

Tape Light Solution

The Lutron tape light solution takes scene control to the next level, offering a simple and seamless way to add accent lighting to Lutron connected home projects.

Built on the ultra-reliable Lutron Clear Connect–Type X wireless technology, Lutron tape light wireless controllers are native components within the Lutron platform including controls, apps, programming software, and Lutron Connect cloud services.

A complete Lutron tape light solution consists of field-cutable LED tape, a wireless controller with integrated LED drivers, high-reliability punch connectors, dedicated wiring, and a power supply or interface. For an added level of quality, install the tape light inside the Lutron LED tape extrusions.

Features

Lighting System

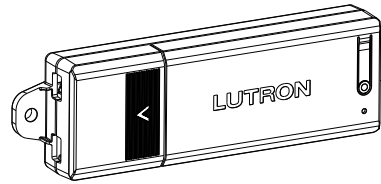
- Seamless integration with HomeWorks QSX and RadioRA 3
- User-programmable intensity and color temperature presets
- Warm dim to mimic the dimming curve of an incandescent lamp
- Automatically changes color temperature based on time of day
- Manual adjustments via the app or integration

Lumaris Tunable White Wireless Controller

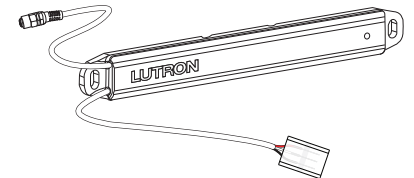
- 2-Channel, continuous, flicker-free dimming from 100% down to 0.1% of measured light output¹
- 32 W rated load (16.4 ft [5 m] of 2-channel LED tape)
- 50,000 hours rated lifetime²
- Uses Clear Connect–Type X wireless communication
- Low-profile, easy to hide

Multi-Channel Wireless Controller

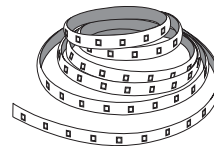
- 5-Channel, continuous, flicker-free dimming from 100% down to 0.1% of measured light output¹
- 96 W rated load (up to 32.8 [10 m] of 5-channel LED tape.)
- 50,000 hours rated lifetime
- Uses Clear Connect–Type X wireless communication
- Low-profile, easy to hide



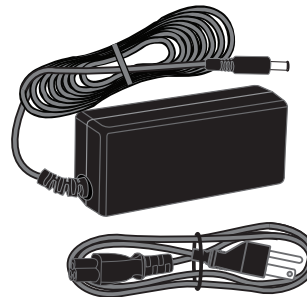
Multi-channel Wireless Controller



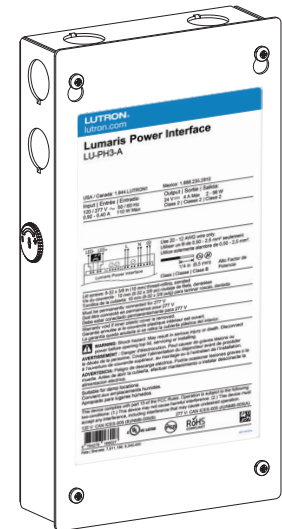
Lumaris Tunable White Wireless Controller



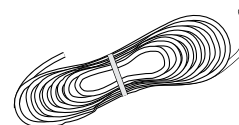
LED Tape



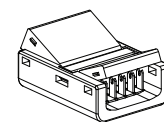
Plug-in Power Supply



Lumaris Power Interface



Cable



Connectors

¹ Tunable white performance is maintained from 100% to 1%.

² Plug-in power supply lifetime is rated for 50,000 hours in up to a 77 °F (25 °C) ambient temperature. Increasing ambient temperature may degrade lifetime.

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Model Numbers

Kits

Model Number		Description
HomeWorks QSX	RadioRA 3	
HWL-TLK-SW	RRL-TLK-SW	Soft White Kit <ul style="list-style-type: none"> • Wireless controller (with plug-in power supply) • Soft white LED tape (1800 K - 3000 K) - 16.4 ft (5 m) reel • Wire/tape connectors (qty. 5) • 3-conductor cable - 10 ft (3 m)
HWL-TLK-DL	RRL-TLK-DL	Daylight Kit <ul style="list-style-type: none"> • Wireless controller (with plug-in power supply) • Daylight LED tape (2500 K - 5000 K) - 16.4 ft (5 m) reel • Wire/tape connectors (qty. 5) • 3-conductor cable - 10 ft (3 m)

Wireless Controllers

Model Number		Description
HomeWorks QSX	RadioRA 3	
HWL-MWCL-WH	RRL-MWCL-WH	Multi-channel wireless controller
HWL-TWCL-WH	RRL-TWCL-WH	Lumaris tunable white wireless controller
HWL-TWC-WH	RRL-TWC-WH	Lumaris tunable white wireless controller with plug-in power supply (T120-24DC-15)

Power Devices

Model Number	Description	Compatible Wireless Controllers	
		Tunable White xxL-TWC-WH ¹	Multi-channel xxL-MWCL-WH ¹
T120-24DC-15	36 W plug-in power supply	X	
LU-PH3-A	Power interface with three barrel-to-terminal adapters ²	X	X
LU-BP1	Barrel-to-terminal adapter (qty 3) ²	X	

