

## OVERVIEW

nLight AIR rPP power packs are designed to offer flexible control for commercial and industrial lighting applications. The rPP consists of a relay, 0-10V dimming control, and a low voltage power supply output to power and wireless sensors. The rPP is capable of switching loads up to 20 A via a latching relay designed with robust inrush protection. Select power packs provide +24VDC low voltage output to power up to 4 nLight AIR mounted occupancy sensors and photocells. The nLight AIR rPP is designed for use as part of an nLight AIR group of devices or with the nLight ECLYPSE™.

## POWER PACK FEATURES

- On/Off and dimming control of a luminaire or group of luminaires
- 24VDC output to power up to 4 nLight AIR rCMS low voltage sensors or other low voltage devices
- Suitable for plug load control
- UL924 listed options for simplified lighting control on emergency lighting circuits
- Power Monitoring with Current Measurement +/- 3% accuracy

## INSTALLATION FEATURES

- Wireless communication enables simple retrofits - no communication wires to pull between devices
- Chase nipple or side output dimming options
- UL2043 listed for plenum applications
- An optional external antenna (CP option) for meeting code specific requirements or IP-rated applications
- Simple app-based configuration of space behaviors

## ADVANCED WIRELESS FEATURES

- Devices intercommunicate to provide grouped-response to motion and on/off and dimming response to daylight conditions when wirelessly connected to a motion or daylight sensor, or on/off/dimming when connected to a wireless switch
- Fully compatible with other nLight AIR devices on the site
- Easy to integrate with the nLight ECLYPSE, which provides site-wide lighting control through nLight's SensorView software and provides optional BMS integration
- Comprehensive wireless security

## Warranty

Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

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## nLight® AIR rPP20 Power/Relay Pack



## ORDERING INFORMATION

rPP20		Example: rPP20 D 24V EFP G2				
Series	Dimming and Low Voltage Output			Emergency	Fault Protection	
RPP20 nLight AIR Power/Relay Pack	24V	No dimming, 24V Output Terminals	DS	0-10VDC dimming output (via side leads), no 24V output terminals	[blank] None	EFP External Fault Protection
	D	0-10VDC Dimming output (via chase nipple), no 24V Output Terminals	DS 24V	0-10VDC Dimming output (via side leads), 24V Output Terminals	ER UL924 Emergency Operation, via power sense leads	
	D 24V	0-10VDC dimming output (via chase nipple), 24V output terminals			EM UL924 Emergency Operation, via power interrupt detection	

Territory Compliance	Voltage	Power Monitoring	Generation
[blank] None	[blank] 120-277V <sup>2</sup>	[blank] None	G2 Generation 2 compatibility
CP <sup>1</sup> Chicago Plenum	UVOLT 120-480V <sup>2</sup>	IM Current Monitoring	

ACCESSORIES
NPP FUSE J10 Replacement Fuse

- Notes
1. Not available with UVOLT model.
  2. All phase-to-phase applications, including 208VAC and 480VAC, require factory installation.

## SPECIFICATIONS

Size: 3.50" x 3.52" x 1.82" (120-277V model)  
 4.725" x 4.80" x 1.865" (UVOLT model)

Weight: 6 oz

Mounting: 1/2" Knockout

Color: White (standard), Red (ER & EM)

Humidity: 5 to 95% non-condensing

Location: Damp Location Rating

Wires: Line and load 12 AWG stranded  
 Neutral, ground, and power sense (ER version) 18 AWG stranded  
 0-10V, 20 AWG stranded

Operating Voltage: 120-277VAC, 120-480VAC (UVOLT)

Relay type: Latching

Frequency: 50/60Hz

Current Monitoring: MVOLT versions include automatic voltage detection for power calculation. HVOLT versions require user input of voltage via SensorView to calculate power  
 Minimum Current required to ensure +/- 3% Accuracy  
 MVOLT - 425mA  
 UVOLT - 625mA

