

Emergency Lighting with a Vive System Installed Before April 2022

Overview

Emergency lighting is an important aspect of designing a lighting system for commercial spaces. The system requirements are defined by several codes and standards. These requirements can be fulfilled by using a variety of equipment and methods.

The purpose of this application note is to provide an understanding of basic emergency system components, how those components work with Lutron products, and to show how to wire emergency load control devices to Vive system devices. It is not intended to provide a design guide for emergency systems. This guide focuses on installations in the United States. Consult local and national codes for emergency lighting requirements in other countries.

NOTE: If your Vive system was installed after April of 2022 OR you have a LUT-ELI-3PH monitoring normal power and connected to your Vive hub, see Application Note #628 (P/N 048628) at www.lutron.com.

For other Lutron commercial systems including Quantum, Athena and myRoom, refer to Application Note #106 (P/N 048106) at www.lutron.com.

For KetraNet Systems, refer to Application Note #730 (P/N 048730) at www.lutron.com.

What Lutron Product Do You Have?



Emergency PowPak 0–10 V== Dimming Module - RMJS-8T-DV-B-EM and FCJS-010-EM

- [Module is powered by normal and emergency power on a generator - Page 5](#)
- [Module is powered by normal and emergency power on a UPS - Page 7](#)



Emergency PowPak Relay Module with Softswitch - RMJS-16R-DV-B-EM

- [Module is powered by normal and emergency power on a generator - Page 10](#)
- [Module is powered by normal and emergency power on a UPS - Page 12](#)



Emergency PowPak EcoSystem Fixture Control - FCJS-ECO-EM

- [Fixture Control is powered by normal and emergency power on a generator - Page 15](#)
- [Fixture Control is powered by normal and emergency power on a UPS - Page 17](#)



Emergency PowPak Phase Select Dimming Module - RMJS-PNE-DV-EM

- [Module is powered by normal and emergency power on a generator - Page 20](#)
- [Module is powered by normal and emergency power on a UPS - Page 23](#)



Emergency PowPak 347 V~ 0–10 V== Dimming Module - RMJS-5T-347-EM

- [Module is powered by normal and emergency power on a generator - Page 26](#)



Emergency PowPak 347 V~ Relay Module - RMJS-5R-347-EM

- [Module is powered by normal and emergency power on a generator - Page 29](#)

Applications for Vive Emergency PowPak Devices

Emergency PowPak devices listed in this application note are intended for use in emergency power systems that provide a period of power interruption when transferring to the emergency power source (i.e., diesel generators). Power interruption during transfer time must be greater than 3 seconds* for the Emergency PowPak devices to enter emergency mode. A list of these devices is provided below:

- Emergency PowPak 0–10 V \equiv Dimming Module (Model # RMJS-8T-DV-B-EM)
- Emergency PowPak Relay Module With Softswitch (Model # RMJS-16R-DV-B-EM)
- Emergency PowPak 0–10 V \equiv Fixture Control (Model # FCJS-010-EM)
- Emergency PowPak EcoSystem Fixture Control (Model # FCJS-ECO-EM)
- Emergency PowPak 347 V \sim Dimming Module with 0–10 V \equiv Control (Model # RMJS-5T-347-EM)
- Emergency PowPak Phase Select Dimming Module (Model # RMJS-PNE-DV-EM)
- Emergency PowPak 347 V \sim Relay module (Model # RMJS-5R-347-EM)

Emergency PowPak devices are NOT intended for use with the following types of emergency lighting systems:

- Fixtures containing integral inverters or battery backup drivers

Additional Notes

1. Fire alarm integration is only available with Emergency PowPak devices when used in conjunction with the:
 - Vive hub with or without a LUT-ELI-3PHOR
 - Other emergency devices provided by LVS
2. A Vive hub should NEVER be used to commission a standalone Vive system. Emergency PowPak devices require communication from the hub to prevent permanent lockout (even after return to normal power operation) if a power loss were to occur.

* **Note:** RMJS-8T-DV-B-EM requires 6 second power interrupt at 277 V \sim to enter emergency mode.

Vive Emergency Lighting

Some Vive products can achieve emergency lighting requirements without using third-party devices (e.g., ALCRs, battery backup ballasts). When designing an emergency lighting system, it may not be necessary to force all lighting to 100%, which can help to reduce the load on a backup power source (e.g., a generator). The table below shows which Vive products have programmable emergency light levels and the methods for programming them. This programming is available only when not using third-party emergency devices, which typically force all connected lighting to 100%.

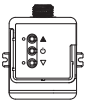
Vive Emergency Load Controllers

Product	Model Number	Vive Hub	Emergency Light Level	How to Program
Vive Relay Emergency PowPak module	RMJS-16R-DV-B-EM RMJS-5R-347-EM	Without hub	ON	Not programmable
Vive Relay Emergency PowPak module	RMJS-16R-DV-B-EM RMJS-5R-347-EM	With hub	ON or OFF	Vive app or web page
Vive 0–10 V _{DC} Emergency PowPak module	RMJS-8T-DV-B-EM FCJS-010-EM RMJS-5T-347-EM	Without hub	100%	Not programmable
Vive 0–10 V _{DC} Emergency PowPak module	RMJS-8T-DV-B-EM FCJS-010-EM RMJS-5T-347-EM	With hub	0–100%	Vive app or web page
Vive Emergency EcoSystem PowPak module	FCJS-ECO-EM	Without hub	100%	Not programmable
Vive Emergency EcoSystem PowPak module	FCJS-ECO-EM	With hub	0–100%	Vive app or web page
Vive Phase Select PowPak module	RMJS-PNE-DV-EM	Without hub	100%	Not programmable
Vive Phase Select PowPak module	RMJS-PNE-DV-EM	With hub	0–100%	Vive app or web page

Vive Normal (non-emergency) Load Controllers

All other load controllers may not override to a configurable level and lockout upon loss of normal power. Equipment can be used to sense loss of normal power, such as the LUT-SHUNT and the LUT-ATS-D. This equipment would bypass the controls to send the load to 100% (not configurable). Since the controls would be powered down and bypassed, the emergency lighting level is not determined by the controls.

Emergency PowPak 0-10 V \equiv Dimming Module



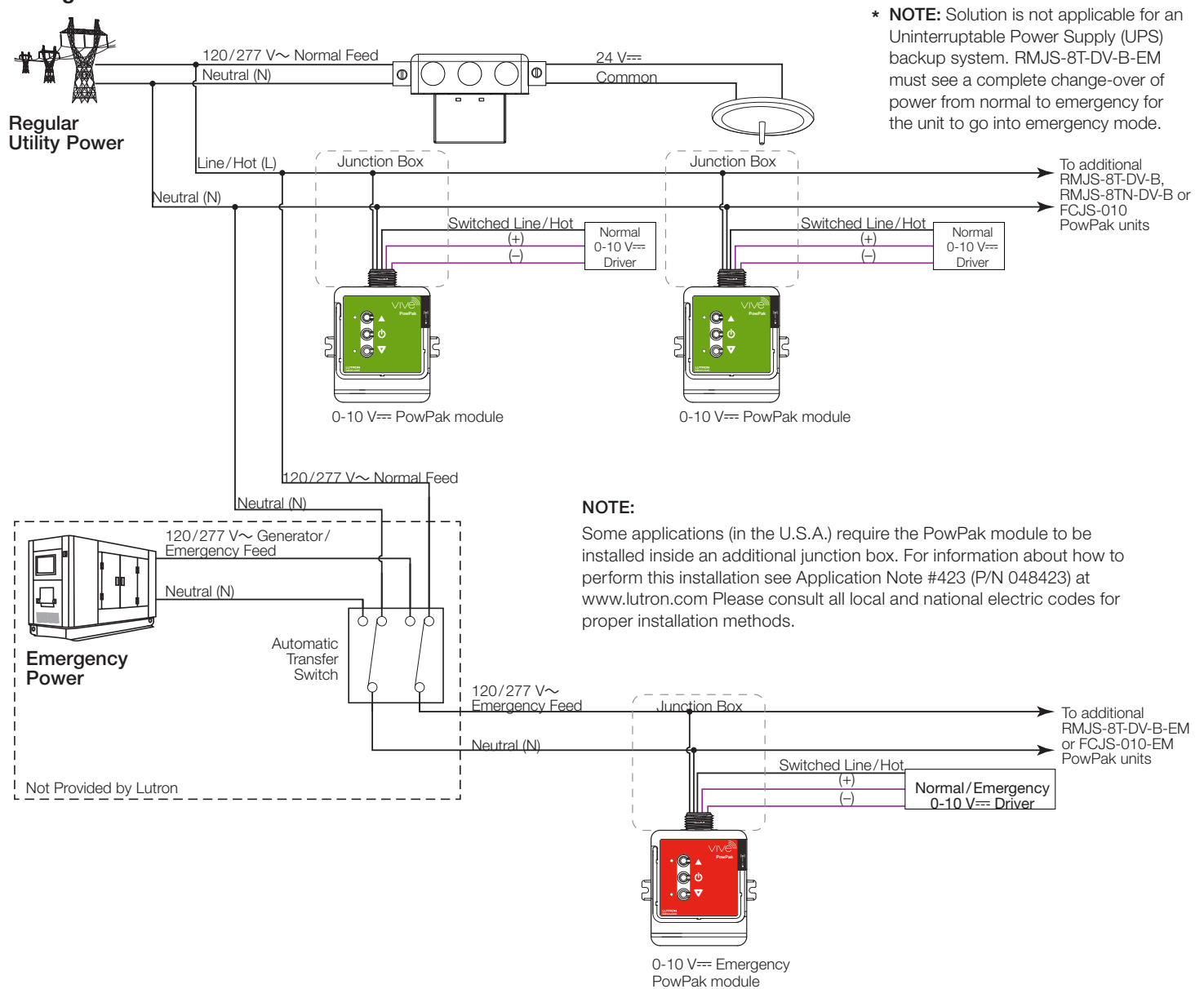
Module is powered by normal and emergency power on a generator

In all applications, the Emergency PowPak 0-10 V \equiv Dimming Module is powered by normal and emergency power. During regular operation, the Automatic Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the Automatic Transfer Switch is in the Emergency position, allowing emergency backup power to power the device. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized. This applies to: **RMJS-8T-DV-B-EM** and **FCJS-010-EM**.

Note: When operating without a Vive hub, the Emergency PowPak 0-10 V \equiv Dimming Module senses a power cycle and enters emergency mode for 90 minutes.

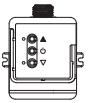
IMPORTANT: This solution is not applicable for use with an Uninterruptable Power Supply (UPS) backup system. For solutions with an Uninterruptable Power Supply (UPS) backup system, please refer to page 7.

Wiring Schematic

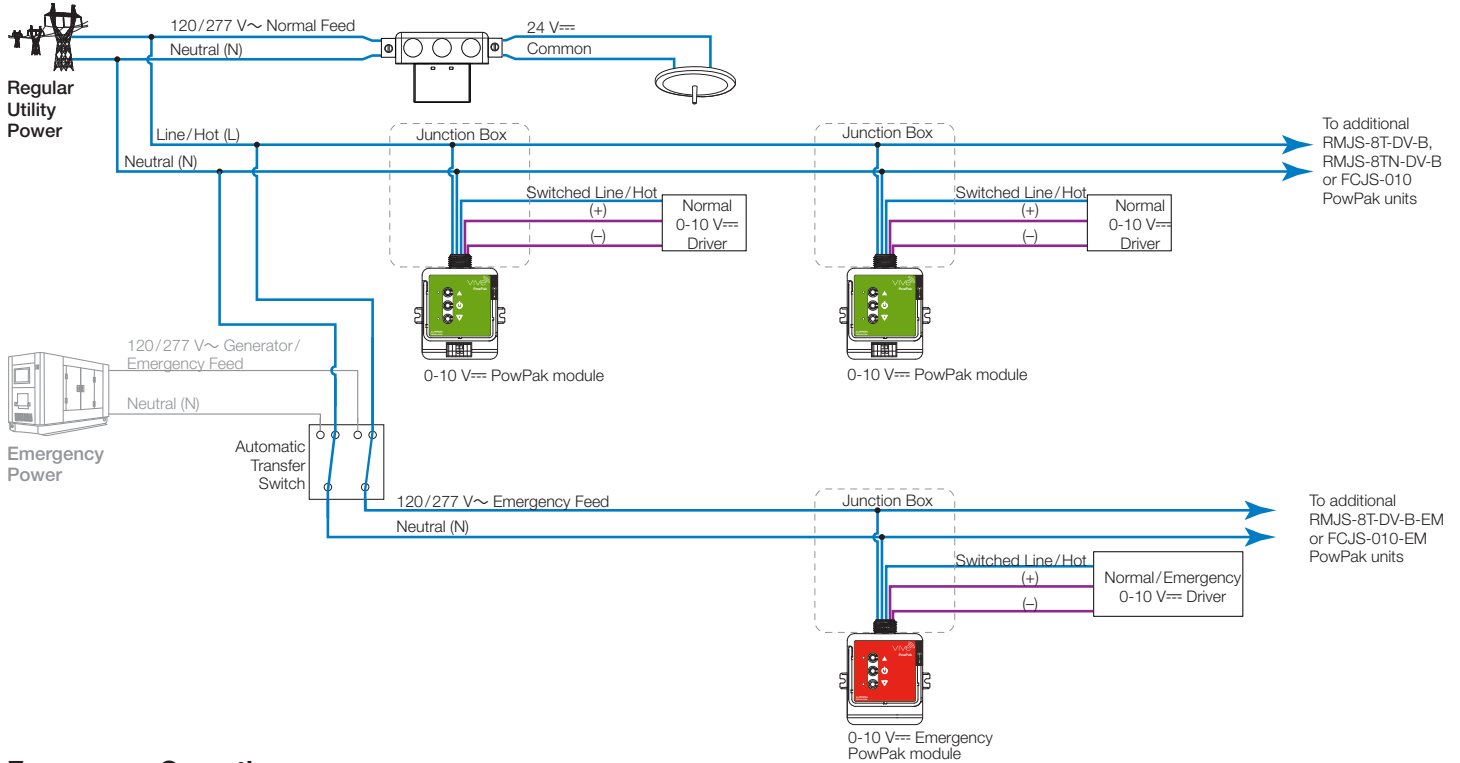


Emergency PowPak 0–10 V $\overline{\text{V}}$ Dimming Module (continued)