LED Tapes

Model Number	Description	Reel Length	Maximum Total Tape Length per Controller	
			Tunable White xxL-TWCL-WH ¹	Multi-channel xxL-MWCL-WH ¹
LU-T05-SW	Soft white LED tape (1800 K - 3000 K) ³	16.4 ft (5 m)	16.4 ft (5 m)	Not Compatible
LU-T30-SW		98.4 ft (30 m)		
LU-T05-DL	Daylight LED tape (2500 K - 5000 K) ³	16.4 ft (5 m)	16.4 ft (5 m)	Not Compatible
LU-T30-DL		98.4 ft (30 m)		
LU-T05-RT-IN	RGB + Tunable White LED Tape (RGB, 1800 K – 4000 K) ⁴	16.4 ft (5 m)	Not Compatible	32.8 ft (10 m) ⁵
LU-T30-RT-IN		98.4 ft (30 m)		

¹ "xx" in the model number represents either "HW" for HomeWorks or "RR" for RadioRA 3.

² Barrel-to-terminal adapters are for use with tunable white controller only.

³ Please refer to Lutron P/N 3691304 at www.lutron.com for further details.

⁴ Please refer to Lutron P/N 3691305 at www.lutron.com for further details.

⁵ Must be split into parallel runs, each no more than 16.4 ft (5 m). See pages 5-8 for detailed wiring.

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Model Numbers *(continued)*

Wiring and Mounting Hardware

Model Number	Description	Compatible LED Tapes	
		Tunable White LU-Txx-SW/DL	RGB + Tunable White LU-Txx-RT-IN
LU-CK1-TW	3-pin wire-to-tape connectors (qty. 10)	X	
LU-CK1-6W	6-pin wire-to-tape connectors (qty. 10)		X
LU-MK1	0.394 in (10 mm) surface mounting clips (qty. 20)	X	
LU-WK1-TW	3 x 22 AWG (0.25 mm ²) cable – 50 ft (15.2 m)	X	
LU-WK1-6W	6 x 22 AWG (0.25 mm ²) cable – 50 ft (15.2 m)		X

LED Tape Extrusions¹

Model Number	Description	Compatible Tapes	
		Tunable White LU-Txx-SW/DL	RGB + Tunable White LU-Txx-RT-IN
LU-SR1-K	SR1 extrusion bundle	X	X
LU-SR2-K	SR2 extrusion bundle	X	X
LU-SR3-K	SR3 extrusion bundle	X	See Note
LU-45S-K	45S extrusion bundle	X	X
LU-45T-K	45T extrusion bundle	X	X
LU-RR1-K	RR1 extrusion bundle	X	See Note
LU-MI1-K	MI1 extrusion bundle	X	X

¹ Please refer to Lutron P/N 3691292 at www.lutron.com for further details and accessory packs.

NOTE: SR3 and RR1 extrusions do not fit the 6-pin wire/tape connectors. Connections inside the SR3 and RR1 extrusions must be through soldered wire.

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Specifications

Wireless Controllers

Regulatory Approvals

- cULus Listed for USA and Canada
- FCC Part 15 Class B compliant
- ICES-005 compliant

Electrical

- Lumaris tunable white wireless controller
 - Input: 24 V_{DC} 1.5 A
 - Output: 24 V_{DC} 32 W max
- Multi-channel wireless controller
 - Input: 24 V_{DC} 4.0 A
 - Output: 24 V_{DC} 96 W max
- Output short-circuit and overload-protection

Environmental

- Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
- Relative humidity: 0% to 90% non-condensing
- Indoor use only

Plug-in Power Supply

Regulatory Approvals

- cULus Listed for USA and Canada
- FCC Part 15 Class B compliant
- ICES-003 compliant
- US DoE Level VI compliant

Electrical

- Input: 100–240 V_{AC} 50/60 Hz 1 A max
- Output: 24 V_{DC} 1.5 A
- Limited power supply

Environmental

- Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
- Relative humidity: 0% to 90% non-condensing
- Indoor use only

Lumaris Power Interface

Regulatory Approvals

- cULus Listed for USA and Canada
- FCC Part 15
 - Class A (277 V_{AC})
 - Class B (120 V_{AC})
- Meets ANSI C62.41 category A surge protection standards up to and including 4 kV
- Meets UL® 8750/CSA C22.2 No. 250.13-14, “Light Emitting Diode (LED) Equipment For Use in Lighting Products”
- Class 2 output; meets UL® 1310/CSA C22.2 No. 223-M91

Electrical

- Operating voltage: 120 V_{AC}/277 V_{AC} 50/60 Hz
- Patented thermal fold back protection
- Open-circuit protected output
- Short-circuit and overload-protected output
- Output: 24 V_{DC} constant voltage at high-end
- Output load range: 2 W to 96 W at high-end

Features

- Powers up to three Lutron tape light controllers
- Protected from input power miswires
- Barrier provided for Class 2 separation in the wiring compartment
- Redundant connections on line terminals for easy daisy-chain wiring
- Redundant connections on output terminals allow for easy wiring of two LED tape home runs
- Provided with three barrel-to-terminal adapters

Environmental

- Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
- Relative humidity: 0% to 90% non-condensing
- Indoor use only

