



# LUMASCAPE LS6540 PowerSync PS4 Data Injector Instruction Manual

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## LUMASCAPE LS6540 PowerSync PS4 Data Injector



## **DANGER**

### **ISOLATE DEVICE FROM POWER**

Failure to isolate power supply before installation or maintenance may result in fire, serious injury, electric shock, death and may damage the luminaire.

**Product Warranty is void if product is not installed as per installation instructions and in compliance with the local electrical code.**



**NO POWER  
TOOLS**



**DO NOT USE SILICONE  
ON OUTSIDE SURFACE**



**KEEP ELECTRONICS FREE  
FROM DIRECT AND MOISTURE**



**DO NOT HOSE OR  
PRESSURE CLEAN**

## **READ ALL SAFETY INSTRUCTIONS FIRST**

- Follow instructions carefully; failure to do so will void warranty.
- Ensure installation complies with local laws and applicable standards
- Only use Lumascape power supply, control equipment and leader cables.
- Ensure mains input power is surge protected.
- Never make connections whilst power is connected.
- Do not make modifications or alter product.
- Connectors are to be kept clean and dry at all times.
- Once installed, all connectors are to be mated and a PowerSync™ terminator is required on the last fitting of run.

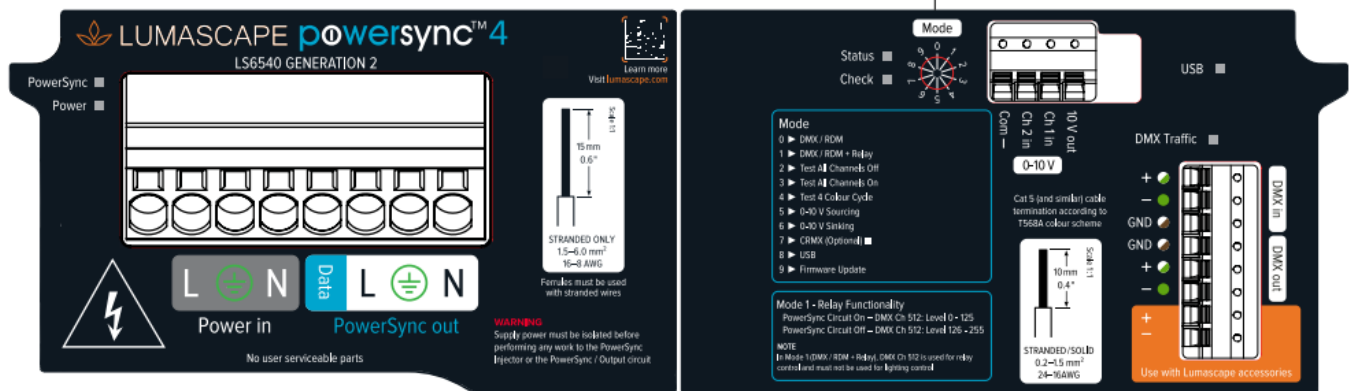
## **Mode Switch and Indicator Light Descriptions**

## 10 Position Mode Switch

Label	Descriptions
0	DMX/RDM
1	DMX/RDM + Relay
2	Test All Channels Off
3	Test All Channels On
4	Test 4 Color Cycle
5	0-10 V Sourcing
6	0-10 V Sinking
7	CRMX (Optional)
8	USB
9	Firmware Update

### NOTE:

- This function list is ONLY for Generation 2 PowerSync Injectors.
- For non-generation 2 devices, visit Lumascape website for applicable instructions.
- Generation 2 is marked on the label inside the PowerSync Injector.



## Indicator Light

LED Indicator	Event	Appearance	Note
Power	Main Input Power	Illuminates	
PowerSync™	PowerSync™ output enabled	Illuminates	
Status	Start Up	3 flashes	
	Normal Operation	1 flash, every 5 seconds	
	Circuit Fault: Over Voltage	2 flashes, every 5 seconds	
	PowerSync™ Fault	4 flashes, every 5 seconds	
Check	Start Up	On	
	Normal Operation	Off	
	Relay Open: Fault Detected	On	
	Relay Open: Manual Override	Flashing	
USB	USB Connected	Illuminates / flashes with data	
DMX Traffic	DMX Traffic Detected	Flashing with DMX frames	