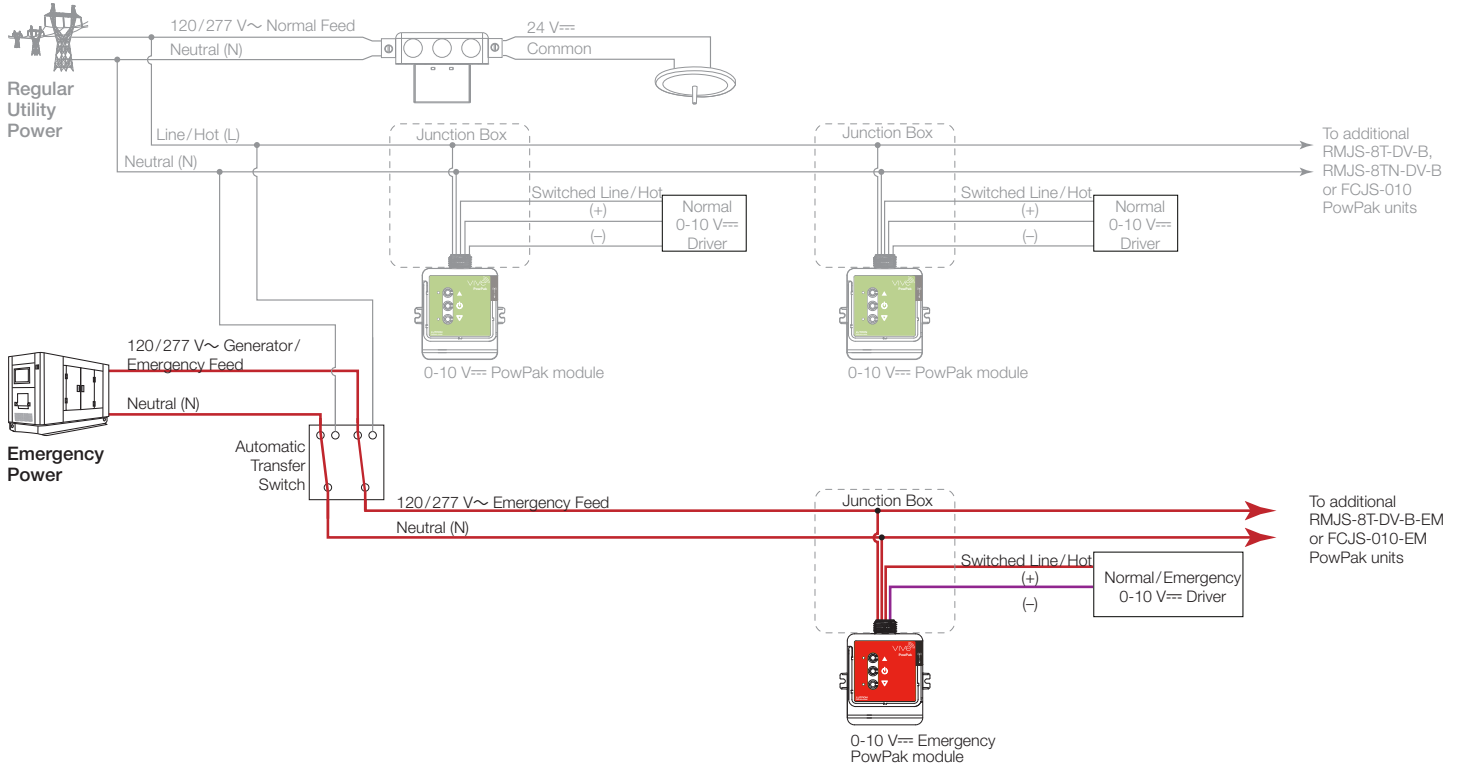
Module is powered by normal and emergency power on a generator (continued)



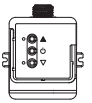
Regular Operation



Emergency Operation



Emergency PowPak 0–10 V \equiv Dimming Module (continued)

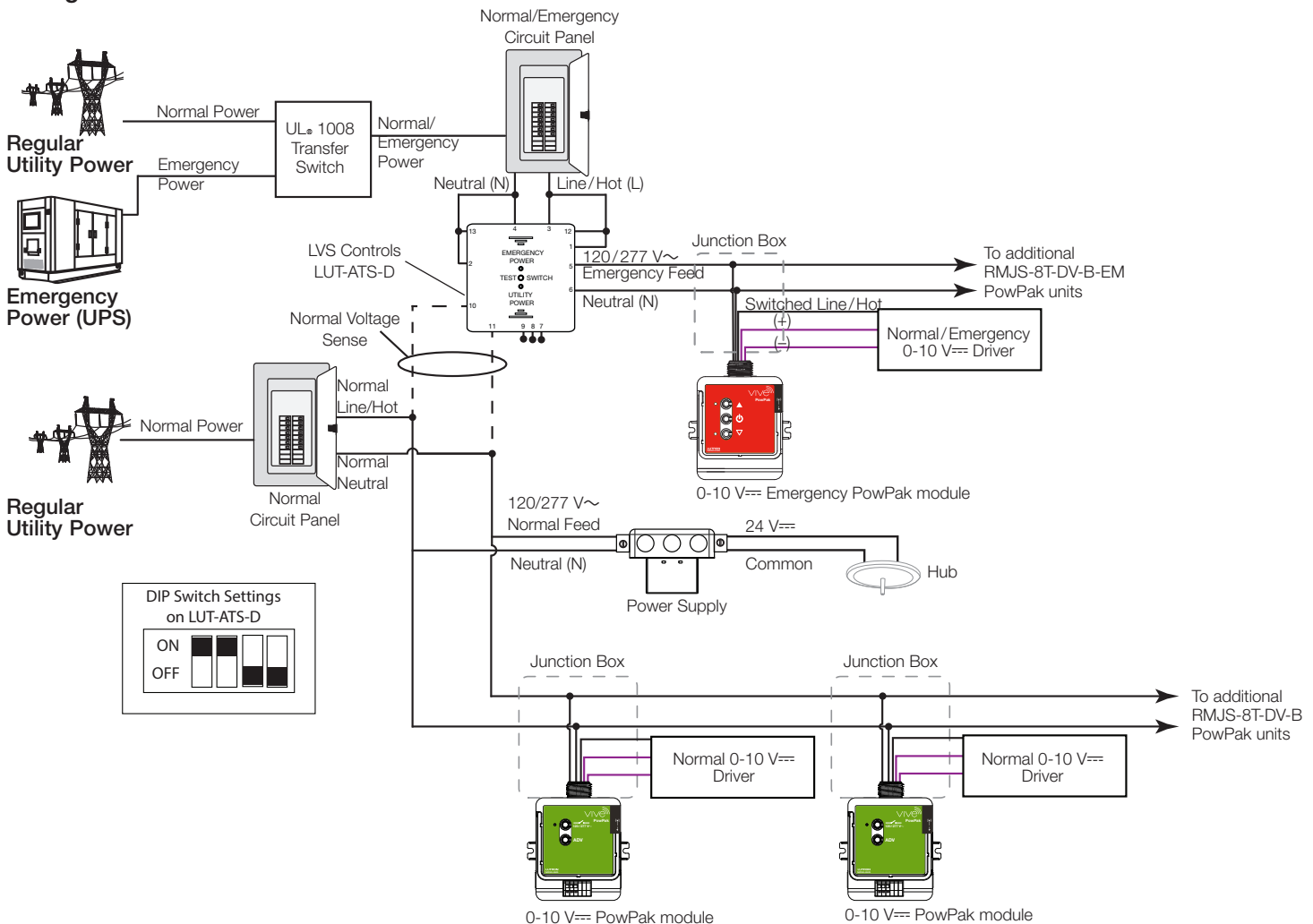


Module is powered by normal and emergency power on a UPS

In all applications, the Emergency PowPak 0–10 V \equiv Dimming Module is powered by normal and emergency power. During regular operation, the UL \bullet 1008 Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the LUT-ATS-D senses the loss of normal power and creates a power interrupt to the Emergency PowPak. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized. This applies to: **RMJS-8T-DV-B-EM** and **FCJS-010-EM**.

Note: When operating without a Vive hub, the Emergency PowPak 0–10 V \equiv Dimming Module senses a power cycle and enters emergency mode for 90 minutes.

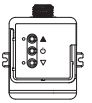
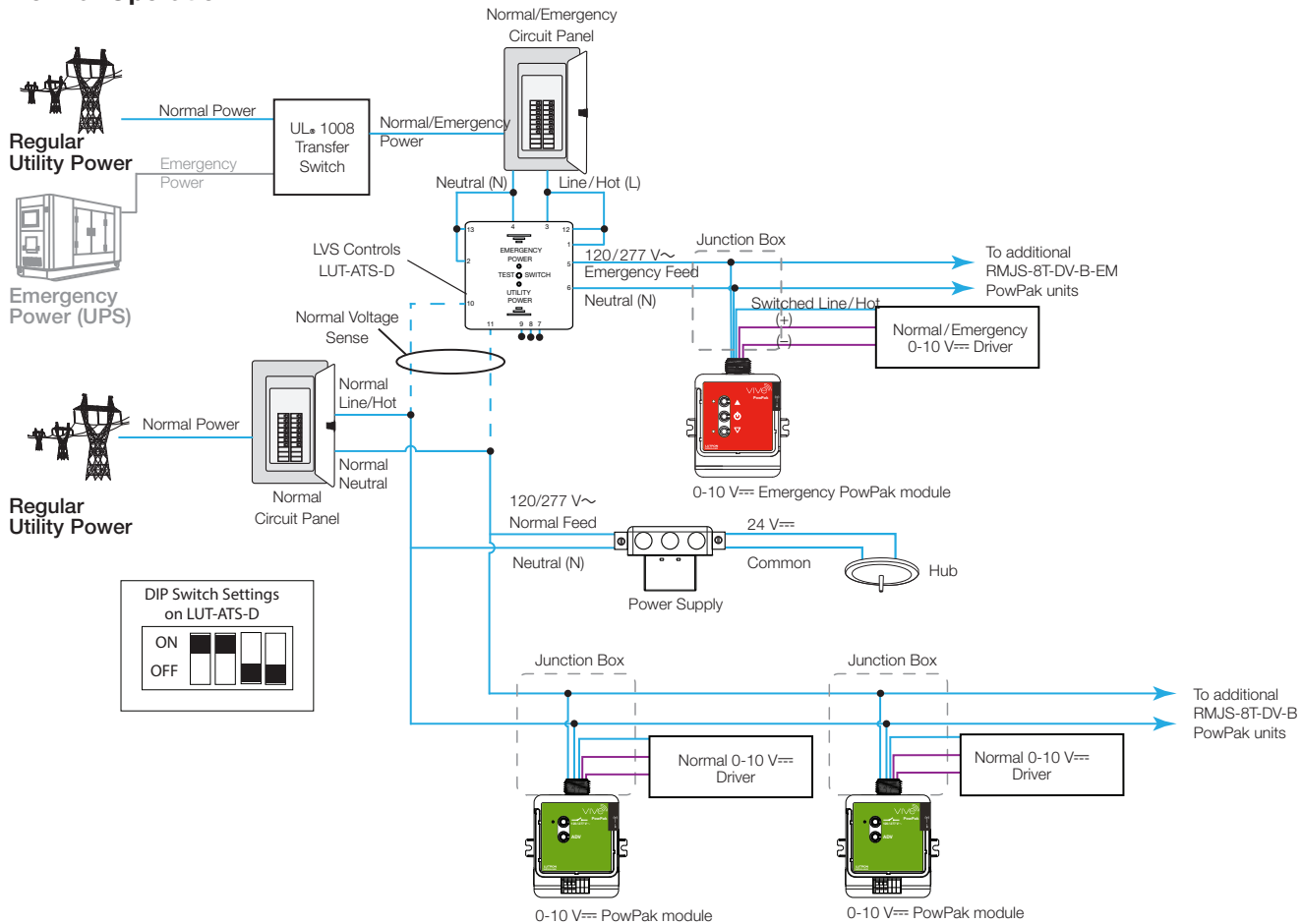
Wiring Schematic