Warranty

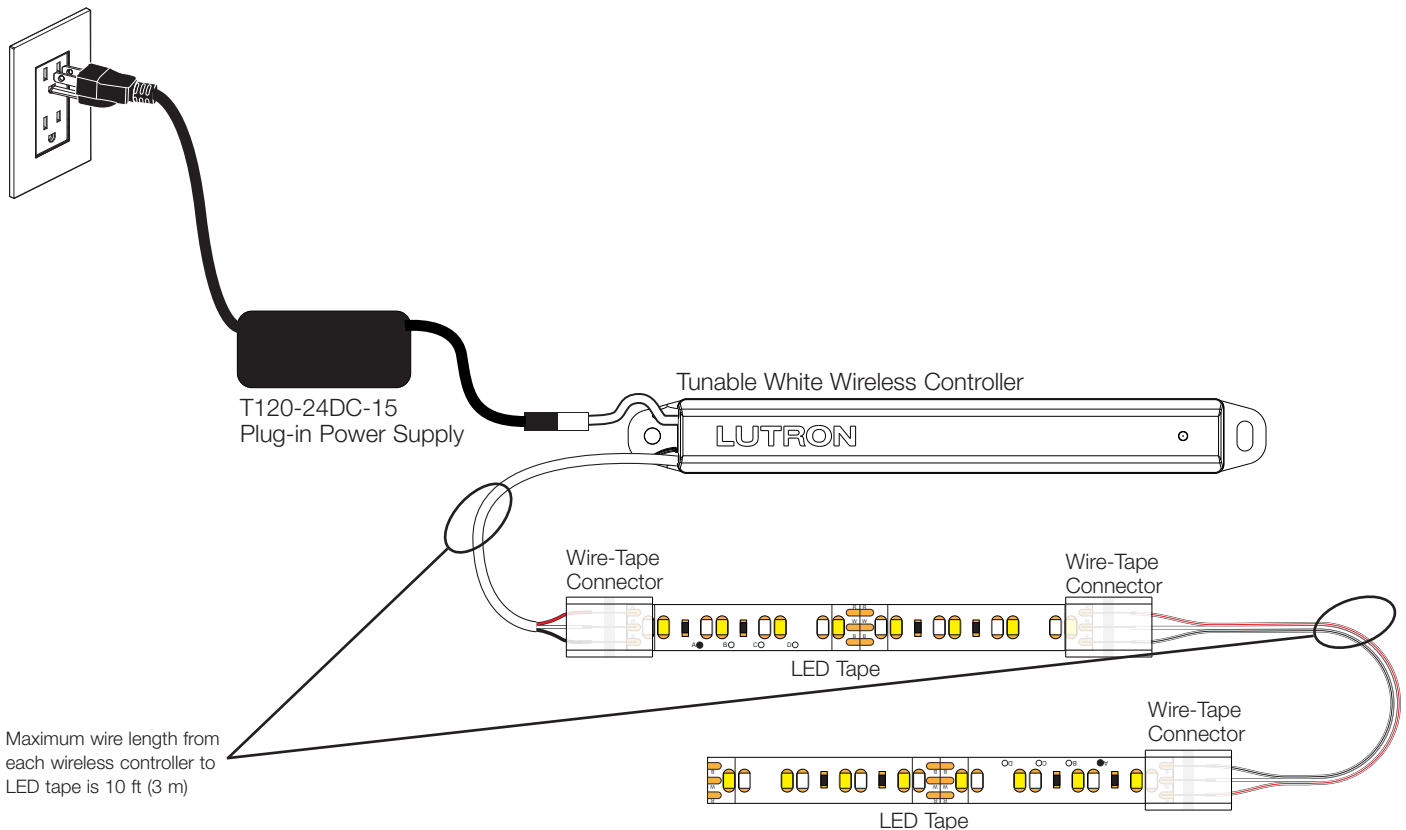
- For warranty information, please visit <https://lutron.com/a/documents/043492.pdf>
- The warranty will not cover issues caused by use of incompatible devices (including non-Lutron LED tape and/or power supplies).

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Wiring

Plug-in Power Supply (T120-24DC-15)

- Compatible with xxL-TWCL-WH wireless controller only. Not for use with xxL-MWCL-WH.
- The wireless controller (xxL-TWCL-WH) and power supply (T120-24DC-15) have 5.5 mm x 2.1 mm barrel connectors.
- Maximum amount of 3 x 22 AWG (0.25 mm²) stranded cable allowed on the output of wireless controller is 10 ft (3.0 m). The cable can be added to the beginning or can be used to break up segments of LED tape.
 - 3 x 22 AWG (0.25 mm²) stranded cable is provided with the tape light kit or it can be ordered as Lutron P/N LU-WK1-TW.
 - Up to 6 wire-to-tape connectors can be used with 10 ft (3.0 m) of cable. For every additional wire-to-tape connector used, the maximum length of cable allowed is reduced by 6 in (152.4 mm).
- Maximum length of LED tape light when using the plug-in power supply, (T120-24DC-15) is 16.4 ft (5 m) total, regardless of whether LED tape is in a single segment or broken up by cables.



Tape Light Solution

Wiring (continued)

Power Interface (LU-PH3-A)

- Compatible with xxL-TWCL-WH or xxL-MWCL-WH wireless controllers.¹
- Powers up to three wireless controllers and 96 W of LED tape meeting the following conditions:

LED Tape Wiring Requirements		
	Tunable White xxL-TWC-WH ¹	Multi-channel xxL-MWCL-WH ¹
Maximum tape wattage per controller	32 W	96 W
Maximum tape wattage per LU-PH3-A ²	96 W Total	
Maximum total length of a tape run ^{3,4} , regardless of whether tape is in a single segment or broken up by cables	16.4 ft (5 m)	16.4 ft (5 m)

¹ "xx" in the model number represents either "HW" for HomeWorks or "RR" for RadioRA 3.