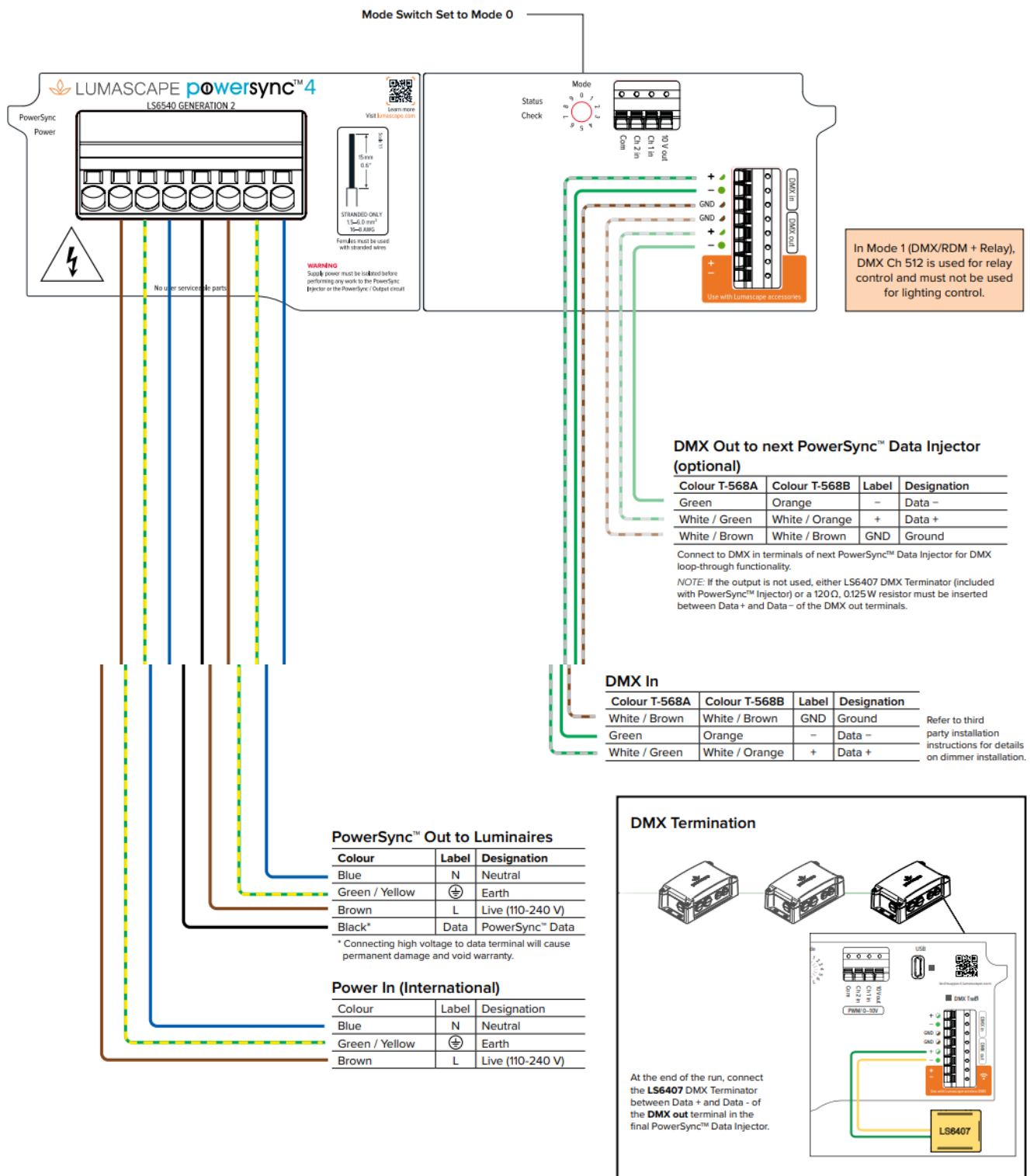
## Wiring for DMX Controllers (International)