Emergency PowPak 0-10 V \equiv Dimming Module (continued)

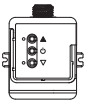
Module is powered by normal and emergency power on a UPS (continued)

Normal Operation

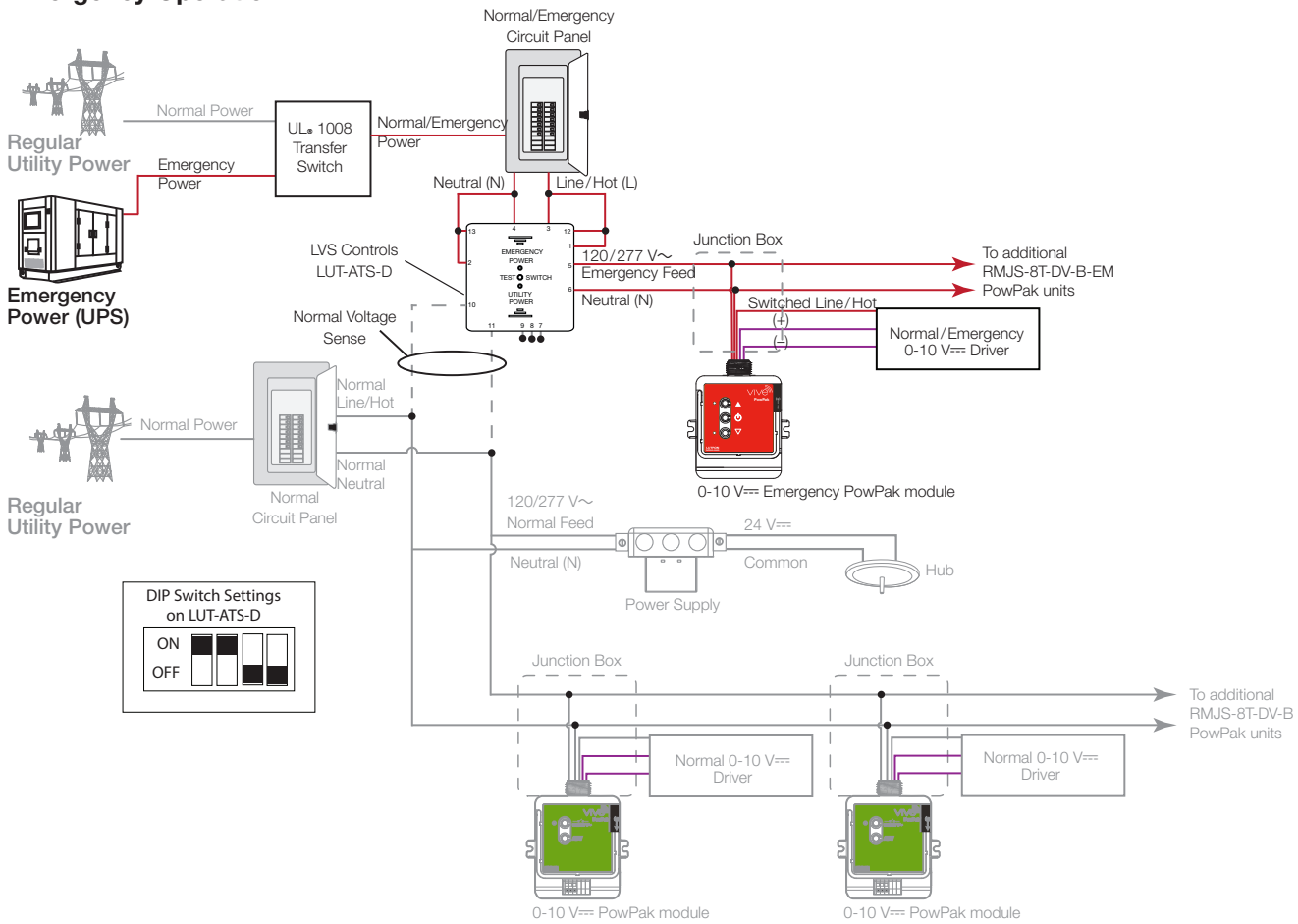


Emergency PowPak 0–10 V \equiv Dimming Module (continued)

Module is powered by normal and emergency power on a UPS (continued)



Emergency Operation



Emergency PowPak Relay Module with Softswitch



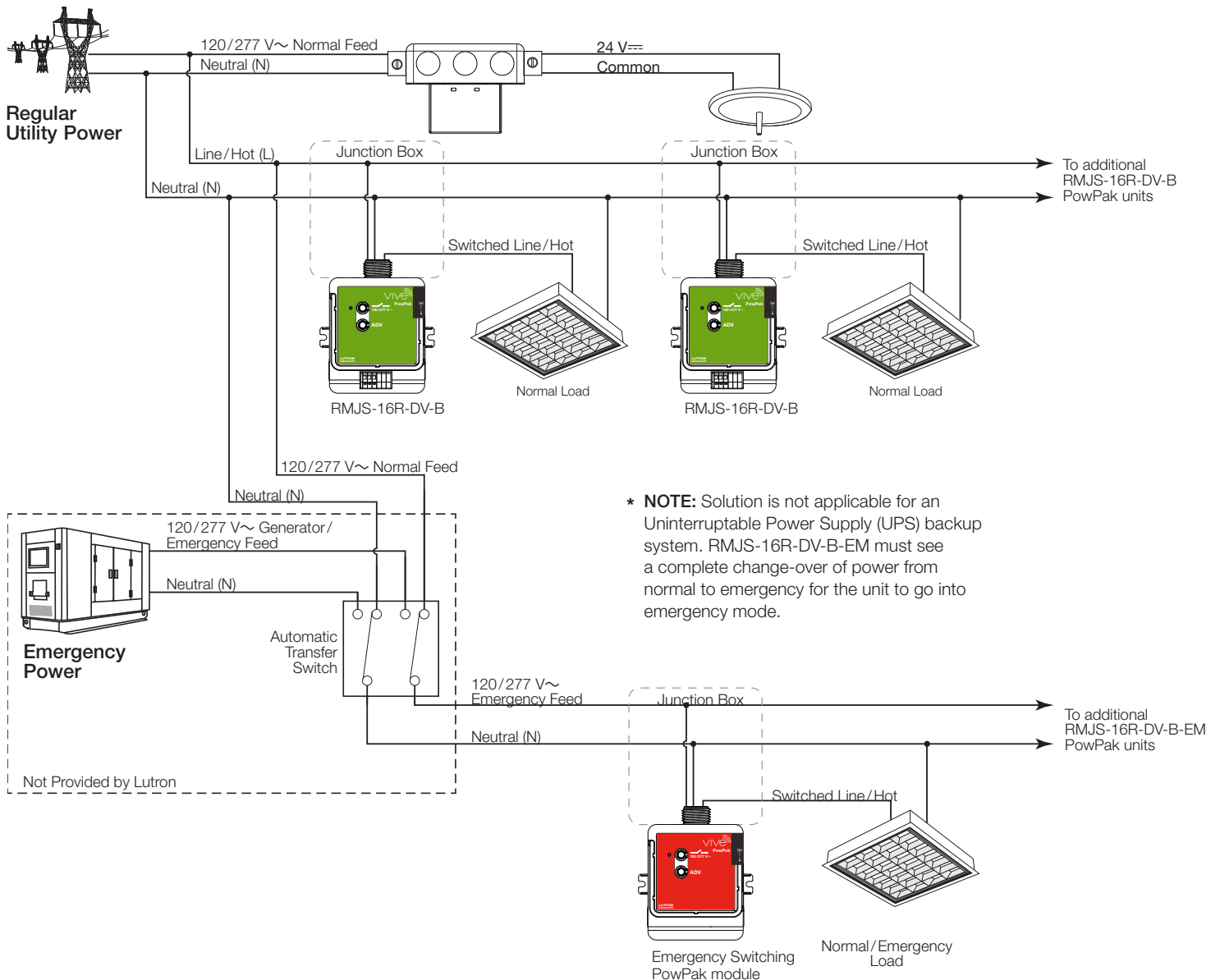
Module is powered by normal and emergency power on a generator

In all applications, the Emergency PowPak Relay Module with Softswitch is powered by normal and emergency power. During regular operation, the Automatic Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the Automatic Transfer Switch is in the Emergency position, allowing emergency backup power to power the device. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized. This applies to: **RMJS-16R-DV-B-EM**.

Note: When operating without a Vive hub, the Emergency PowPak Relay Module with Softswitch senses a power cycle and enters emergency mode for 90 minutes.

IMPORTANT: This solution is not applicable for use with an Uninterruptable Power Supply (UPS) backup system. For solutions with an Uninterruptable Power Supply (UPS) backup system, please refer to page 12.

Wiring Schematic



Emergency PowPak Relay Module with Softswitch (continued)

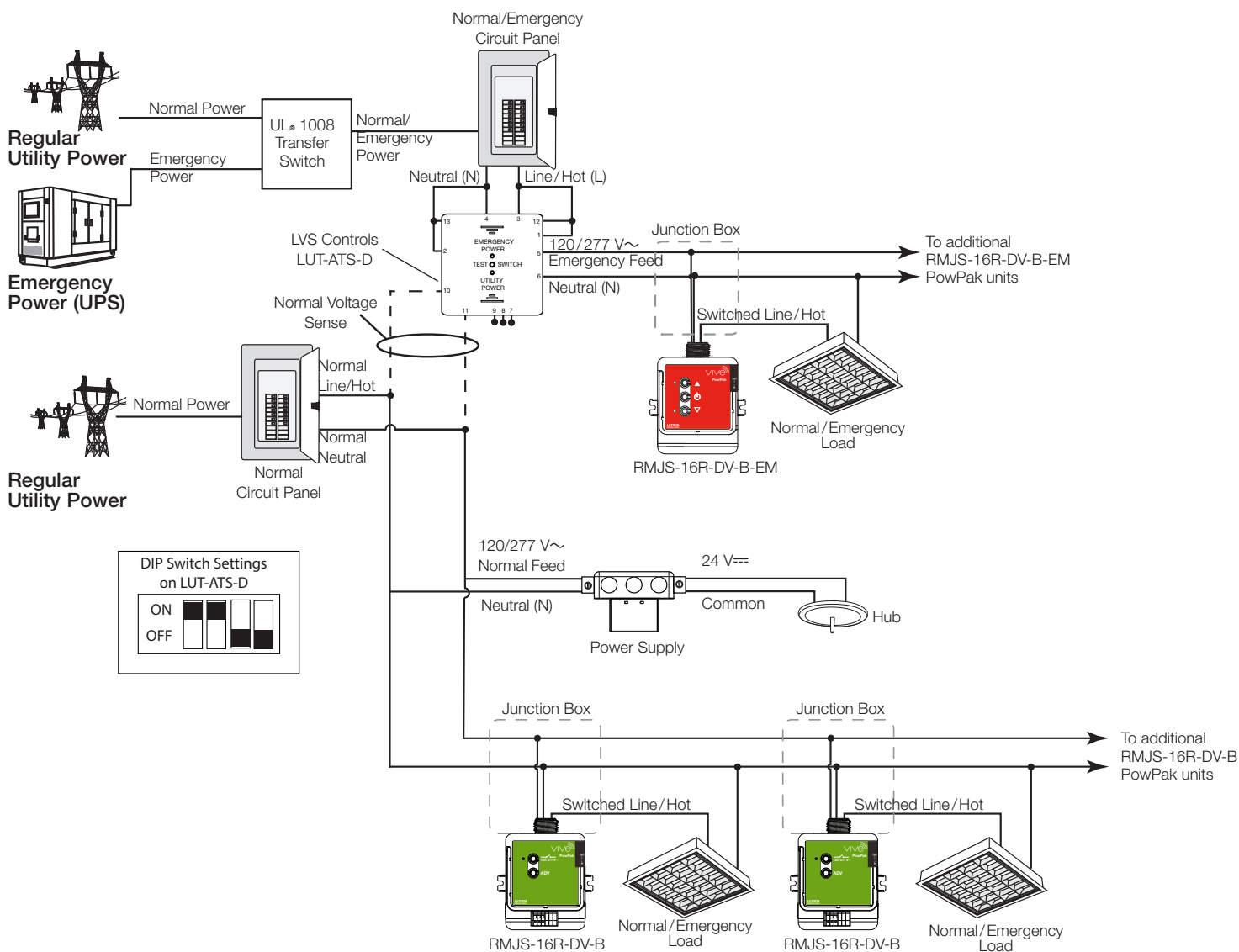


Module is powered by normal and emergency power on a UPS

In all applications, the Emergency PowPak Relay Module with Softswitch is powered by normal and emergency power. During regular operation, the UL® 1008 Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the LUT-ATS-D senses the loss of normal power and creates a power interrupt to the Emergency PowPak. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized. This applies to: **RMJS-16R-DV-B-EM**.

Note: When operating without a Vive hub, the Emergency PowPak Relay Module with Softswitch senses a power cycle and enters emergency mode for 90 minutes.

