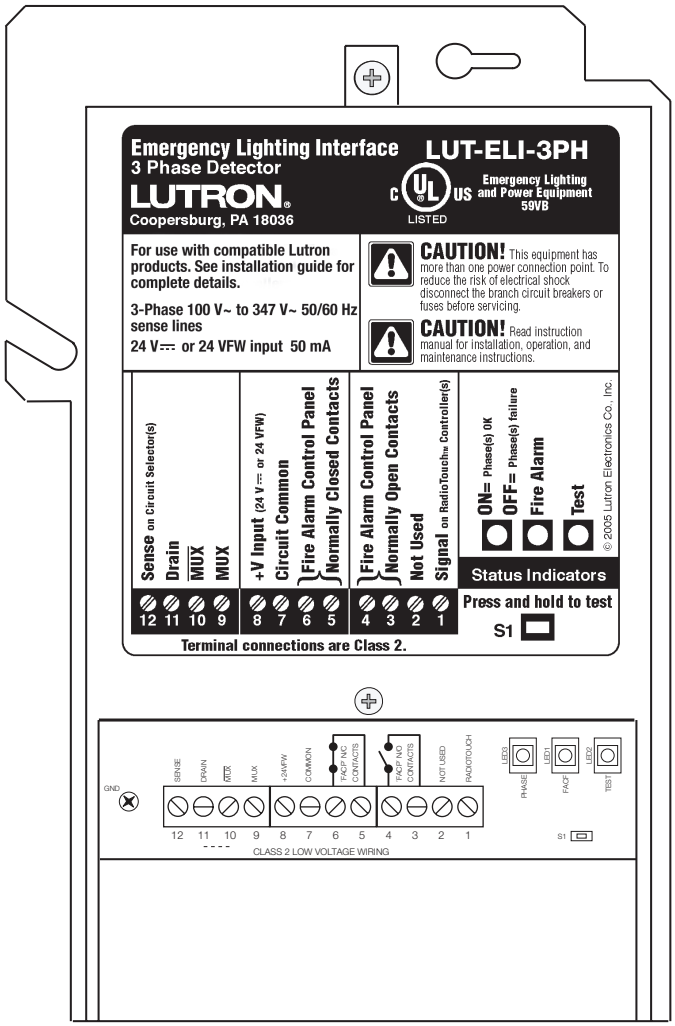
LUT-ELI-3PH Emergency Lighting Interface

The LUT-ELI-3PH is a device that works with Lutron lighting controls to provide an emergency lighting solution. The device is capable of sensing normal (non-essential) line voltage power and accepting an output from a fire alarm control panel (FACP). Upon loss of normal power or receiving a signal from the FACP, the LUT-ELI-3PH will send a signal to the compatible Lutron control(s) to which it is connected. This signal will cause the controls to enter the emergency lighting mode and any lights controlled will go to the emergency light level setting.



Features

- Compatible Lutron controls
  - GP, LP, LCP, XP, XPS, CCP, CXP, and HS
  - Energi Savr Node units
  - GRAFIK Eye QS units
  - Quantum lighting management hubs with EcoSystem bus supplies
  - Vive wireless hub with Emergency PowPak devices
- UL® 924 & CSA C22.2 No. 141-02 listed as "Emergency Lighting and Power Equipment"
- Requires a 24 V⎓ power feed from a source on normal / emergency (essential) power for unit to operate.
- Status light indicates the phase status. Status light "ON" is normal mode, "OFF" is emergency mode.
- A test button is provided to perform a functional test of the system by simulating an emergency situation.
- Accepts a maintained dry contact closure from an FACP to actuate the emergency mode.
- Senses line voltage from 100–347 V~.

Job Name:	Model Numbers:	
Job Number:		

Specifications

Regulatory Approvals

- Complies with requirements for use in other spaces used for environmental air (plenums) per NEC® 2014 300.22(C)(3)
- Meets the Canadian National Building Code plenum requirements for a concealed space used as a plenum within a floor or roof assembly.
- cULus Listed - USA & Canada
- NOM Certified (LUT-ELI-3PH-S only) - Mexico
- Lutron Quality Systems registered to ISO 9001:2015
- FCC Part 15 Subpart B Class B

Power

- Sense voltage input to the LUT-ELI-3PH unit must be from the Normal (Non-Essential) power source.
- Sense voltage range: 100 to 347 V~ 50/60 Hz 30 mA, 1-Phase, 3-Phase, or split phase.
- Proper short-circuit and over-current protection must be provided at the distribution panel. A 20 A maximum circuit breaker may be used for the installation.

Environment

- Ambient Temperature Operating Range: 32 °F to 104 °F (0 °C to 40 °C).
- Relative humidity: less than 90% non-condensing.
- For indoor use only.

Inputs

- 2 inputs for an FACP. A normally open or normally closed dry contact input on the FACP inputs will activate the emergency mode.

Status Light

- Status light indicates the phase status. Status light “ON” is normal mode, “OFF” is emergency mode.

Test Button

- A test button is provided to perform a functional test of the system by simulating an emergency situation.

System Communications and Capacity

- May be added to an existing Lutron system.
- One LUT-ELI-3PH unit may be used with up to 32 circuit selectors, specification-grade panel interfaces (SPI), legacy panel interfaces, panel link translators, LCD controllers, Energi Savr Node units, DIN power modules, GRAFIK Eye QS units, or Quantum bus supplies mixed in any combination.
- There can be up to 4 Quantum bus supplies in a Quantum hub. Only 1 Quantum bus supply per hub needs to be connected per LUT-ELI-3PH unit. There can be up to 32 Quantum bus supplies connected to one LUT-ELI-3PH unit.
- Up to 4 Vive hubs may be used with a single LUT-ELI-3PH.

Note: Do not share a LUT-ELI-3PH between Vive and non-Vive devices.

Mounting

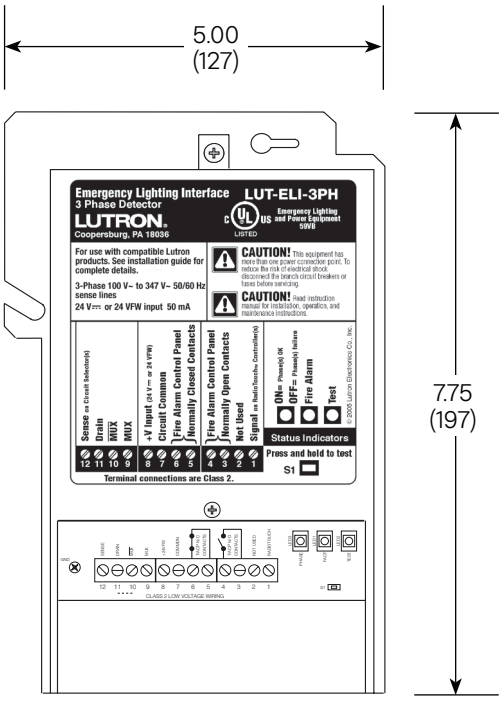
- The interface mounts to a standard 4 x 4 in (102 x 102 mm) junction box.

Job Name:	Model Numbers:	
Job Number:		

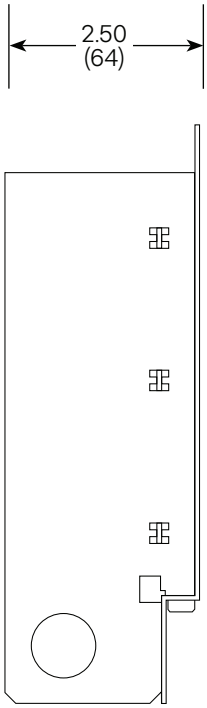
Dimensions and Mounting

All dimensions shown as in (mm)