### 10 Position Mode Switch

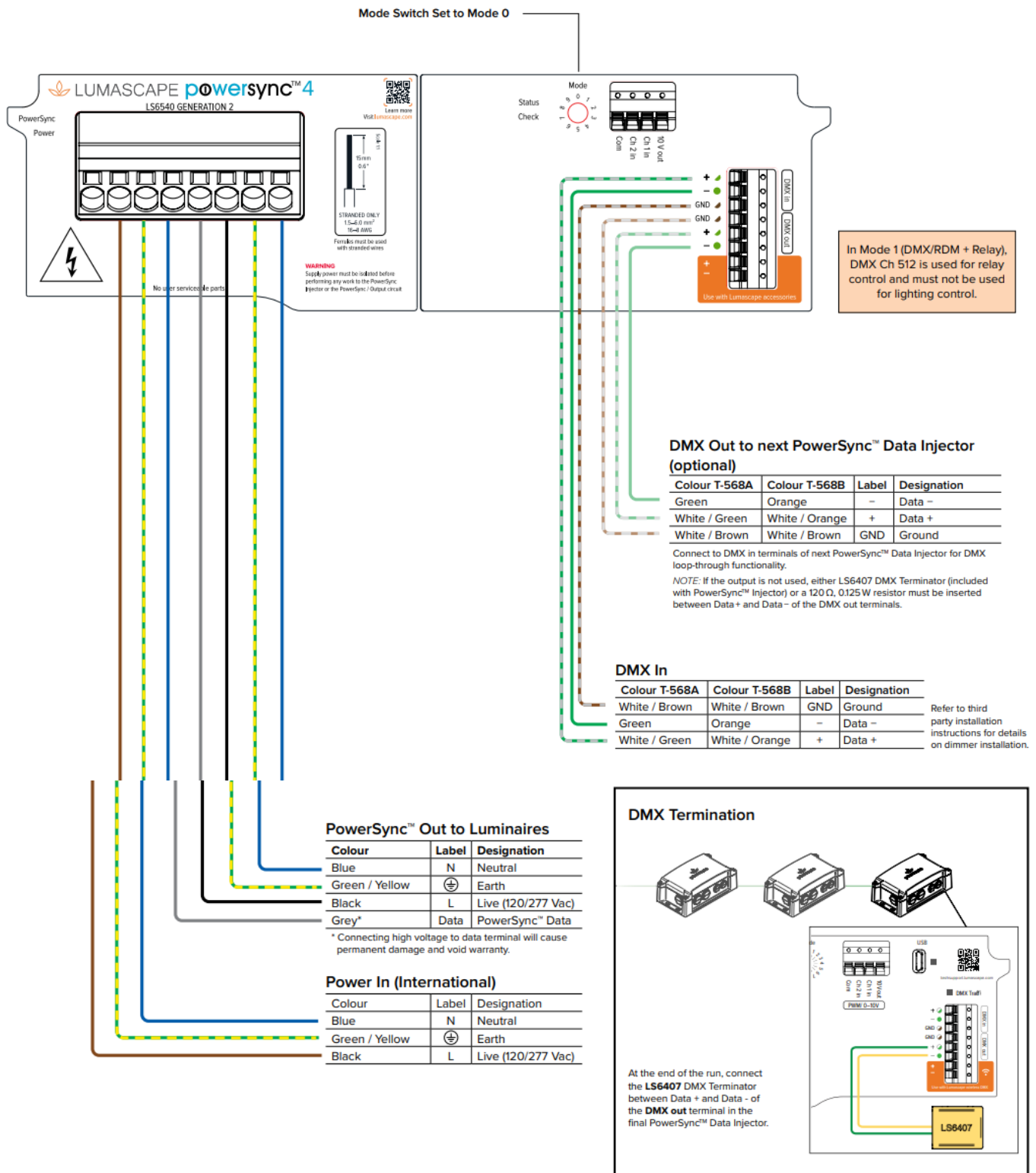
- DMX/RDM
- DMX/RDM + Relay
- Test All Channels Off
- Test All Channels On
- Test 4 Color Cycle

### Note

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## Wiring for DMX Controllers (North America)



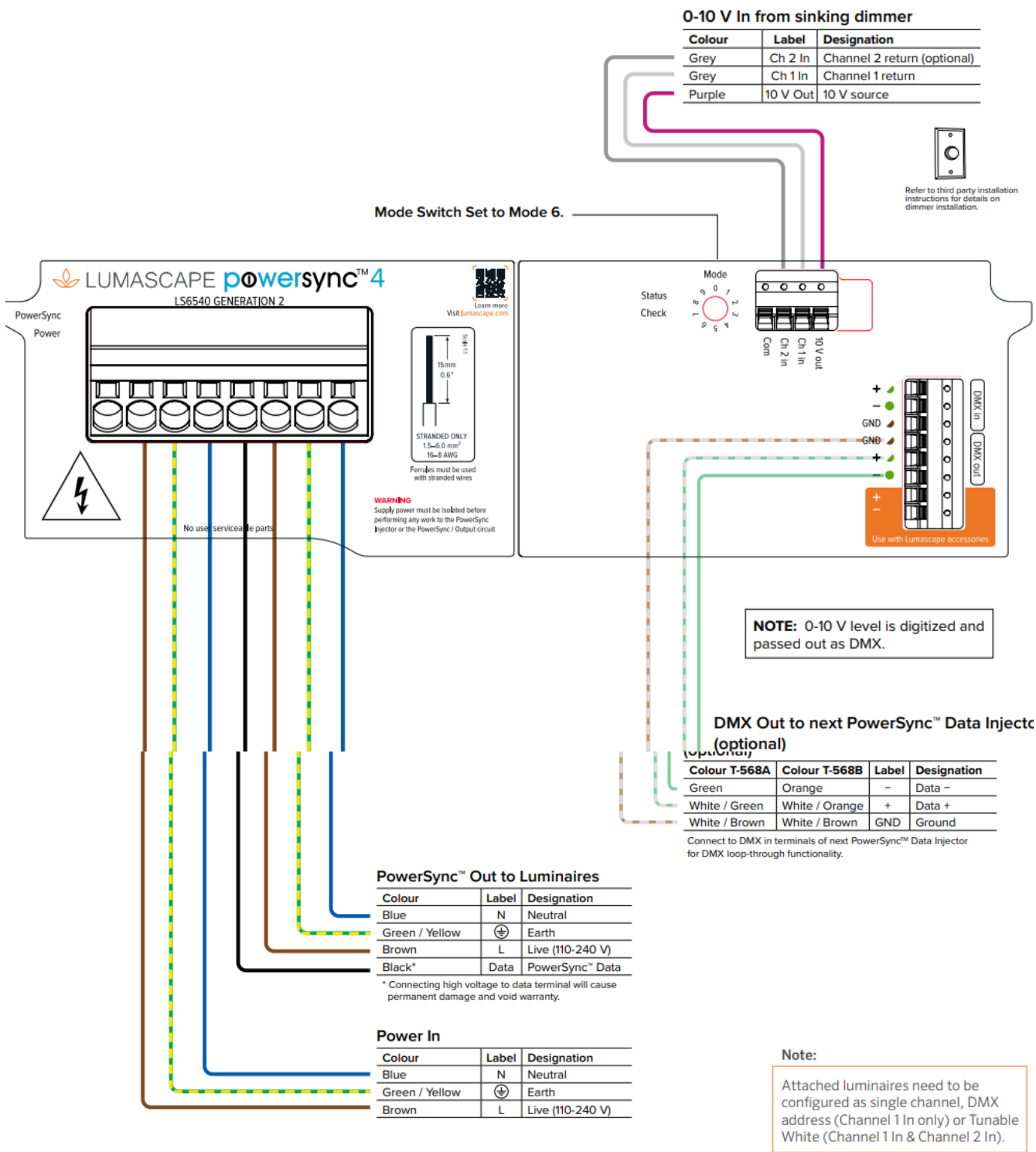
## Wiring for 0-10 V Sinking Dimmers (International)