Wiring Schematic

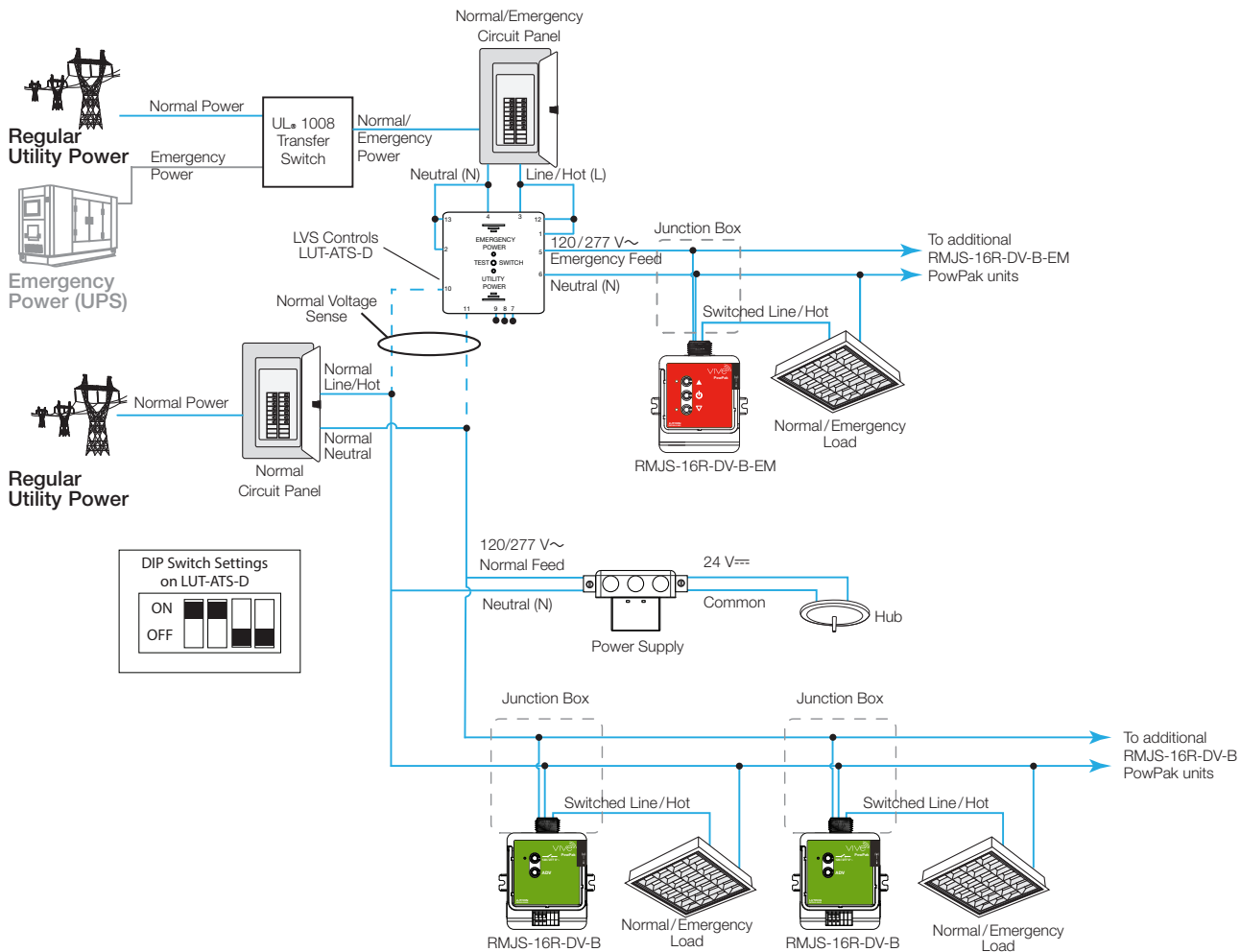


Emergency PowPak Relay Module with Softswitch (continued)



Module is powered by normal and emergency power on a UPS (continued)

Normal Operation

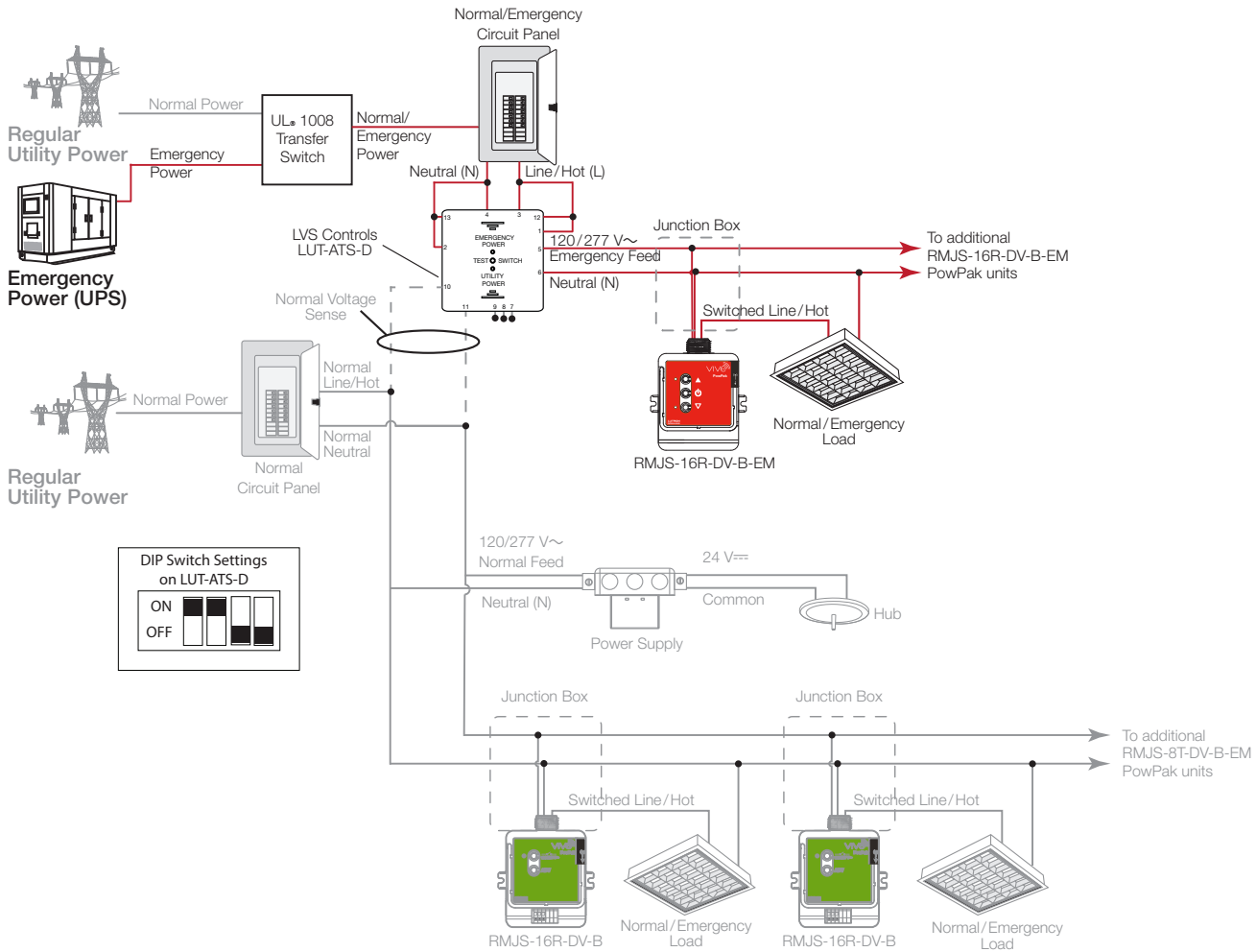


Emergency PowPak Relay Module with Softswitch (continued)

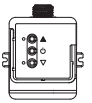


Module is powered by normal and emergency power on a UPS (continued)

Emergency Operation



Emergency PowPak EcoSystem Fixture Control



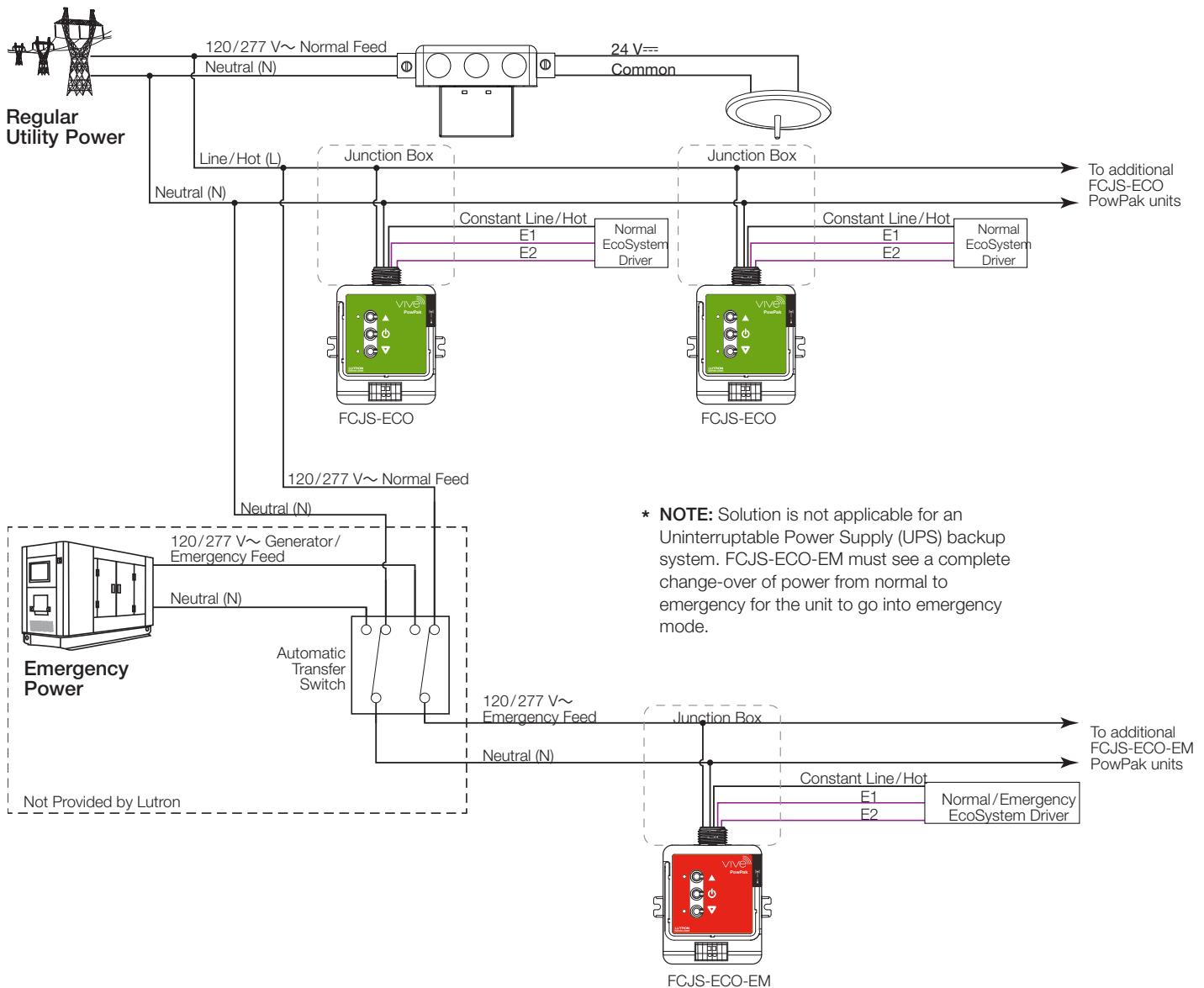
Fixture Control is powered by normal and emergency power on a generator

In all applications, the Emergency PowPak is powered by normal and emergency power. During regular operation, the Automatic Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the Automatic Transfer Switch is in the Emergency position, allowing emergency backup power to power the device. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized. This applies to: **FCJS-ECO-EM**.

Note: When operating without a Vive hub, the Emergency PowPak senses a power cycle and enters emergency mode for 90 minutes.

IMPORTANT: This solution is not applicable for use with an Uninterruptable Power Supply (UPS) backup system. For solutions with an Uninterruptable Power Supply (UPS) backup system, please refer to page 51.

