



R SERIES RELAY PANEL

OVERVIEW

The NexLight™ R Series relay control panel provides ON/OFF control of lighting and/or receptacle loads using world class 20A mechanically latching relays. These lighting control panels come in a NEMA/Type 1 enclosure and are factory wired in NexLight's UL508A shop. NexLight panel mounted system components are controlled via a dual processor CPU with an astronomical timeclock function. The easy-to-use Graphic User Interface (GUI) may be accessed through a Personal Computer (PC) for real-time programming, monitoring, and override of controlled loads on the NexLight system. The scheduling function is also accessed through the GUI and provides the end user with full control of the system whether on-site or from a remote location. Networking multiple panels together using the global addressing feature provides seamless control from a single platform.

FEATURES

- **20A Mechanically Latching Relays**
- **Graphic User Interface through a PC**
- **Networkable via Ethernet**
- **BACnet connectivity for BMS available via NXL-BMS accessory panel**
- **Built-in Real-Time-Clock (RTC) for scheduling**

SPECIFICATIONS

Physical

NEMA/Type: 1 (suitable for Plenum Installation)
 Mounting: Surface Mount
 Operating Temperature: 14° to 122°F (-10°C to 55°C)

Electrical (Control Wiring)

Output Signal: ±24VAC, 500mA
 Input Signal: 24VAC, Class II
 Ethernet: 10/100 Ethernet TCP/IP
 Modbus TCP (BACnet via NXL-BMS)
 Requires UPT Cable Category 5 or greater
 Connection via PoE Port not Allowed
 Max # of units: 250 (Ethernet)

Relays

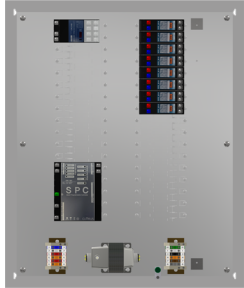
UL/cUL Listed: 20A 300 VAC Ballast
 20A 300/347 VAC General Use
 16A 300 VAC Electronic Ballast
 ½ HP 110-125 VAC Motor
 1½ HP 220-277 VAC Motor

ADDITIONAL ACCESSORIES

NXL-OPC: Outdoor PhotoCell Integration Panel, Remote Mounting (8"H x 8"W x 4"D)
 NXL-OOP5: Dimming Expansion, (8) Channels of 0-10 Dimming (100mA Sinking per Channel) (8"H x 8"W x 4"D)
 NXL-AVI: A/V Integration, (8) Dry Contact Inputs (8"H x 8"W x 4"D)
 NXL-BMS: BACnet Protocol Conversion Panel for Building Management System (BMS) Integration (12"H x 12"W x 6"D)
 NXL-AMP: Amplifier Panel for NexLight Data Bus, Supports an additional 485 mA of system devices (12"H x 12"W x 6"D)

**See individual accessory specification sheet for more information

NXL-R8s



Alternate Available Part Numbers:
NXL-R8i & NXL-R8a

Included Components

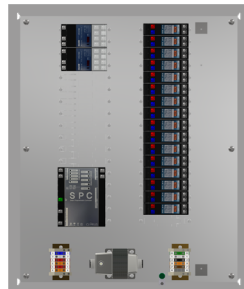
- 8 CRC7000 20 Amp Relays
- 1 CRC1301 SPC₁
- 1 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-240-1 Panel Assembly

Physical Specifications

| | |
|------------------------|------------------------------|
| NEMA/Type: | 1 |
| Mounting: | Surface Mount |
| Dimensions: | 24.00"H x 20.00"W x 6.00"D |
| Weight: | 46 lbs |
| Addresses Available: | 64 ₁ |
| Addresses Used: | 8 |
| mA Available: | 450 |
| mA Draw: | 2 |
| Operating Temperature: | 14° to 122°F (-10°C to 55°C) |

1 Alternate System Devices Available;
Reference Part Number Information Table

NXL-R16s



Alternate Available Part Numbers:
NXL-R16i & NXL-R16a

Included Components

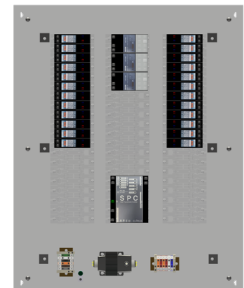
- 16 CRC7000 20 Amp Relays
- 1 CRC1301 SPC₁
- 2 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-240-1 Panel Assembly

