

LUTRON® For Your Information...

APPLICATION
NOTE
#140

EcoSystem® Ballasts and Emergency Wiring

Overview

EcoSystem Lighting Networks are easily used with Emergency (essential) lighting systems. *EcoSystem* ballasts may be used for Emergency and egress lighting. *EcoSystem* ballasts used for Emergency lighting must be separated physically and electrically from utility (normal/non-emergency) power devices; however, the *EcoSystem* Bus may be wired to both normal/non-emergency fixtures and Emergency fixtures as well.

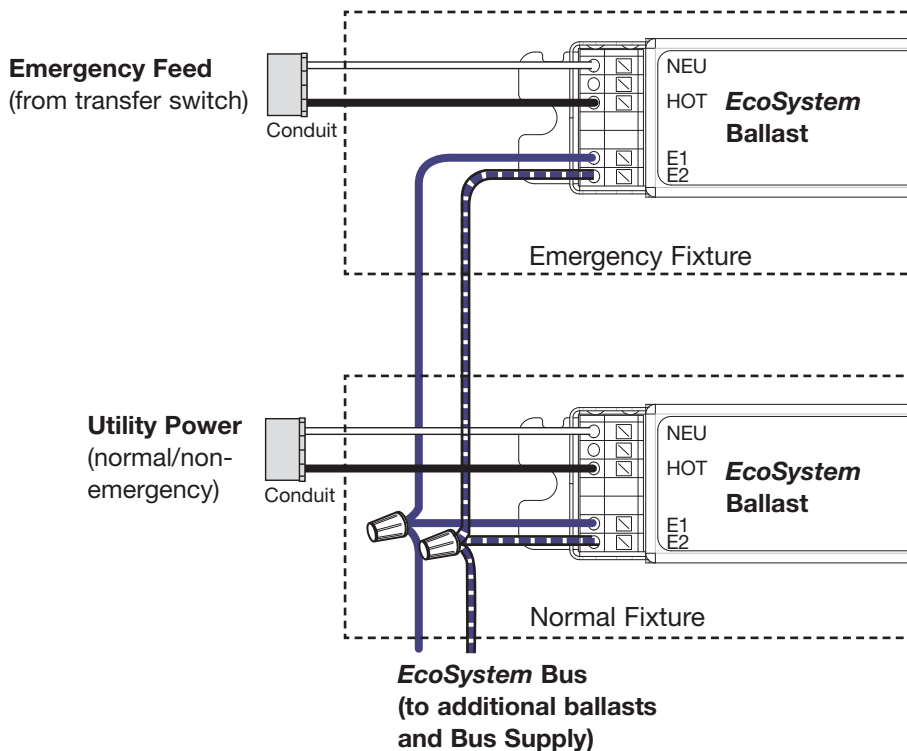
This application note details emergency fixture wiring for *EcoSystem* ballasts.

For information on using emergency ballasts and dimming ballasts see Lutron Application Note #50.

Wiring Details: *EcoSystem* Bus wired NEC® Class 2

Use the following wiring guide when the *EcoSystem* Bus wires (E1 & E2) are wired according to NEC® Class 2 wiring codes.

Wiring to *EcoSystem* Ballasts in Emergency and Normal Fixtures (*EcoSystem* Bus NEC® Class 2)