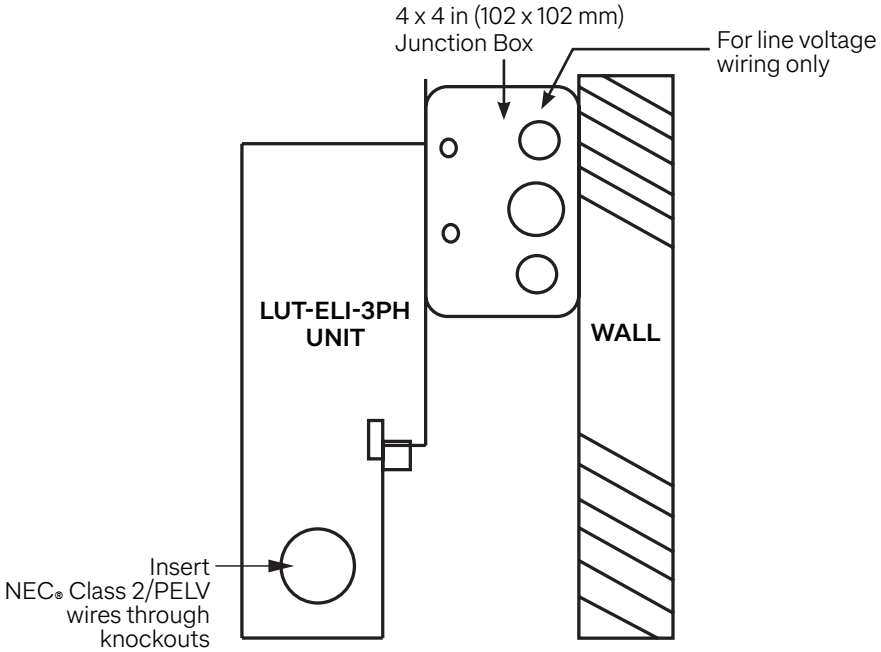
Front View



Side View



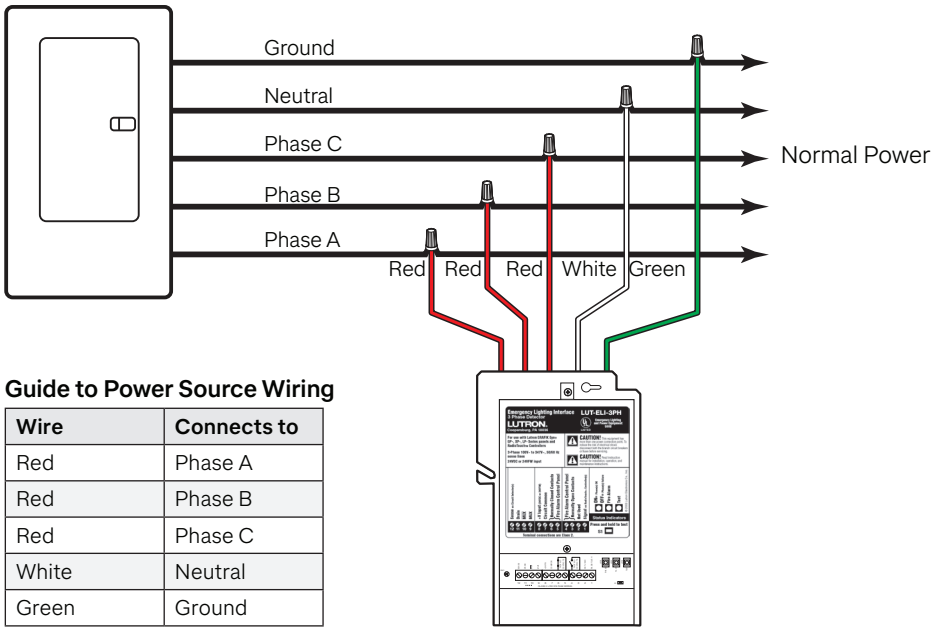
Mounting Example Side View (Cross-Section)



Job Name:	Model Numbers:	
Job Number:		

Line Voltage Wiring Examples:

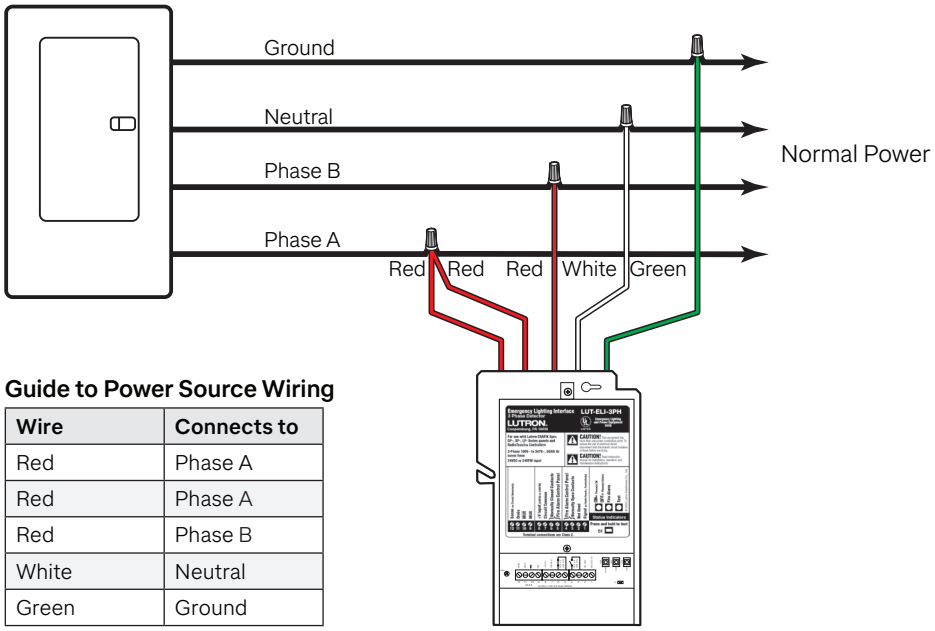
3-Phase Diagram



Guide to Power Source Wiring

Wire	Connects to
Red	Phase A
Red	Phase B
Red	Phase C
White	Neutral
Green	Ground

Split Phase Diagram



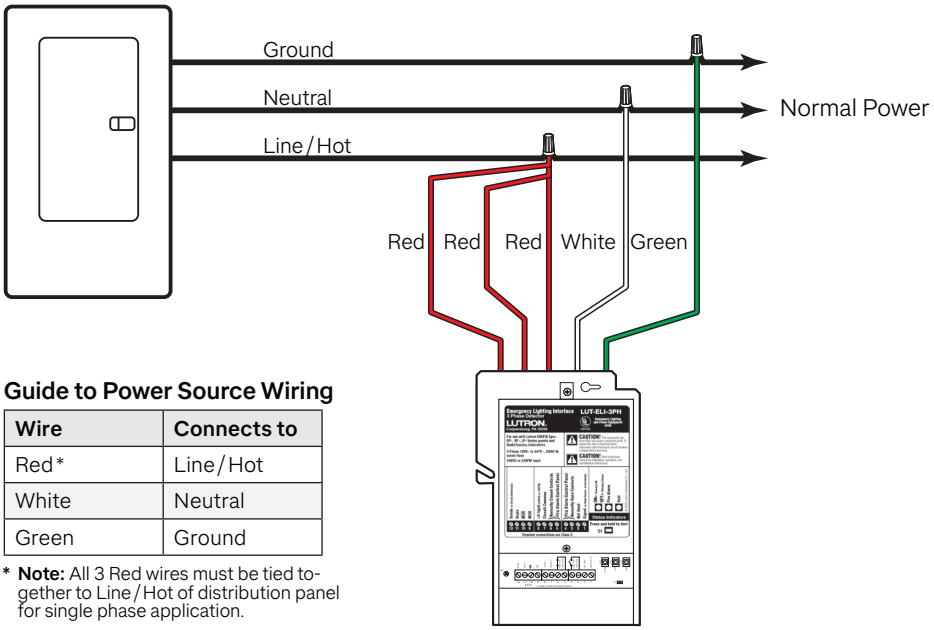
Guide to Power Source Wiring

Wire	Connects to
Red	Phase A
Red	Phase A
Red	Phase B
White	Neutral
Green	Ground

Job Name:	Model Numbers:	
Job Number:		