Physical Specifications

| | |
|------------------------|------------------------------|
| NEMA/Type: | 1 |
| Mounting: | Surface Mount |
| Dimensions: | 24.00"H x 20.00"W x 6.00"D |
| Weight: | 49 lbs |
| Addresses Available: | 64 ₁ |
| Addresses Used: | 16 |
| mA Available: | 450 |
| mA Draw: | 4 |
| Operating Temperature: | 14° to 122°F (-10°C to 55°C) |

1 Alternate System Devices Available;
Reference Part Number Information Table

NXL-R24s



Alternate Available Part Numbers:
NXL-R24i & NXL-R24a

Included Components

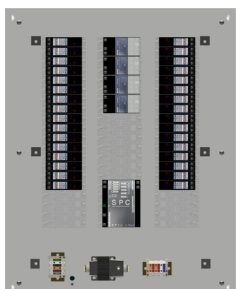
- 24 CRC7000 20 Amp Relays
- 1 CRC1301 SPC₁
- 3 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-300-1 Panel Assembly

Physical Specifications

| | |
|------------------------|------------------------------|
| NEMA/Type: | 1 |
| Mounting: | Surface Mount |
| Dimensions: | 30.00"H x 24.00"W x 6.00"D |
| Weight: | 69 lbs |
| Addresses Available: | 64 ₁ |
| Addresses Used: | 24 |
| mA Available: | 450 |
| mA Draw: | 6 |
| Operating Temperature: | 14° to 122°F (-10°C to 55°C) |

1 Alternate System Devices Available;
Reference Part Number Information Table

NXL-R32s



Alternate Available Part Numbers:
NXL-R32i & NXL-R32a

Included Components

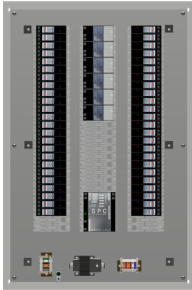
- 32 CRC7000 20 Amp Relays
- 1 CRC1301 SPC₁
- 4 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-300-1 Panel Assembly

Physical Specifications

| | |
|------------------------|------------------------------|
| NEMA/Type: | 1 |
| Mounting: | Surface Mount |
| Dimensions: | 30.00"H x 24.00"W x 6.00"D |
| Weight: | 73 lbs |
| Addresses Available: | 64 ₁ |
| Addresses Used: | 32 |
| mA Available: | 450 |
| mA Draw: | 8 |
| Operating Temperature: | 14° to 122°F (-10°C to 55°C) |

1 Alternate System Devices Available;
Reference Part Number Information Table

NXL-R48s



Alternate Available Part Numbers:
NXL-R48i & NXL-R48a

Included Components

- 48 CRC7000 20 Amp Relays
- 1 CRC1301 SPC₁
- 6 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-360-1 Panel Assembly

Physical Specifications

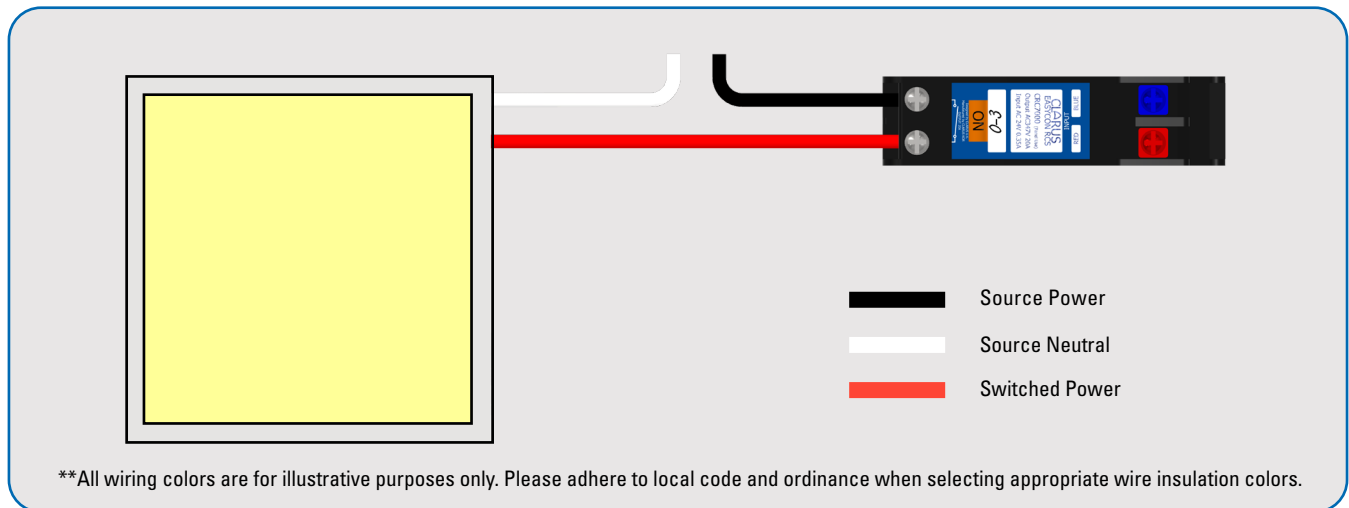
- NEMA/Type: 1
- Mounting: Surface Mount
- Dimensions: 36.00"H x 24.00"W x 6.00"D
- Weight: 80 lbs
- Addresses Available: 64₁
- Addresses Used: 48
- mA Available: 450
- mA Draw: 12
- Operating Temperature: 14° to 122°F (-10°C to 55°C)