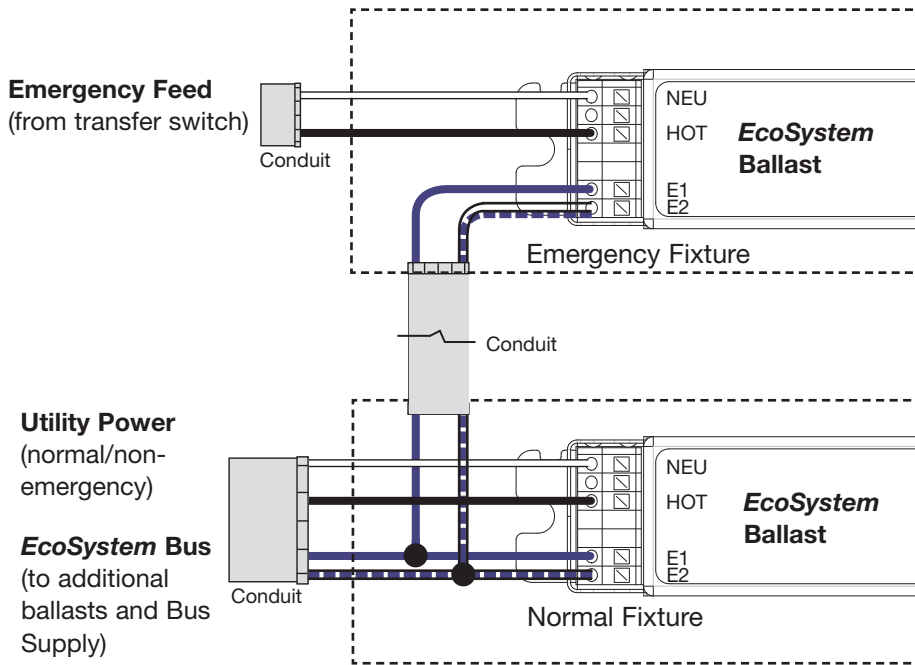


Need additional assistance? Call the Lutron Technical Support Center 1-800-523-9466.
Please provide exact model number when calling.

Wiring Details: EcoSystem® Bus Wired NEC® Class 1

Use the following wiring guide when the *EcoSystem* Bus (E1 & E2) wires are wired according follow NEC® Class 1 wiring codes.

Wiring to *EcoSystem* Ballasts in Emergency and Normal Fixtures (*EcoSystem* Bus NEC® Class 1)



Additional Information

During normal operation (utility power is present), all *EcoSystem* ballasts will operate as programmed. When utility power fails, the *EcoSystem* ballast, powered with an Emergency feed, will turn on to its programmed Emergency light level (100% by default) and ignore all other inputs.