Line Voltage Wiring Examples: *(continued)*

Single Phase Diagram

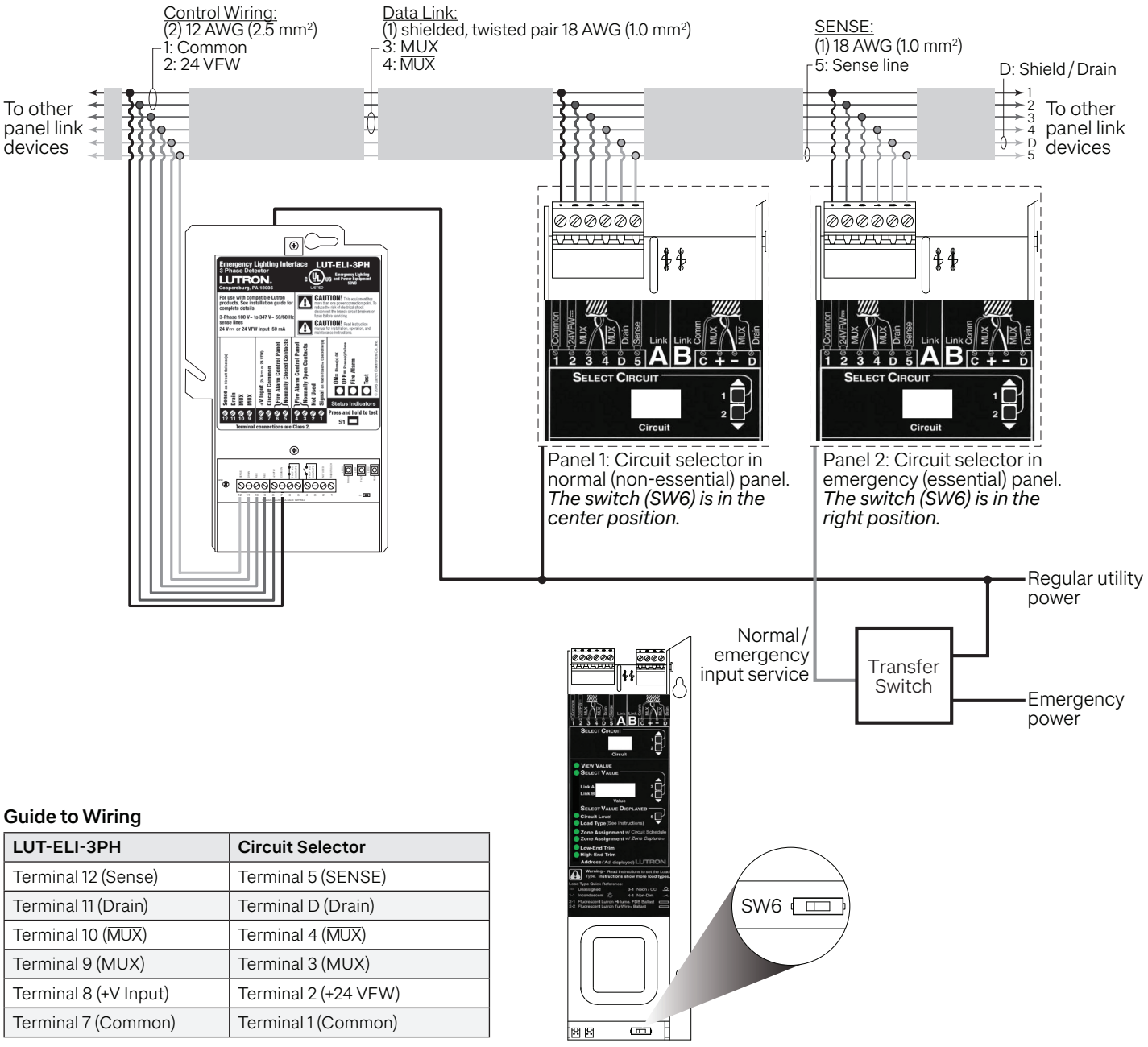


Guide to Power Source Wiring

Wire	Connects to
Red*	Line / Hot
White	Neutral
Green	Ground

* **Note:** All 3 Red wires must be tied together to Line / Hot of distribution panel for single phase application.

IEC PELV / NEC® Class 2 Wiring Example:
GP, XP, LP, CCP, and CXP Panels with a Circuit Selector



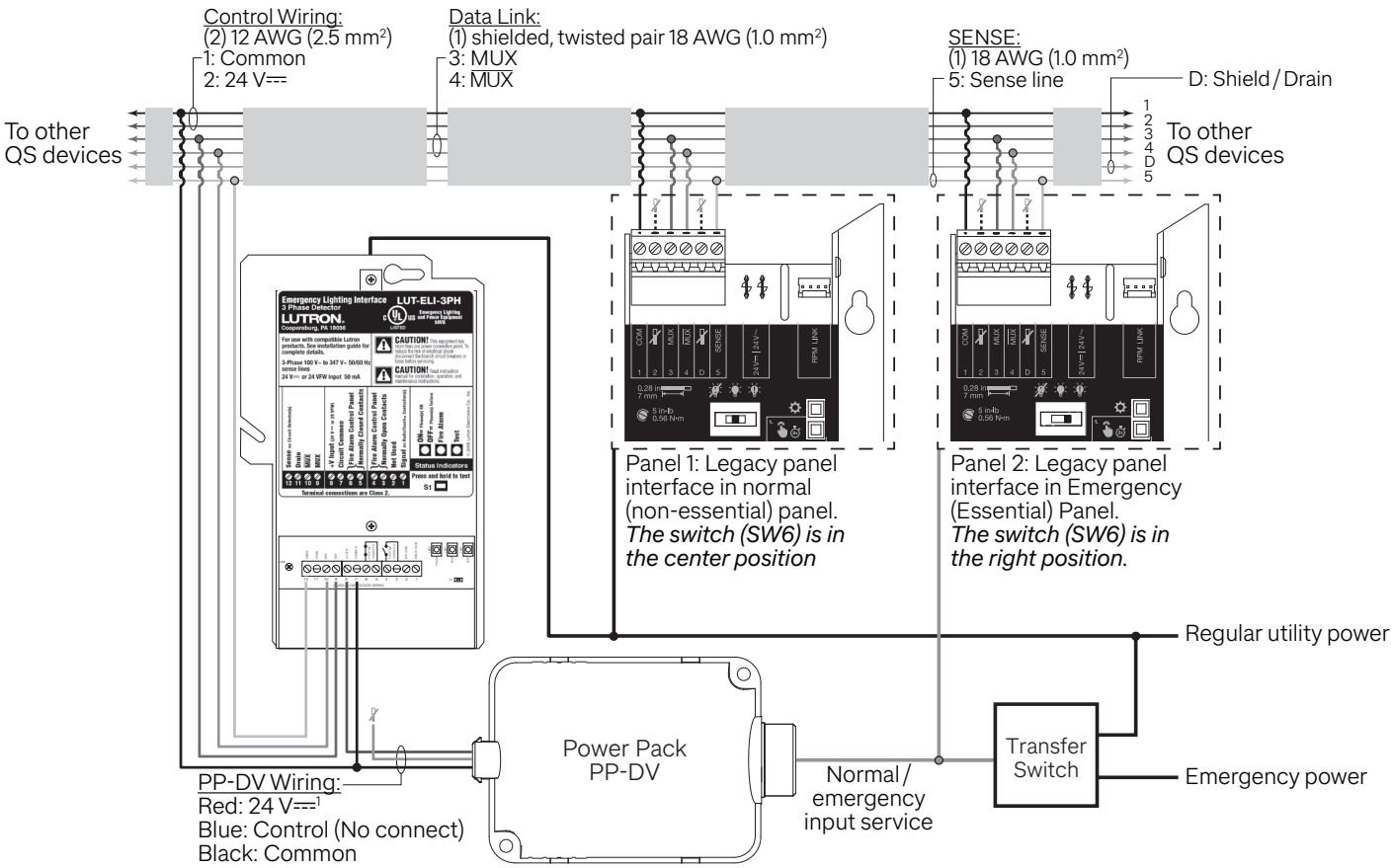
Guide to Wiring

LUT-ELI-3PH	Circuit Selector
Terminal 12 (Sense)	Terminal 5 (SENSE)
Terminal 11 (Drain)	Terminal D (Drain)
Terminal 10 (MUX)	Terminal 4 (MUX)
Terminal 9 (MUX)	Terminal 3 (MUX)
Terminal 8 (+V Input)	Terminal 2 (+24 VFW)
Terminal 7 (Common)	Terminal 1 (Common)

- One LUT-ELI-3PH may be connected in parallel with up to 32 circuit selectors.
- A LUT-ELI-3PH may be placed anywhere on the power panel link.
- The switch on the circuit selector / controller (SW6) must be in the right-most position, "Essential" for all Emergency Panels.
- Terminal 8 (+V input) of the LUT-ELI-3PH must always be connected to at least one of the Emergency (Essential) Panels.

Job Name:	Model Numbers:	
Job Number:		

IEC PELV / NEC® Class 2 Wiring Example: GP, XP, LP, CCP, and CXP Panels with a Legacy Panel Interface



[1] 24 V⎓ from the PP-DV is not connected to the 24 V⎓ QS link control wire.