¹ Alternate System Devices Available;
Reference Part Number Information Table

PART NUMBER INFORMATION TABLE

| Part Number Information | | |
|--|--------------------|---------------------------|
| Example Used: | NXL-R8s | |
| (R) R Series Panel | (8) 20A Relays | (s) System Device CRC1301 |
| Available Relay Quantities for the R Series Panels: 8, 16, 24, 32, 48 | | |
| Available System Devices for the R Series Panels: (i) CRC1201, (s) CRC1301, (a) CRC6001* | | |
| Component P/N | Description | Addresses Available |
| CRC1201 | Large Capacity CPU | 256 |
| CRC1301 | Small Capacity CPU | 64 |
| CRC6001 | Data Bus Amplifier | 0 |
| *Use of the CRC6001 makes the R Series Panel an Auxiliary Panel | | |


WIRING DIAGRAM



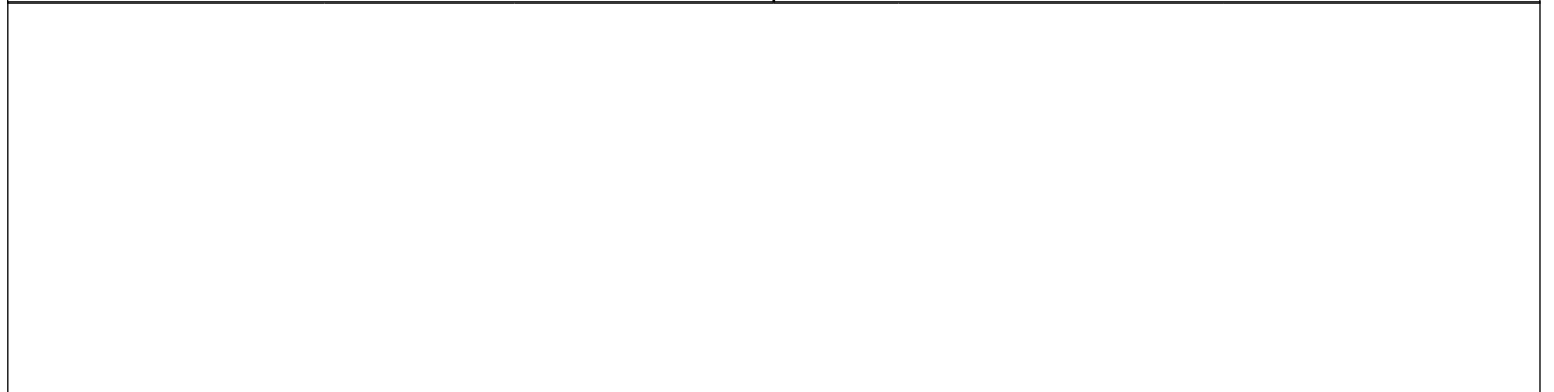
PANEL SELECTION TABLE

| PANEL SELECTED | PART # | DESCRIPTION | SYSTEM DEVICE USED | ADDRESSES AVAILABLE |
|----------------|----------|--|--------------------|---------------------|
| | NXL-R8s | 8 Relay Panel, Astronomic Timeclock (SPC) (24"H x 20"W x 6"D) | CRC1301 | 56 |
| | NXL-R8i | 8 Relay Panel, Astronomic Timeclock (IPC) (24"H x 20"W x 6"D) | CRC1201 | 248 |
| | NXL-R8a | 8 Relay Panel, Astronomic Timeclock (AUX) (24"H x 20"W x 6"D) | CRC6001 | 0 |
| | NXL-R16s | 16 Relay Panel, Astronomic Timeclock (SPC) (24"H x 20"W x 6"D) | CRC1301 | 48 |
| | NXL-R16i | 16 Relay Panel, Astronomic Timeclock (IPC) (24"H x 20"W x 6"D) | CRC1201 | 240 |
| | NXL-R16a | 16 Relay Panel, Astronomic Timeclock (AUX) (24"H x 20"W x 6"D) | CRC6001 | 0 |
| | NXL-R24s | 24 Relay Panel, Astronomic Timeclock (SPC) (30"H x 24"W x 6"D) | CRC1301 | 40 |
| | NXL-R24i | 24 Relay Panel, Astronomic Timeclock (IPC) (30"H x 24"W x 6"D) | CRC1201 | 232 |
| | NXL-R24a | 24 Relay Panel, Astronomic Timeclock (AUX) (30"H x 24"W x 6"D) | CRC6001 | 0 |
