC-EE-1LU-YYYZ**
One Circuit Control, Right	**TRK-SC-EE-1RU-YYYZ**

YYY=Voltage	Z=Paint Color
☐ **120**=120V	☐ **B**=Black
☐ **230**=220V-240V	☐ **W**=White
☐ **277**=277V	☐ **S**=Silver

Extended End Feed / CAT5-RJ45 Ethernet Jack

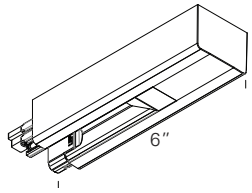


Extended End Feed for CAT5-RJ45 is used in conjunction with canopy kit for extended end feed for top feeding from a recessed outlet box and can also be top fed directly with cable. Data is prewired and pretested. Allows daisy chaining data from track to track. Wire management allows for flexible wire routing.

	Part Number
One Circuit Control, Left	**TRK-SC-EE-1LJ-YYYZ**
One Circuit Control, Right	**TRK-SC-EE-1RJ-YYYZ**

YYY=Voltage	Z=Paint Color
☐ **120**=120V	☐ **B**=Black
☐ **230**=220V-240V	☐ **W**=White
☐ **277**=277V	☐ **S**=Silver

Extended End Feed / XLR-DMX

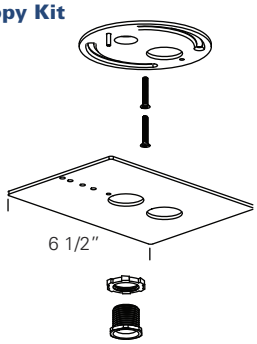


Extended End Feed for XLR is used in conjunction with canopy kit for extended end feed for top feeding from a recessed outlet box and can also be top fed directly with cable. Data is prewired and pretested. Allows daisy chaining data from track to track. Wire management allows for flexible wire routing.

	Part Number
One Circuit Control, Left	**TRK-SC-EE-1LD-YYYZ**
One Circuit Control, Right	**TRK-SC-EE-1RD-YYYZ**

YYY=Voltage	Z=Paint Color
☐ **120**=120V	☐ **B**=Black
☐ **230**=220V-240V	☐ **W**=White
☐ **277**=277V	☐ **S**=Silver

Extended End Feed/ Canopy Kit

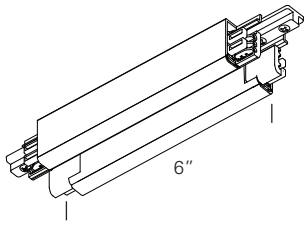


Extended End Feed/ Canopy Kit is used when flush mounting track to surface and feeding from a recessed outlet box. Includes 90° rotation swivel crossbar to help align canopy and end feed to junction box and provide proper orientation of CONTROLTrack.

	Part Number
	TRK-S-AC-CKEE-Z

	Z=Paint Color
	☐ **B**=Black
	☐ **W**=White
	☐ **S**=Silver

Straight Joiner/Feeder



Straight Joiner/Feeder is used to mechanically and electrically couple any two lengths of track in a straight line. Straight Joiner/Feeder can also be top fed to energize the track from a recessed junction box when used in conjunction with appropriate Canopy Kit or can be top fed directly with cable or conduit. CONTROLTrack feeds may be used for either power or control.*

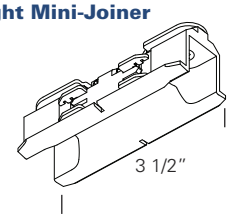
	Part Number
One Circuit Control	**TRK- SC-SJ1-YYYZ**

YYY=Voltage	Z=Paint Color
☐ **120**=120V	☐ **B**=Black
☐ **230**=220V-240V	☐ **W**=White
☐ **277**=277V	☐ **S**=Silver

* Due to the possibilities of electronic interference, it is recommended to feed power and data lines from opposite ends of a track run. Data and power may be fed from one end provided that proper armored/shielded cable is used. Install per NEC and local codes.

SURFACE CONTROLTrack • COMPONENTS

Straight Mini-Joiner

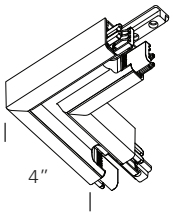


Straight Mini-Joiner is used to mechanically and electrically couple any two lengths of track in a straight line. Not for use as feeder.

	Part Number
One Circuit Control	**TRK- SC-MJ1-YYY**

YYY=Voltage
- ☐ **120**=120V
- ☐ **230**=220V-240V
- ☐ **277**=277V

L Joiner/Feeder



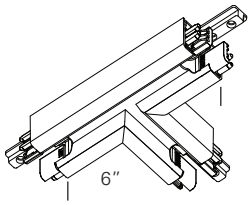
L Joiner/Feeder is used to mechanically and electrically couple any two lengths of track in an L right angle configuration. This L Joiner/Feeder can also be top fed directly from electrical cable to energize the track. Internal joiner wiring can be modified in the field.*

	Part Number
One Circuit Control	**TRK- SC-LJ1-YYYZ**

YYY=Voltage
- ☐ **120**=120V
- ☐ **230**=220V-240V
- ☐ **277**=277V

Z=Paint Color
- ☐ **B**=Black
- ☐ **W**=White
- ☐ **S**=Silver

T Joiner/Feeder



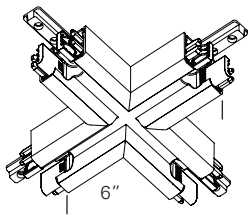
T Joiner/Feeder is used to mechanically and electrically couple any three lengths of track in a T configuration. This T Joiner/Feeder can also be top fed directly from electrical cable to energize the track. Internal Joiner wiring can be field modified. Note: A right or a left T must be ordered and must be used directly opposite each other when used in a configuration so that busbar continuity is maintained.*

	Part Number
One Circuit Control, Left	**TRK- SC-TJ1L- YYYZ**
One Circuit Control, Right	**TRK- SC-TJ1R-YYYZ**

YYY=Voltage
- ☐ **120**=120V
- ☐ **230**=220V-240V
- ☐ **277**=277V

Z=Paint Color
- ☐ **B**=Black
- ☐ **W**=White
- ☐ **S**=Silver

X Joiner/Feeder



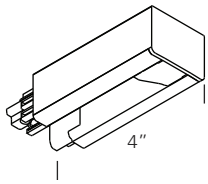
X Joiner/Feeder is used to mechanically and electrically couple any four lengths of track in an X configuration. This X Joiner/Feeder can also be top fed directly from electrical cable to energize the track. Internal joiner wiring can be modified in the field.*

	Part Number
One Circuit Control	**TRK- SC-XJ1-YYYZ**

YYY=Voltage
- ☐ **120**=120V
- ☐ **230**=220V-240V
- ☐ **277**=277V

Z=Paint Color
- ☐ **B**=Black
- ☐ **W**=White
- ☐ **S**=Silver

End Feed Terminator



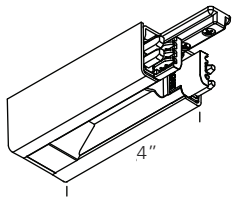
Terminates the end of a DMX run with a 120 ohm resistor. Installed on the end of the track. See DMX guidelines for more information. Power can be fed into this feed.*

	Part Number
One Circuit Control, Left	**TRK- SC-EFT-1L-YYYZ**
One Circuit Control, Right	**TRK- SC-EFT-1R-YYYZ**

YYY=Voltage
- ☐ **120**=120V
- ☐ **230**=220V-240V
- ☐ **277**=277V

Z=Paint Color
- ☐ **B**=Black
- ☐ **W**=White
- ☐ **S**=Silver

Conduit End Feed Terminator



Terminates the end of a DMX run with a 120 ohm resistor. Installed on the end of the track. See DMX guidelines for more information. Power can be fed into this feed.

	Part Number
One Circuit Control, Left	**TRK-SC-EFCT-1L-YYYZ**
One Circuit Control, Right	**TRK-SC-EFCT-1R-YYYZ**

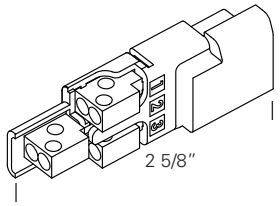
YYY=Voltage
- ☐ **120**=120V
- ☐ **230**=220V-240V
- ☐ **277**=277V

Z=Paint Color
- ☐ **B**=Black
- ☐ **W**=White
- ☐ **S**=Silver

* Due to the possibilities of electronic interference, it is recommended to feed power and data lines from opposite ends of a track run. Data and power may be fed from one end provided that proper armored/shielded cable is used. Install per NEC and local codes.

SURFACE CONTROLTrack • COMPONENTS

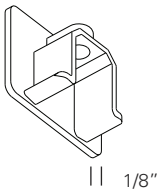
Connector DMX Terminator



Terminates the end of a DMX run with a 120 ohm resistor. Installed in a feed section. See DMX guidelines for more information. Not to be used with portable DMX terminator.

	Part Number
One Circuit Control, Left	**TRK-AC-CT1L**
One Circuit Control, Right	**TRK-AC-CT1R**

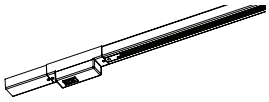
End Cap



End Cap is used for mechanically ending any straight run, individual Track Section, or open configuration Track Section.

	Part Number	
One Circuit Control	**TRK-S-AC-EC-Z**	
		Z=Paint Color ☐ **B**=Black ☐ **W**=White ☐ **S**=Silver

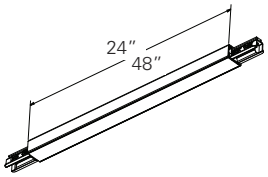
Current Limiter



LSI Track Current Limiters integrate directly into one circuit runs. If using CONTROLTrack, data needs to be fed at another location. Available in the following amperages: 0.5 AMP (60 Watts), 1 AMP (120 Watts), 1.5 AMP (180 Watts), 2 AMP (240 Watts), 2.5 AMP (300 Watts), 3 AMP (360 Watts), 5 AMP (600 Watts), 8 AMP (960 Watts), 12 AMP (1440 Watts).
For DMX: Use of End Feed and Portable DMX Terminal are required.
Californina Energy Commission (CEC) approved and Title 24 compliant.

	Part Number	
One Circuit Control	**TRK-SC-TCL1-XXX-120Z**	
XXX =Amps		Z=Paint Color
☐ **0.5**=0.5 AMPS	☐ **1.0**=1.0 AMPS	☐ **B**=Black
☐ **1.5**=1.5 AMPS	☐ **2.0**=2.0 AMPS	☐ **W**=White
☐ **2.5**=2.5 AMPS	☐ **3.0**=3.0 AMPS	☐ **S**=Silver
☐ **5.0**=5.0 AMPS	☐ **8.0**=8.0 AMPS	
☐ **12.0**=12.0 AMPS		

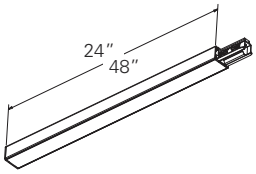
INLine Linear Joiner Section



Luminous LED Track Joiner Section available in 2 FT. or 4 FT. lengths. Please see INLine Linear catalog sheet to specify section length, circuits, LED Rating, Color Temperature, Controls (Dimming), Voltage, and Finish.

Part Number:
See INLine Linear Catalog Sheet

Inline Linear End Section



Luminous LED Track End Section available in 2 FT. or 4 FT. lengths. Please see INLine Linear catalog sheet to specify section length, circuits, LED Rating, Color Temperature, Controls (Dimming), Voltage, and Finish.

Part Number:
See INLine Linear Catalog Sheet

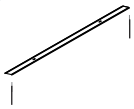
INLine Linear Single Stainless Steel Support Kit

Single field cuttable cable complete with mounting device for ceiling track configurations only. LSI recommends a minimum of two mounting points per section of INLine Linear LED.