DC Output Terminals: Push-in Terminals, solid or tinned 16-20AWG

DC Output Voltage/Current: 24 VDC, 100 mA max output

0-10V Dimming: Sinks 150mA; 0-10VDC dimmable ballasts or LED drivers;

Radio Frequencies: 900 MHz up to +20dBm, 2.4 GHz up to +10 dBm

Wireless Standard: 900 MHz: IEEE 802.15.4-based; 2.4 GHz: Version 4.0+ of the Bluetooth specification

Security: Application Data Encryption AES-128 bit, Mutual Entity Authentication, Message Confidentiality, Message Authentication and Replay Prevention, Limited Anonymity  
 Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)

Regulatory Compliance: FCC ID: 2ADCB-RMODIT3  
 IC: 6715C-RMODIT3  
 IFETEL: RCPNLL20-2057  
 cULus  
 RoHS

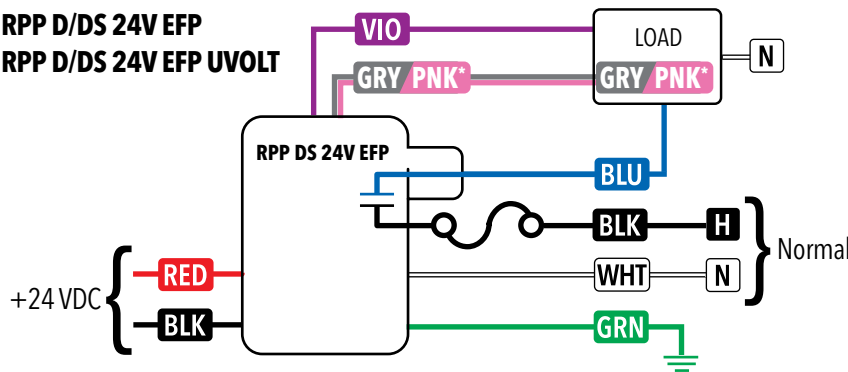
### Temperature and Load Ratings

Model	rPP20 (-10 to 50 C)		rPP20 (-10 to 60 C)		rPP20 UVOLT (-10 to 70C)			
Voltage	120 VAC	277 VAC	120 VAC	277 VAC	120 VAC	277 VAC	347 VAC	480 VAC
General Purpose	20 A	20 A	5 A	5 A	20 A	20 A	20 A	5 A
Tungsten	20 A	20 A	5 A	5 A	20 A	20 A	20 A	5 A
Standard Ballast	20 A	20 A	5 A	5 A	20 A	20 A	20 A	5 A
Electronic Ballast	16 A	16 A	5 A	5 A	16 A	16 A	16 A	5 A
Motor	1.5 HP	1.5 HP	1.5 HP	1.5 HP	1.5 HP	1.5 HP	3/4 HP	1/2 HP

## WIRING (Do not wire hot)

### RPP D/DS 24V EFP

### RPP D/DS 24V EFP UVOLT



### Legend

BLK - Unswitched Hot 120-277, 347VAC\*\*  
 WHT - Neutral  
 BLU - Switched Output  
 VIO - 0-10V Dim  
 PNK\* - 0-10V Common  
 RED (Terminal) - +24VDC  
 BLK (Terminal) - DC Common  
 GRN - Ground

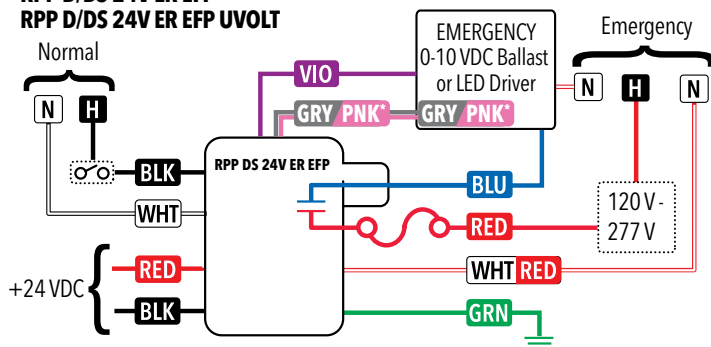
\*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC.