² Total of all tape powered by interface, regardless of number of controllers used.

³ Applies regardless of whether tape is in a single segment or broken up by cables.

⁴ Applies for all tapes, regardless of W/ft.

- Power interface is grounded by terminal connection.
- If wireless controllers are programmed in separate zones and LED+ & LED- wires are in a T-tap configuration (**Wiring Diagram B**), it may result in subtle interaction between controllers. Wiring in a homerun configuration (**Wiring Diagram A**) will have limited interaction between controllers programmed in separate zones.
- If wireless controllers are programmed in a single zone, LED+ and LED- wires can be wired either in a homerun or T-tap configuration (**Wiring Diagram A or Wiring Diagram B**) without concern of interaction between controllers

Note: Wiring information below is based on (1) LU-PH3-A power interface powering (3) Lutron wireless controllers, each with 32 W of LED tape. For more details regarding other wiring configurations, see Application Note #830 (P/N 048830) at www.lutron.com

- Maximum wire length between the power interface and wireless controller for different wire sizes is listed below.

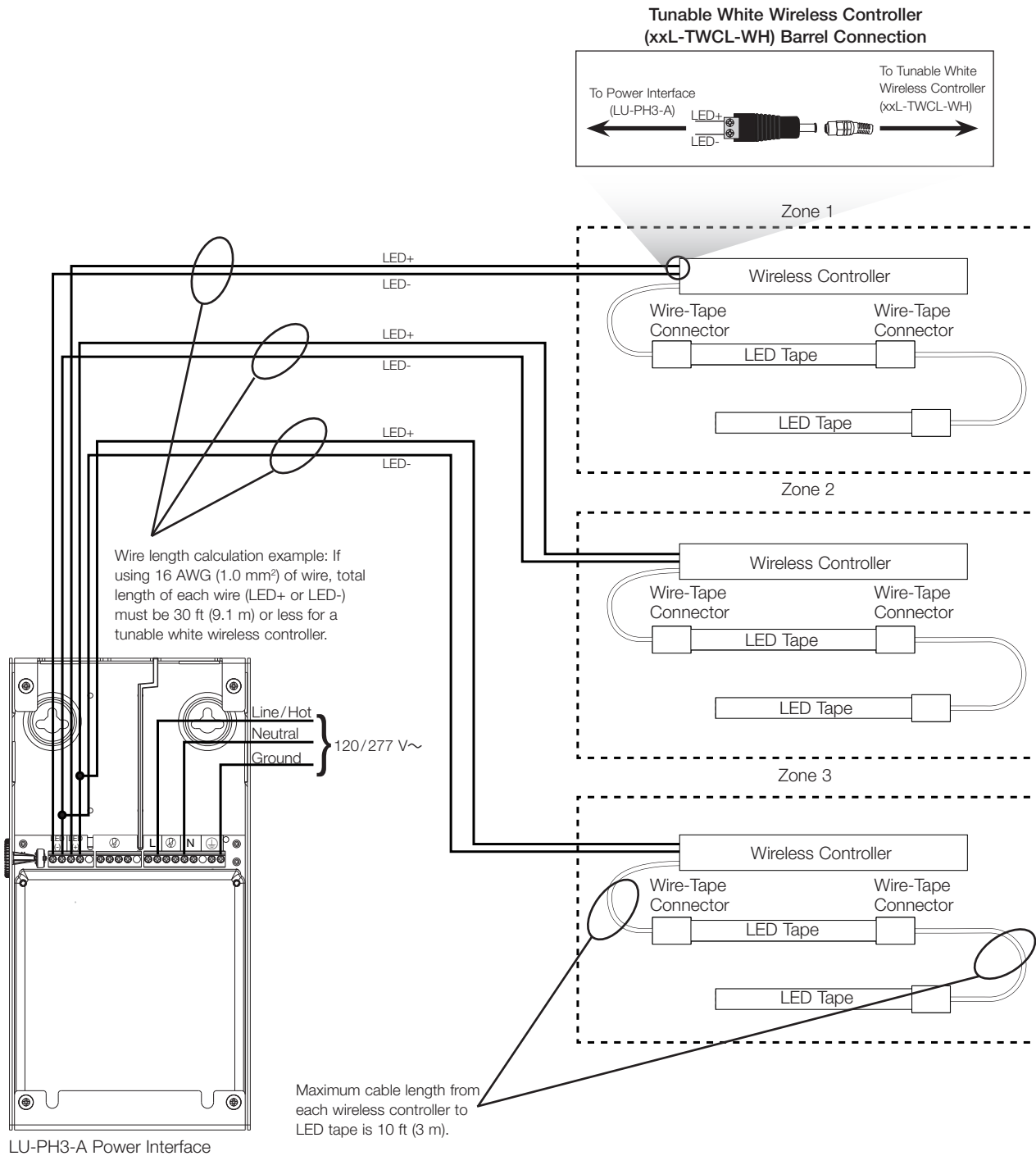
Controller Type	Maximum Wire Length from Power Interface to the Wireless Controller: ft (m)				
	12 AWG (4.0 mm ²)	14 AWG (2.5 mm ²)	16 AWG (1.0 mm ²)	18 AWG (0.75 mm ²)	20 AWG (0.50 mm ²)
Tunable White	75 (22.9)	50 (15.2)	30 (9.1)	20 (6.1)	10 (3.0)
Multi-channel	60 (18.3)	38 (11.6)	25 (7.6)	15 (4.5)	9 (2.7)