	Part Number	
All Circuits	**INTRK-S-AC-CSK-YY-Z**	
YY =Length		Z=Paint Color
☐ **04** = 4FT. Cable		☐ **B**=Black
☐ **12** = 12FT. Cable		☐ **W**=White
		☐ **S**=Silver

SURFACE CONTROLTrack • COMPONENTS

Raceway Cover



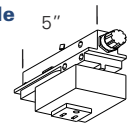
3′ – 6 3/4″
7′ – 6 3/4″
11′ – 6 3/4″

Field cuttable Raceway Covers are used to enclose additional lay-in circuit wiring in top section of track. Raceway cover sections are nominal.

	Part Number
All Circuits	**TRK-S-AC-RCZZ-S**

ZZ=Length
☐ **04**=4ft Track
☐ **08**=8ft Track
☐ **12**=12ft Track

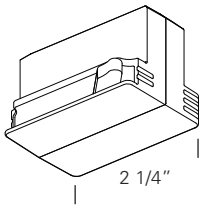
Power Receptacle Adapter



120/250V Power Receptical Adapter provides a convenient switched and fused U-Ground receptacle for power and is rated at 5A-120V. ETL listed.

Finish		Part Number
Black	One & Two Ckt	**31260**
White	One & Two Ckt	**31360**
Silver	One & Two Ckt	**31160**

Portable DMX Terminator

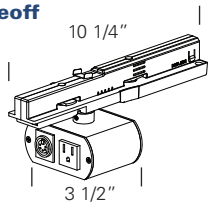


Terminates the end of a DMX run with a 120 ohm resistor. Lexan fixture fitting for installation in CONTROLTrack. See DMX guidelines for more information.

	Part Number
One Circuit Control	**TRK-DMX-TERM-Z**

Z=Paint Color
☐ **B**=Black
☐ **W**=White
☐ **S**=Silver

Power Receptacle Adapter + Data Takeoff



120V/250 Power Receptacle Adapter with 5 pin XLR connector for data takeoff. Consult factory for 277V.

	Part Number
One Circuit Control	**TRK-SC-TO-120Z**

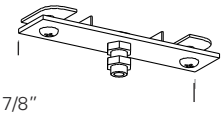
Z=Paint Color
☐ **B**=Black
☐ **W**=White
☐ **S**=Silver

Display Hook

Display Hook is used to mechanically hang an item from the track without electrifying it. Do not exceed 20 lbs. at minimum spacing of two feet.

Finish		Part Number
Silver	One & Two Ckt	**30761**

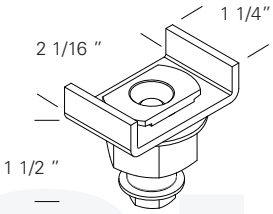
Weight Support Bar



Weight Support Bar provides threaded nipple and nuts to mount an item to track without electrifying it. Do not exceed 20 lbs. at minimum spacing of two feet. Nipple size 1/8-27 NPS (.406 diameter).

Finish		Part Number
Silver	One & Two Ckt	**30762**

Heavy Duty Weight Support

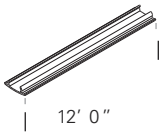


Heavy Duty Weight Support provides weight support hanger body, nut, and bolt to mount an item to track without electrifying it. Per foot weight limit of LSI Track is 8.33 lbs. per foot when mounted on 6 FT. centers. When using this for a maximum of 50 lbs., make sure the Track is supported directly above the load point.

Finish		Part Number
Silver	One & Two Ckt	**HDWSS**

SURFACE CONTROLTrack • COMPONENTS

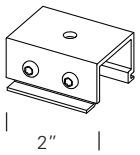
Track Closure Cover



Field cuttable Noryl Track Closure Covers are used to enclose the open face of the track, and simply snap into place.

	Part Number
All Circuits	**TRK-S-AC-TC12-Z**
	Z=Paint Color ☐ **B**=Black ☐ **W**=White ☐ **S**=Silver

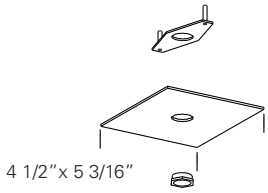
Surface Hanger Clip



Extruded Surface Hanger Clips space track .50″ (13mm) from a surface to create a floating look or when mounting to an uneven surface. For normal usage, LSI recommends two hanger clips per 4 foot (1.2m) length, two hanger clips per 8 foot (2.4m) length, and three hanger clips per 12 foot (3.7m) length. Two clips per package. ¼″ diameter hole.

Finish		Part Number 1/4″ diameter hole	Part Number 3/8″ diameter hole
Black	One & Two Ckt	**30225**	**30225-38**
White	One & Two Ckt	**30325**	**30325-38**
Silver	One & Two Ckt	**30025**	**30025-38**

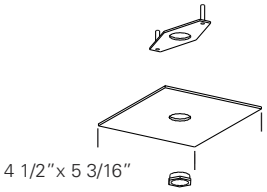
Flush Canopy Kit for End Feed



The canopy kit for End Feed is used when flush mounting track to a surface and feeding from a recessed outlet box.

	Part Number
All Circuits	**TRK-S-AC-CKE-Z**
	Z=Paint Color ☐ **B**=Black ☐ **W**=White ☐ **S**=Silver

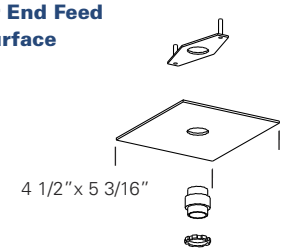
Flush Canopy Kit for Straight Joiner



The canopy kit for Straight Joiner/Feeder is used when flush mounting track to a surface and feeding from a recessed outlet box.

	Part Number
All Circuits	**TRK-S-AC-CKS-Z**
	Z=Paint Color ☐ **B**=Black ☐ **W**=White ☐ **S**=Silver

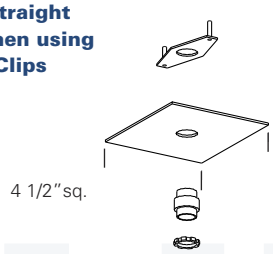
Canopy Kit for End Feed when using Surface Hanger Clips



The Canopy Kit for End Feed is required when using Surface Hanger Clips to enclose wiring to track End Feed which is spaced .50 (13mm) from recessed outlet box.

Finish		Part Number
Black	One & Two Ckt	**30226**
White	One & Two Ckt	**30326**
Silver	One & Two Ckt	**30026**

Canopy Kit for Straight Joiner/Feeder when using Surface Hanger Clips



The Canopy Kit for Straight, L, T and X Joiner/Feeder is required when using Surface Hanger Clips to enclose wiring to track joiners which are spaced .50 (13mm) from recessed outlet box.

Finish		Part Number
Black	One & Two Ckt	**30227**
White	One & Two Ckt	**30327**
Silver	One & Two Ckt	**30027**

SURFACE CONTROLTrack • DATA GUIDELINES

GENERAL

Important safety instructions -
for use with CONTROLTrack system only

When installing or using this track system, basic safety precautions should always be followed, including the following: **Read all instructions**. Use only LSI CONTROLTrack system components. CONTROLTrack should be installed by qualified personnel only. Do not power CONTROLTrack with a dimmed circuit. (SWITCHED POWER only) Do not install this track in damp or wet locations. Do not install any part of the track system less than five feet from the floor. Do not install any fixture assembly closer than six inches from any curtain or similar combustible material.
Disconnect electrical power before adding or changing the configuration of the track. Do not attempt to energize anything other than lighting track fixtures on the track. To reduce the risk of fire and electric shock, do not attempt to connect power tools, extension cords, appliances and the like to the track system. Do not connect one section of track to more than one branch circuit. It is the responsibility of the installing contractor to provide appropriate hardware for attaching track system to the building structure and to ensure the structure is sufficient and capable of supporting the load of the track system as well as all fixtures and accessories mounted to it. Contractor is responsible for ensuring track system is installed per applicable national and local codes.
Save these instructions.

Note: Failure to observe applicable national and local codes may result in a dangerous overload of the neutral which can increase the risk of fire.

Control Types

0-10V

- One or Two 0-10V control zones may be installed in a single track run. Common wires can be connected together at feed. Maximum fixture quantity is dependent on the capacity of the controller. The system length of 0-10V (analog) wiring on 18ga wire is 300FT.

DMX

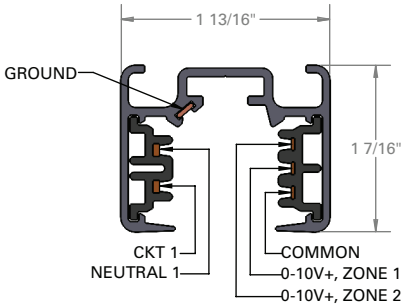
- DMX wiring must be installed per protocol standards (DMX-512A [ANSI E.1.11]) or data transmission may be unstable. Maximum number of DMX fixtures on a single data run is 32. No loops, 'Y's, or stars are allowed in the DMX data path. Each DMX run must be terminated.
- Each DMX run should not exceed 1000 FT. DMX cable should meet ESTA standards for portable or installation cable. LSI recommends Belden 9729 or equal for DMX Cable. When using CAT5 cable, LSI recommends Belden 1583a or equal. Contractor to determine the need for Plenum rated cable based on site conditions. Installing contractor to follow ESTA DMX512 over CAT5 Cable suggestions/standards when running DMX over CAT5 cable.

Lutron EcoSystem

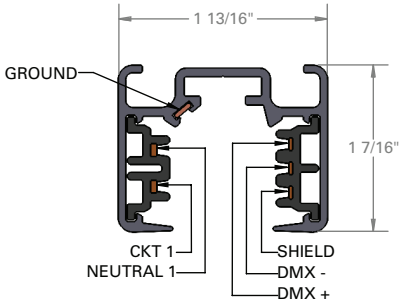
- Maximum number of Lutron EcoSystem fixtures on a single data run is 64. Loops in the Lutron EcoSystem data path are NOT allowed. Y's and branches are allowed.
- Lutron EcoSystem system run should not exceed 570FT. on 18ga wire.

DATA TERMINAL WIRING SCHEME

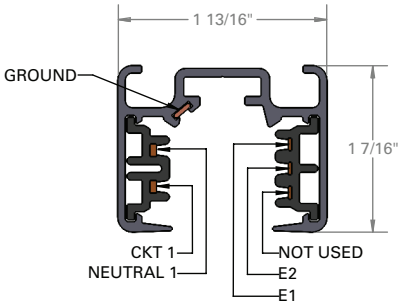
One Ckt 120/277V CONTROLTrack
0-10V



One Ckt 120/277V CONTROLTrack
DMX



One Ckt 120/277V CONTROLTrack
LUTRON ECOSYSTEM



Data Terminal	0-10V	DMX	Lutron EcoSystem
1	-, Common	Shield	N/A
2	+, Control Zone 1	-	-
3	+, Control Zone 2	+	+