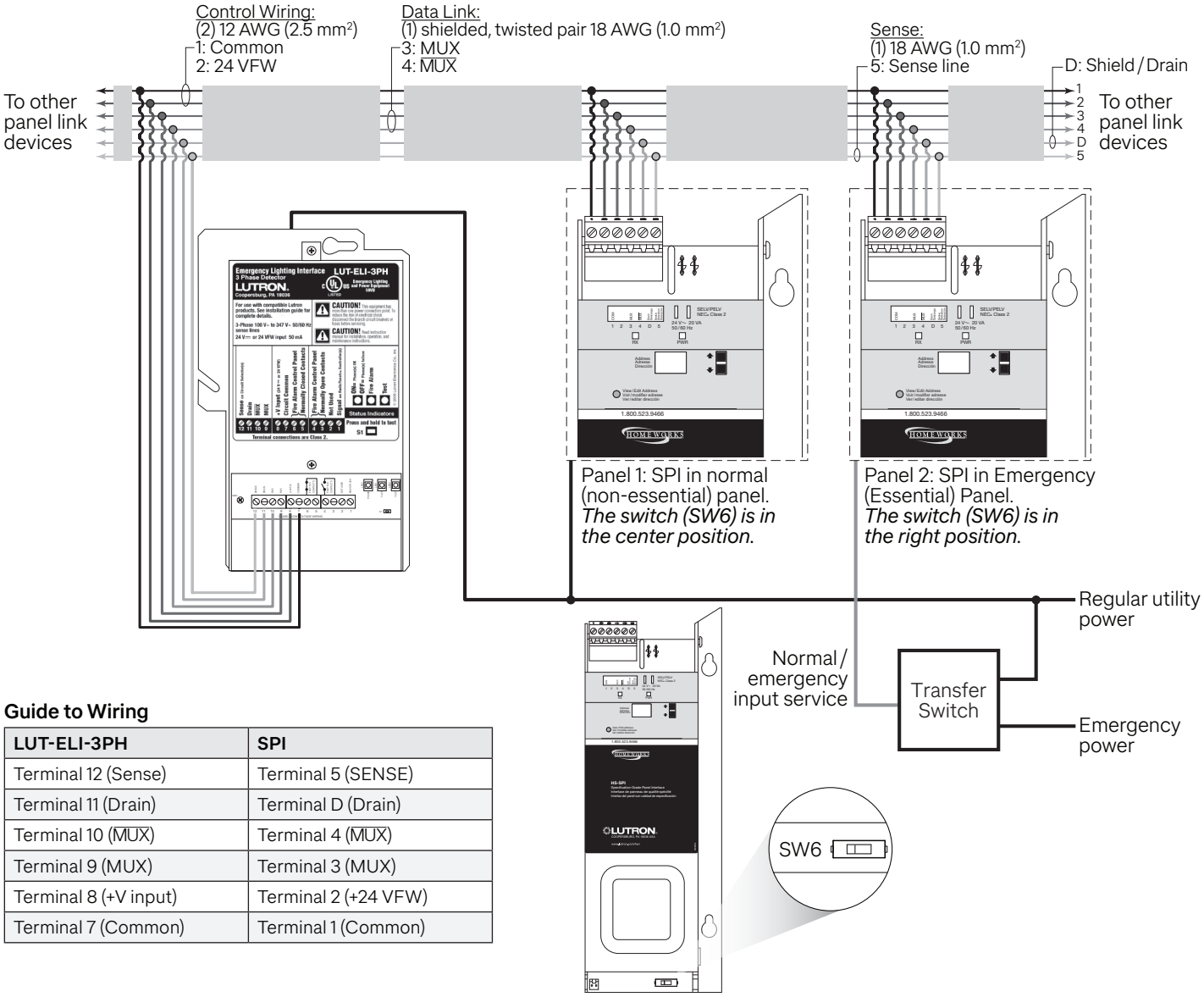
Guide to Wiring

LUT-ELI-3PH	Legacy Panel Interface	PP-DV
Terminal 12 (Sense)	Terminal 5 (SENSE)	Not connected
Terminal 11 (Drain)	Not connected	Not connected
Terminal 10 (MUX)	Terminal 4 (MUX)	Not connected
Terminal 9 (MUX)	Terminal 3 (MUX)	Not connected
Terminal 8 (+V input)	Not connected	Red (24 V⎓)
Terminal 7 (Common)	Terminal 1 (Common)	Black (Common)

- One LUT-ELI-3PH may be connected in parallel with up to 32 legacy panel interfaces.
- Terminal 8 (+V input) of the LUT-ELI-3PH must always be connected to a PP-DV that is powered by emergency (essential) power.
- The emergency switch on the legacy panel interface / controller must be in the right-most position (💡) for all Emergency (Essential) Panels.
- All emergency (essential) legacy panel interfaces must be connected to he LUT-ELI-3PH with a Sense wire and Common wire. MUX and MUX are not required. The LUT-ELI-3PH may be placed anywhere along the Sense wire.

Job Name:	Model Numbers:	
Job Number:		

IEC PELV / NEC® Class 2 Wiring Example: HomeWorks QS Panels with a Specification-Grade Panel Interface (SPI)



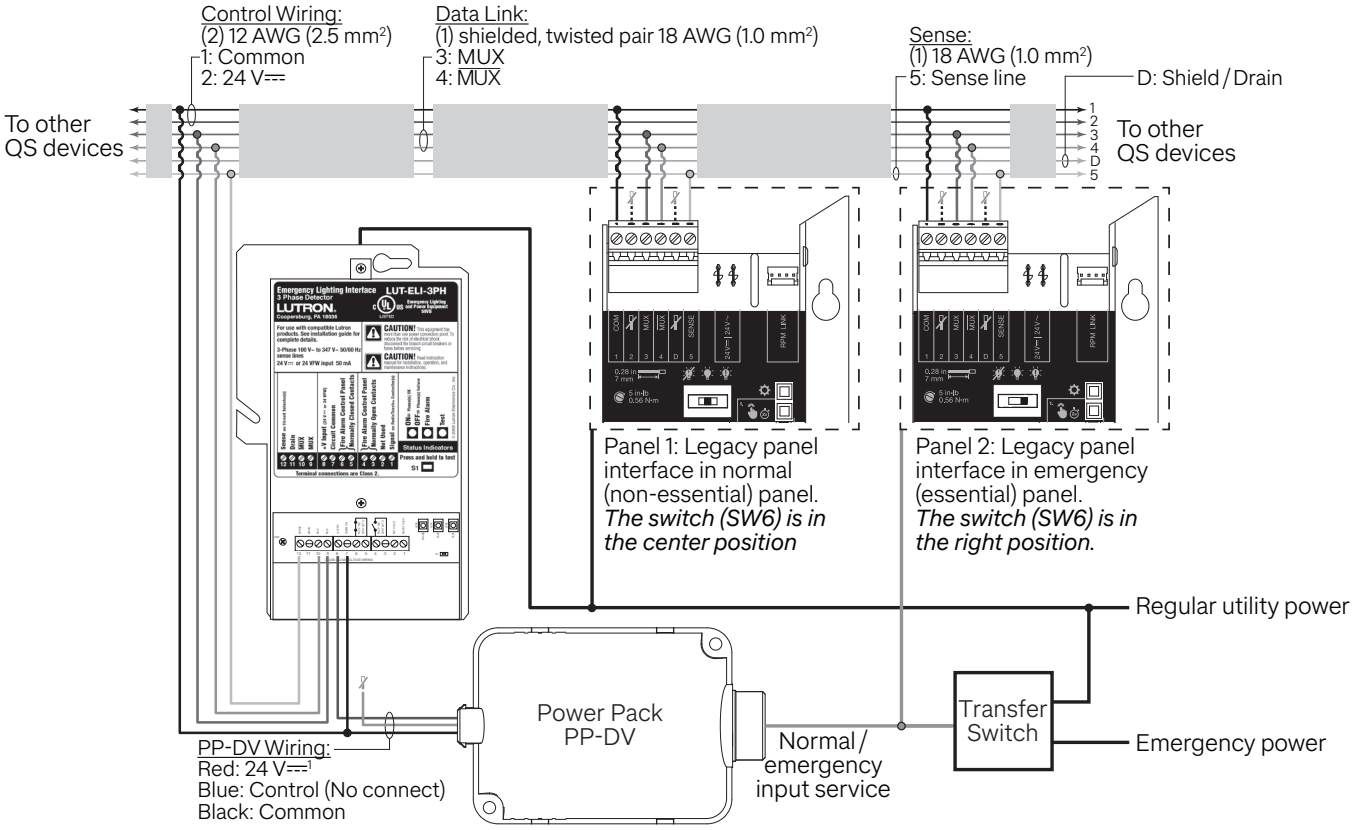
Guide to Wiring

LUT-ELI-3PH	SPI
Terminal 12 (Sense)	Terminal 5 (SENSE)
Terminal 11 (Drain)	Terminal D (Drain)
Terminal 10 ($\overline{\text{MUX}}$)	Terminal 4 ($\overline{\text{MUX}}$)
Terminal 9 (MUX)	Terminal 3 (MUX)
Terminal 8 (+V input)	Terminal 2 (+24 VFW)
Terminal 7 (Common)	Terminal 1 (Common)

- One LUT-ELI-3PH may be connected in parallel with up to 32 SPIs.
- A LUT-ELI-3PH may be placed anywhere on the power panel link.
- The switch on the SPI (SW6) must be in the right-most position, "Essential" for all Emergency Panels.
- Terminal 8 (V+ input) of the LUT-ELI-3PH must always be connected to at least one of the Emergency (Essential) Panels.
- The LUT-ELI-3PH may be connected across multiple panel links. The below conditions must be met if the LUT-ELI-3PH is connected to more than one panel link.
  - Only connect 24 VFW, Common, and the Sense line to the LUT-ELI-3PH. Do not connect MUX or $\overline{\text{MUX}}$ to the LUT-ELI-3PH.
  - Only connect the Common and the Sense line between the panel links. Do not connect MUX, $\overline{\text{MUX}}$, or 24 VFW between the panel links.
  - Terminal 8 (+V input) of the LUT-ELI-3PH must be connected to 24 VFW from one panel link that has an Emergency (Essential) Panel.