### 10 Position Mode Switch

- Test All Channels Off
- Test All Channels On
- 0-10 V Sinking

**NOTE:**

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- Generation 2 is marked on the label inside the PowerSync Injector.



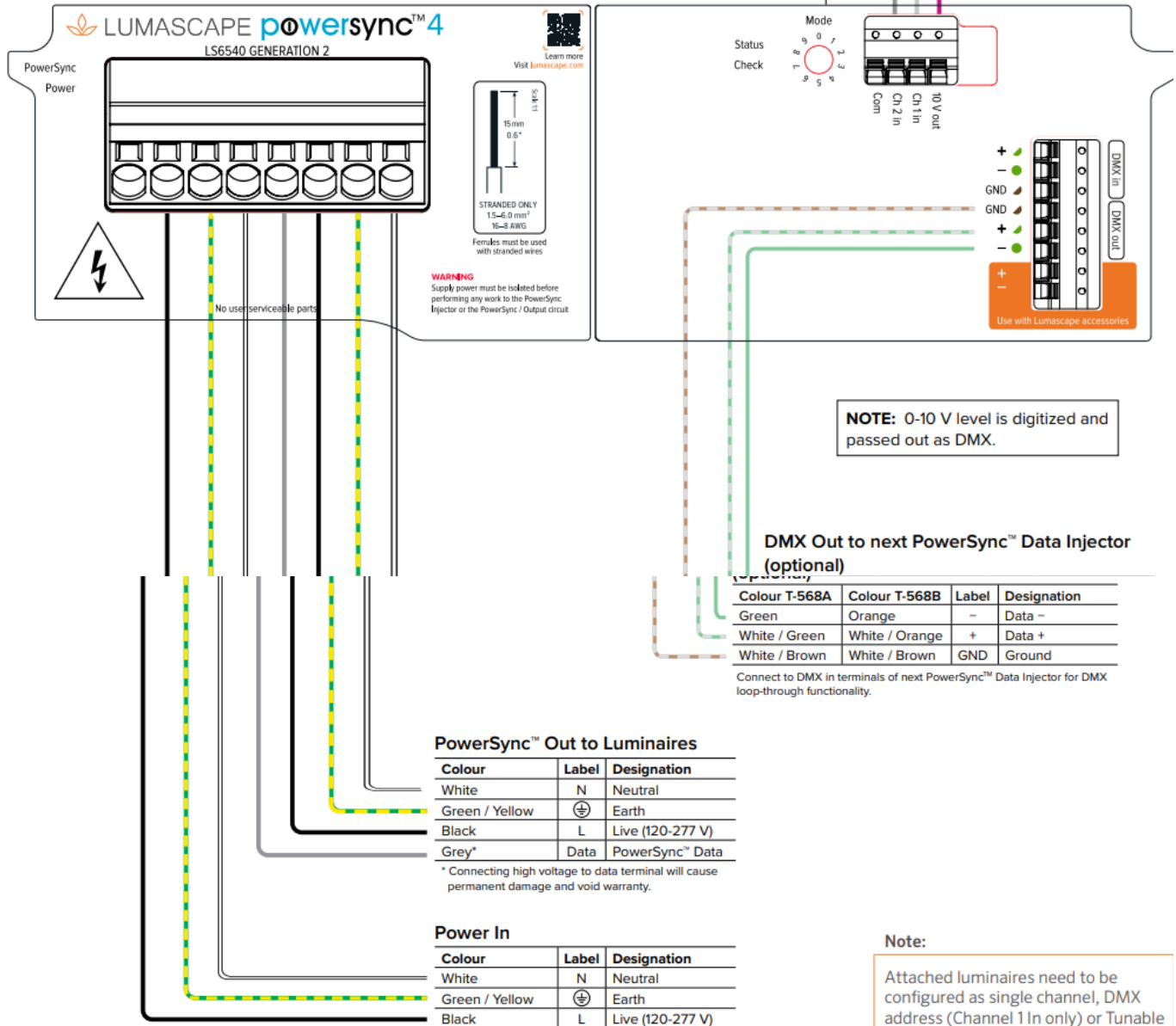
Wiring for 0-10 V Sinking Dimmers (North America)