- Terminals on the power interface accept 12 AWG to 20 AWG (4.0 mm² to 0.50 mm²).
 - Barrel-to-terminal adapter terminals accept 16 AWG to 20 AWG (1.0 mm² to 0.50 mm²). Torque to 5 in-lbs (0.5 N•m).
 - If using 14 AWG (2.5 mm²) or 12 AWG (4.0 mm²) wire for LED+ and LED- wires from the power interface to the barrel-to-terminal adapter, splice a small piece of 16 AWG (1.0 mm²) wire onto a 12 AWG (4.0 mm²) or 14 AWG (2.5 mm²) wire to insert into the barrel-to-terminal adapter.
- Maximum amount of cable allowed on the output of the wireless controller is 10 ft (3.0 m). The cable can be added to the beginning or can be used to break up segments of LED tape.
 - Up to 6 wire-to-tape connectors can be used with 10 ft (3.0 m) of cable. For every additional wire-to-tape connector used, the maximum cable length allowed is reduced by 6 in (152.4 mm).
 - 3 x 22 AWG (0.25 mm²) stranded cable is provided with the tape light kit xxL-TWC-WH. Additional cable can be ordered as Lutron P/N LU-WK1-TW.
 - 6 x 22 AWG (0.25 mm²) stranded cable can be ordered as Lutron P/N LU-WK1-6W.

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Wiring (continued)

Wiring Diagram A: Homerun Wiring Configuration

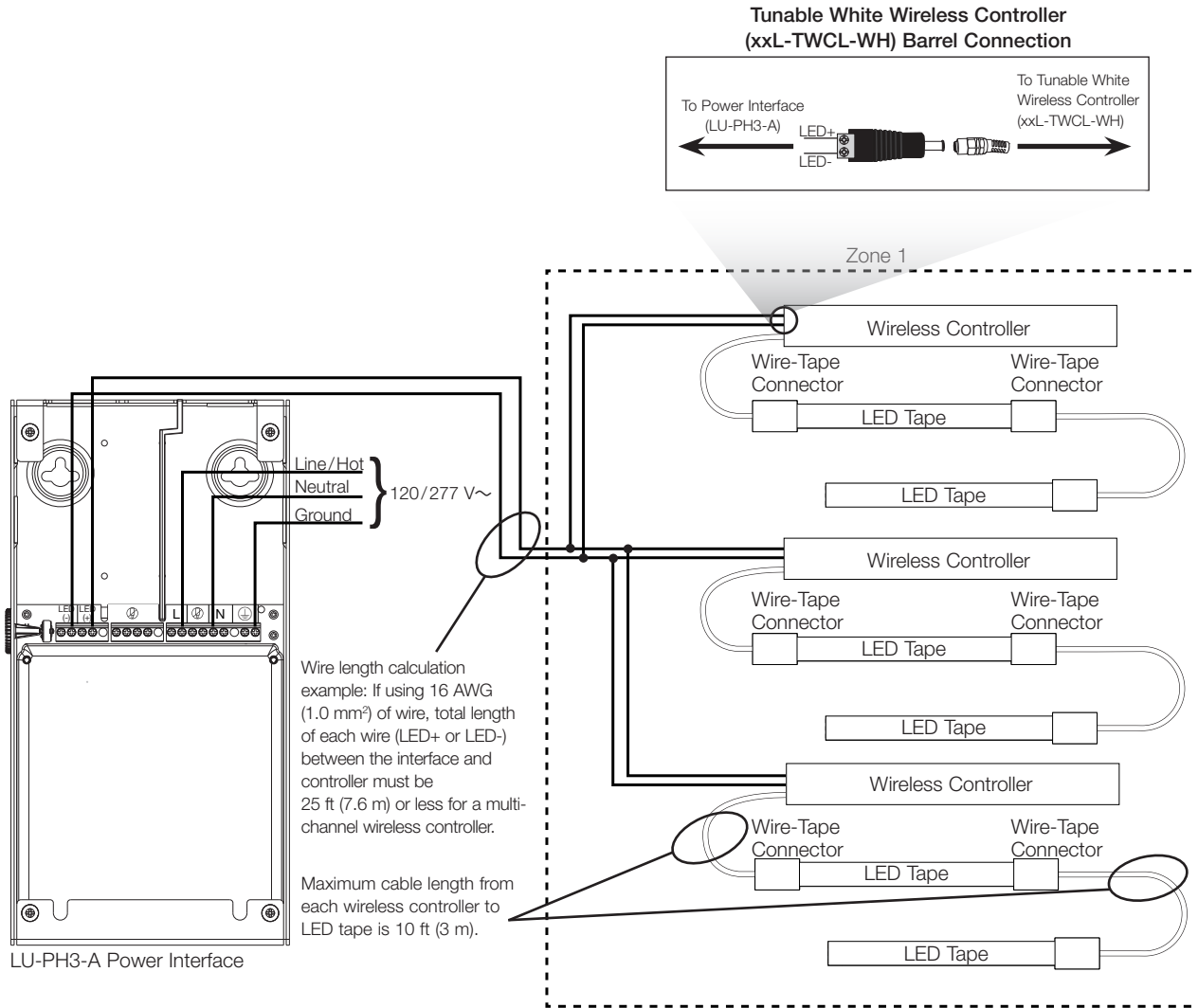


Note: When wiring 3 zones (wireless controllers) to the power interface, two of the three wireless controller LED+ and LED- wires need to be spliced together in the power interface wiring compartment into a single wire run to the terminal block. LED+ and LED- terminals on the wireless controller accept one wire per terminal only.