SURFACE CONTROLTrack • WIRING DIAGRAM

Diagrams apply to 0-10V and Lutron EcoSystem

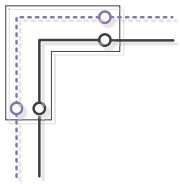
POWER (SWITCH ONLY, NON-DIM)
DATA

Left End Feed
TRK-SC-EF1L-YYYZ

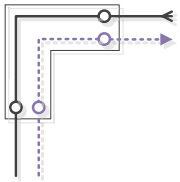
Straight Joiner/Feeder
TRK-SC-SJ1-YYYZ

Right End Feed
TRK-SC-EF1R-YYYZ

L Joiner/Feeder
TRK-SC-LJ1-YYYZ

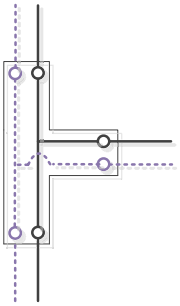


FACTORY WIRING

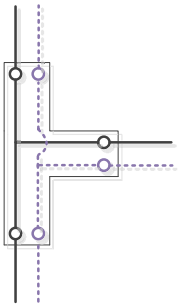


ALTERNATE FIELD WIRING

T Joiner/Feeder, LEFT
TRK-SC-TJ1L-YYYZ

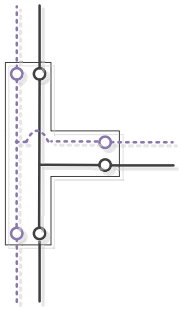


FACTORY WIRING

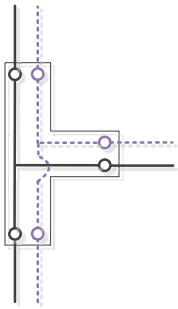


ALTERNATE FIELD WIRING

T Joiner/Feeder, RIGHT
TRK-SC-TJ1R-YYYZ



FACTORY WIRING

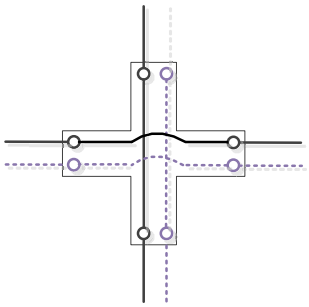


ALTERNATE FIELD WIRING

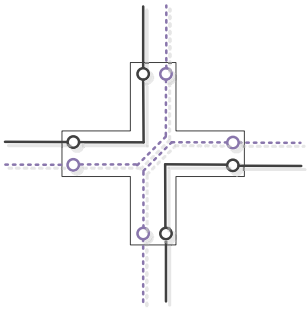
NOTE:
ALL DIAGRAMS SHOWN ARE INSTALLED VIEW, NOT RCP. EXCEPT AS NOTED, ALL MODIFICATIONS CAN BE DONE SIMPLY AND QUICKLY ON THE JOB BY REARRANGING THE SUPPLIED CONNECTORS.

ALL JOINER/FEEDERS CAN BE FIELD MODIFIED TO SUIT INSTALLED REQUIREMENTS FOR MULTIPLE POWER CIRCUITS AND DIMMING ZONES. CONSULT FACTORY FOR MORE DETAILS.

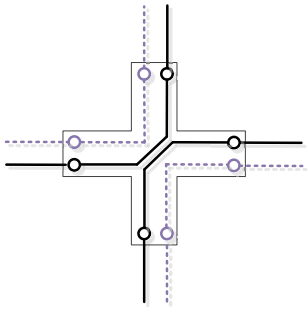
X Joiner/Feeder
TRK-SC-XJ1-YYYZ



FACTORY WIRING



ALTERNATE FIELD WIRING



ALTERNATE FIELD WIRING

SURFACE CONTROLTrack • WIRING DIAGRAM

Diagrams apply to DMX

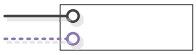
POWER (SWITCH ONLY, NON-DIM)
DMX IN
DMX TERMINATION

Left End Feed Terminator
TRK-SC-EFT1L-YYYZ

Left End Feed
TRK-SC-EF1L-YYYZ

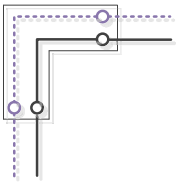
Straight Joiner/Feeder
TRK-SC-SJ1-YYYZ

Right End Feed
TRK-SC-EF1R-YYYZ

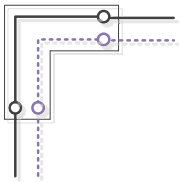


Right End Feed Terminator
TRK-SC-EFT1R-YYYZ

L Joiner/Feeder
TRK-SC-LJ1-YYYZ

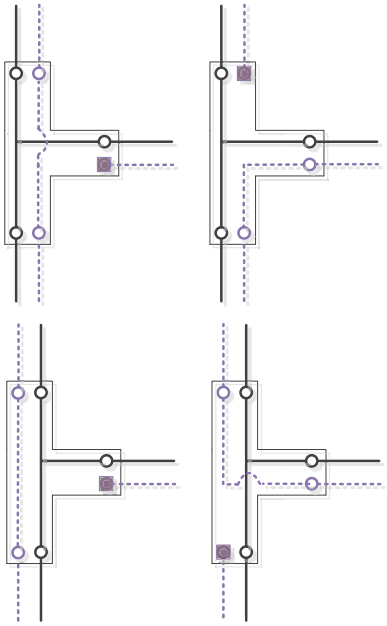


FACTORY WIRING



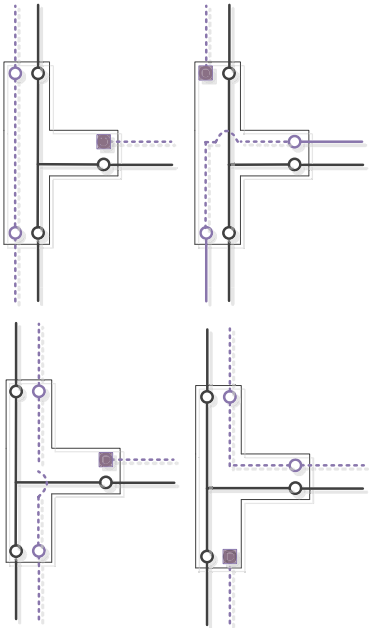
ALTERNATE FIELD WIRING

T Joiner/Feeder, LEFT
TRK-SC-TJ1L-YYYZ



DMX CONTROL REQUIRES MODIFICATION TO THE FACTORY WIRING.
IF RIGHT DMX TERMINATOR IS REQUIRED, ORDERED SEPARATELY
TRK-AC-CT1R

T Joiner/Feeder, RIGHT
TRK-SC-TJ1R-YYYZ

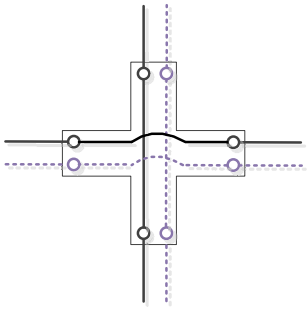


DMX CONTROL REQUIRES MODIFICATION TO THE FACTORY WIRING.
IF LEFT DMX TERMINATOR IS REQUIRED, ORDERED SEPARATELY
TRK-AC-CT1L

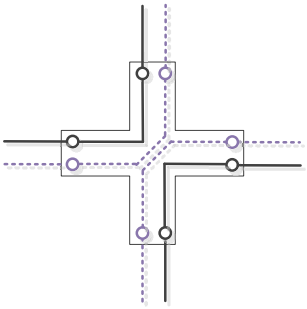
NOTE:
ALL DIAGRAMS SHOWN ARE INSTALLED VIEW, NOT RCP. EXCEPT AS NOTED, ALL MODIFICATIONS CAN BE DONE SIMPLY AND QUICKLY ON THE JOB BY REARRANGING THE SUPPLIED CONNECTORS.

ALL DMX RUNS MUST BE TERMINATED USING THE END FEED TERMINATOR OR PORTABLE TERMINATOR. ALTERNATELY, A DMX TERMINATOR CAN BE INSTALLED INTO ANY STRAIGHT, L, T, OR X JOINER/FEEDER. THESE MUST BE ORDERED SEPARATELY.
TRK-AC-CT1L (LEFT)
TRK-AC-CT1R (RIGHT)

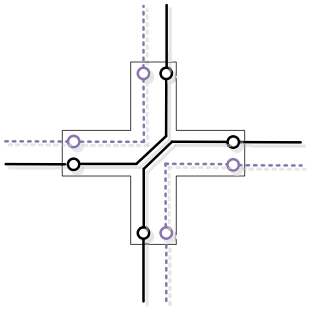
X Joiner/Feeder
TRK-SC-XJ1-YYYZ



FACTORY WIRING



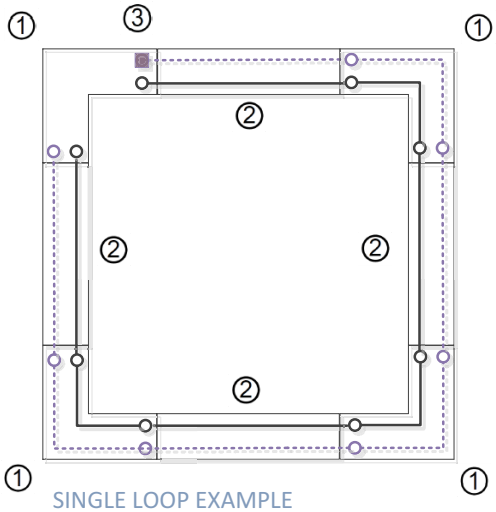
ALTERNATE FIELD WIRING



ALTERNATE FIELD WIRING

SURFACE CONTROLTrack • WIRING DIAGRAM

Diagrams apply to DMX

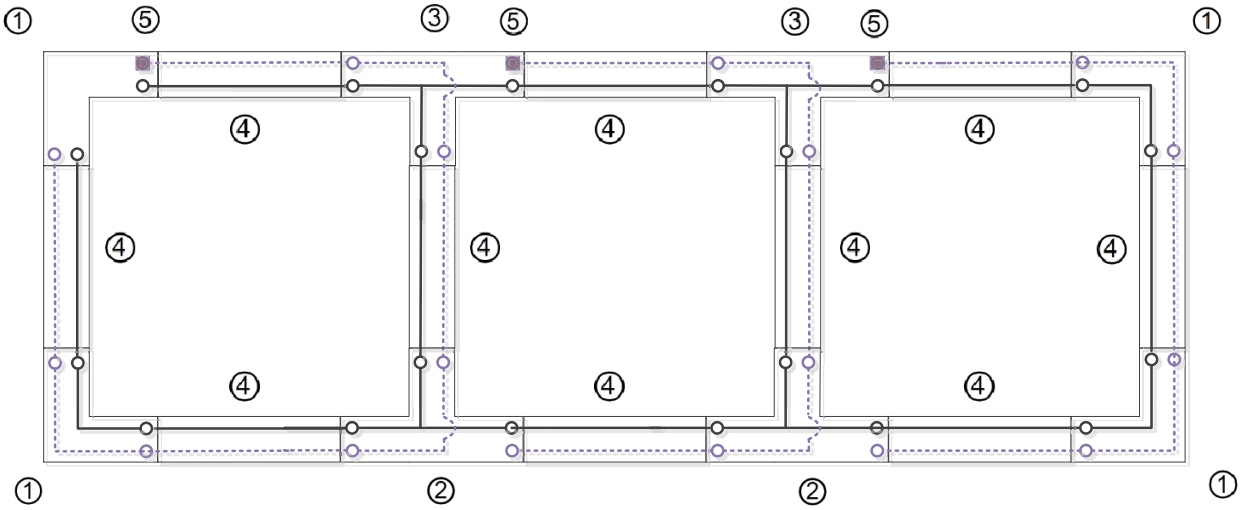


SINGLE LOOP EXAMPLE

POWER (SWITCH ONLY, NON-DIM)
DMX IN
DMX TERMINATION

NOTE:
1. ALL JOINER/FEEDERS CAN BE FIELD MODIFIED TO SUIT INSTALLED REQUIREMENTS FOR MULTIPLE POWER CIRCUITS AND DMX RUNS. CONSULT FACTORY FIR MORE DETAILS.
2. A DMX CONFIGURATION MAY REQUIRE MULITPLE RUNS OF DMX. ONE WAY TO ACHIEVE THIS IS TO USE THE INTEGRAL RACEWAY TO JUNCTION BOXES TO DAISY CHAIN THE DATA LINES. 32 FIXTURES PER DMX RUN SHOULD BE FOLLOWED.