Job Name:	Model Numbers:	
Job Number:		

IEC PELV / NEC® Class 2 Wiring Example: HomeWorks QS Panels with a Panel Link Translator



[1] 24 V⎓ from the PP-DV is not connected to the 24 V⎓ QS link control wire.

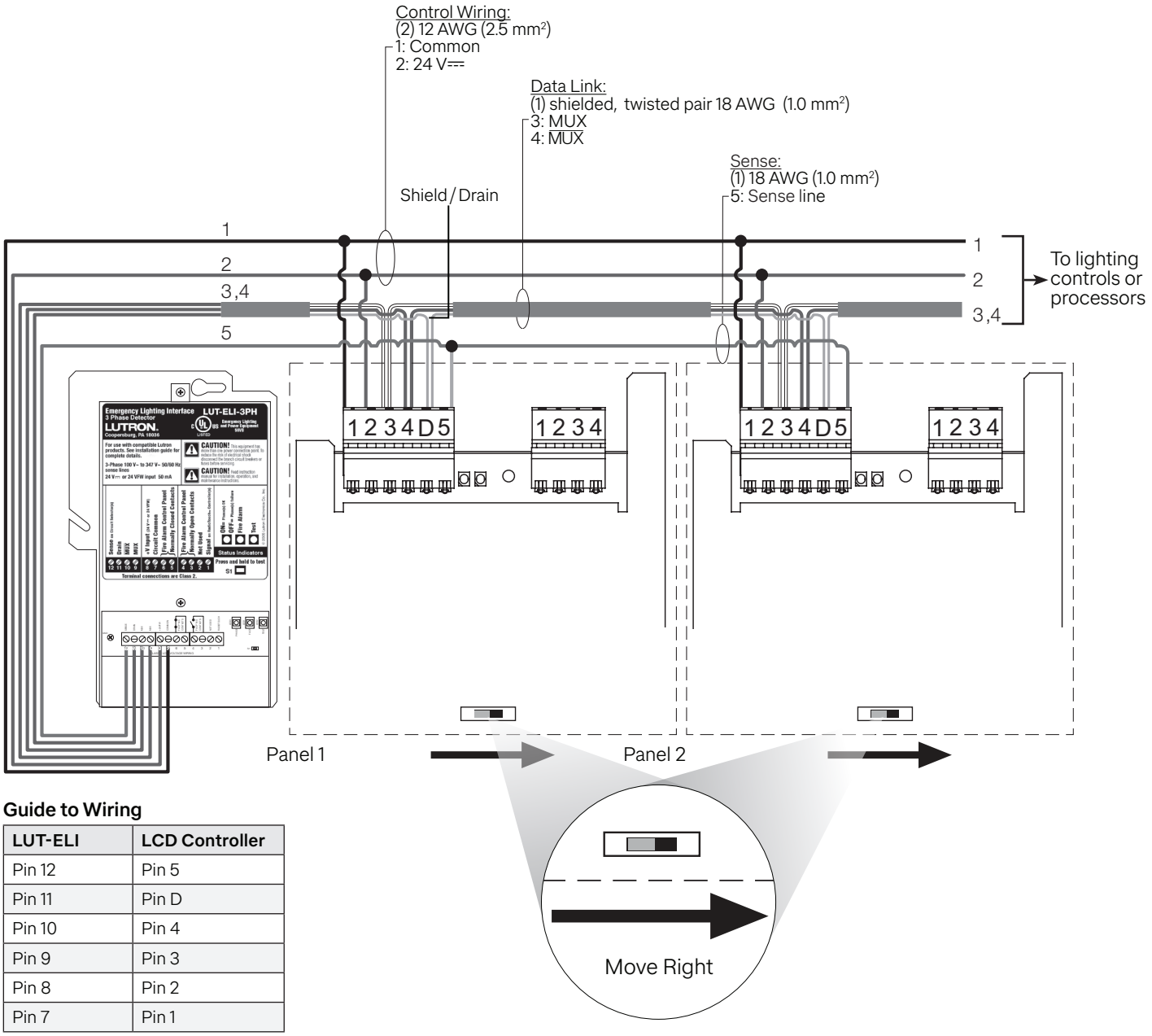
Guide to Wiring

LUT-ELI-3PH	Legacy Panel Interface	PP-DV
Terminal 12 (SENSE)	Terminal 5 (Sense)	Not connected
Terminal 11 (Drain)	Not connected	Not connected
Terminal 10 (MUX)	Terminal 4 (MUX)	Not connected
Terminal 9 (MUX)	Terminal 3 (MUX)	Not connected
Terminal 8 (+V input)	Not connected	Red (24 V⎓)
Terminal 7 (Common)	Terminal 1 (Common)	Black (Common)

- One LUT-ELI-3PH may be connected in parallel with up to 32 panel link translators.
- The Sense switch on the panel link translator must be in the right-most position (), "essential" for all Emergency Panels.
- Terminal 8 (+V input) of the LUT-ELI-3PH must always be connected to 24 V⎓ of a PP-DV that is powered by emergency (essential) power.
- All emergency (essential) panel link translators must be connected to the LUT-ELI-3PH with a Sense wire and a Common wire. MUX and MUX are not required. The LUT-ELI-3PH unit may be placed anywhere along the Sense wire.
- The LUT-ELI-3PH may be connected across multiple QS links. The below conditions must be met if the LUT-ELI-3PH is connected to more than one QS link.
  - Only connect 24 V⎓, Common, and the Sense line to the LUT-ELI-3PH. Do not connect MUX or MUX to the LUT-ELI-3PH.
  - Only connect the Common and the Sense line between the QS links. Do not connect MUX, MUX, or 24 V⎓ between the QS links.

Job Name:	Model Numbers:	
Job Number:		

IEC PELV / NEC® Class 2 Wiring Example: LCP128 and Softswitch128 (XPS) Panels



Guide to Wiring

LUT-ELI	LCD Controller
Pin 12	Pin 5
Pin 11	Pin D
Pin 10	Pin 4
Pin 9	Pin 3
Pin 8	Pin 2
Pin 7	Pin 1

- One LUT-ELI-3PH unit may be connected in parallel with up to 32 LCP / XPS controllers.
- A LUT-ELI-3PH unit may be placed anywhere on the power panel link.
- The switch position SW6 on the controller must be in the right-most position, "'Essential" on all Emergency Panels.
- The LUT-ELI-3PH unit 24 V⎓ input must always be connected to at least one of the Emergency Panels.

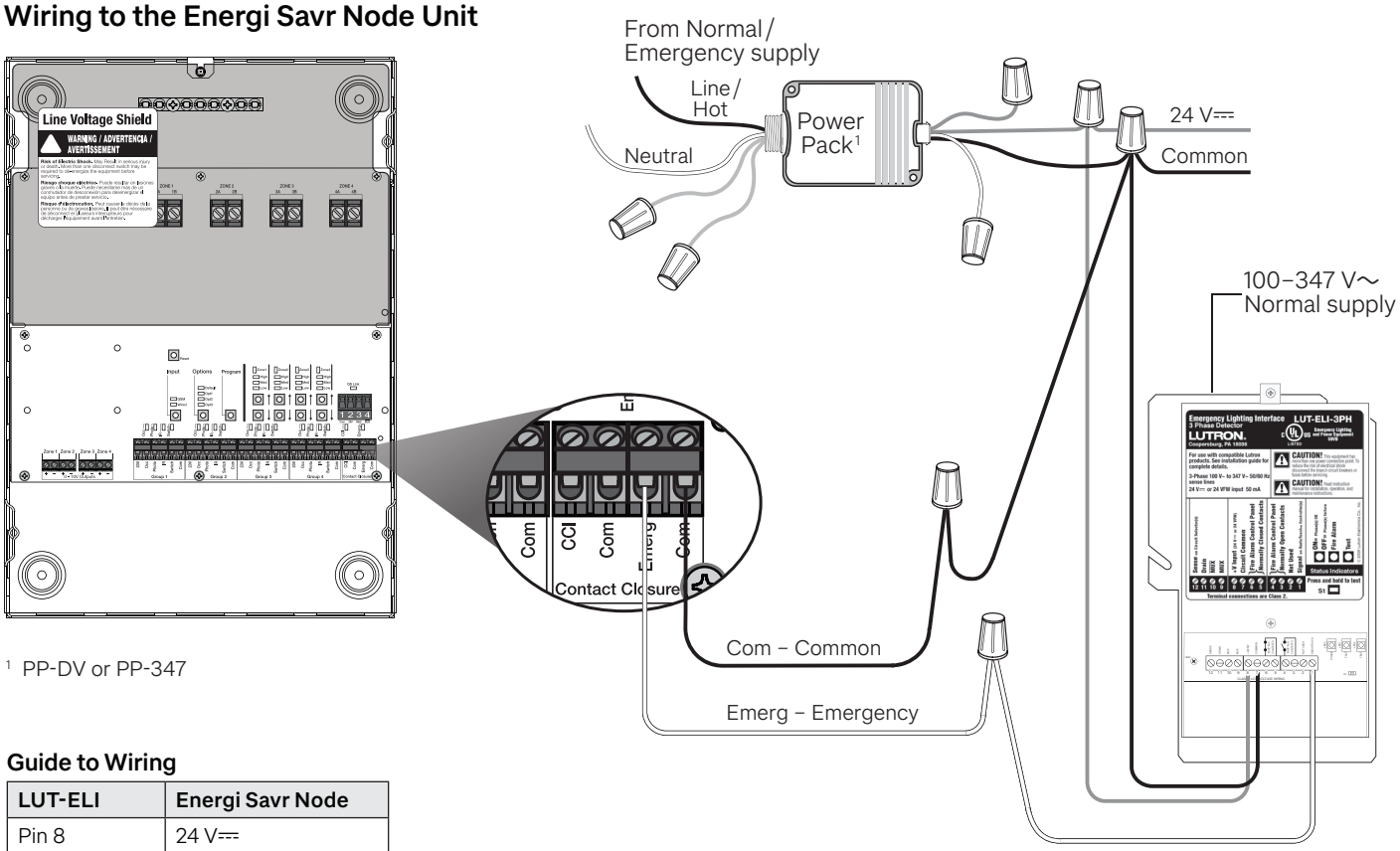
Job Name:	Model Numbers:	
Job Number:		