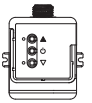
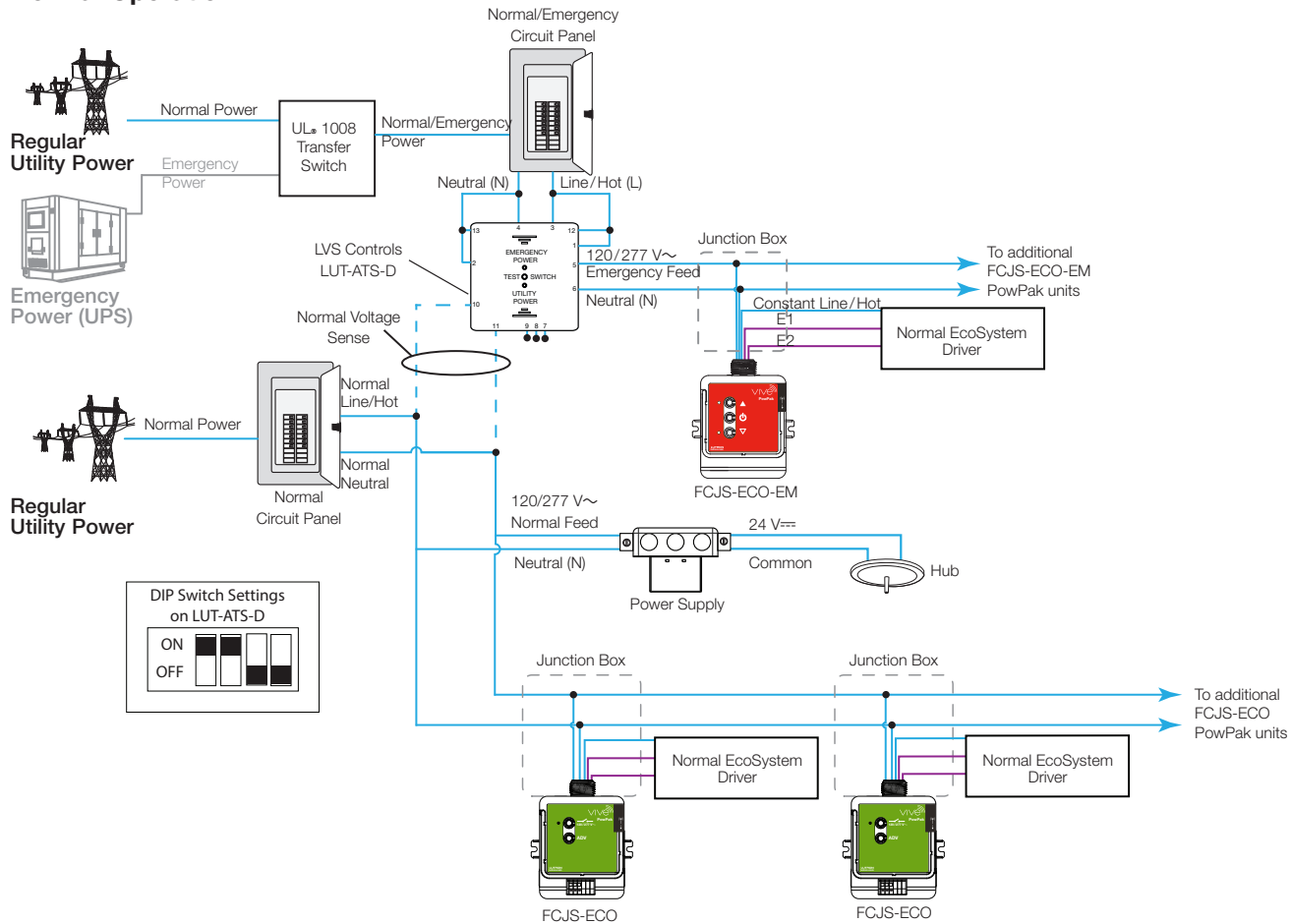
Wiring Schematic



Emergency PowPak EcoSystem Fixture Control *(continued)*

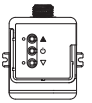
Fixture Control is powered by normal and emergency power on a UPS *(continued)*

Normal Operation

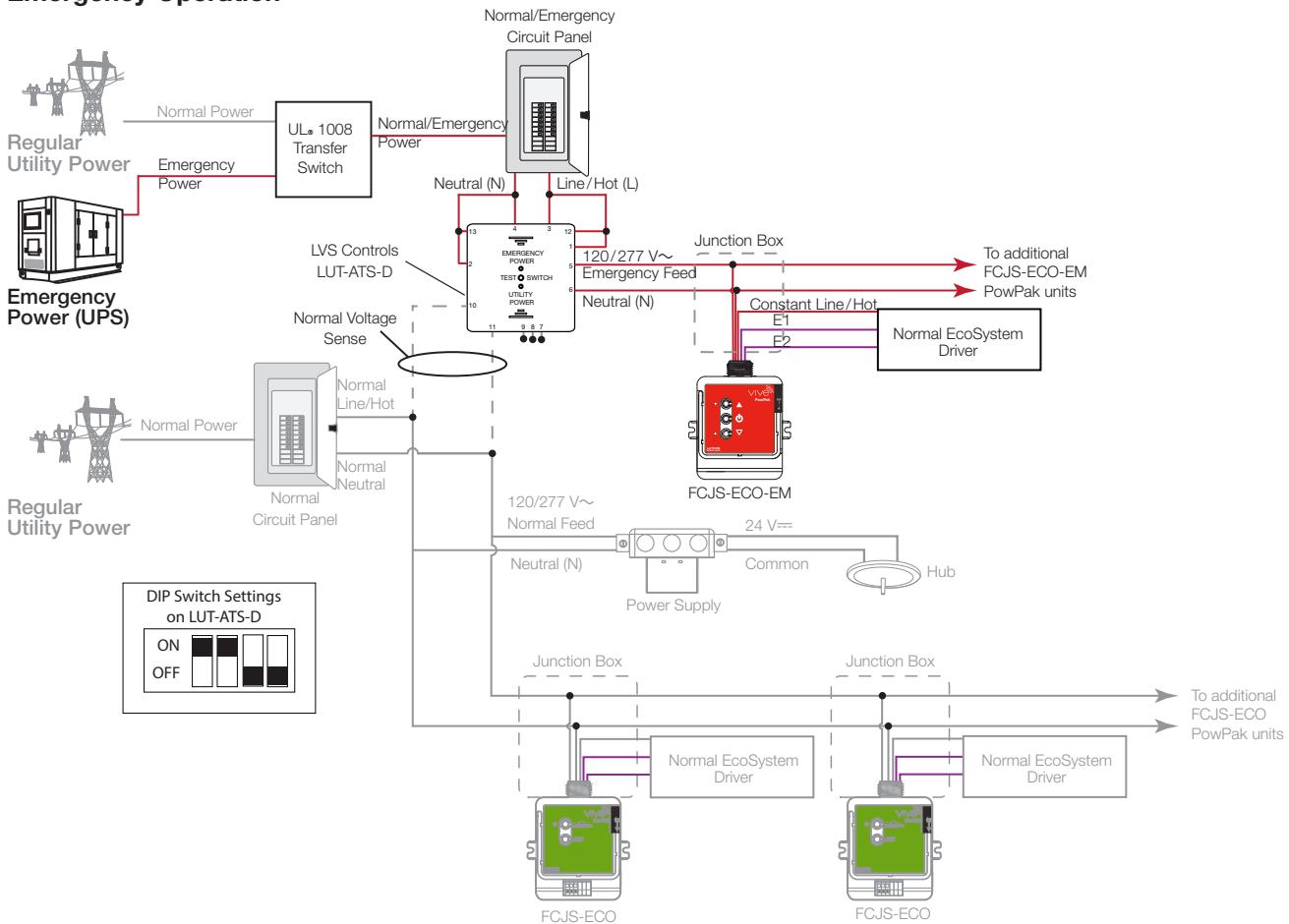


Emergency PowPak EcoSystem Fixture Control *(continued)*

Fixture Control is powered by normal and emergency power on a UPS *(continued)*



Emergency Operation



Emergency PowPak Phase Select Dimming Module



Module is powered by normal and emergency power on a generator

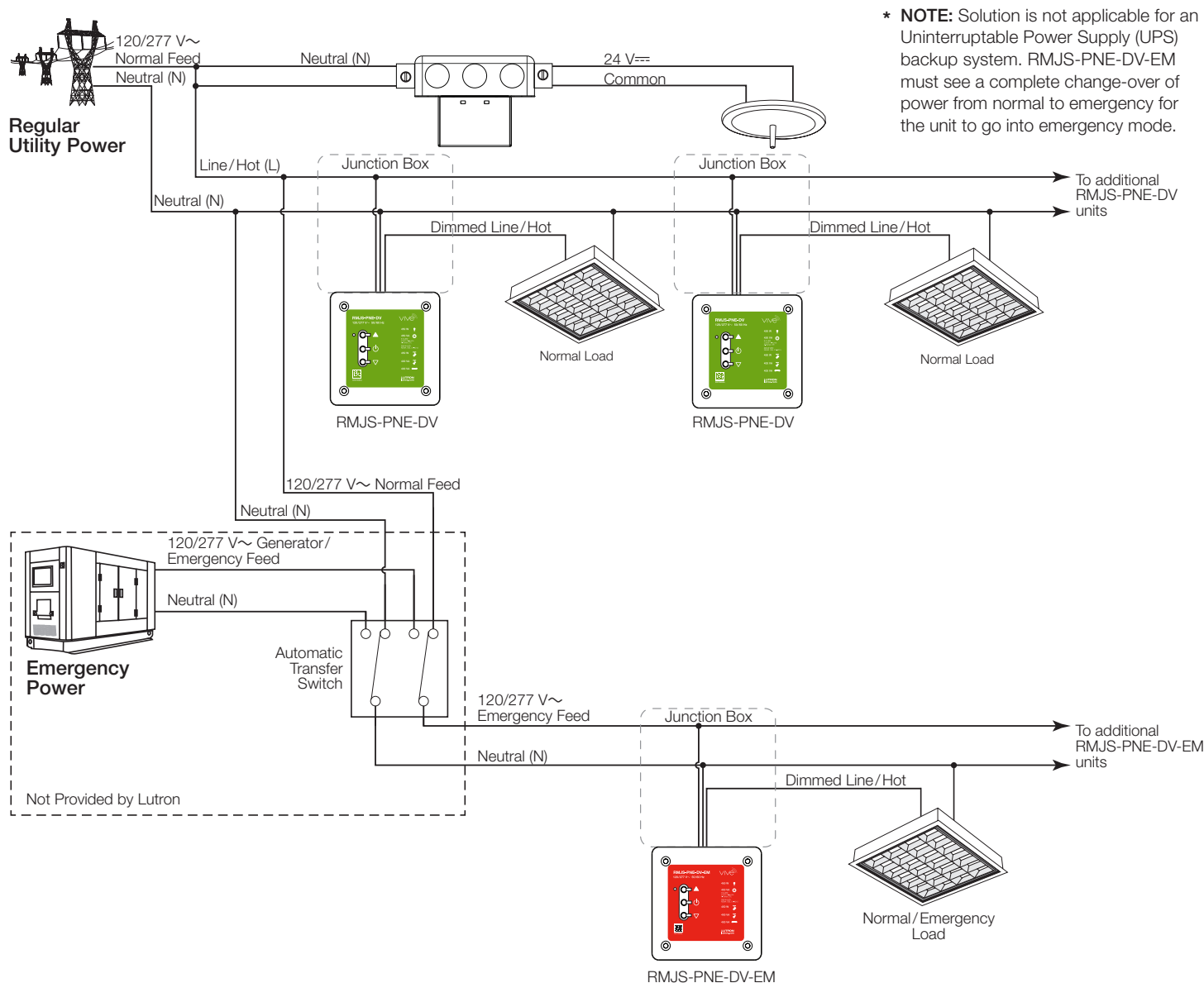
In all applications, the Emergency PowPak Phase Select Dimming module is powered by normal and emergency power. During regular operation, the Automatic Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the Automatic Transfer Switch is in the Emergency position, allowing emergency backup power to power the device. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized.

This applies to: **RMJS-PNE-DV-EM**.

Note: When operating without a Vive hub, the Emergency PowPak Phase Select Dimming module senses a power cycle and enters emergency mode for 90 minutes.

IMPORTANT: This solution is not applicable for use with an Uninterruptable Power Supply (UPS) backup system. For solutions with an Uninterruptable Power Supply (UPS) backup system, see app note #628 (P/N 048628) at www.lutron.com.