| | NXL-R32s | 32 Relay Panel, Astronomic Timeclock (SPC) (30"H x 24"W x 6"D) | CRC1301 | 32 |
| | NXL-R32i | 32 Relay Panel, Astronomic Timeclock (IPC) (30"H x 24"W x 6"D) | CRC1201 | 224 |
| | NXL-R32a | 32 Relay Panel, Astronomic Timeclock (AUX) (30"H x 24"W x 6"D) | CRC6001 | 0 |
| | NXL-R48s | 48 Relay Panel, Astronomic Timeclock (SPC) (36"H x 24"W x 6"D) | CRC1301 | 16 |
| | NXL-R48i | 48 Relay Panel, Astronomic Timeclock (IPC) (36"H x 24"W x 6"D) | CRC1201 | 208 |
| | NXL-R48a | 48 Relay Panel, Astronomic Timeclock (AUX) (36"H x 24"W x 6"D) | CRC6001 | 0 |




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|--------------------|----------|-------------------|----------------------------|--|
| PANEL NAME: | | IP ADDRESS: | |  |
| MOUNTING LOCATION: | | SUBNET MASK: | | |
| TRANSFORMER FEED: | | DEFAULT GATEWAY: | | |
| PANEL TYPE: | NXL-R24s | PANEL DIMENSIONS: | 30.00"H x 24.00"W x 6.00"D | |

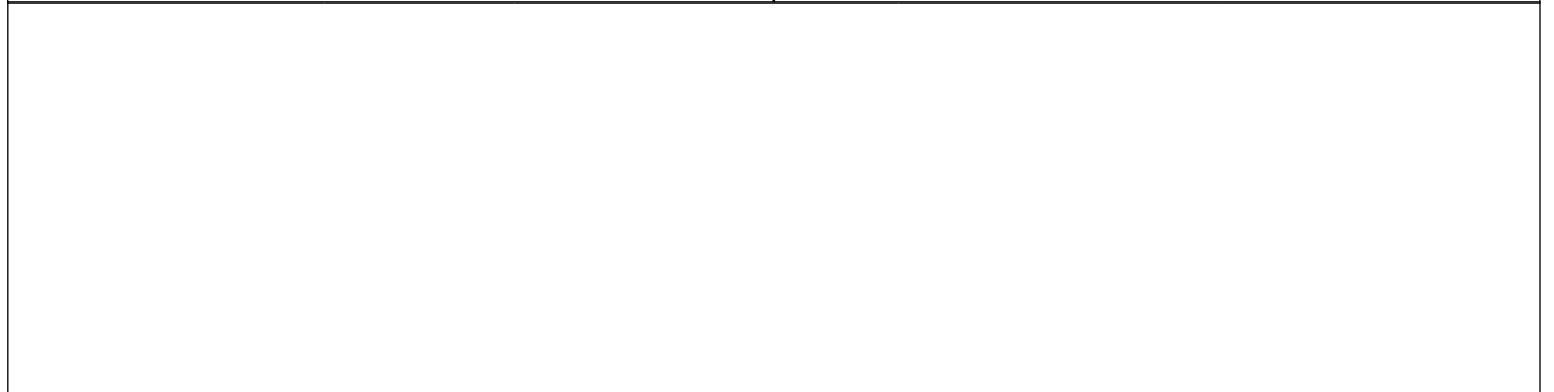
| LEFT SIDE | | | | RIGHT SIDE | | | |
|------------------|--------|---------|---------|------------|---------|--------|------------------|
| LOAD DESCRIPTION | SOURCE | ADDRESS | DEVICE | DEVICE | ADDRESS | SOURCE | LOAD DESCRIPTION |
| | | 0-1 | CRC7000 | CRC7000 | 0-2 | | |
| | | 0-3 | CRC7000 | CRC7000 | 0-4 | | |
| | | 1-1 | CRC7000 | CRC7000 | 1-2 | | |
| | | 1-3 | CRC7000 | CRC7000 | 1-4 | | |
| | | 2-1 | CRC7000 | CRC7000 | 2-2 | | |
| | | 2-3 | CRC7000 | CRC7000 | 2-4 | | |
| | | 3-1 | CRC7000 | CRC7000 | 3-2 | | |
| | | 3-3 | CRC7000 | CRC7000 | 3-4 | | |
| | | 4-1 | CRC7000 | CRC7000 | 4-2 | | |
| | | 4-3 | CRC7000 | CRC7000 | 4-4 | | |
| | | 5-1 | CRC7000 | CRC7000 | 5-2 | | |
| | | 5-3 | CRC7000 | CRC7000 | 5-4 | | |
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INSTALLING CONTRACTOR TO USE: 16 AWG, BELDEN 6200 UE OR EQUAL; REFERENCE 2-WIRE DATA BUS WIRING DETAIL