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Wiring (continued)

Wiring Diagram B: T-tap Wiring Configuration*



* May result in subtle interaction between controllers programmed in separate zones.

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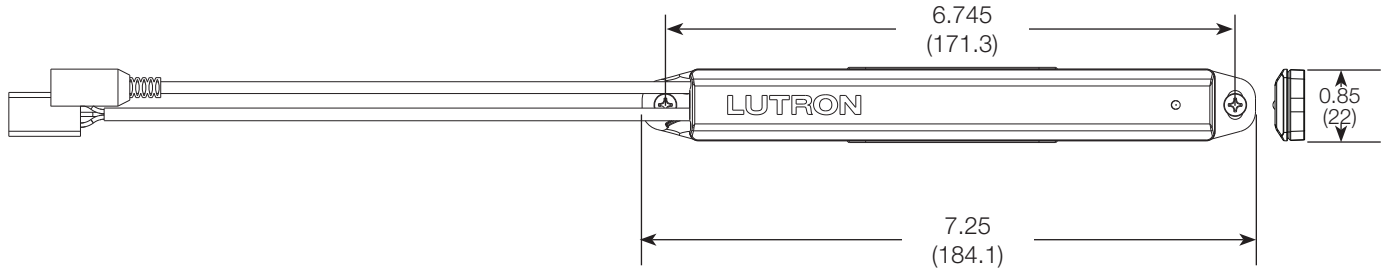
Dimensions

All dimensions shown as: in (mm)

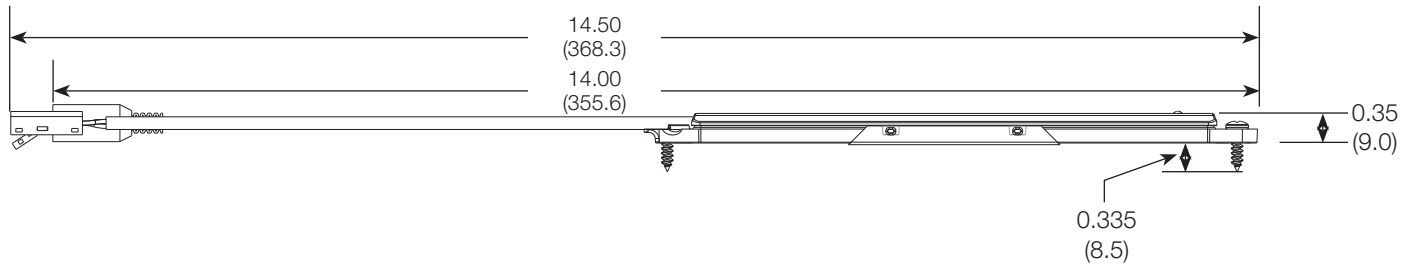
Lumaris Tunable White Wireless Controller (HWL-TWCL-WH or RRL-TWCL-WH)