PARTS LIST
1. TRK-SC-LJ1-YYYZ – L JOINER, 4X (1 IS FIELD MODIFIED TO ACT AS FEEDER/TERMINATOR)
2. TRK-SC-XX1-YYYZ – SURFACE CONTROLTrack SECTION, 4X
3. TRK-AC-CT1L – CONNECTOR TERMINATOR, 1X



1 X 3 GRID EXAMPLE

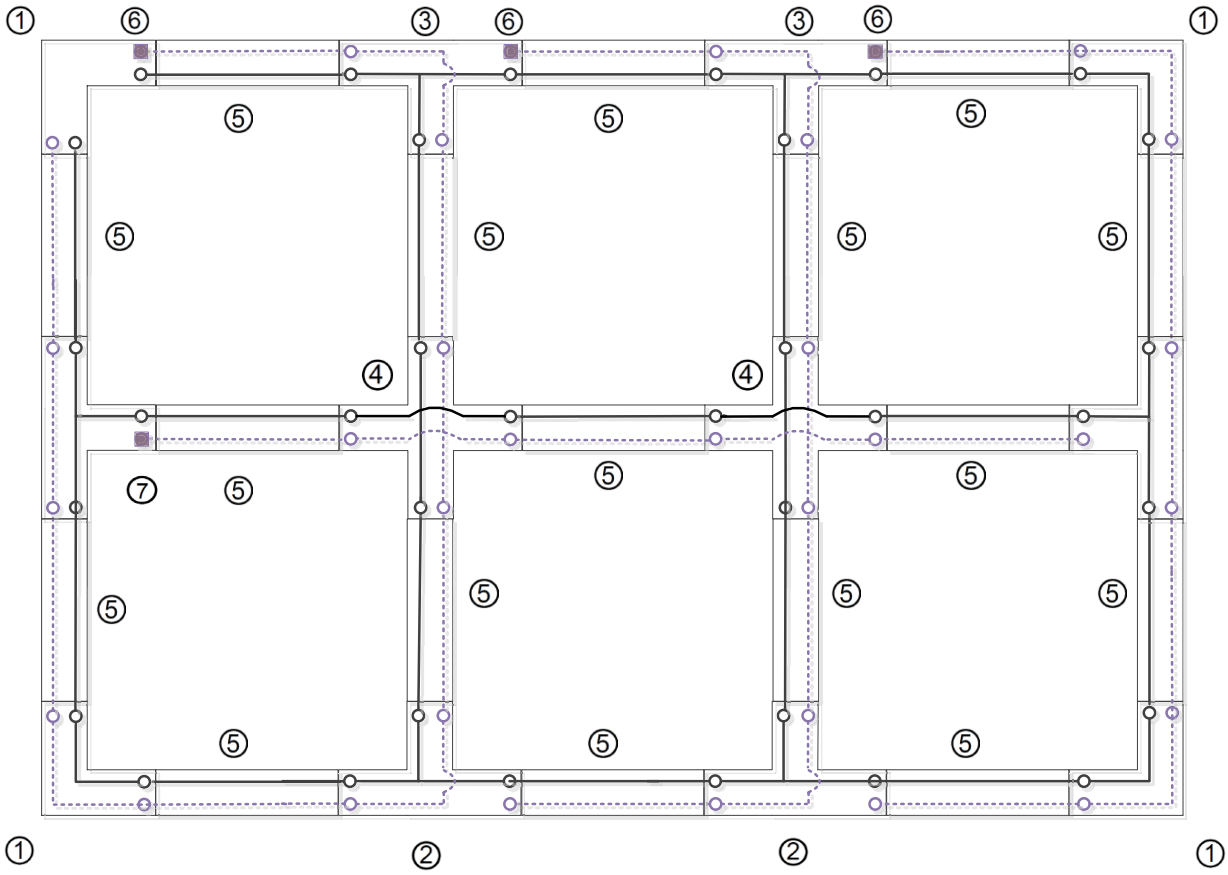
PARTS LIST
1. TRK-SC-LJ1-YYYZ – L JOINER, 4X (1 IS FIELD MODIFIED TO ACT AS FEEDER/TERMINATOR)
2. TRK-SC-TJ1L-YYYZ – T JOINER LEFT, 2X (BOTH ARE FIELD MODIFIED TO REMOVE THE “Y” IN DMX DATA)
3. TRK-SC-TJ1R-YYYZ – T JOINER RIGHT, 2X (BOTH ARE FIELD MODIFIED TO ACT AS TERMINATOR)
4. TRK-SC-XX1-YYYZ – SURFACE CONTROLTrack SECTION, 10X
5. TRK-AC-CT1L – CONNECTOR TERMINATOR, 3X

SURFACE CONTROLTrack • WIRING DIAGRAM

Diagrams apply to DMX

NOTE:
1. ALL JOINER/FEEDERS CAN BE FIELD MODIFIED TO SUIT INSTALLED REQUIREMENTS FOR MULTIPLE POWER CIRCUITS AND DMX RUNS. CONSULT FACTORY FIR MORE DETAILS.
2. A DMX CONFIGURATION MAY REQUIRE MULITPLE RUNS OF DMX. IN ORDER TO EMITIGATE THIS INTEGRAL RACEWAY OR JUNCTION BOXES MAY BE USED TO DAISY CHAIN THE DATA LINES. 32 FIXTURES PER DMX RUN IS THE MAXIMUM.

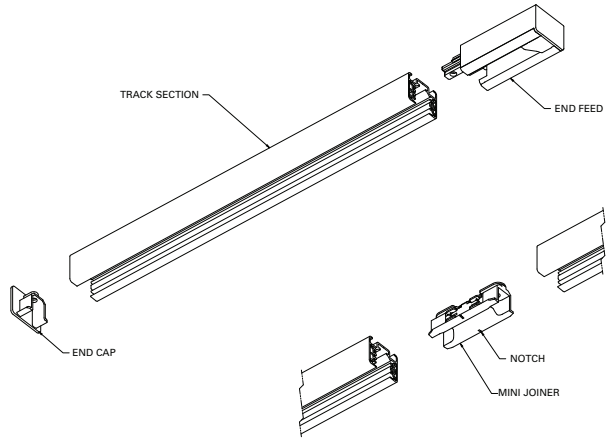
POWER (SWITCH ONLY, NON-DIM)
DMX IN
DMX TERMINATION



2 X 3 GRID EXAMPLE

PARTS LIST
1. TRK-SC-LJ1-YYYZ – L JOINER, 4X (1 IS FIELD MODIFIED TO ACT AS FEEDER/TERMINATOR)
2. TRK-SC-TJ1L-YYYZ – T JOINER LEFT, 3X (BOTH ARE FIELD MODIFIED TO REMOVE THE "Y" IN DMX DATA)
3. TRK-SC-TJ1R-YYYZ – T JOINER RIGHT, 3X (BOTH ARE FIELD MODIFIED TO ACT AS TERMINATOR)
4. TRK-SC-XJ1-YYYZ – X JOINER, 2X
5. TRK-SC-XX1-YYYZ – SURFACE CONTROLTrack SECTION, 17X
6. TRK-AC-CT1L – CONNECTOR TERMINATOR, 3X (left)
7. TRK-AC-CT1R – CONNECTOR TERMINATOR, 1X (right)

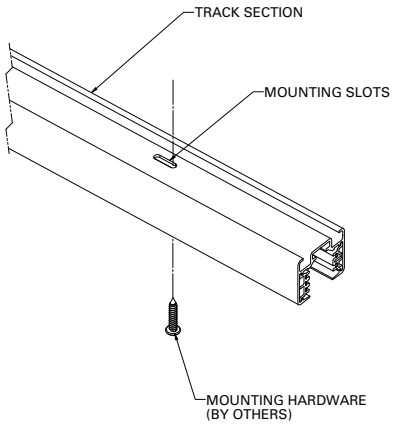
SURFACE CONTROLTrack • INSTALLATION



Assembling

Insert End Cap, End Feed or any other Joiner/Feeder completely into Track Section and tighten the recessed Phillips head screw. Do not use excessive force when inserting components into Track Section.

Note: Insert Mini Joiner into track up to centering notch.

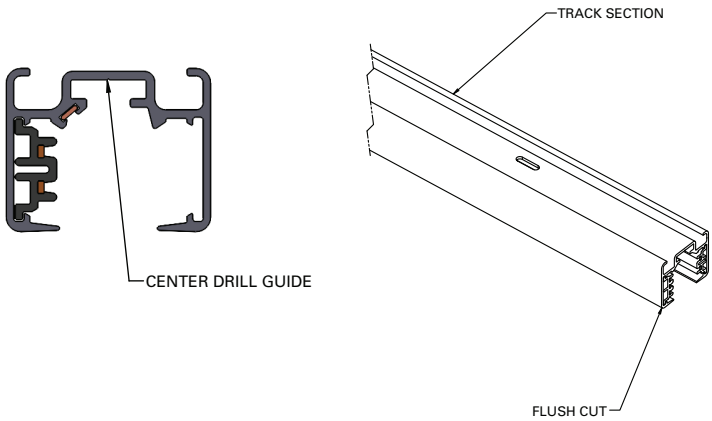


Mounting

Fasten track directly to surface through pre-punched mounting slots with hardware (by others) capable of withstanding a 50 lb. pull. Mount track in compliance with NEC Lighting Track Article #410-101 (Installation), #410-104 (Fastening) and any other applicable codes. To prevent distortion of the track opening which may prevent insertion of fixture fittings, do not over tighten mounting screws. LSI recommends a minimum of two mounting points per section of track. LSI CONTROLTrack can be mounted on centers up to 6'- 0".

LSI CONTROLTrack can also be mounted by surface hanger clips, stems, or cables on centers up to 6' 0". Mixing Stem and Cable mounting systems is not recommended. When hanging track by threaded rod (BY OTHERS) surface hanger clips must be used.

Note: Ensure mounting hardware does not extend into the track head channel. This may interfere with fixture track heads, preventing them from seating and locking properly into the track.



Field Cutting

LSI CONTROLTrack can be easily field cut using a sharp hacksaw or a chop saw with a blade for non-ferrous metals, such as Oldham commercial carbide series metal blade. Together, cut the aluminum track, track liner, and copper with one straight cut. All pieces must be exactly the same length. Be sure to remove any burrs on the aluminum or the copper as this may affect the electrical and mechanical interconnection of components to track. Do not cut track to less than one foot in length.

LSI CONTROLTrack can easily be field drilled by using the drill guide and a 3/16" drill bit. Be sure to remove any burrs after drilling. A single section of track that is 4 feet (1.22 m) or less in length is to be provided with one mounting opening spaced a maximum of 6 inches (152.4 mm) from each end of a track section. Additional openings may be provided. A single section of track that is greater than 4 feet (1.22 m) in length is to be provided with a mounting opening spaced a maximum of 12 inches (300 mm) from each end of the track section with additional openings being provided a minimum of every 6 feet (1.83 m) along the length of the track section.