Wiring Schematic

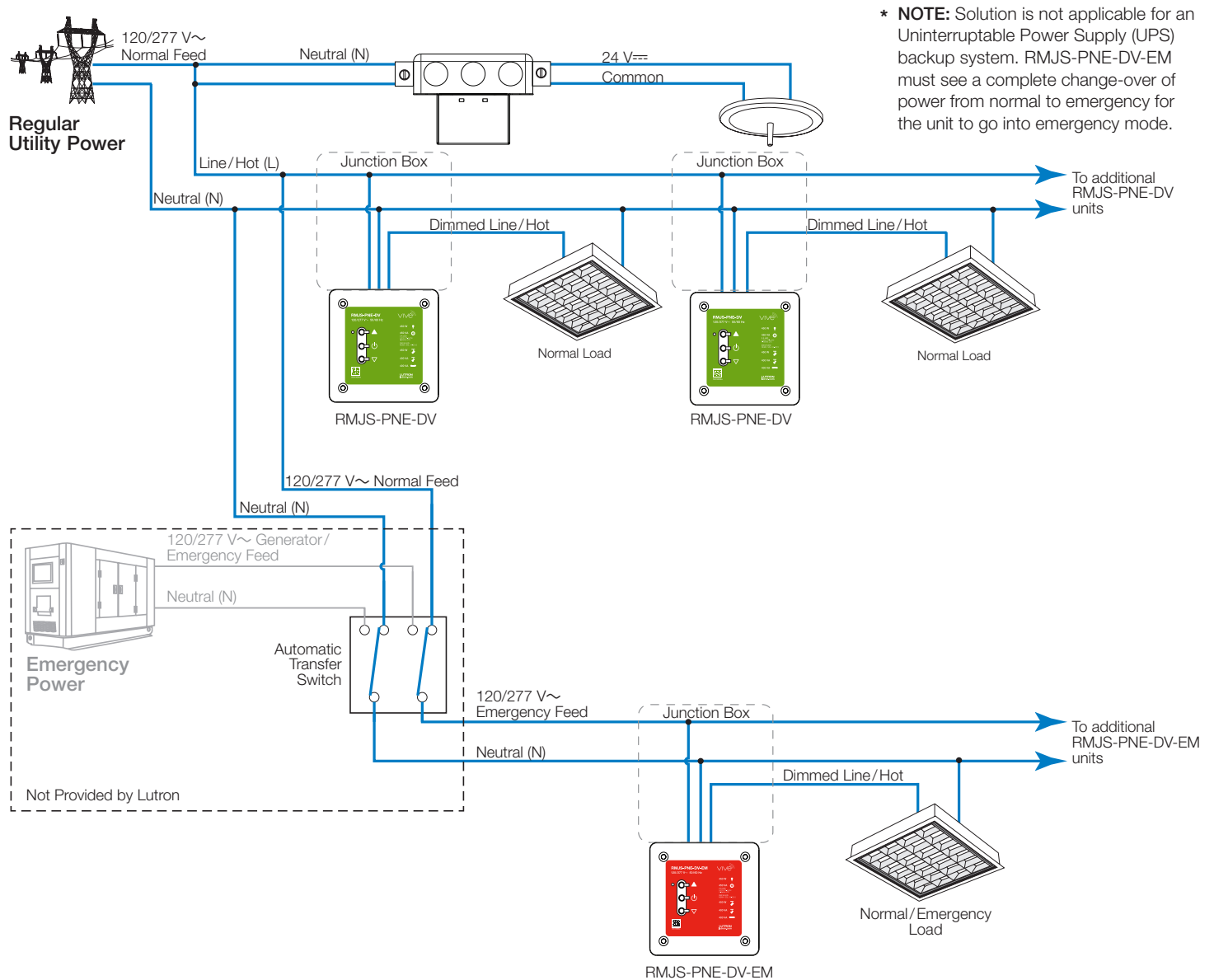


Emergency PowPak Phase Select Dimming Module (*continued*)



Module is powered by normal and emergency power on a generator (*continued*)

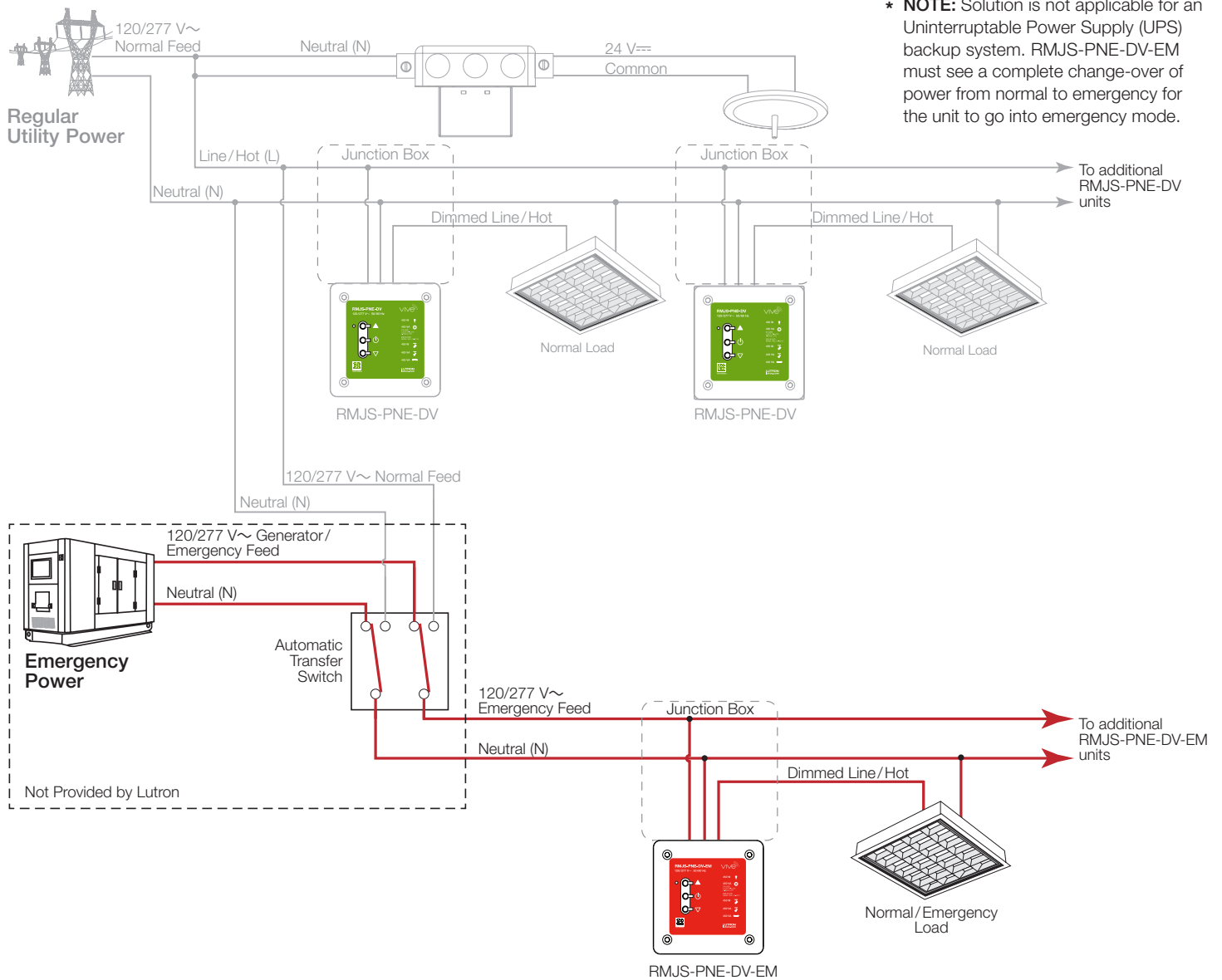
Regular Operation



Emergency PowPak Phase Select Dimming Module (*continued*)

Module is powered by normal and emergency power on a generator (*continued*)

Emergency Wiring



Emergency PowPak Phase Select Dimming Module (continued)

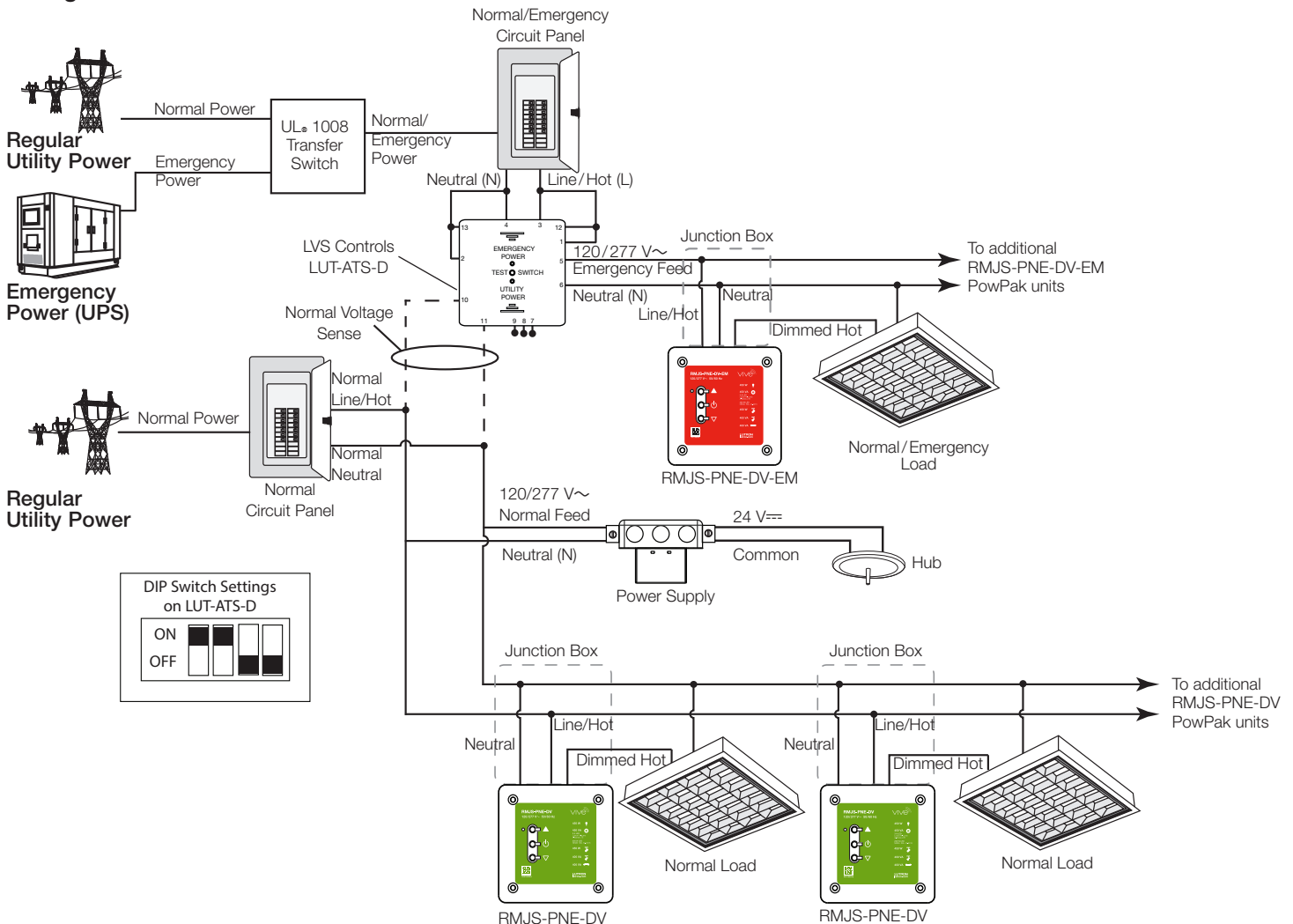


Module is powered by normal and emergency power on a UPS

In all applications, the Emergency PowPak Phase Select Dimming module is powered by normal and emergency power. During regular operation, the UL® 1008 Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the LUT-ATS-D senses the loss of normal power and creates a power interrupt to the Emergency PowPak. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized. This applies to: **RMJS-PNE-DV-EM**.

Note: When operating without a Vive hub, the Emergency PowPak Phase Select Dimming module senses a power cycle and enters emergency mode for 90 minutes.

Wiring Schematic

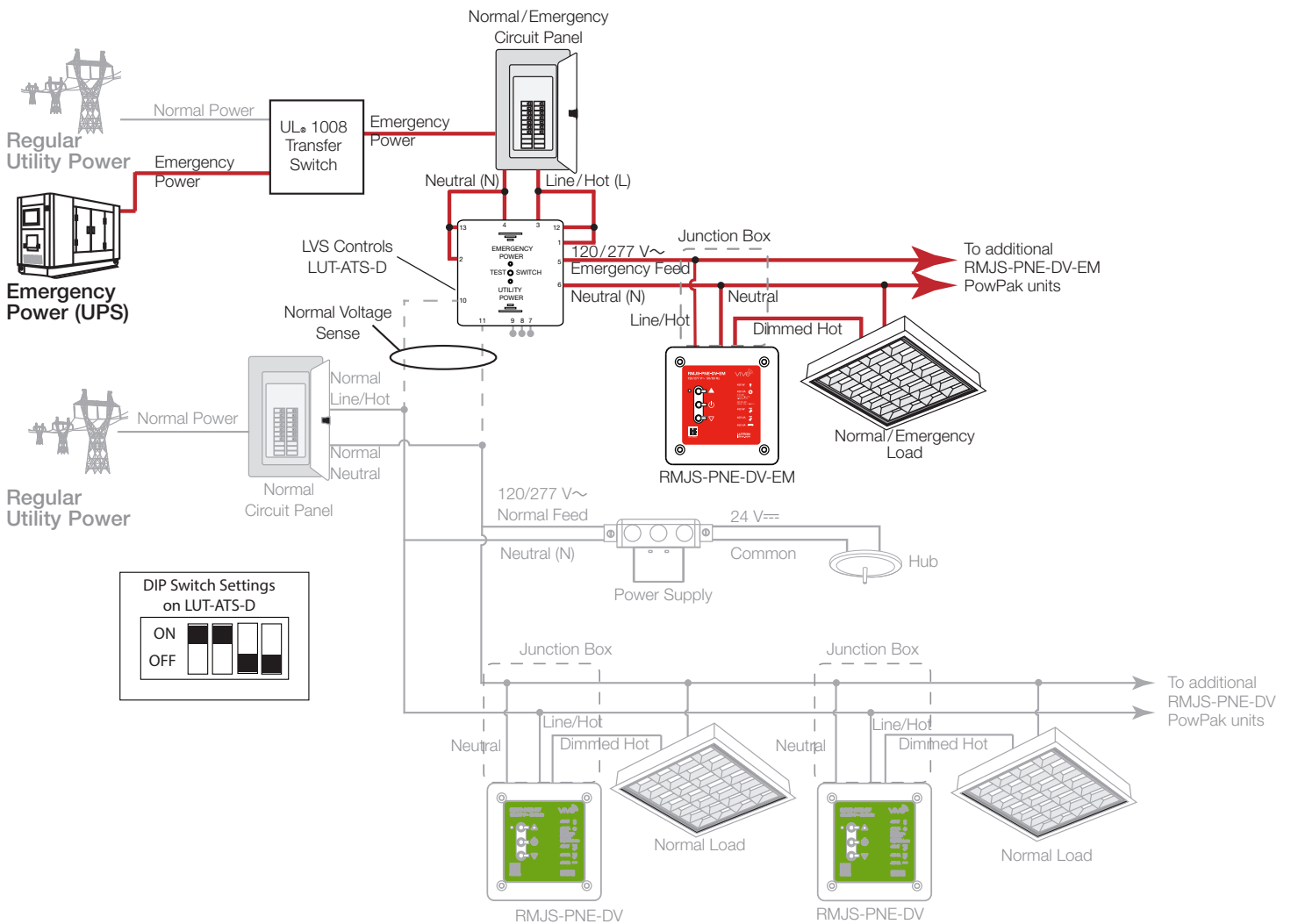


Emergency PowPak Phase Select Dimming Module (continued)