Energi Savr Node Units

Using a LUT-ELI-3PH unit with an Energi Savr Node unit ensures that the system is compliant with UL® 924. Follow the wiring diagram in the LUT-ELI-3PH for mains wiring. Use the diagram below to complete the installation. There can be up to 32 Energi Savr Node units connected to one LUT-ELI-3PH unit.

Model QSN-4T16-S is shown below. Check the documentation of your particular model for proper terminal connections.

Wiring to the Energi Savr Node Unit



[1] PP-DV or PP-347

Guide to Wiring

LUT-ELI	Energi Savr Node
Pin 8	24 V⎓
Pin 7	Com
Pin 1	Emerg

Wiring Summary:

- Wire the power pack red wire (+24 V) to the LUT-ELI-3PH unit terminal 8 (V+).
- Wire the power pack black wire (Common) to the LUT-ELI-3PH unit terminal 7 (Circuit Common) and to Energi Savr Node "Com" terminal of the Emergency Contact Closure Input.
- Wire the signal wire from the LUT-ELI-3PH unit (terminal 1) to the Energi Savr Node "Emerg" terminal of the Emergency Contact Closure Input.
- When normal power loss is detected, the LUT-ELI-3PH unit sends all programmed zones to emergency light levels (Default is typically 100%).
- When normal power loss is restored, the LUT-ELI-3PH unit causes all programmed zones to return to previous light levels.

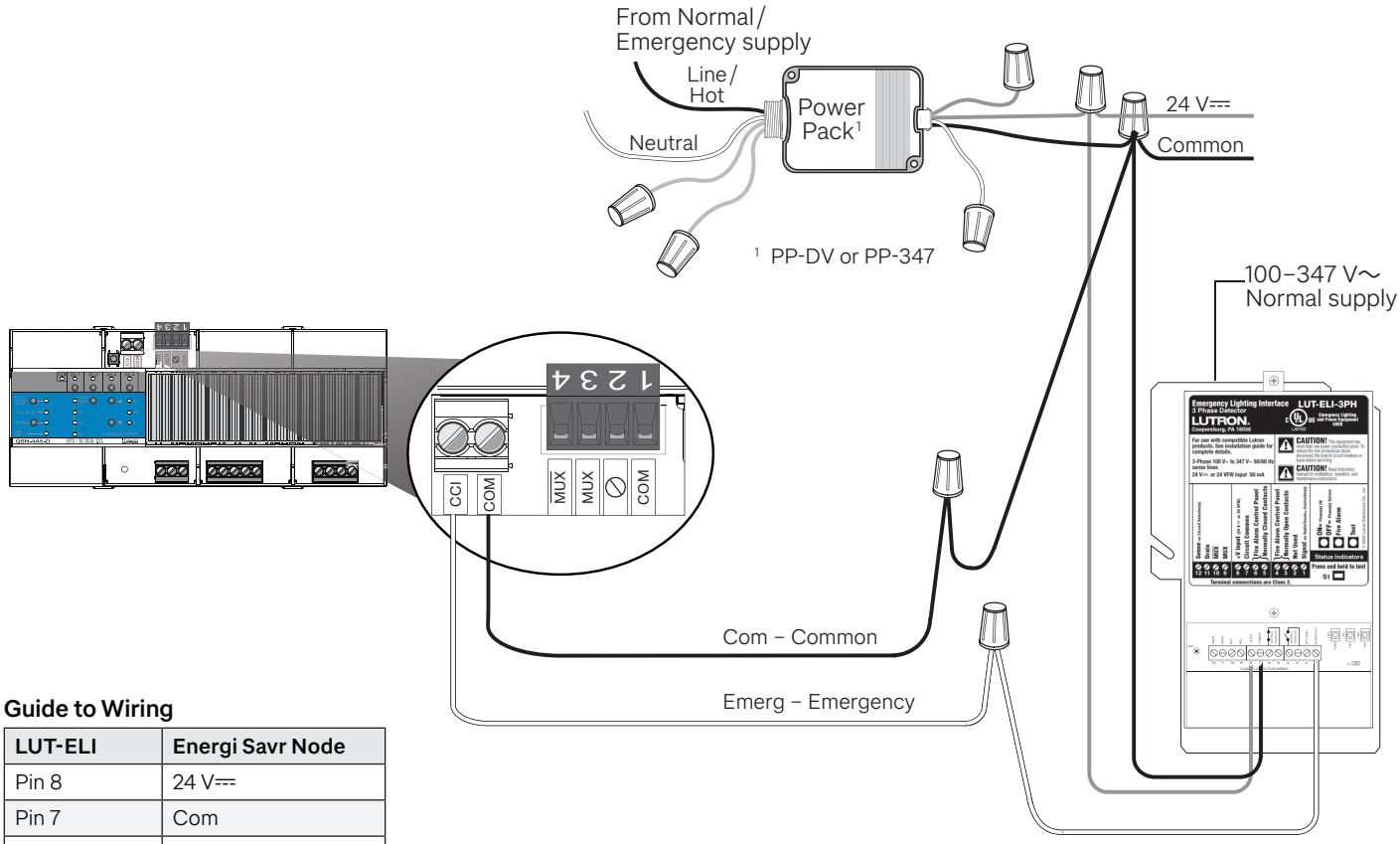
Job Name:	Model Numbers:	
Job Number:		

DIN Power Modules with an Emergency CCI Connection

Using a LUT-ELI-3PH unit with a DIN power module ensures that the system is compliant with UL® 924. Follow the wiring diagram in the LUT-ELI-3PH for mains wiring. Use the diagram below to complete the installation. There can be up to 32 DIN power modules connected to one LUT-ELI-3PH unit.

Model QSN-4A5-D is shown below. Check the documentation of your particular model for proper terminal connections.

Wiring to the DIN Power Modules



Guide to Wiring

LUT-ELI	Energi Savr Node
Pin 8	24 V⎓
Pin 7	Com
Pin 1	Emerg

Wiring Summary:

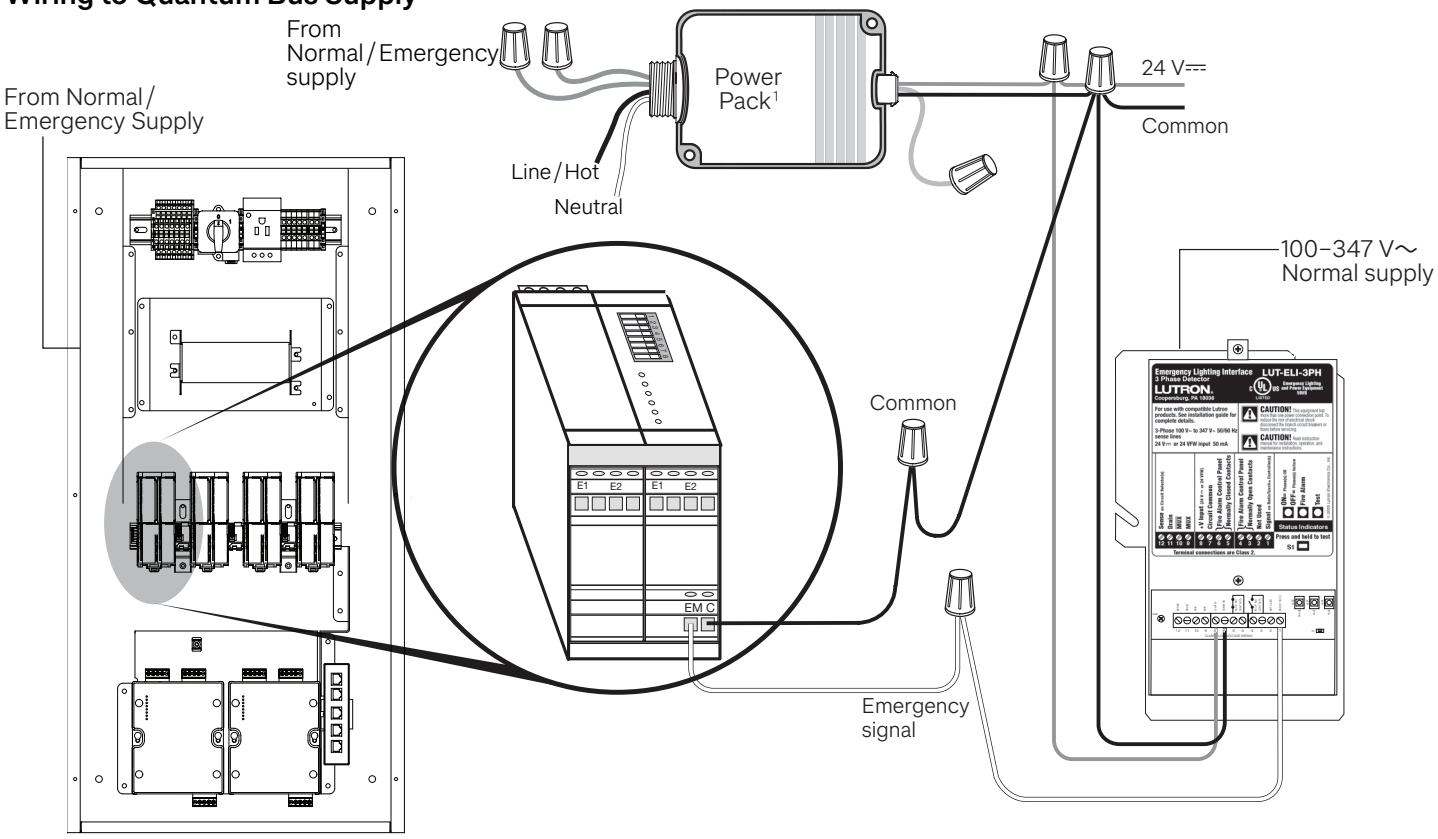
- Wire the power pack red wire (+24 V) to the LUT-ELI-3PH unit terminal 8 (V+).
- Wire the power pack black wire (Common) to the LUT-ELI-3PH unit terminal 7 (Circuit Common) and to DIN power module "Com" terminal of the Emergency Contact Closure Input.
- Wire the signal wire from the LUT-ELI-3PH unit (terminal 1) to the DIN power module "CCI" terminal of the Emergency Contact Closure Input.
- When normal power loss is detected, the LUT-ELI-3PH unit sends all programmed zones to emergency light levels.
- When normal power loss is restored, the LUT-ELI-3PH unit causes all programmed zones to return to previous light levels.

Job Name:	Model Numbers:	
Job Number:		

Quantum Systems

Using a LUT-ELI-3PH unit with a Quantum bus supply ensures that the system is compliant with UL® 924. Follow the wiring diagram in the LUT-ELI-3PH unit for mains wiring. Use the diagram below to complete the installation. Only 1 bus supply per hub needs to be connected per LUT-ELI-3PH unit. There can be up to 32 Quantum bus supplies connected to one LUT-ELI-3PH unit.

Wiring to Quantum Bus Supply



[1] PP-DV or PP-347

Guide to Wiring

LUT-ELI	Bus Supply
Pin 8	24 V⎓
Pin 7	Com
Pin 1	Emerg

Wiring Summary:

- Wire the power pack red wire (+24 V) to the LUT-ELI-3PH unit terminal 8 (+VFW).
- Wire the power pack black wire (Common) to the LUT-ELI-3PH unit terminal 7 (Common) and to the Quantum bus supply terminal 5 (Common).
- Wire the signal wire from the LUT-ELI-3PH unit (terminal 1) to the Quantum bus supply terminal 6 (CCI-Emergency).

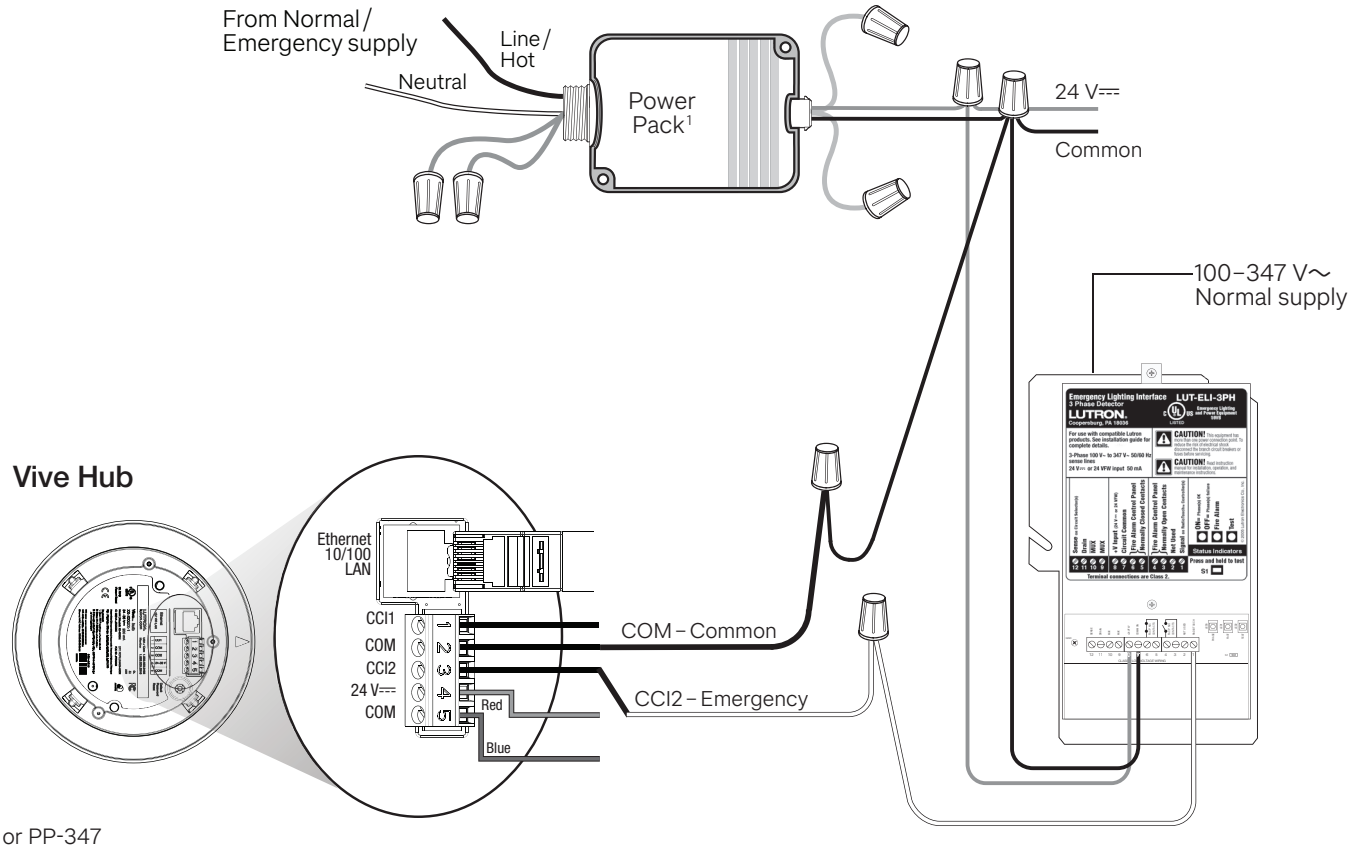
Note: When normal power loss is detected, the LUT-ELI-3PH unit sends a signal to the bus supplies which send the programmed lights to emergency light levels.

Job Name:	Model Numbers:	
Job Number:		

Vive Systems

A LUT-ELI-3PH unit can be used with a Vive hub for a system that is compliant with UL® 924. Follow the wiring diagram in the LUT-ELI-3PH unit for mains wiring. Use the diagram below to connect the LUT-ELI-3PH to the Vive hub. There can be up to 4 Vive hubs connected to 1 LUT-ELI-3PH unit. For the system to function, the Vive hub must be configured via the Vive app to have a normally closed Emergency input on the CCI 2.