Top View

End View



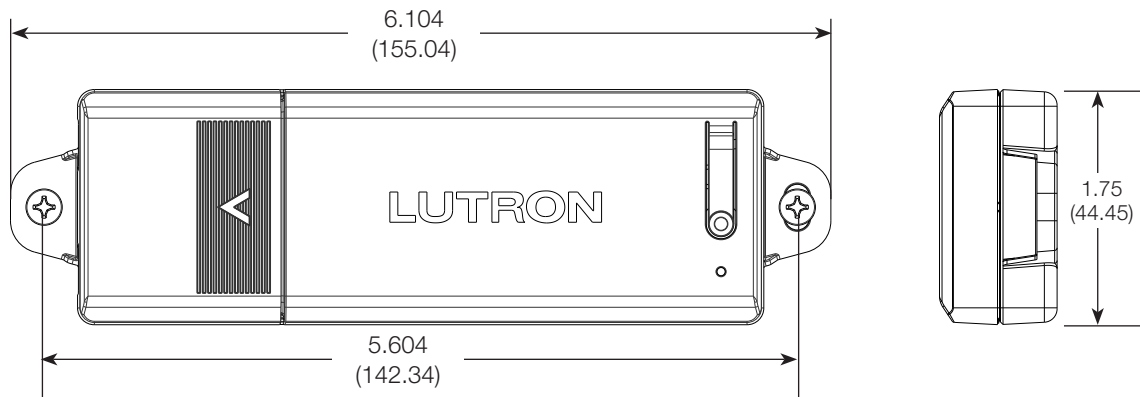
Side View



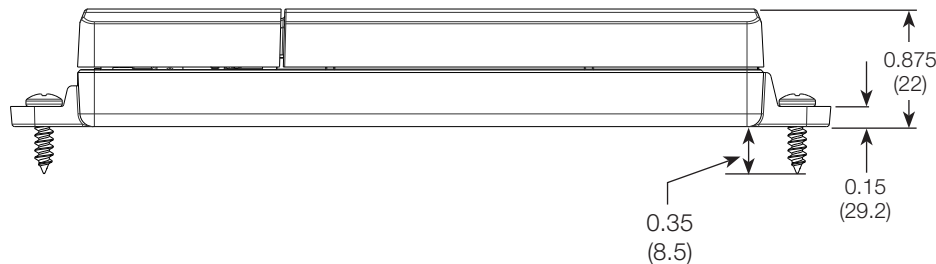
Multi-channel Wireless Controller (HWL-MWCL-WH, RRL-MWCL-WH)

Top View

End View



Side View



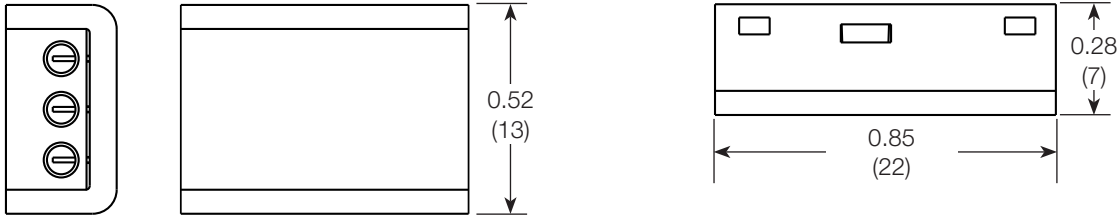
Note: Do not mount wireless controllers in or on metal enclosures or cabinets.

Tape Light Solution

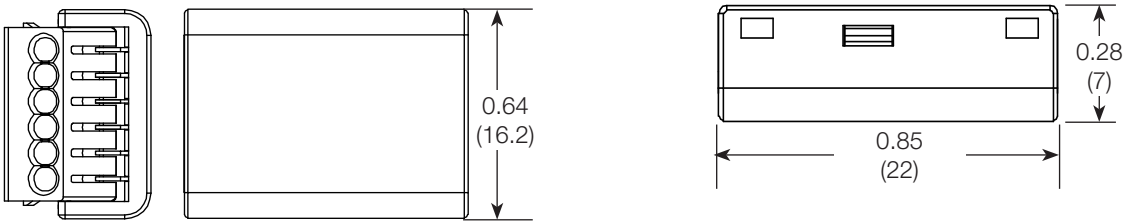
Dimensions *(continued)*

All dimensions shown as: in (mm)

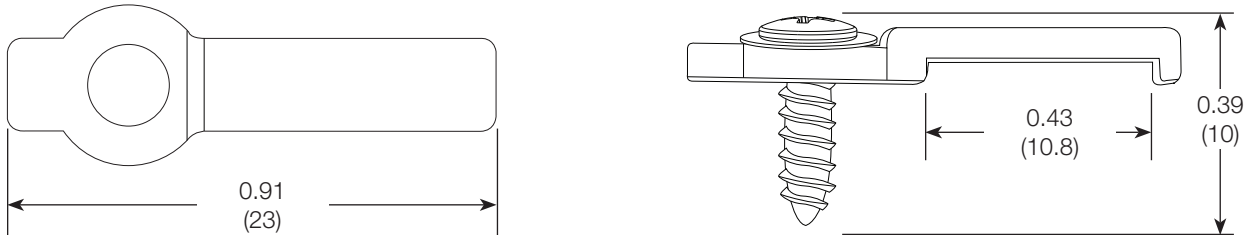
3-pin Wire-to-Tape Connector (LU-CK1-TW)



6-pin Wire-to-Tape Connector (LU-CK1-6W)



Surface Mounting Clip (LU-MK1)



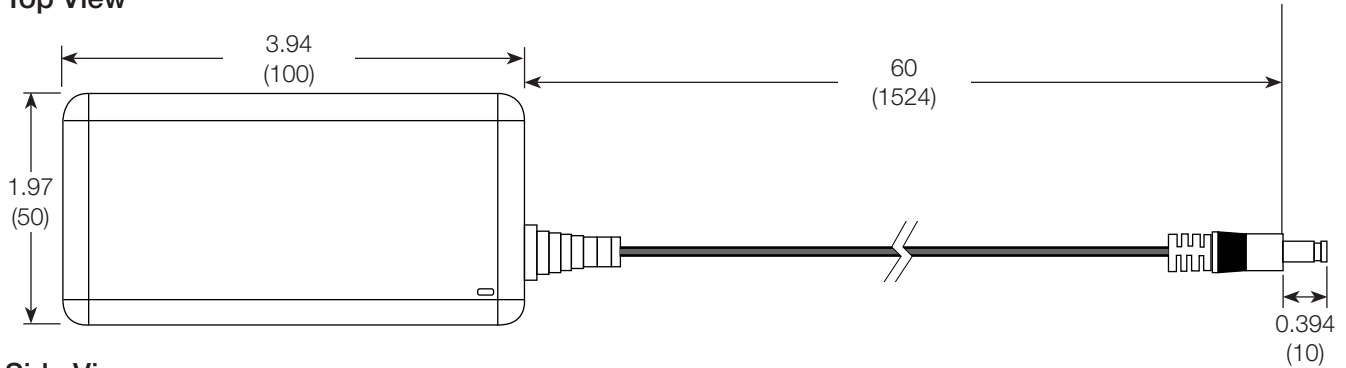
Tape Light Solution

Dimensions (continued)