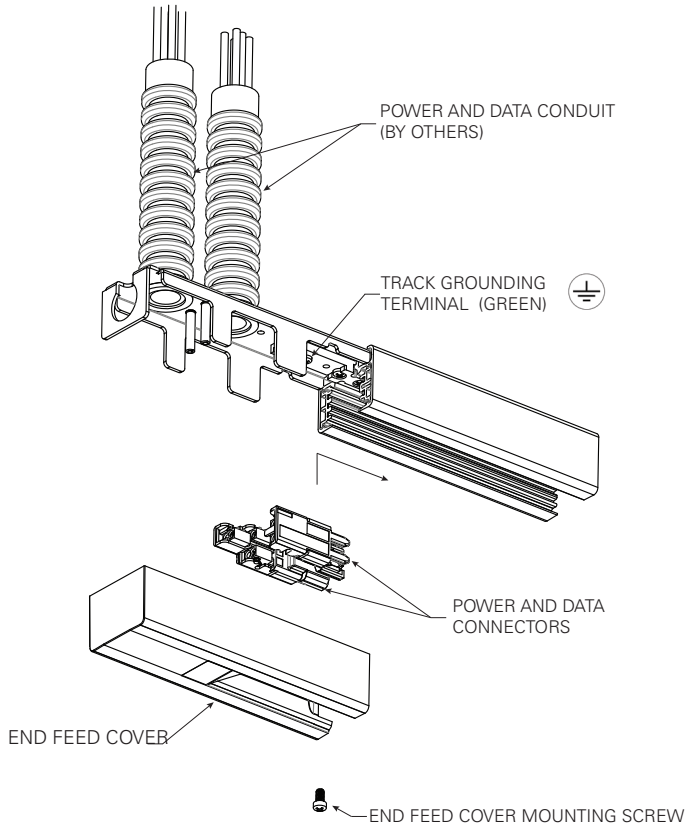
SURFACE CONTROLTrack • INSTALLATION

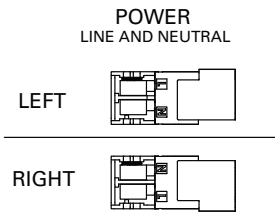
INTALLLING END FEEDS

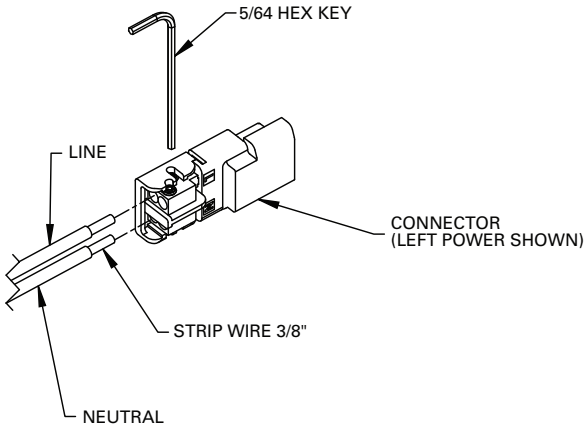
UNWIRED EXTENDED END FEEDS

1. Open the end feed.
   a. Remove end feed cover mounting screw.
   b. Remove the Lexan™ cover.
   c. Remove appropriately sized knock out for conduit.
   d. Bring power and data wires through separate combination 1/2", 3/4" U.S. trade size knockout in conduit plate.

2. Wire power connector
   a. Strip wires 3/8" (#12 THHN Wire is the suggested wire size for power)
   b. Insert conductor into the identified terminals on the connector.
   c. Secure using 5/64" Hex Key.
   d. Connect ground to track grounding terminal (green) located on the conduit plate.
   e. Slide power connector into track liner.



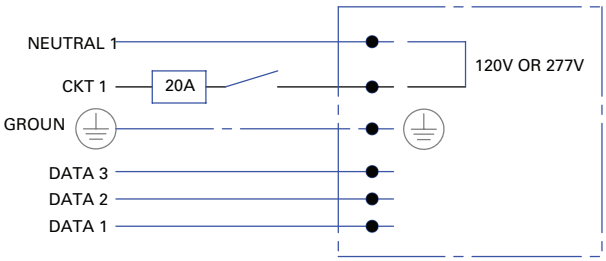


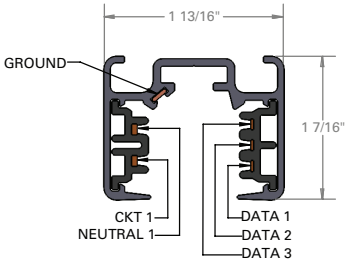


L = Line
N = Neutral
= Ground

Supply Connection Wiring Diagram

Voltage = Single Phase 120V or 277V AC
Maximum Current = 20A per circuit Supply
Cable = 5 x 12 Gage THHN wire
Type = Switched (non-dim) only
CAUTION: Data MAX 30V, 2A

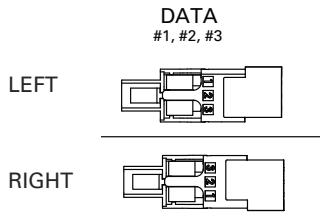


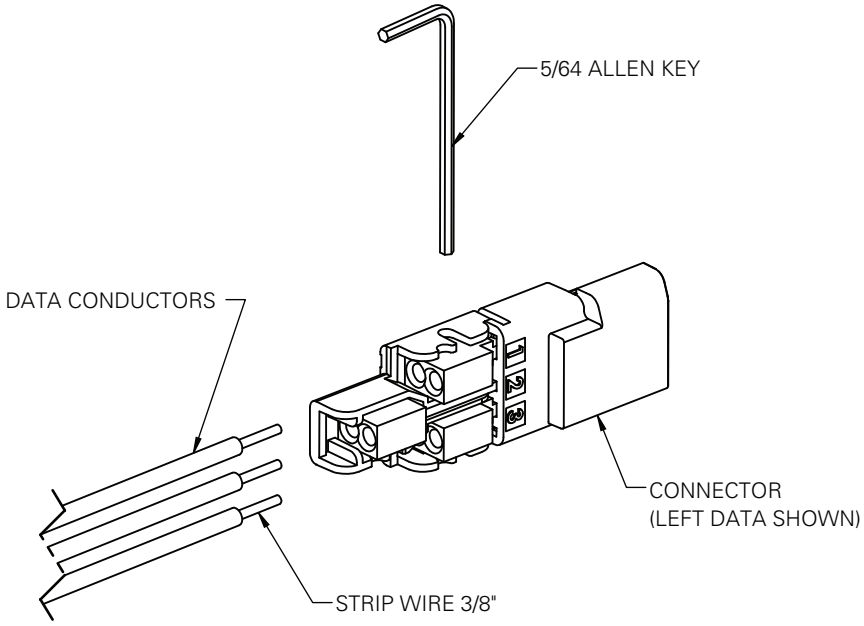


SURFACE CONTROLTrack • INSTALLATION

3. Wire data connector
   a. Strip wires 3/8" (See General Data Guidelines for suggested data wire types)
   b. Insert conductors into the identified terminals on the connector. (Terminals used will vary depending on control system used)
   c. Secure using 5/64" Hex Key
   d. Slide data connector into track liner

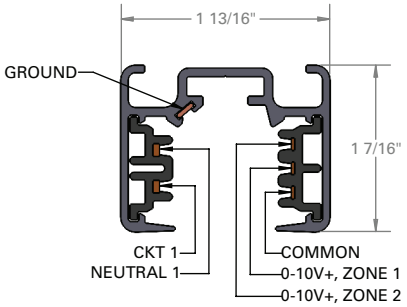
4. Close the data end feed.
   a. Replace Lexan™ cover securing power and data connectors into place.



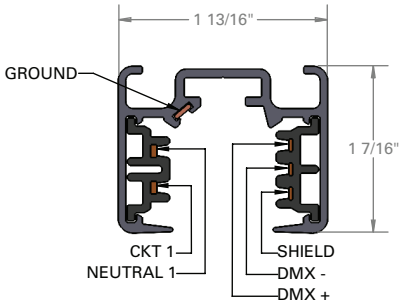


DATA TERMINAL WIRING SCHEME

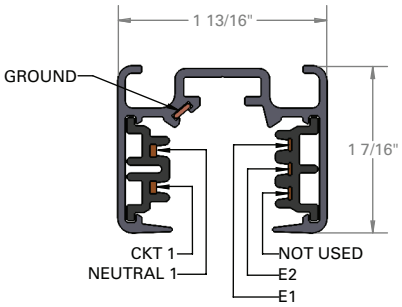
One Ckt 120/277V CONTROLTrack
0-10V



One Ckt 120/277V CONTROLTrack
DMX



One Ckt 120/277V CONTROLTrack
LUTRON ECOSYSTEM



Data Terminal	0-10V	DMX	Lutron EcoSystem
1	-, Common	Shield	N/A
2	+, Control Zone 1	-	-
3	+, Control Zone 2	+	+

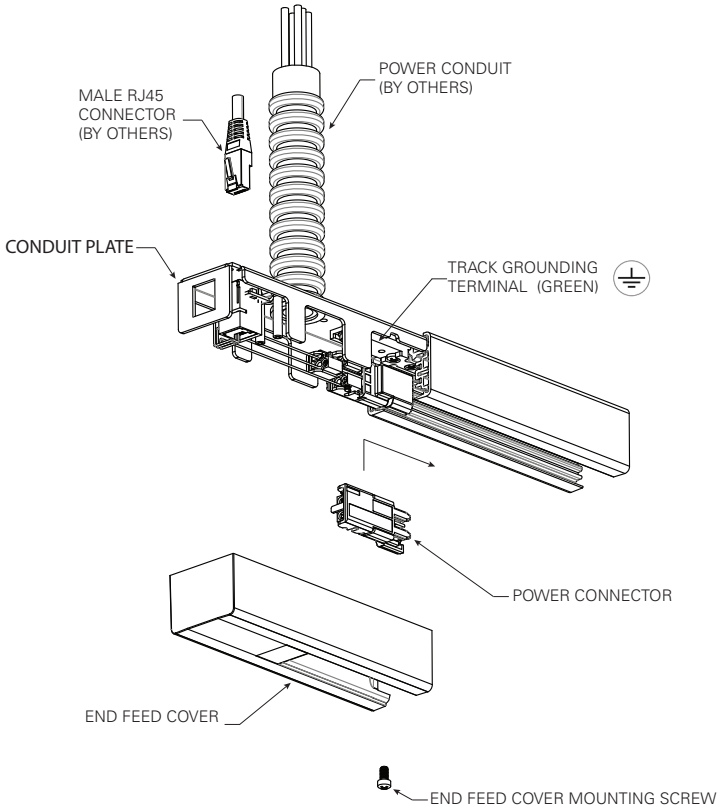
SURFACE CONTROLTrack • INSTALLATION

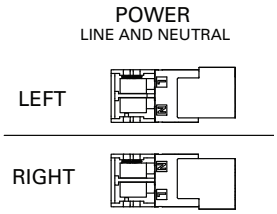
EXTENDED END FEEDS: RJ45 CONNECTOR

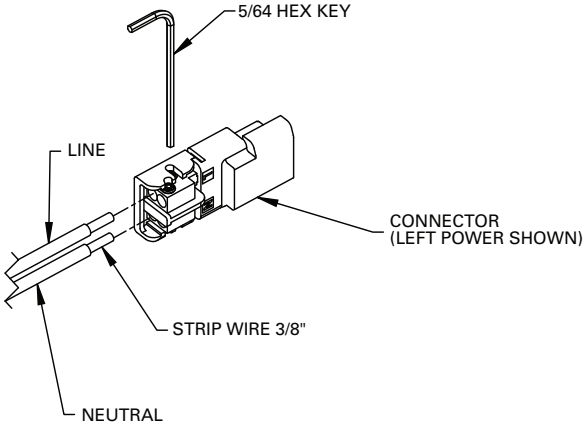
NOTE: On the CAT5-RJ45 Ethernet Jack Extended End Feed, the internal data wiring has been installed and tested at the factory.

1. Open the end feed.
   a. Remove end feed cover mounting screw.
   b. Remove the Lexan™ cover.
   c. Remove appropriately sized knock out for conduit.
   d. Bring power through the combination 1/2", 3/4" U.S. trade size knockout in conduit plate.

2. Wire power connector
   a. Strip wires 3/8" (#12 THHN Wire is the suggested wire size for power)
   b. Insert conductor into the identified terminals on the connector.
   c. Secure using 5/64" Hex Key.
   d. Connect ground to track grounding terminal (green) located on the conduit plate.
   e. Slide power connector into track liner.