| | | | | |
|--------------------|----------|-------------------|----------------------------|--|
| PANEL NAME: | | IP ADDRESS: | |  |
| MOUNTING LOCATION: | | SUBNET MASK: | | |
| TRANSFORMER FEED: | | DEFAULT GATEWAY: | | |
| PANEL TYPE: | NXL-R24i | PANEL DIMENSIONS: | 30.00"H x 24.00"W x 6.00"D | |

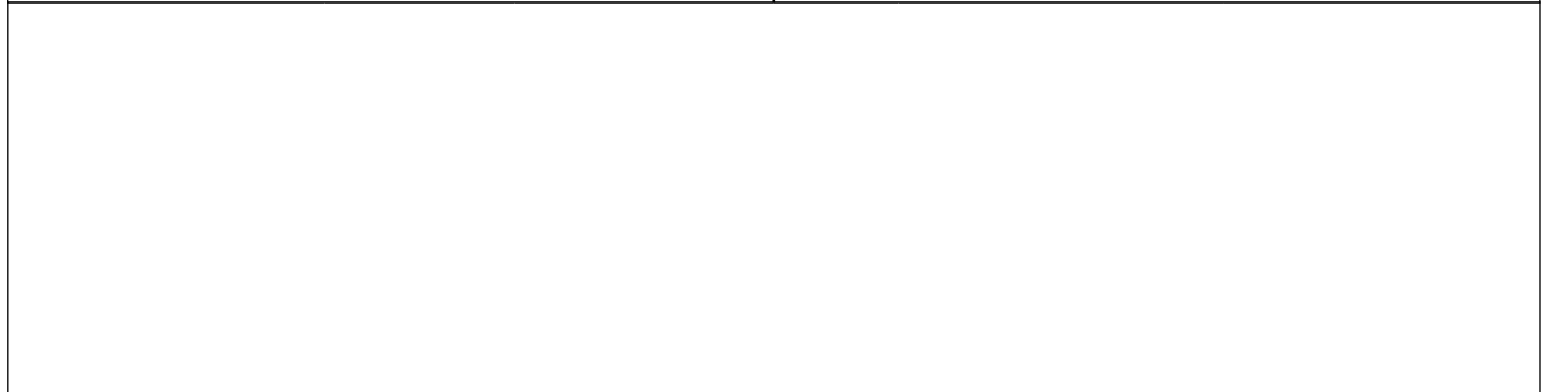
| LEFT SIDE | | | | RIGHT SIDE | | | |
|------------------|--------|---------|---------|------------|---------|--------|------------------|
| LOAD DESCRIPTION | SOURCE | ADDRESS | DEVICE | DEVICE | ADDRESS | SOURCE | LOAD DESCRIPTION |
| | | 0-1 | CRC7000 | CRC7000 | 0-2 | | |
| | | 0-3 | CRC7000 | CRC7000 | 0-4 | | |
| | | 1-1 | CRC7000 | CRC7000 | 1-2 | | |
| | | 1-3 | CRC7000 | CRC7000 | 1-4 | | |
| | | 2-1 | CRC7000 | CRC7000 | 2-2 | | |
| | | 2-3 | CRC7000 | CRC7000 | 2-4 | | |
| | | 3-1 | CRC7000 | CRC7000 | 3-2 | | |
| | | 3-3 | CRC7000 | CRC7000 | 3-4 | | |
| | | 4-1 | CRC7000 | CRC7000 | 4-2 | | |
| | | 4-3 | CRC7000 | CRC7000 | 4-4 | | |
| | | 5-1 | CRC7000 | CRC7000 | 5-2 | | |
| | | 5-3 | CRC7000 | CRC7000 | 5-4 | | |
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INSTALLING CONTRACTOR TO USE: 16 AWG, BELDEN 6200 UE OR EQUAL; REFERENCE 2-WIRE DATA BUS WIRING DETAIL