## 0-10 V In from sinking dimmer

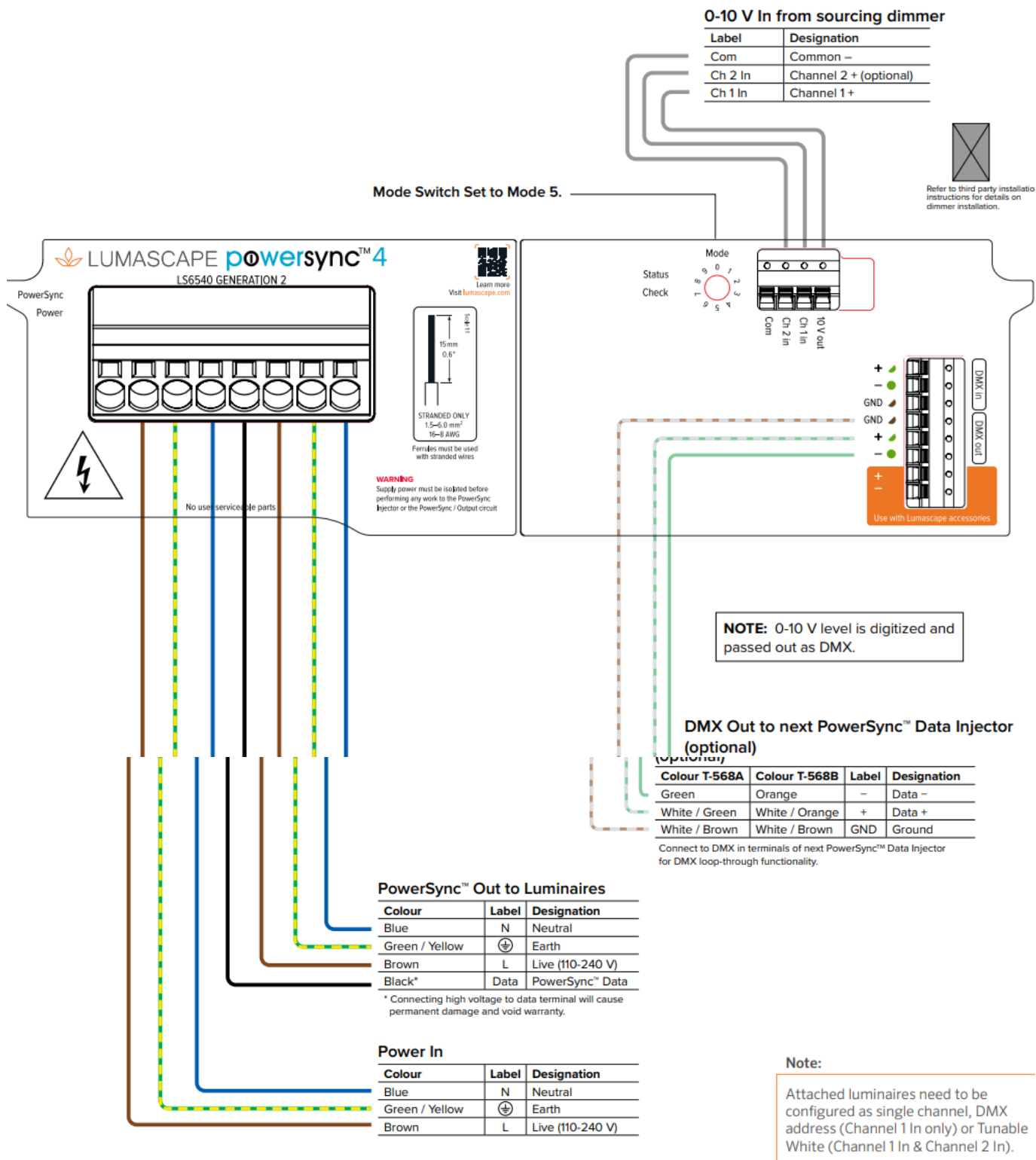
Colour	Label	Designation
Grey	Ch 2 In	Channel 2 return (optional)
Grey	Ch 1 In	Channel 1 return
Purple	10 V Out	10 V source

Mode Switch Set to Mode 6.

Refer to third party installation instructions for details on dimmer installation.