Wiring to Vive Hub



[1] PP-DV or PP-347

Guide to Wiring

LUT-ELI	Vive Hub
Pin 8	24 V⎓
Pin 7	Pin 2
Pin 1	Pin 3

Wiring Summary:

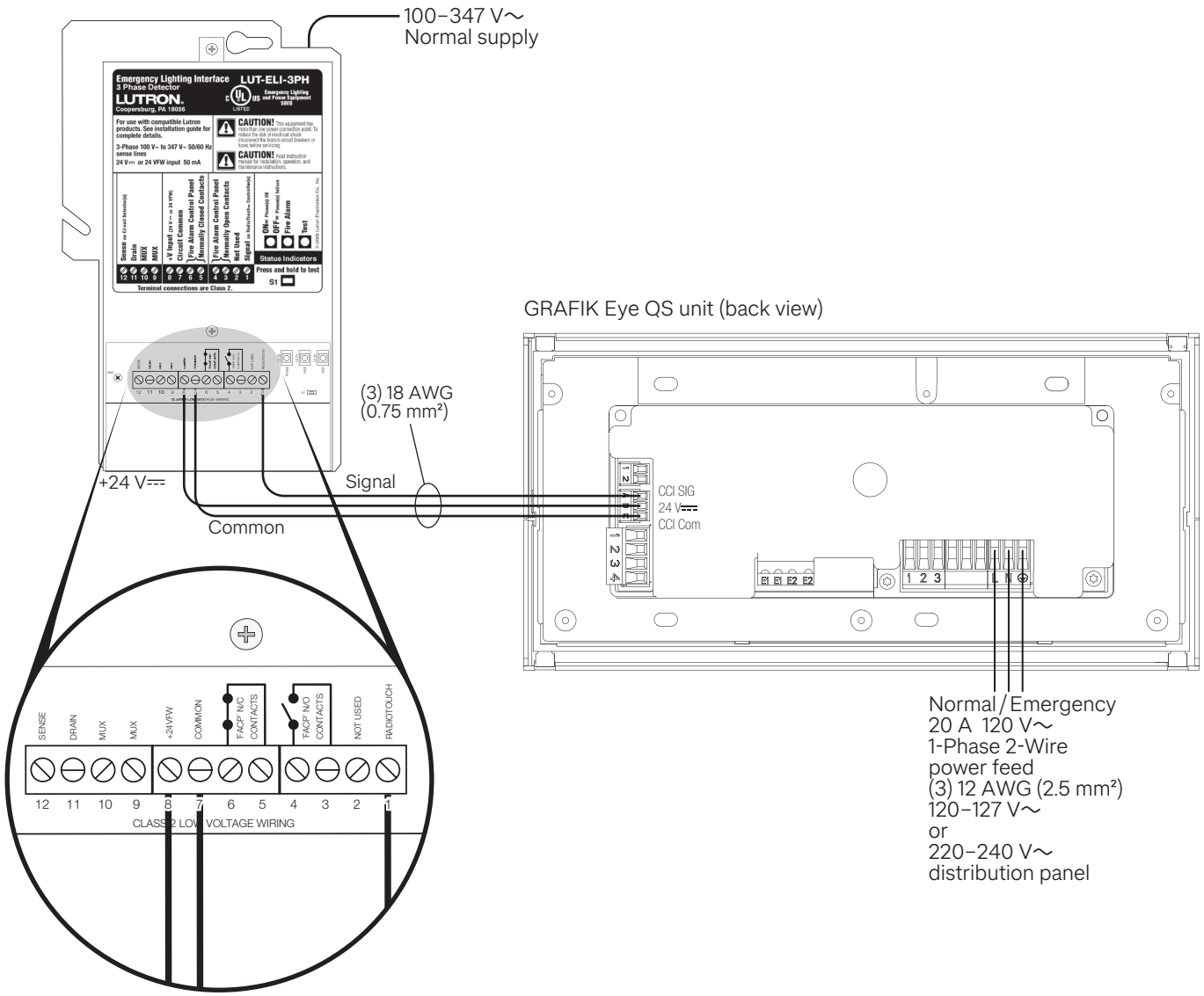
- Wire the power pack red wire (+24 V) to the LUT-ELI-3PH unit terminal 8 (+VFW).
- Wire the power pack black wire (Common) to the LUT-ELI-3PH unit terminal 7 (Common) and the Vive hub terminal 2 (COM).
- Wire the signal wire from the LUT-ELI-3PH unit (terminal 1) to the Vive hub terminal 3 (CCI2).
- Configure the Vive hub to enter emergency operation from a normally closed CCI2 input in the Vive app.
- Requires the use of Emergency PowPak devices.

Job Name:	Model Numbers:	
Job Number:		

Installing a LUT-ELI-3PH Unit with a GRAFIK Eye QS Unit

Wiring to a GRAFIK Eye QS Control Unit

Note: For a 1-phase 2-wire application, connect phase A, B, and C wires on LUT-ELI-3PH together for phase sensing.

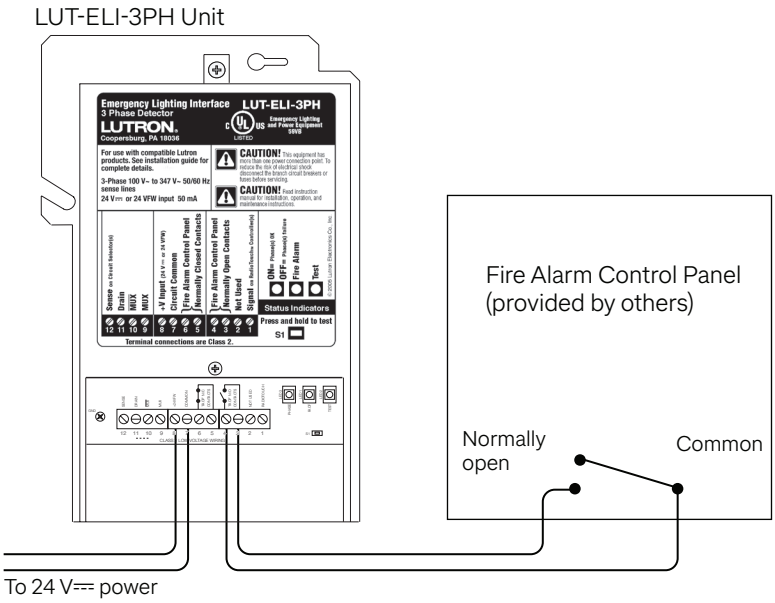


- Provide proper short-circuit and overcurrent protection at the distribution panel. Maximum circuit breaker installation of 20 A.
- When normal power loss is detected at the LUT-ELI-3PH unit, all zones in the GRAFIK Eye QS units will go to their emergency states.
- The GRAFIK Eye QS unit MUST be powered from a normal / emergency power feed.

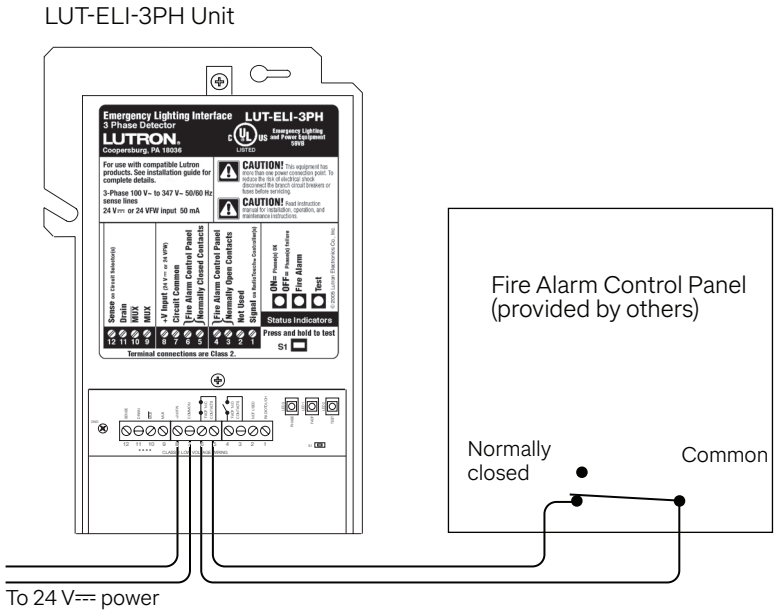
Job Name:	Model Numbers:	
Job Number:		

IEC PELV / NEC® Class 2 Wiring Example: Fire Alarm Control Panel (FACP)

Normally Open FACP Input



Supervisory Circuit (Normally Closed FACP Input)



Important

Use only with normally open (terminals 3 and 4) or normally closed (terminals 5 and 6) dry contact closure. When the proper contact state is triggered, it must be maintained for the LUT-ELI-3PH unit to go into Emergency Mode. Once the contact is released, the LUT-ELI-3PH will return the associated control unit back to normal operation mode.

The LUT-ELI-3PH unit will have a factory installed jumper to provide the normally closed input signal for the supervisory circuit when a normally closed FACP input is not provided.

Consult your Fire Alarm Control Panel's instruction manual before connecting to the LUT-ELI-3PH unit.

Notice: Do not connect any voltage source to the FACP inputs on the LUT-ELI-3PH unit. If voltage is provided by the FACP and connected to the LUT-ELI-3PH unit, it can damage the LUT-ELI-3PH unit.

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All other product names, logos, and brands are property of their respective owners.

Job Name:	Model Numbers:	
Job Number:		