Module is powered by normal and emergency power on a UPS (continued)



Emergency Operation



Emergency PowPak 347 V~ 0–10 V== Dimming Module



Module is powered by normal and emergency power on a generator

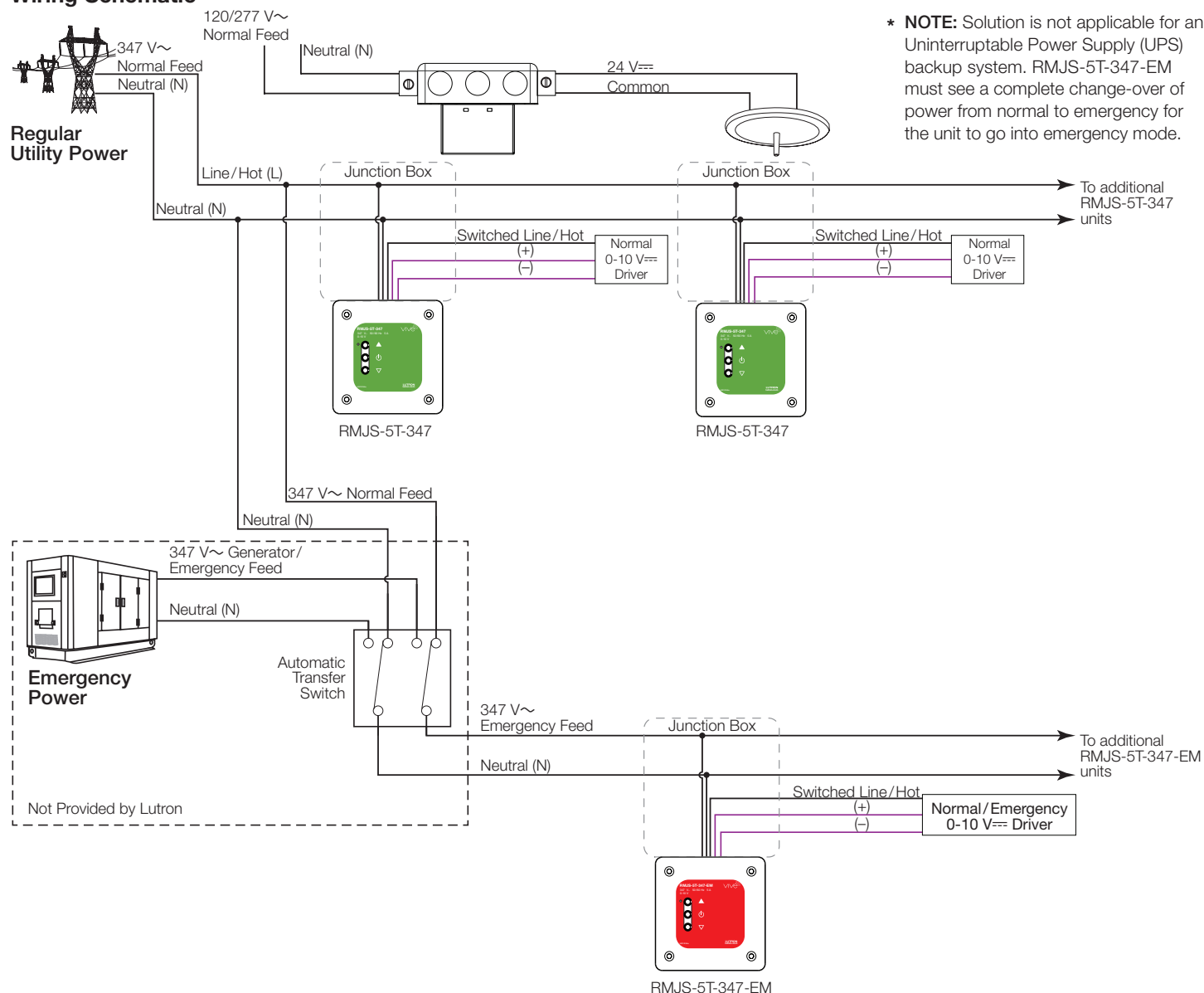
In all applications, the Emergency PowPak 347 V~ Dimming Module with 0–10 V== Control is powered by normal and emergency power. During regular operation, the Automatic Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the Automatic Transfer Switch is in the Emergency position, allowing emergency backup power to power the device. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized.

This applies to: **RMJS-5T-347-EM**.

Note: When operating without a Vive hub, the Emergency PowPak 347 V~ Dimming Module with 0–10 V== Control senses a power cycle and enters emergency mode for 120 minutes.

IMPORTANT: This solution is not applicable for use with an Uninterruptable Power Supply (UPS) backup system. For solutions with an Uninterruptable Power Supply (UPS) backup system, see app note #628 (P/N 048628) at www.lutron.com.

Wiring Schematic

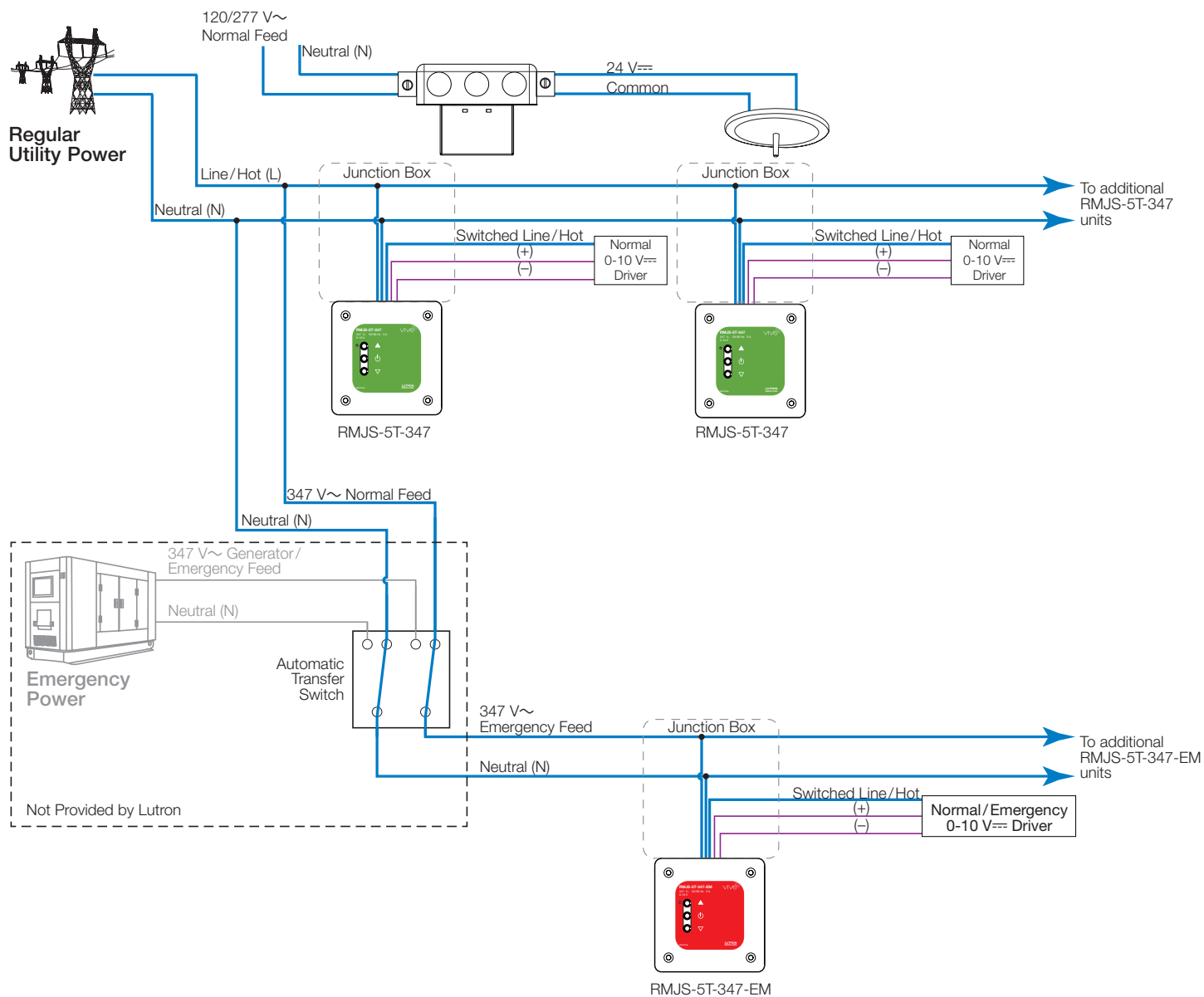


Emergency PowPak 347 V~ 0-10 V== Dimming Module (continued)

Module is powered by normal and emergency power on a generator (continued)



Regular Operation

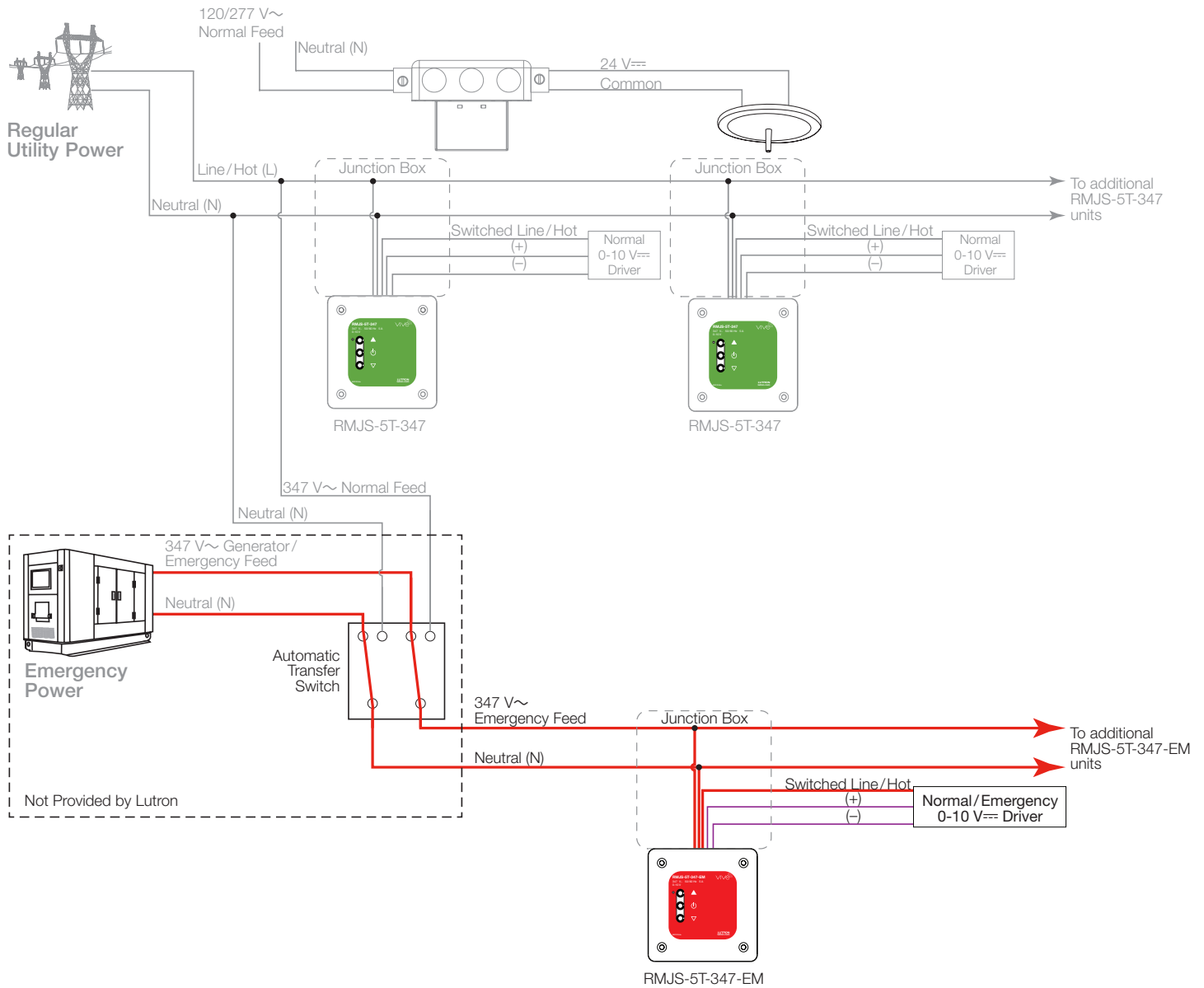


Emergency PowPak 347 V~ 0-10 V== Dimming Module (continued)