## Wiring for 0-10 V Sourcing Dimmers (International)

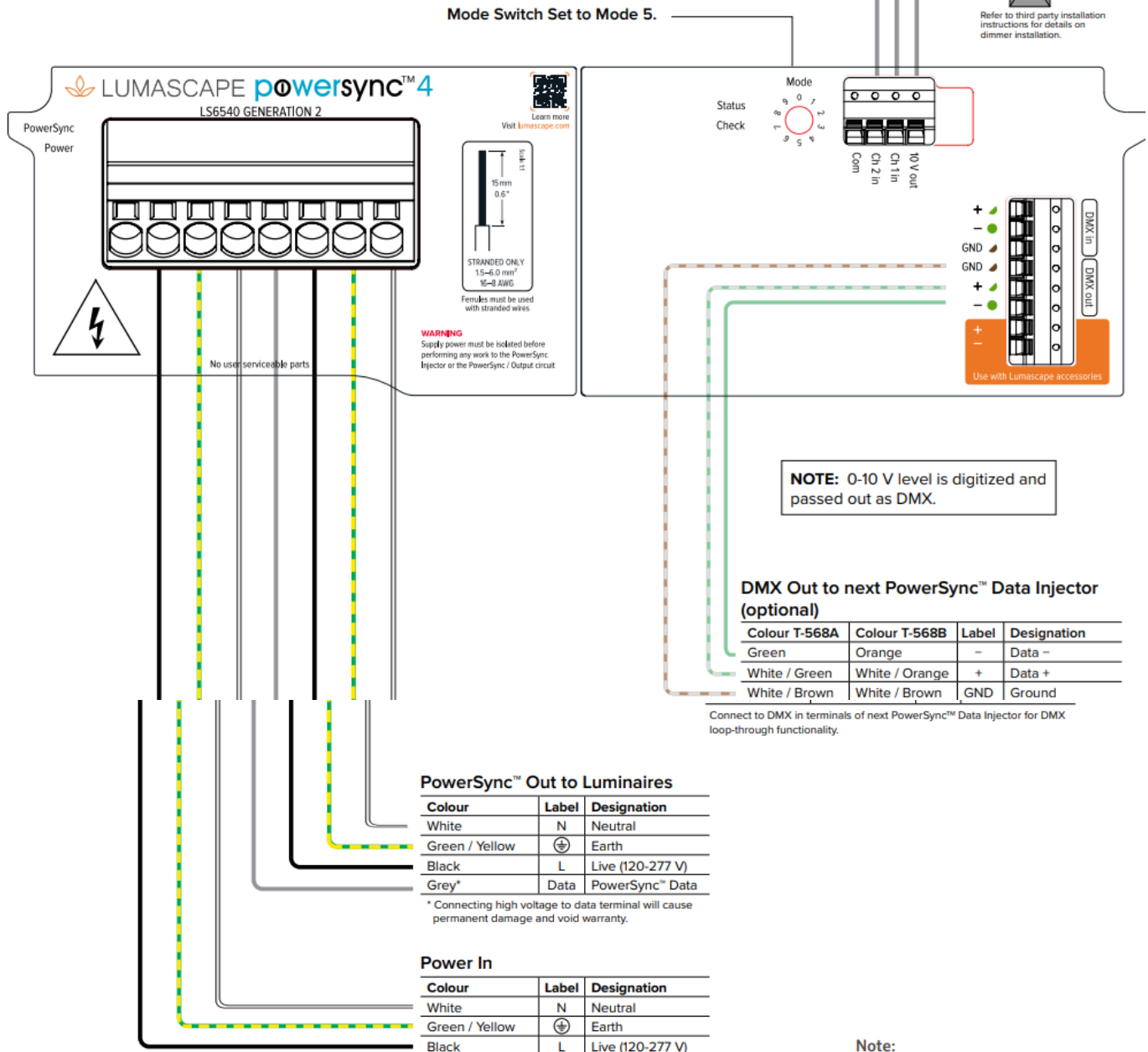


## Wiring for 0-10 V Sourcing Dimmers (North America)



## 0-10 V In from sourcing dimmer

Label	Designation
Com	Common -
Ch 2 In	Channel 2 + (optional)
Ch 1 In	Channel 1 +



## Note:

Attached luminaires need to be configured as single channel, DMX address (Channel 1 In only) or Tunable White (Channel 1 In & Channel 2 In).

## Testing Functions

To assist with installation, the LS6540 provides three (3) test modes for PowerSync™ luminaires. These require only connected luminaires and power, and no connected input signal.

If an input signal is connected, the LS6540 will not respond to this signal in any of the modes below.

**NOTE:** These test signals apply to the relevant unit's PowerSync™ output only — it will not be passed through on the DMX / RDM connectors if multiple LS6540 units are connected.