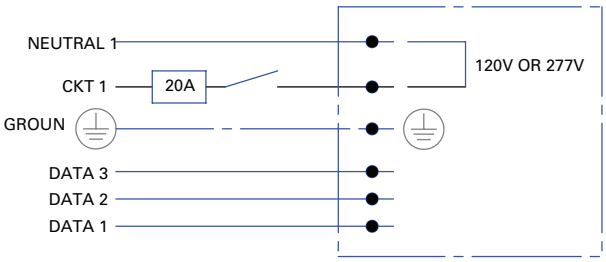


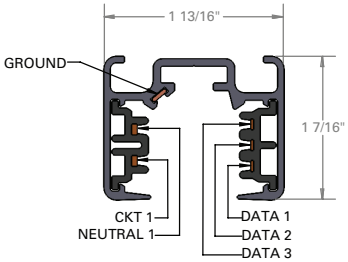


L = Line
N = Neutral
= Ground

Supply Connection Wiring Diagram

Voltage = Single Phase 120V or 277V AC
Maximum Current = 20A per circuit Supply
Cable = 5 x 12 Gage THHN wire
Type = Switched (non-dim) only
CAUTION: Data MAX 30V, 2A

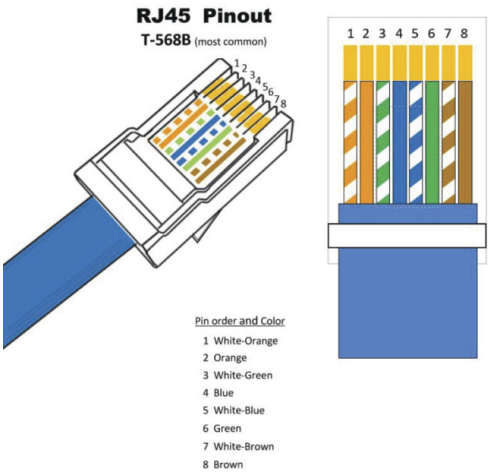




SURFACE CONTROLTrack • INSTALLATION

3. Wire data connector
   a. Installing contractor will pull data cable to the end feed backbox (BY OTHERS) and terminate to a Male RJ45 connector. Connector pin numbering and color to be in accordance with ANSI/TIA/EIA-568 scheme T568B.
   b. Insert terminated RJ45 Male (BY OTHERS) into provided Female RJ45 jack.
   c. Slide prewired data connector into track liner.

4. Close the data end feed.
   a. Replace Lexan™ cover securing power and data connectors into place.

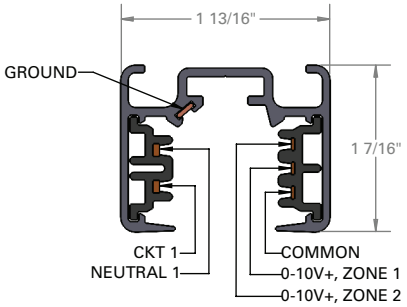


Prewired Extended End-Feed

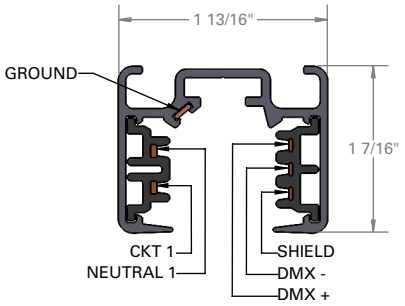
Data Terminal	RJ-45
1	White/Brown
2	Orange
3	White/Orange

DATA TERMINAL WIRING SCHEME

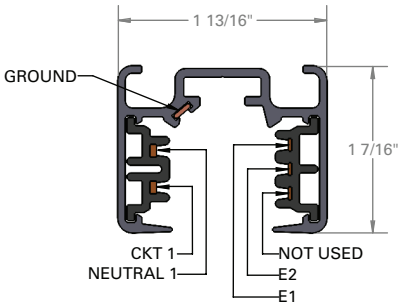
One Ckt 120/277V CONTROLTrack
0-10V



One Ckt 120/277V CONTROLTrack
DMX



One Ckt 120/277V CONTROLTrack
LUTRON ECOSYSTEM



Data Terminal	0-10V	DMX	Lutron EcoSystem
1	-, Common	Shield	N/A
2	+, Control Zone 1	-	-
3	+, Control Zone 2	+	+

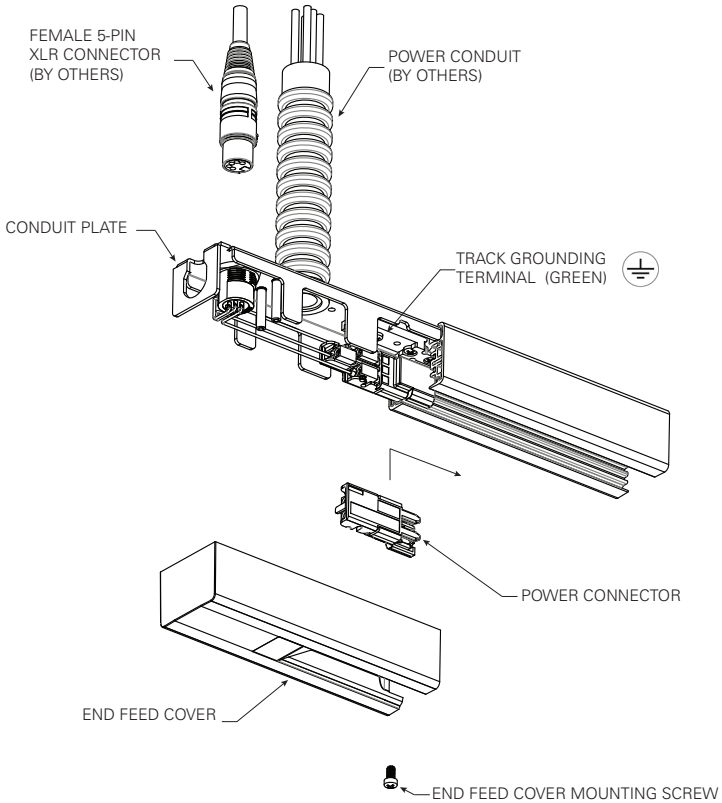
SURFACE CONTROLTrack • INSTALLATION

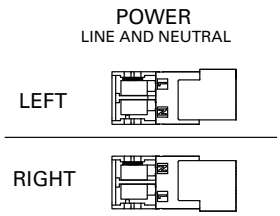
EXTENDED END FEEDS: 5-PIN XLR CONNECTOR

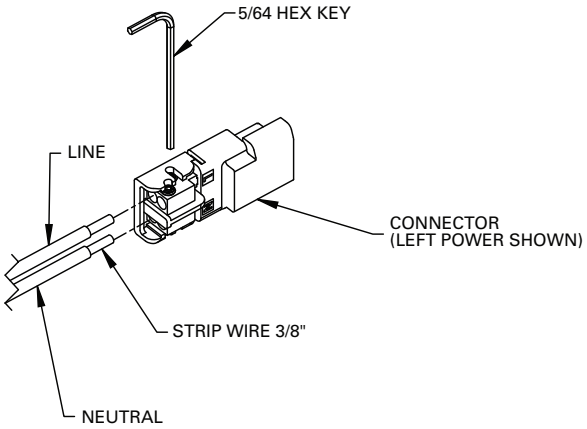
NOTE: On the 5-Pin XLR Extended End Feed, the internal data wiring has been installed and tested at the factory.

1. Open the end feed.
   a. Remove end feed cover mounting screw.
   b. Remove the Lexan™ cover.
   c. Remove appropriately sized knock out for conduit.
   d. Bring power wires through the combination 1/2", 3/4" U.S. trade size knockout in conduit plate.

2. Wire power connector
   a. Strip wires 3/8" (#12 THHN Wire is the suggested wire size for power)
   b. Insert conductor into the identified terminals on the connector.
   c. Secure using 5/64" Hex Key.
   d. Connect ground to track grounding terminal (green) located on the conduit plate.
   e. Slide power connector into track liner.



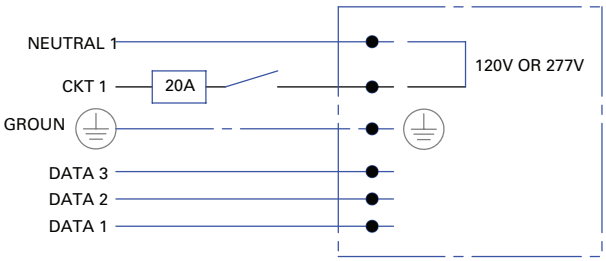


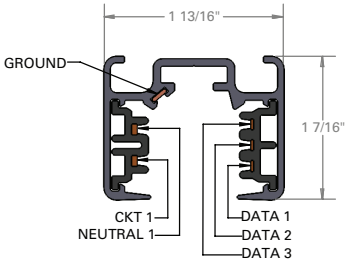


L = Line
N = Neutral
= Ground

Supply Connection Wiring Diagram

Voltage = Single Phase 120V or 277V AC
Maximum Current = 20A per circuit Supply
Cable = 5 x 12 Gage THHN wire
Type = Switched (non-dim) only
CAUTION: Data MAX 30V, 2A



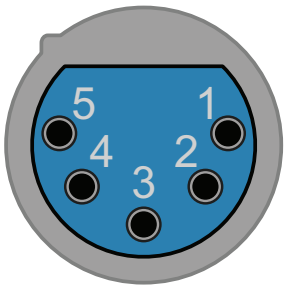


SURFACE CONTROLTrack • INSTALLATION

3. Wire data connector
   a. Installing contractor will pull data cable to the end feed backbox (BY OTHERS) and terminate to a Female 5-Pin XLR connector. Connector pinout to be in accordance with ESTA DMX512 Standards.
   b. Insert Female 5-Pin XLR connector (BY OTHERS) into the Male 5-Pin XLR connector on the extended end feed.
   c. Slide prewired data connector into track liner.

4. Close the data end feed.
   a. Replace Lexan™ cover securing power and data connectors into place.

Note: When using XLR connectors for 0-10V or Lutron EcoSystem Control, please refer to the Date Terminal Wiring Schemes below for correct data pinout.



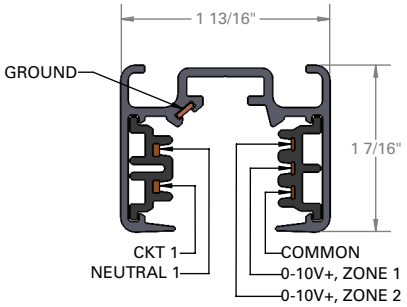
Conductor	5-Pin Connector
Ground/Shield	Pin 1
Data 1- (Primary Data Link)	Pin 2
Data 1+ (Primary Data Link)	Pin 3
Data 2- (Optional Secondary Data Link)	Pin 4 (NC)
Data 2+ (Optional Secondary Data Link)	Pin 5 (NC)

LSI Prewired Extended End Feed

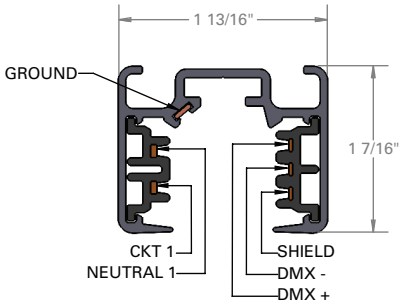
5-Pin XLR	Data Terminal
Pin 1	1
Pin 2	2
Pin 3	3

DATA TERMINAL WIRING SCHEME

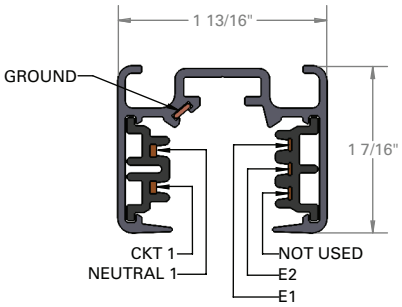
One Ckt 120/277V CONTROLTrack
0-10V



One Ckt 120/277V CONTROLTrack
DMX



One Ckt 120/277V CONTROLTrack
LUTRON ECOSYSTEM



Data Terminal	0-10V	DMX	Lutron EcoSystem
1	-, Common	Shield	N/A
2	+, Control Zone 1	-	-
3	+, Control Zone 2	+	+