Notes

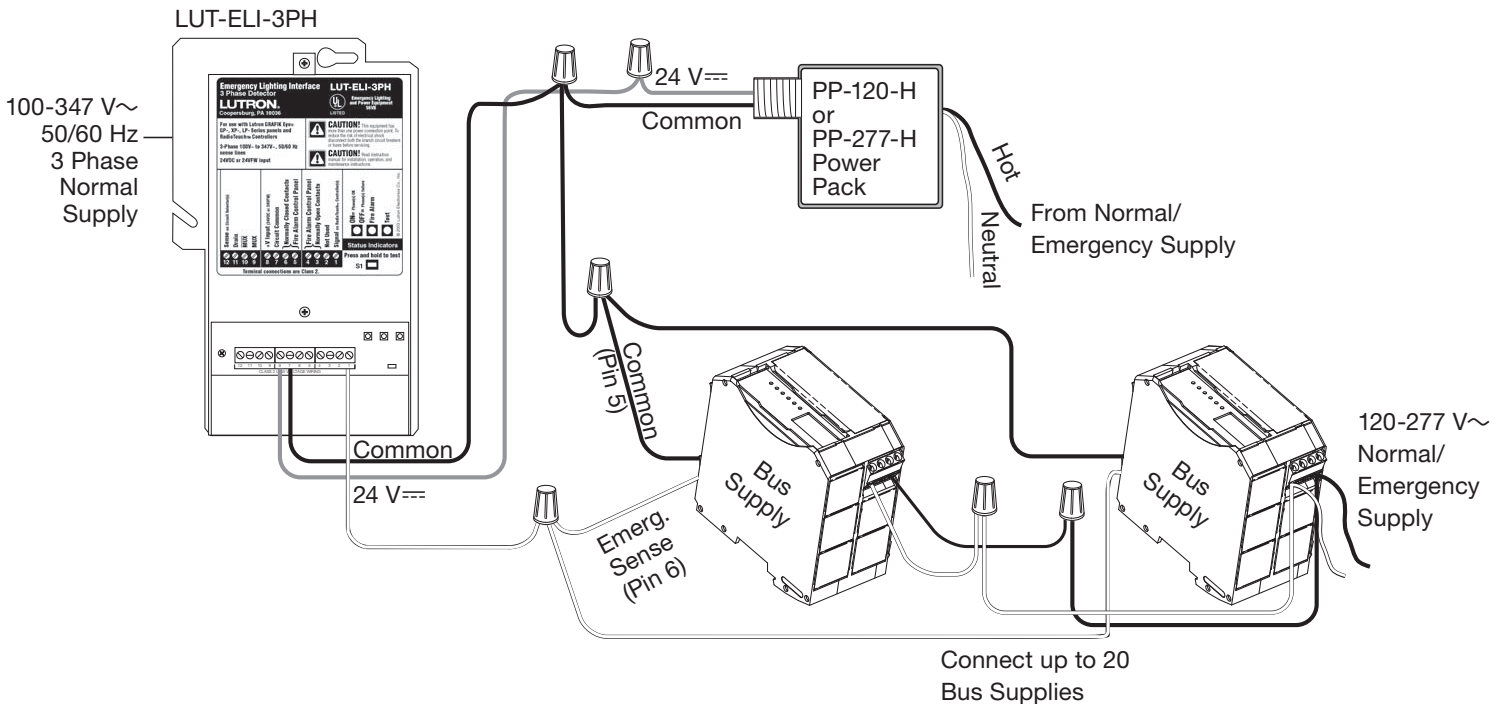
- In all examples shown, the *EcoSystem* Bus Supply or *EcoSystem* Energi Savr Node™ unit must be powered via normal/non-emergency power ONLY.
- When using a ballast module (ie: C5-BMF-2A), wire the device like the *EcoSystem* ballasts shown. The ballast module will power the ballast(s) to which it is wired in an emergency condition.
- Emergency lighting codes vary by locale and may require more stringent separation of normal and essential lighting circuits. Always consult local code prior to completing an *EcoSystem* installation.

Need additional assistance? Call the Lutron Technical Support Center 1-800-523-9466.
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UL924 Compliance with EcoSystem®

Using a LUT-ELI-3PH with a *EcoSystem* Bus Supply or *EcoSystem* Energi Savr Node™ unit ensures that the system is compliant with UL924. 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 20 Bus Supplies or 32 or *EcoSystem* Energi Savr Node units connected to one LUT-ELI-3PH.

Example 1: LUT-ELI-3PH with *EcoSystem* Bus Supply



Wiring Summary:

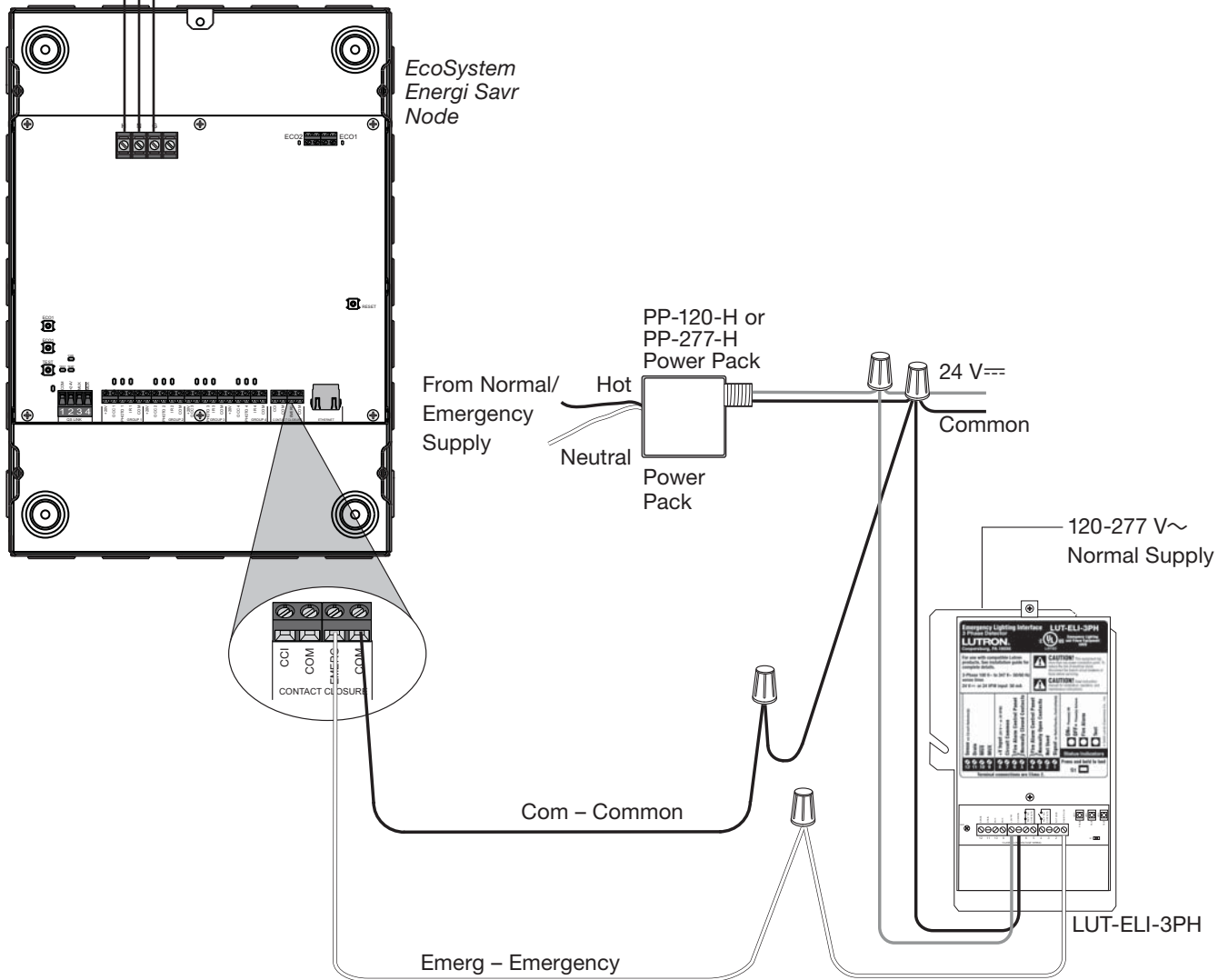
- Wire Power Pack Red Wire (+24 VDC) to LUT-ELI-3PH terminal 8 (V+)
- Wire Power Pack Black Wire (Common) to LUT-ELI-3PH terminal 7 (Circuit Common) and to *EcoSystem* Bus Supply Terminal 5 (Common)
- Wire Signal wire from LUT-ELI-3PH (terminal 1) to *EcoSystem* Bus Supply terminal 6 (CCI-Emergency)

Note: When normal power fails and the LUT-ELI trips, the *EcoSystem* Bus Supply stops powering the *EcoSystem* bus, and all emergency ballasts will turn on to their emergency light level.

Note: The LUT-ELI-3PH includes panic closure inputs as well. Consult the LUT-ELI-3PH instructions for wiring details.