## 10 Position Mode Switch

Label	Descriptions
0	DMX/RDM
1	DMX/RDM + Relay
2	Test All Channels Off
3	Test All Channels On
4	Test 4 Color Cycle
5	0-10 V Sourcing
6	0-10 V Sinking
7	CRMV (Optional)
8	USB
9	Firmware Update

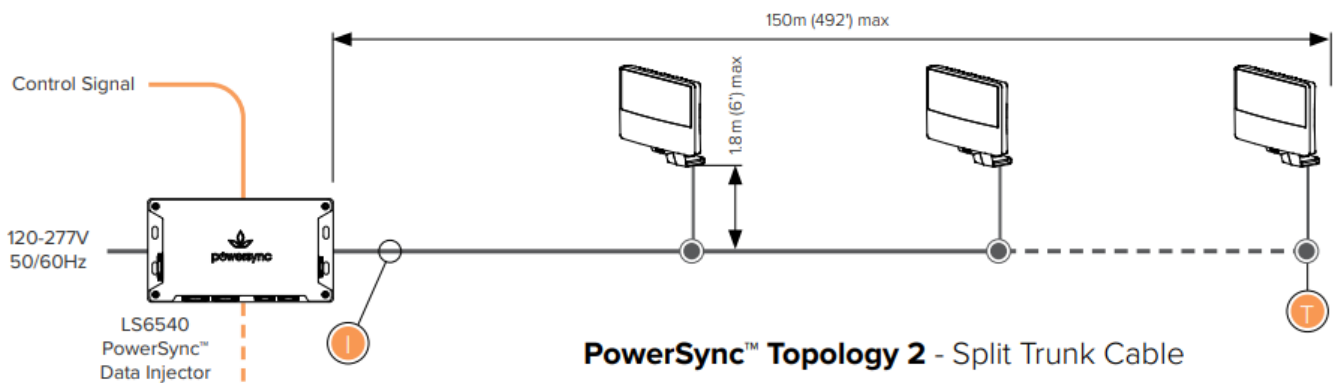
TEST MODES

**NOTE:**

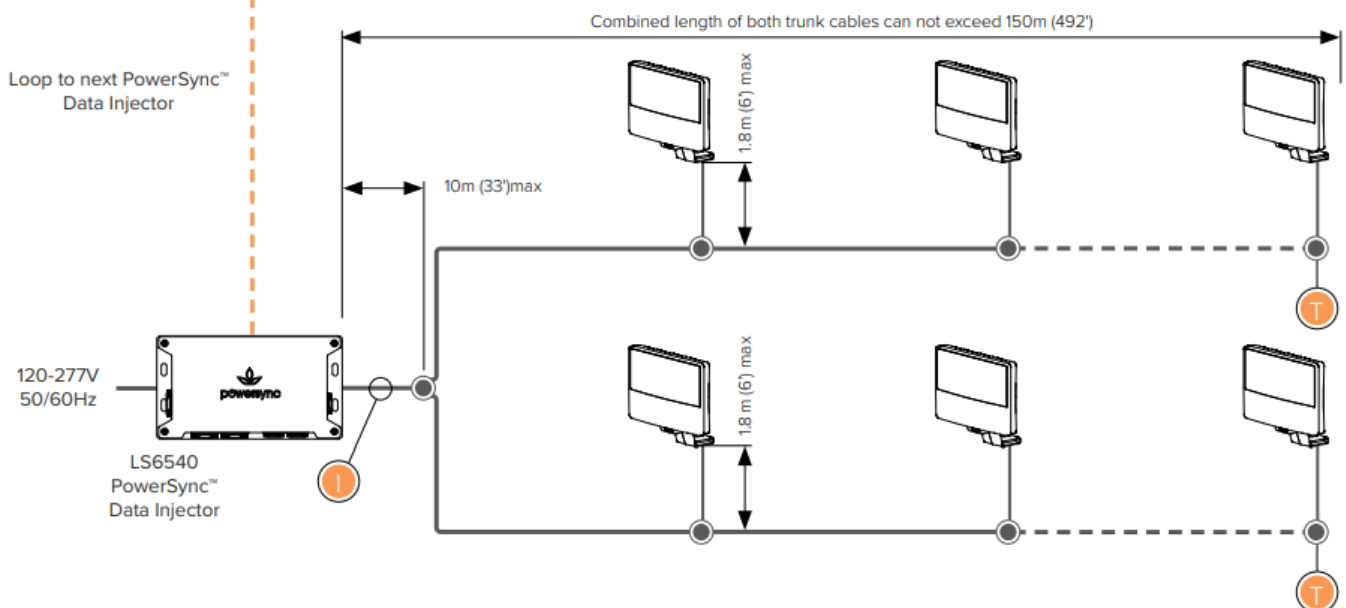
- This function list is ONLY for Generation 2 PowerSync Injectors.
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- Generation 2 is marked on the label inside the PowerSync Injector.