Module is powered by normal and emergency power on a generator (continued)



Emergency Operation



Emergency PowPak 347 V~ Relay Module



Module is powered by normal and emergency power on a generator

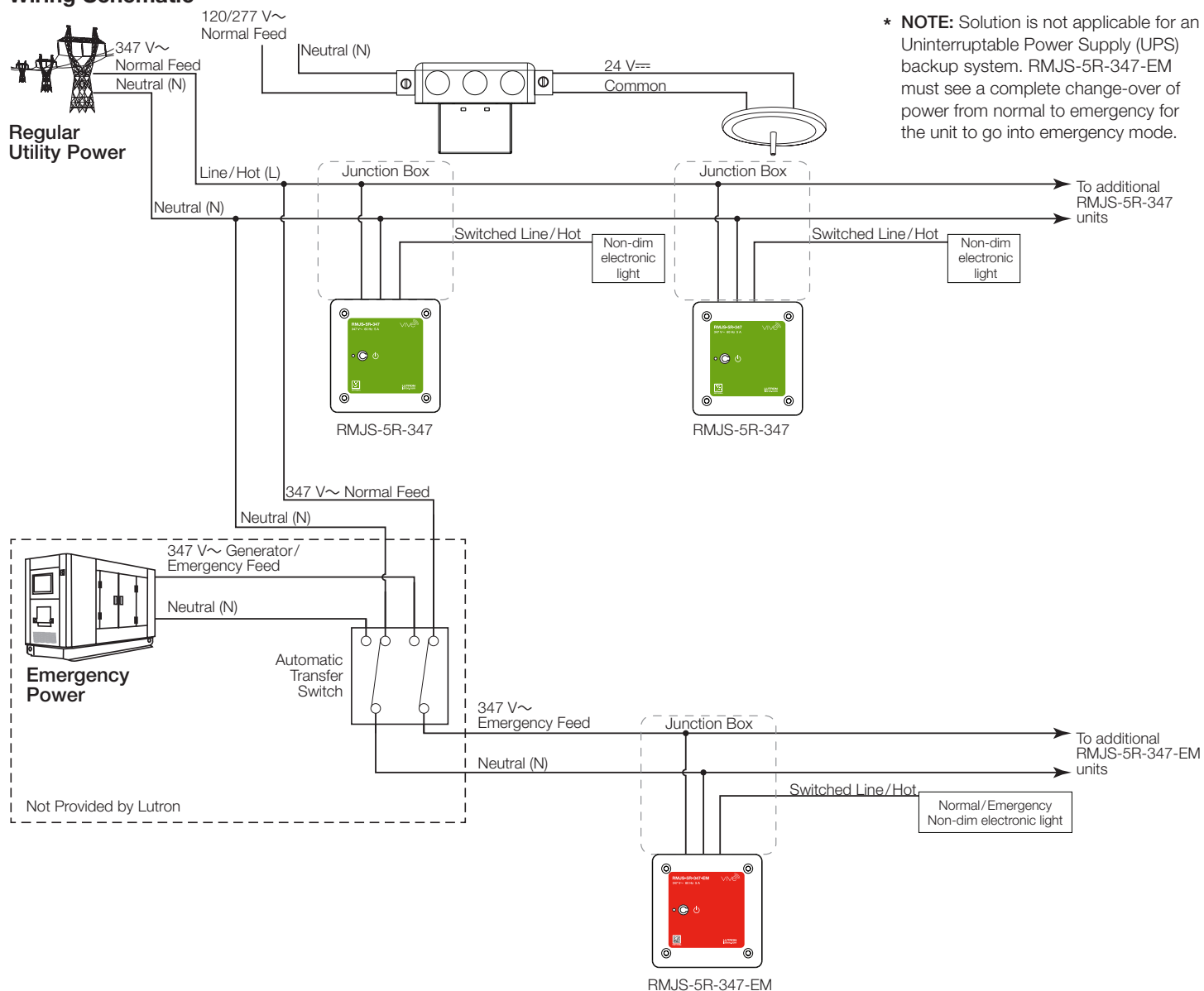
In all applications, the Emergency PowPak 347 V~ Relay Module is powered by normal and emergency power. During regular operation, the Automatic Transfer Switch is in the Normal position, allowing regular utility power to power the device. During emergency operation, the Automatic Transfer Switch is in the Emergency position, allowing emergency backup power to power the device. As a result, the device senses the power cycle and can no longer communicate with the Vive hub, thus entering emergency lighting mode until the Vive hub is re-energized.

This applies to: **RMJS-5R-347-EM.**

Note: When operating without a Vive hub, the Emergency PowPak 347 V~ Relay Module senses a power cycle and enters emergency mode for 120 minutes.

IMPORTANT: This solution is not applicable for use with an Uninterruptable Power Supply (UPS) backup system. For solutions with an Uninterruptable Power Supply (UPS) backup system, see app note #628 (P/N 048628) at www.lutron.com.

Wiring Schematic

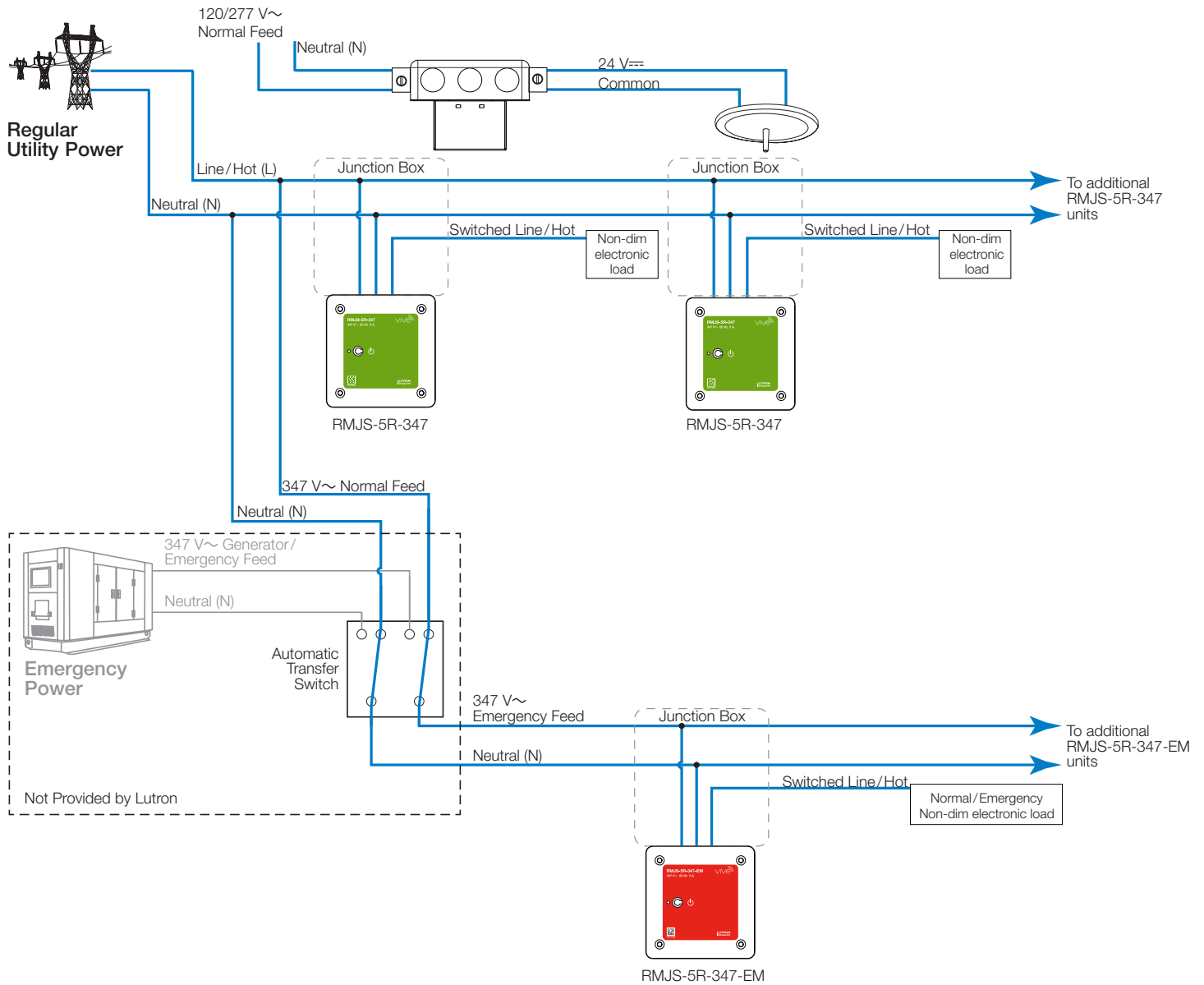


Emergency PowPak 347 V~ Relay Module (*continued*)

Module is powered by normal and emergency power on a generator (*continued*)



Regular Operation

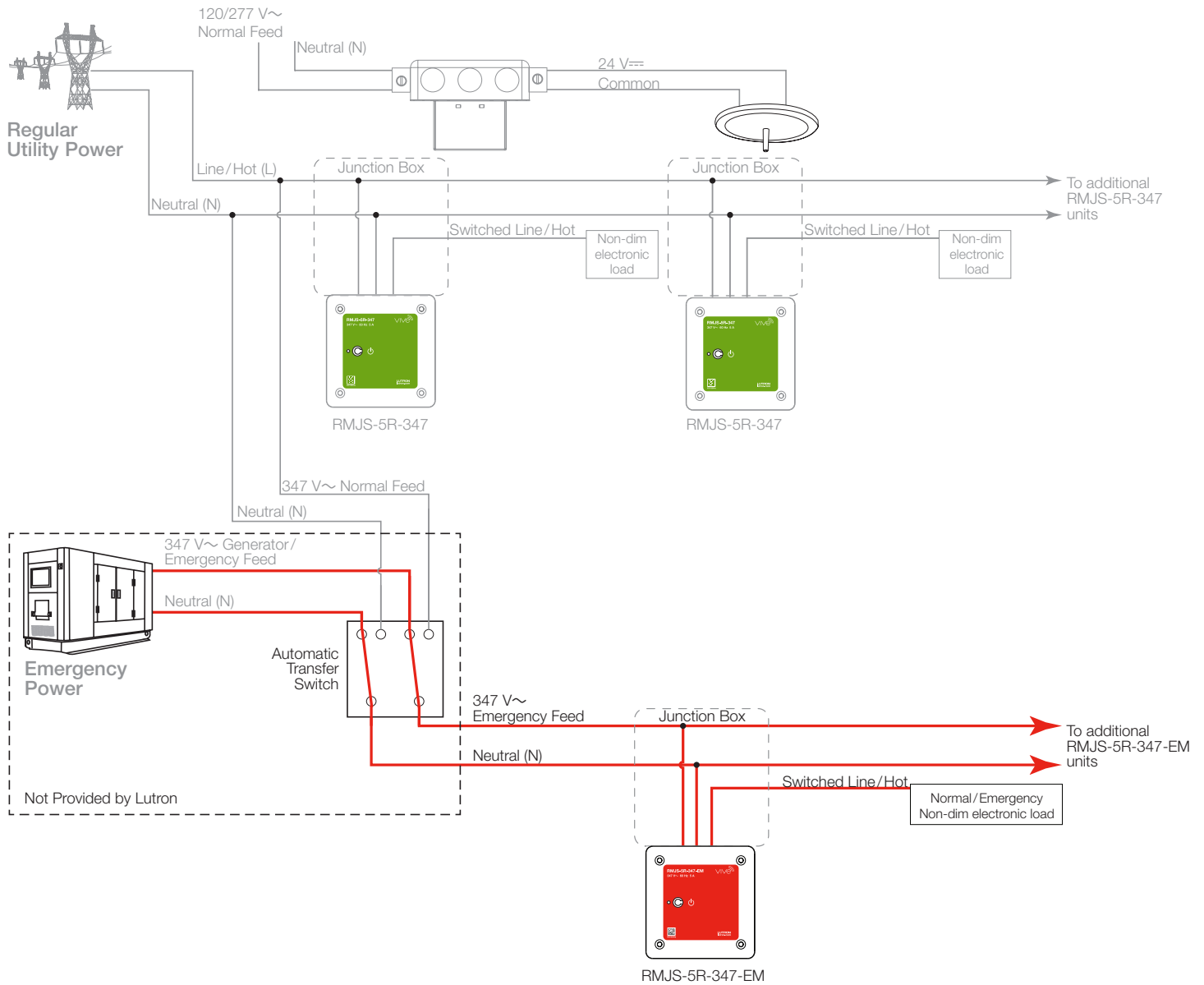


Emergency PowPak 347 V~ Relay Module (*continued*)

Module is powered by normal and emergency power on a generator (*continued*)



Emergency Operation



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