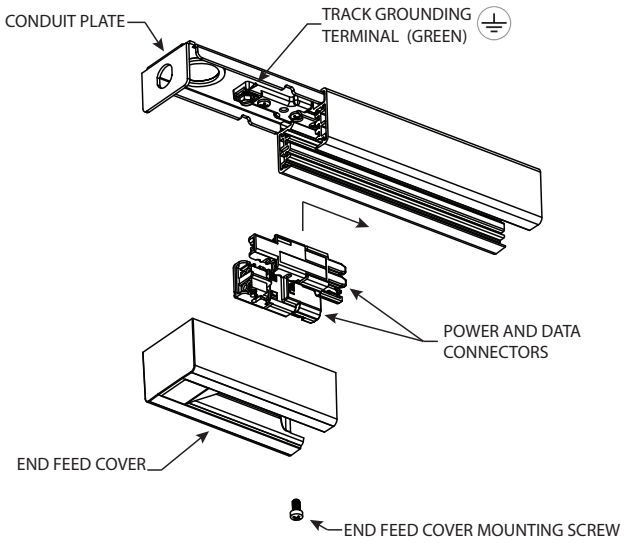
SURFACE CONTROLTrack • INSTALLATION

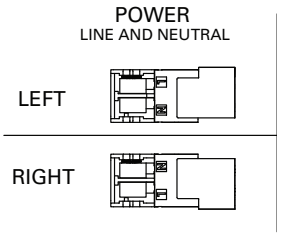
END FEED, CONDUIT END FEED / END FEED TERMINATOR

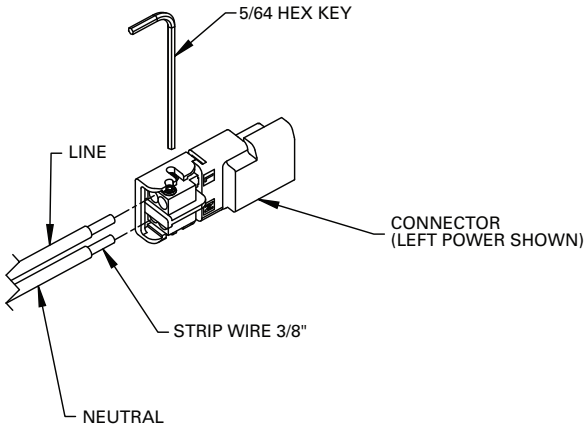
NOTE: When using End Feed and End Feed Terminator (DMX systems only) data and power should be installed into separate feeds to prevent unstable data transmission. AC voltages may induce interference on low voltage wiring when run in the same conduit. Analog (0-10V) is more susceptible than digital communication (DMX,etc.) Shielded pair cable is suggested for data runs with shielding grounded to earth at the controller. Power and Data MUST be installed from separate feeds when using Surface Mounted Track Current Limiters.

1. Open the Power Side end feed.
   a. Remove end feed cover mounting screw.
   b. Remove the Lexan™ cover.
   c. Remove appropriately sized knock out for conduit.
   d. Bring power wires through the combination 1/2", 3/4" U.S. trade size knockout in conduit plate.

2. Wire power connector
   a. Strip wires 3/8" (#12 THHN Wire is the suggested wire size for power)
   b. Insert conductor into the identified terminals on the connector.
   c. Secure using 5/64" Hex Key.
   d. Connect ground to track grounding terminal (green) located on the conduit plate.
   e. Slide power connector into track liner.



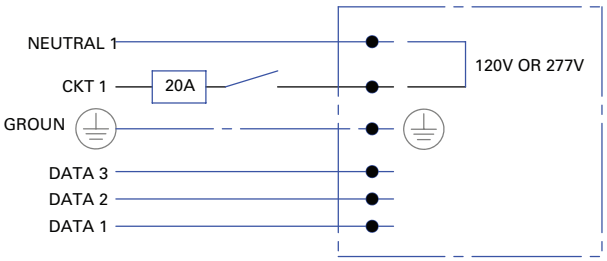


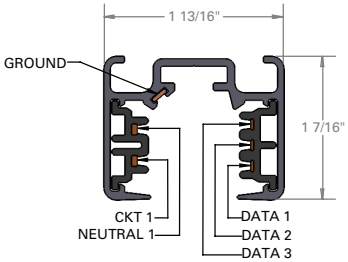


L = Line
N = Neutral
= Ground

Supply Connection Wiring Diagram

Voltage = Single Phase 120V or 277V AC
Maximum Current = 20A per circuit Supply
Cable = 5 x 12 Gage THHN wire
Type = Switched (non-dim) only
CAUTION: Data MAX 30V, 2A





SURFACE CONTROLTrack • INSTALLATION

3. Close the power side end feed.
   a. Insert unwired data connector or terminator connector into track liner and replace Lexan™ cover securing power and data connectors into place.

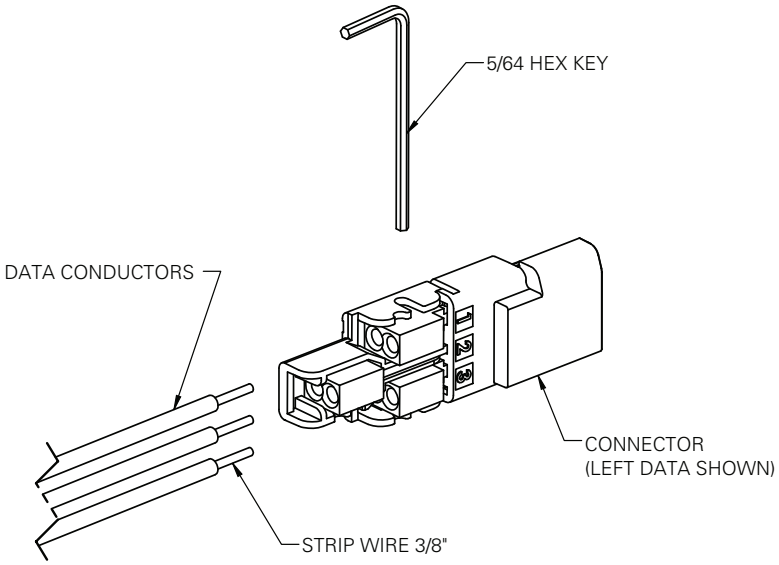
4. Open the data side end feed.
   a. Remove end feed cover mounting screw.
   b. Remove the Lexan™ cover.
   c. Remove appropriately sized knock out for conduit.
   d. Bring wires through the combination 1/2", 3/4" U.S. trade size knockout in conduit plate.

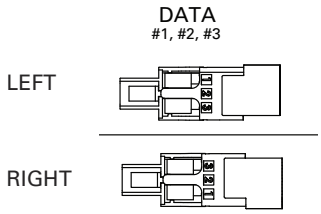
5. Wire data connector
   a. Strip wires 3/8" (See General Data Guidelines for suggested data wire types)
   b. Insert conductors into the identified terminals on the connector. (Terminals used will vary depending on control system used)
   c. Secure using 5/64" Hex Key
   d. Slide data connector into track liner

Note: The End Feed Terminator (DMX Systems Only) will include a data connector with a 120-ohm resistor between blocks two and three. This connector can not be used as a data feed point, it can only be used to terminate DMX.

6. Close the data end feed.
   a. Insert unwired power connector into track liner and replace Lexan™ cover securing power and data connectors into place.

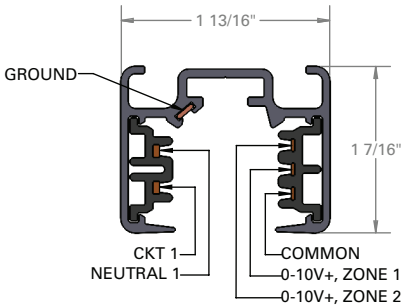
NOTE: All supplied connectors must be installed even if not being wired. Engaging fixture power or data rotors will cause inner liner to shift if all connectors are not installed.



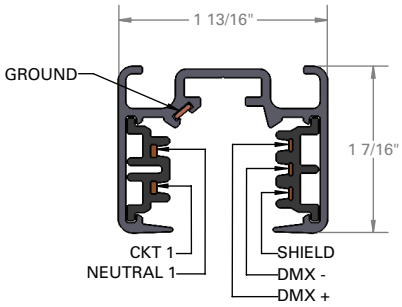


DATA TERMINAL WIRING SCHEME

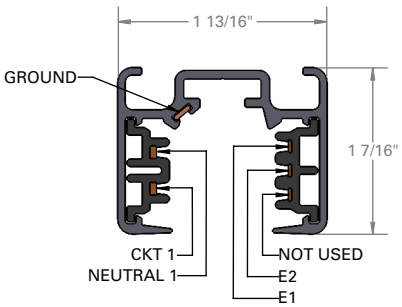
One Ckt 120/277V CONTROLTrack
0-10V



One Ckt 120/277V CONTROLTrack
DMX



One Ckt 120/277V CONTROLTrack
LUTRON ECOSYSTEM



Data Terminal	0-10V	DMX	Lutron EcoSystem
1	-, Common	Shield	N/A
2	+, Control Zone 1	-	-
3	+, Control Zone 2	+	+

SURFACE CONTROLTrack • INSTALLATION

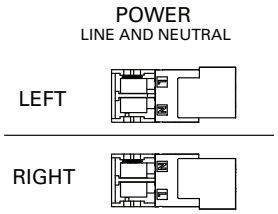
INTALLLING JOINER/FEEDERS

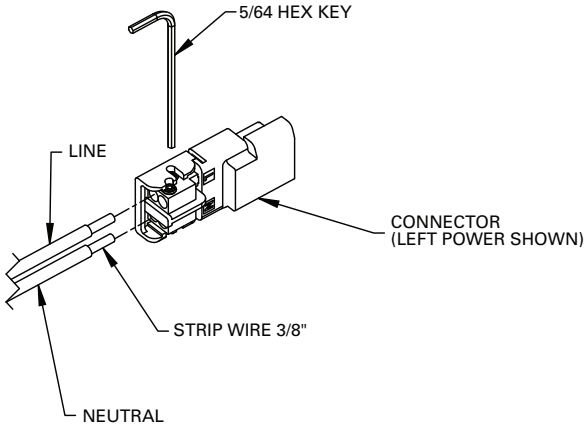
JOINER/FEEDERS (STRAIGHT, L, T, OR X)

NOTE: All Joiner/Feeders can be field modified to suit installation requirements for multiple power circuits and data runs. DMX should not be fed into straight joiners due to the "Y" that would be created. Consult factory for more details.

1. Open the end feed.
   a. Remove end feed cover mounting screw.
   b. Remove the Lexan™ cover.
   c. Remove appropriately sized knock out for conduit.
   d. Bring wires through the combination 1/2", 3/4" U.S. trade size knockout in conduit plate.

2. Wire power connector
   a. Strip wires 3/8" (#12 THHN Wire is the suggested wire size for power)
   b. Insert conductor into the identified terminals on the connector.
   c. Secure using 5/64" Hex Key.
   d. Connect ground to track grounding terminal (green) located on the conduit plate.
   e. Slide power connector into track liner.