## Network Topology – PowerSync Dimmable

### PowerSync™ Topology 1 - Single Trunk Cable



### PowerSync™ Topology 2 - Split Trunk Cable



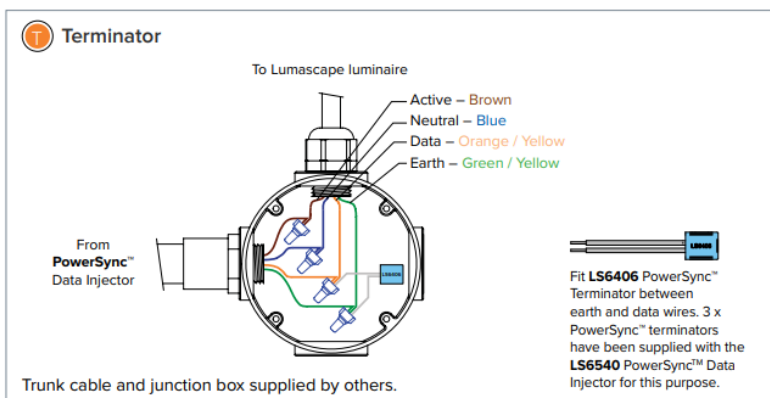
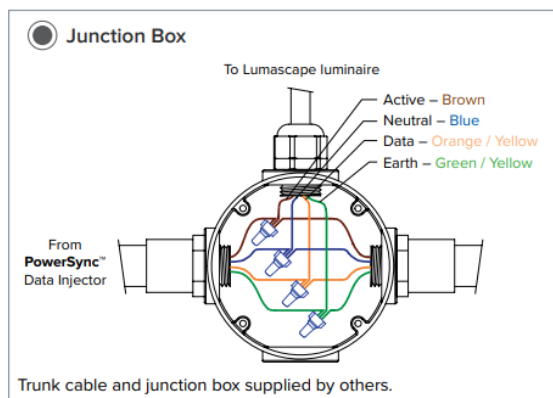
## Up to 45 luminaires per run under the following conditions:

- Max total cable run length 150m (492') in up to two trunk cables

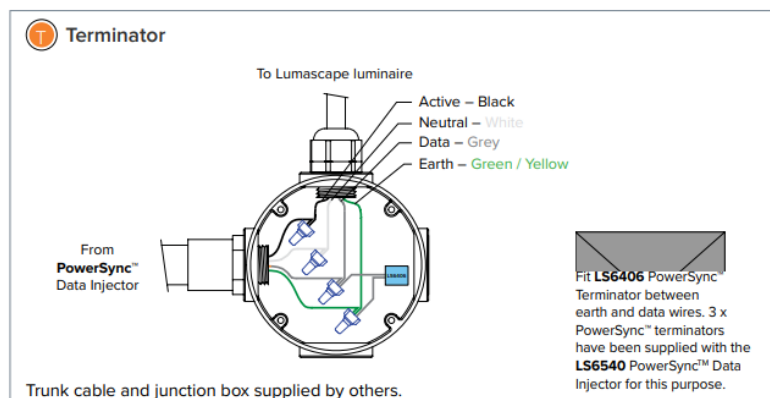
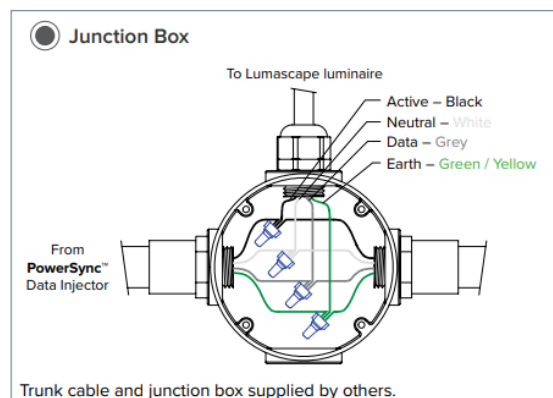
- For run lengths in excess of 30m (100'), the data wire gauge cannot exceed 12-14 AWG (2.5mm2)
- For run lengths up to 30m (100'), the data wire gauge is not governed
- Refer to 'Maximum Circuit Load' table for circuit limitations
- Always observe local electrical codes for branch circuit current limitations
- Terminator  
Use PowerSync™ terminator, supplied with leader cable to terminate last luminaire in chain.
- Maximum Current  
≤16.0A through LS6540 Data Injector.
- Connection Type  
Circuits can be configured as either connectorised or hardwired. For details consult installation instructions and comply with local electrical codes.
- PLEASE CHECK LUMINAIRE DATASHEETS FOR CIRCUIT LOADING AND ELECTRICAL LIMITATIONS.

## Network Installations

### International




### North America



Please Note: The above diagrams are intended to show electrical pathways between luminaires and ancillary device. These diagrams are not intended to show type or colour of cord / wire, luminaire input voltage rating, wire gauge or approved use of the cord / wire supplied with luminaires.

## Documents / Resources

	<p><b><a href="#">LUMASCAPE LS6540 PowerSync PS4 Data Injector</a></b> [pdf] Instruction Manual LS6540, PowerSync PS4, Data Injector, PowerSync PS4 Data Injector, LS6540 PowerSync PS 4 Data Injector, Injector</p>
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