Example 2: LUT-ELI-3PH with *EcoSystem* Energi Savr Node™ Unit

120-277 V~ Normal/Emergency Feed



Wiring Summary:

- Wire Power Pack Red Wire (+24 VDC) to LUT-ELI-3PH terminal 8 (V+)
- Wire Power Pack Black Wire (Common) to LUT-ELI-3PH terminal 7 (Circuit Common)
- Wire Signal wire from LUT-ELI-3PH (terminal 1) to *Energi Savr Node* Emerg input

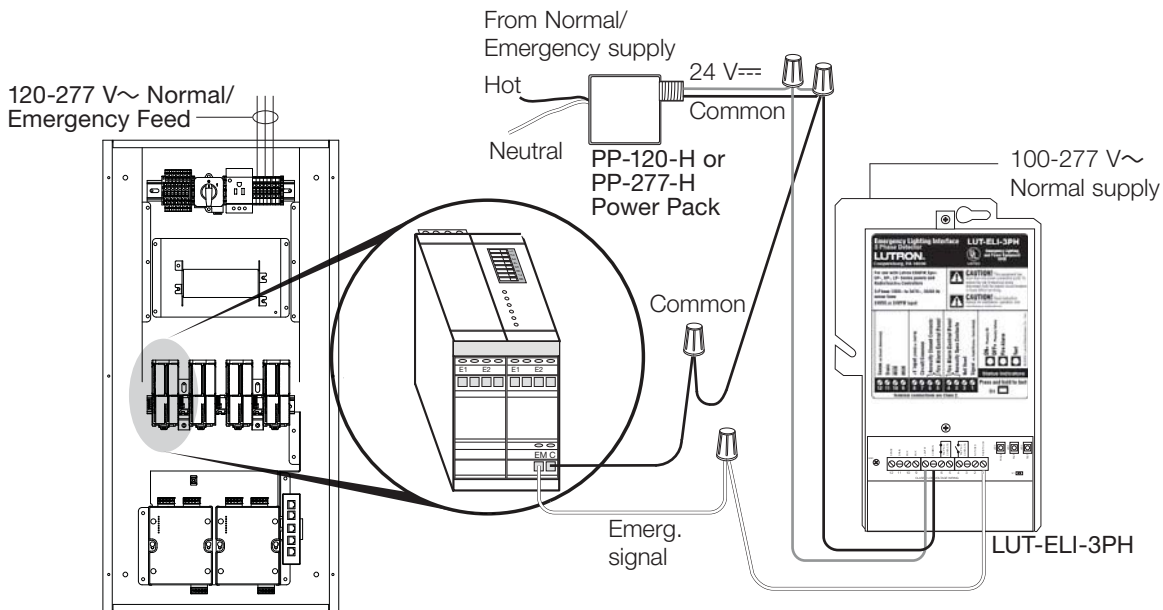
Note: When normal power fails and the LUT-ELI trips, the *EcoSystem Energi Savr Node* stops powering the *EcoSystem* bus, and all emergency ballasts will turn on to their emergency light level.

Note: The LUT-ELI-3PH includes panic closure inputs as well. Consult the LUT-ELI-3PH instructions for wiring details.

UL924 Compliance with Quantum®

Using a LUT-ELI-3PH with a *Quantum* Bus Supply ensures that the system is compliant with UL924. Follow the wiring diagram in the LUT-ELI-3PH 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. There can be up to 5 *Quantum* hubs connected to one LUT-ELI-3PH.

Wiring to *Quantum* Bus Supply



Wiring Summary:

- Wire Power Pack Red Wire (+24 V \equiv) to LUT-ELI-3PH terminal 8 (V+)
- Wire Power Pack Black Wire (Common) to LUT-ELI-3PH terminal 7 (Circuit Common) and to *Quantum* Bus Supply Terminal 5 (Common)
- Wire Signal wire from LUT-ELI-3PH (terminal 1) to *Quantum* Bus Supply terminal 6 (CCI-Emergency)

Note: When normal power fails and the LUT-ELI-3PH trips, the *Quantum* Bus Supply stops powering the *EcoSystem* bus, and all emergency ballasts will turn on to their emergency light level.

Note: The LUT-ELI-3PH includes panic closure inputs as well. Consult the LUT-ELI-3PH instructions for wiring details.

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