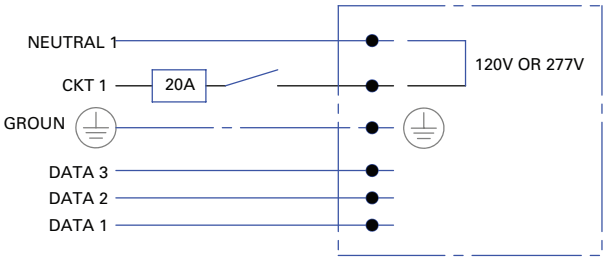


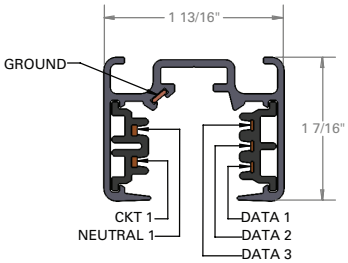


L = Line
N = Neutral
= Ground

Supply Connection Wiring Diagram

Voltage = Single Phase 120V or 277V AC
Maximum Current = 20A per circuit Supply
Cable = 5 x 12 Gage THHN wire
Type = Switched (non-dim) only
CAUTION: Data MAX 30V, 2A



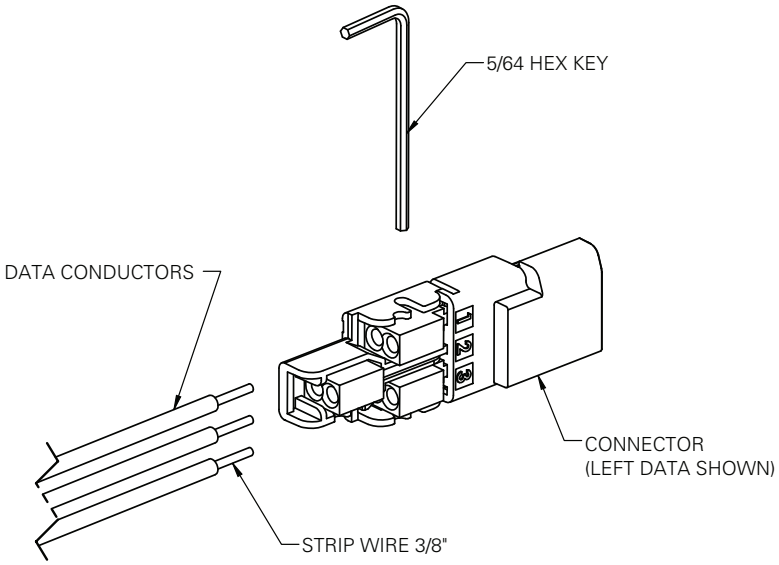


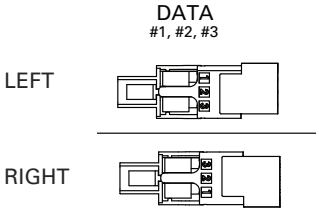
SURFACE CONTROLTrack • INSTALLATION

3. Wire data connector (If Applicable)
   a. Strip wires 3/8" (See General Data Guidelines for suggested data wire types)
   b. Insert conductors into the identified terminals on the connector. (Terminals used will vary depending on control system used)
   c. Secure using 5/64" Hex Key
   d. Slide data connector into track liner

4. Close the end feed.
   a. Insert unwired power or data connector (If Applicable) or DMX terminator connector into track liner and replace Lexan™ cover securing power and data connectors into place.

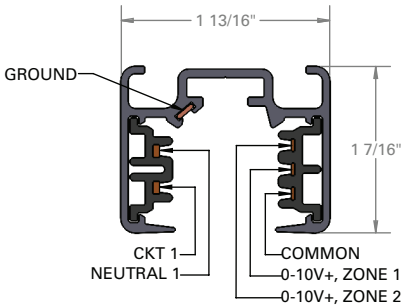
NOTE: All supplied connectors must be installed even if not being wired. Engaging fixture power or data rotors will cause inner liner to shift if all connectors are not installed.



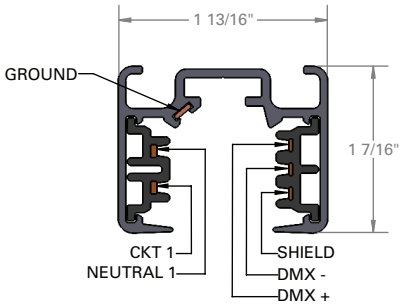


DATA TERMINAL WIRING SCHEME

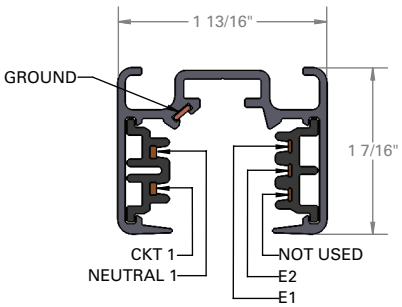
One Ckt 120/277V CONTROLTrack
0-10V



One Ckt 120/277V CONTROLTrack
DMX



One Ckt 120/277V CONTROLTrack
LUTRON ECOSYSTEM



Data Terminal	0-10V	DMX	Lutron EcoSystem
1	-, Common	Shield	N/A
2	+, Control Zone 1	-	-
3	+, Control Zone 2	+	+

SURFACE CONTROLTrack • INSTALLATION

FIELD MODIFYING JOINER/FEEDERS

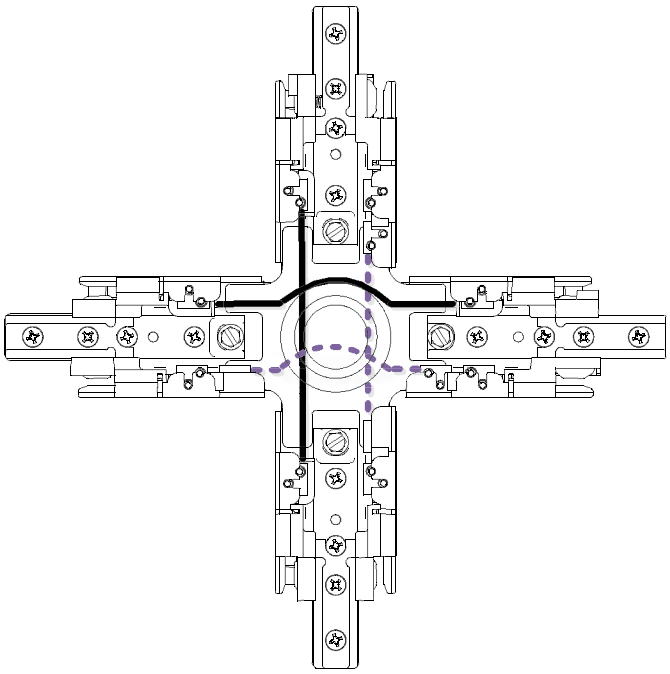
Your system layout may require you to modify the factory wiring of the Straight, L, T, or X joiner/feeders. Making these modifications is simple but care will need to be taken to ensure that poweris not being fed to one section of track from two circuits, to avoid any data loops on 0-10V or Lutron control systems, and to ensure no Loops, 'X's, 'T's, or 'Y's exist in DMX control systems. In some situations, the data or power connector will be disconnected completely.

1. Open the joiner/feeder.
   a. Remove end feed cover mounting screw.
   b. Remove the Lexan™ cover.
   c. Remove the Power connectors.
   d. Remove the Data connectors.

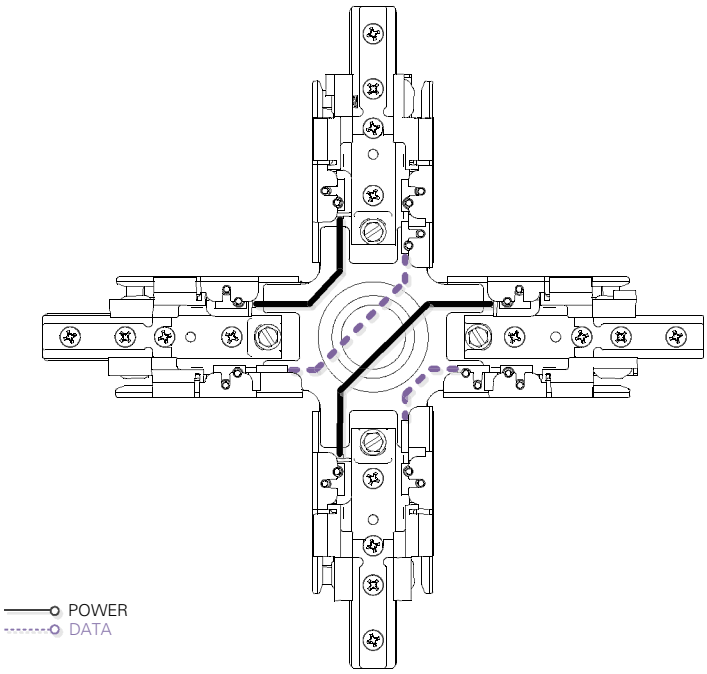
2. Modify wiring layout. (See Wiring Diagrams in this Instruction Manual for alternate field wiring layouts)
   a. Adjust Power connector location or disconnect as needed.
   b. Adjust Data connector location or disconnect as needed.

3. Close the joiner/feeder.
   a. Insert all power and data connectors into track liner and replace Lexan™ cover securing power and data connectors into place.

NOTE: All supplied connectors must be installed even if not being wired. Engaging fixture power or data rotors will cause inner liner to shift if all connectors are not installed.



Factory Wiring



Alternate Field Wiring

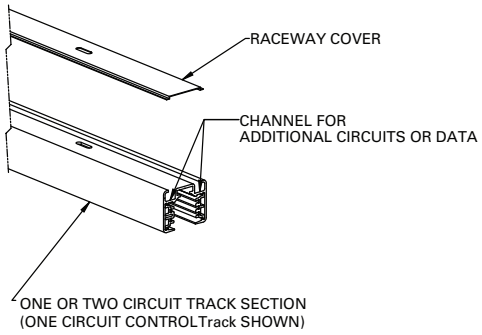
X-Joiner shown for reference, all Joiner-Feeders can be modified in a similar way

SURFACE CONTROLTrack • INSTALLATION

Additional Circuits

LSI Track has integral wiring channels for four additional #12 THHN wires to create two additional 20 amp circuits with separate neutrals or extra data wires. Place conductors in wiring channels and slide raceway covers into track prior to mounting.

DO NOT install power and data wires in the same raceway channel.

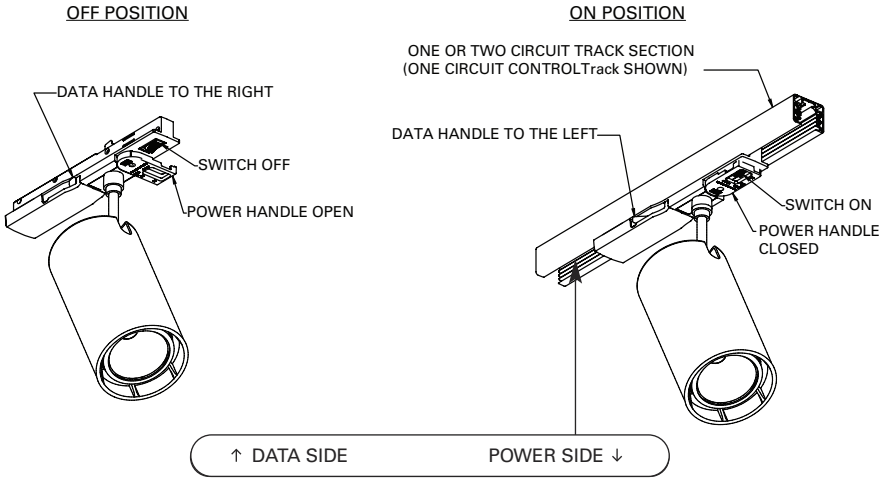


Installing LSI Fixtures

LSI CONTROLTrack is only to be used with LSI electrical fittings listed below:
-CT1
-CT2
-CT3
-CT4
-CT5

CONTROLTrack is backwards compatible with —00 and —0E fittings

To insert a fixture fitting into the track, the switch must be in the "off" position, with the power handle open. Insert the fixture fitting straight up into the track until it seats evenly, close handle completely, switch on. If using CONTROLTrack, a second data handle will also need to be turned counterclockwise.
If using one circuit track or CONTROLTrack, make sure that the brass contacts which protrude from the side of the fixture fittings are inserted facing the copper busbars. CONTROLTrack handles will not engage if installed backwards. CONTROLTrack comes with a label inside track backbone to identify power and data.



Lighting Services Inc

2 Holt Drive
Stony Point NY 10980-1996
Tel: +1 (845) 942-2800
Fax: +1 (845) 942-2177

www.LightingServicesInc.com

02/23