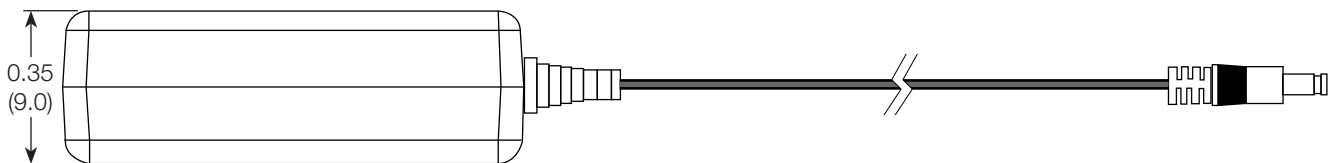
All dimensions shown as: in (mm)

Plug-in Power Supply (T120-24DC-15)

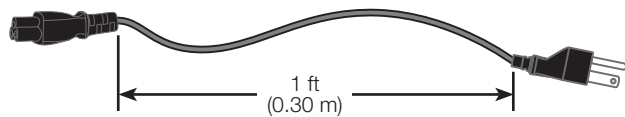
Top View



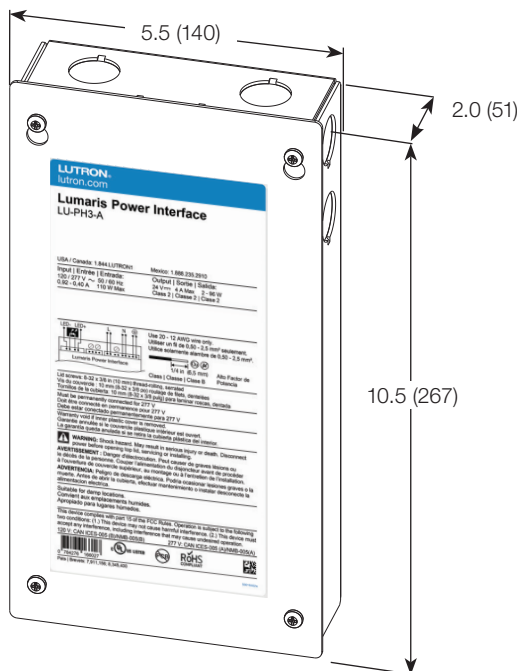
Side View



Power Cord



Power Interface Enclosure (LU-PH3-A)

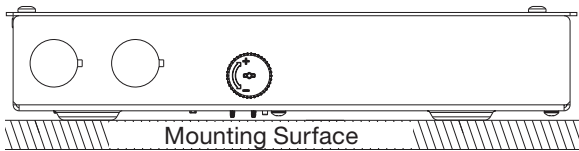
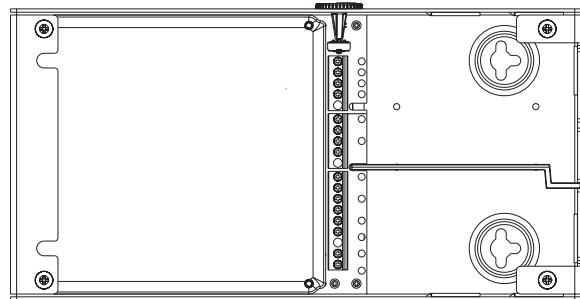
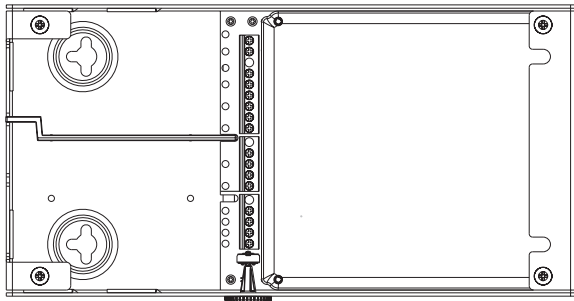
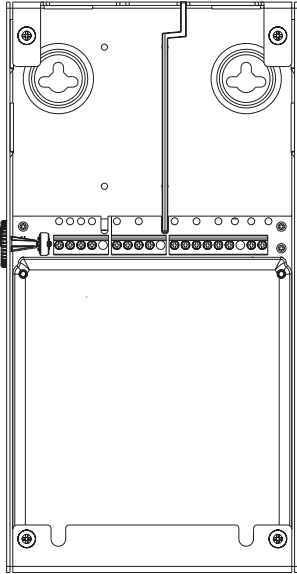


Knockouts

- Sides
 - 4 locations: 1/2 in or 21 mm trade size
- Top
 - 2 locations: 1/2 in or 21 mm trade size

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Mounting Options - Power Interface Enclosure^{1,2}



Note: The gray knob on the side of the enclosure is not used and does not need to be accessed after installation. This knob has no affect on the operation of the power interface.

- ¹ Any other mounting configuration will require additional mechanical support. Improper installation may result in hazards to personnel or property.
- ² Mount the power interface in a position where it can be easily located and accessed if service or troubleshooting is necessary.

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