\*\*347 only supported by UVOLT option.

## WIRING FOR EMERGENCY (-ER) UNITS

### RPP D/DS 24V ER EFP

### RPP D/DS 24V ER EFP UVOLT



### Legend

RED - 120-277, 347VAC\*\* Emergency Hot  
 WHT/RED - Emergency Neutral  
 BLK - Unswitched Norm. Hot  
 WHT - Norm. Neutral  
 BLU - Switched Output  
 VIO - 0-10V Dim (+)  
 PNK\* - 0-10V Com (-)  
 RED (Terminal) - +24VDC  
 BLK (Terminal) - DC Com  
 GRN - Ground  
 [Symbol] - Optional Test Switch (by others)

\*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC

\*\*347 only supported by UVOLT option.

### UL924 Sequence of Operation:

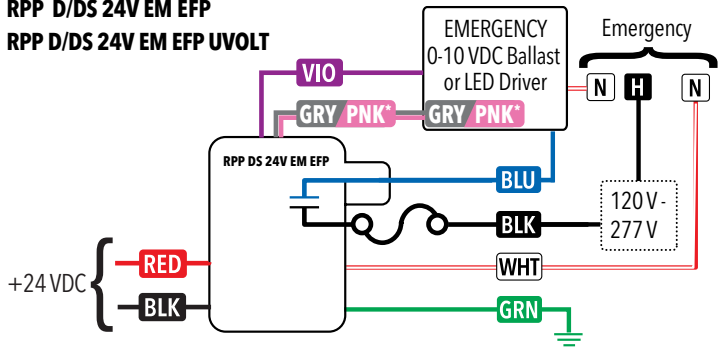
#### When normal power sense leads have absence of voltage

- Relay is closed and 0-10V dimming is at high end trim level
- Device ignores wireless lighting control commands

## WIRING FOR EMERGENCY (-EM) UNITS

### RPP D/DS 24V EM EFP

### RPP D/DS 24V EM EFP UVOLT



### Legend

BLK - 120-277, 347VAC\*\* Emergency Hot  
 WHT - Emergency Neutral  
 BLU - Switched Output  
 VIO - 0-10V Dim (+)  
 PNK\* - 0-10V Com (-)  
 RED (Terminal) - +24VDC  
 BLK (Terminal) - DC Com  
 GRN - Ground

\*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC

\*\*347 only supported by UVOLT option.

### UL924 Sequence of Operation:

#### For 90 minutes following any complete AC power interruption >30 ms:

- Relay is closed and 0-10V dimming is at high end trim level
- Device ignores wireless lighting control commands
- If another nLight AIR device in the nLight AIR group (as defined by CLAIRITY+) is on normal power, and has its power restored prior to the 90-minute timeout, the "EM" device will exit this override state and return to normal operation. This is accomplished by having a normal power device send an "exit EM" message to the "EM" device
- Devices that will send the "exit EM" command when normal power is present
  - Dimming Power Pack Devices (rPP20 D/DS)
  - ER Non-Dimming and Dimming Power Pack Devices (rPP20 D/DS ER)
  - Other nLight AIR Non-"EM" Devices (rLSXR, rSBOR, rSDGR, rIO, rES7, rMSOD)
- Devices that will not send the "exit EM" command when normal power is present
  - Non-Dimming Power Pack Devices (rPP20)
  - Other nLight AIR "EM" Devices (rPP20 EM, rLSXR EM, rSBOR EM, rSDGR EM, rIO EM, rES7 EM, rMSOD EM)
  - Ceiling Mount Sensors (rCMS)
  - Wall Switches (rPODB, rPODL)
  - nLight AIR Adapter (nECYD)
- Upon power up, "EM" devices will be at high trim setting for 90 minutes. During commissioning with CLAIRITY+, the device will exit this override when a device is identified or added to the grid.

## DIMENSIONS

