

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
- UL 924 listed options for simplified lighting control on emergency lighting circuits
- Power Monitoring with Current Measurement +/- 3% accuracy
- Programmable return to last state capability

INSTALLATION FEATURES

- Wireless communication enables simple retrofits - no communication wires to pull between devices
- Chase nipple or side output dimming options
- UL 2043 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

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



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.

*See ordering tree for details

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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	[blank]	None	DS	0-10VDC dimming output (via side leads), no 24V output terminals	[blank] ¹	None
		24V	No dimming, 24V Output Terminals			ER	UL924 Emergency Operation, via power sense leads
		D	0-10VDC Dimming output (via chase nipple), no 24V Output Terminals	DS 24V	0-10VDC Dimming output (via side leads), 24V Output Terminals	EM ²	UL924 Emergency Operation, via separate normal power sensing device
		D 24V	0-10VDC dimming output (via chase nipple), 24V output terminals				

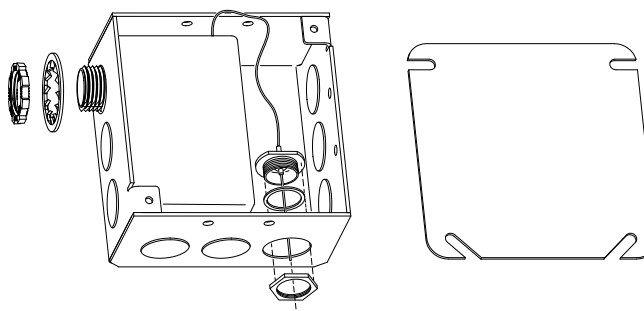
Territory Compliance		Voltage	Power Monitoring	Generation	
[blank]	None	[blank] ⁴ 120-277V	[blank] None	G2	Generation 2 compatibility
CP ³	Chicago Plenum	UVOLT ⁴ 120-480V	IM Current Monitoring		

ACCESSORIES	
NPP FUSE J10	Replacement Fuse

Notes

- Can provide normal power sensing information to nLight AIR devices with EM option. See the UL 924 Response section for more information.
- EM option requires an nLight AIR device connected to normal power for wireless normal power detection. See the UL 924 Response section for more information.
- Not available with UVOLT model. To be Chicago Plenum rated, the Power Pack must be installed within a junction box. See illustration below and [installation instructions](#) for more information.
- All phase-to-phase applications, including 208VAC and 480VAC, require factory installation.

Chicago Plenum



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 90% 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)

SCCR: 5kA

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

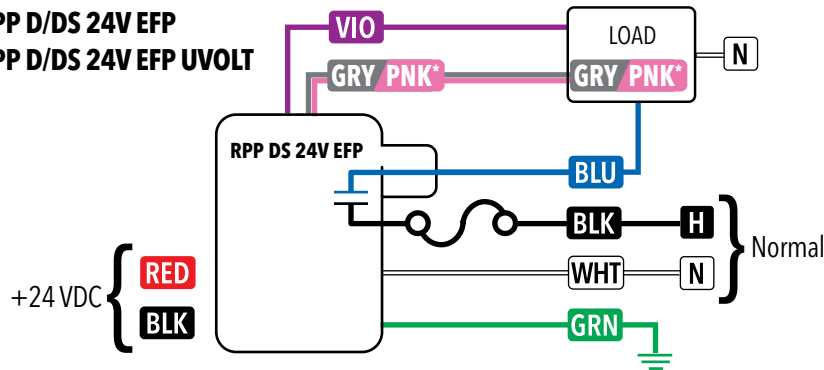
Temperature and Load Ratings

Model	rPP20 (14°F - 122°F) / (-10°C - 50°C)		rPP20 (14°F - 140°F) / (-10°C - 60°C)		rPP20 UVOLT (14°F - 158°F) / (-10°C - 70°C)			
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	8 A	6 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	0.5 HP	0.5 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

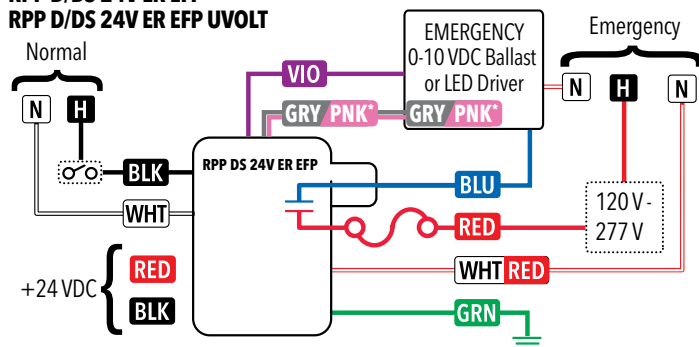
*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC.

**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
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.

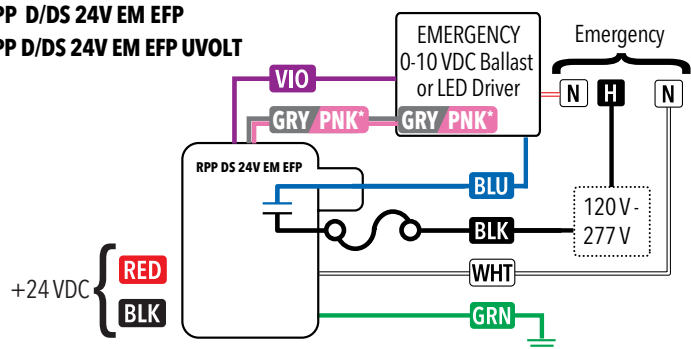
UL924 Sequence of Operation:

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.

UL 924 Response - nLight AIR Devices with EM Option

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the **CLAIRITY™** + mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

DIMENSIONS