| | | | | |
|--------------------|----------|-------------------|----------------------------|--|
| PANEL NAME: | | IP ADDRESS: | N/A |  |
| MOUNTING LOCATION: | | SUBNET MASK: | N/A | |
| TRANSFORMER FEED: | | DEFAULT GATEWAY: | N/A | |
| PANEL TYPE: | NXL-R24a | PANEL DIMENSIONS: | 30.00"H x 24.00"W x 6.00"D | |

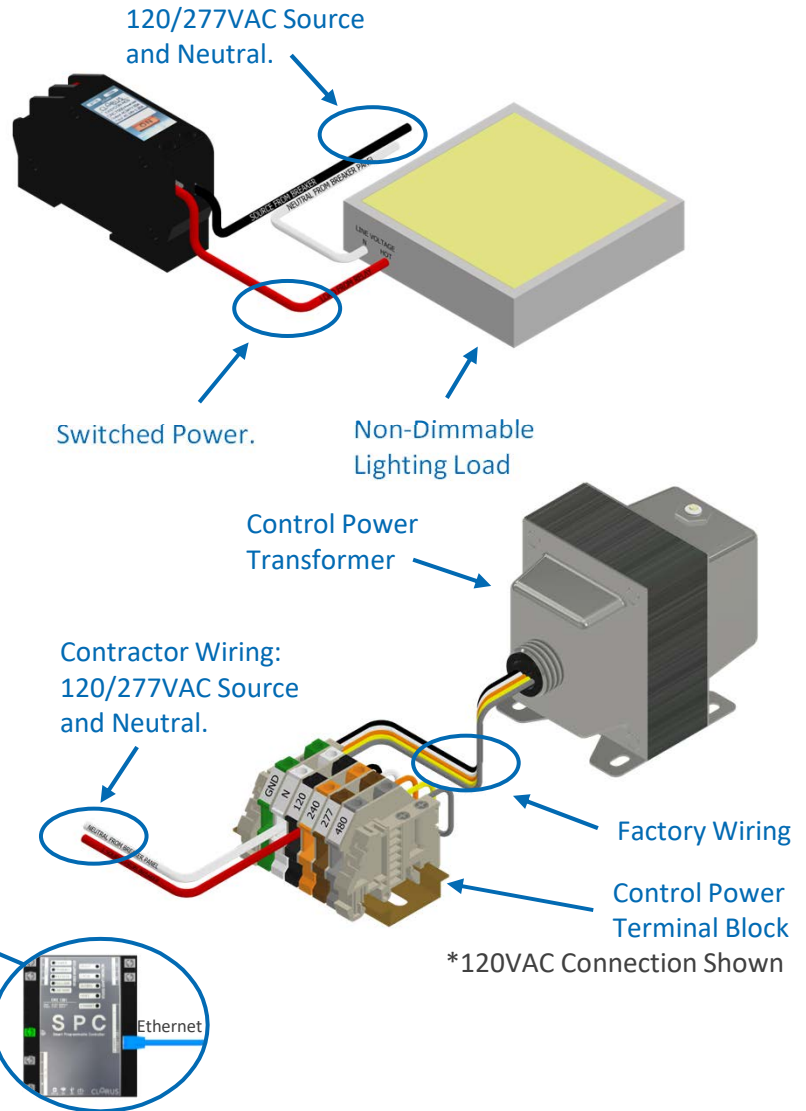
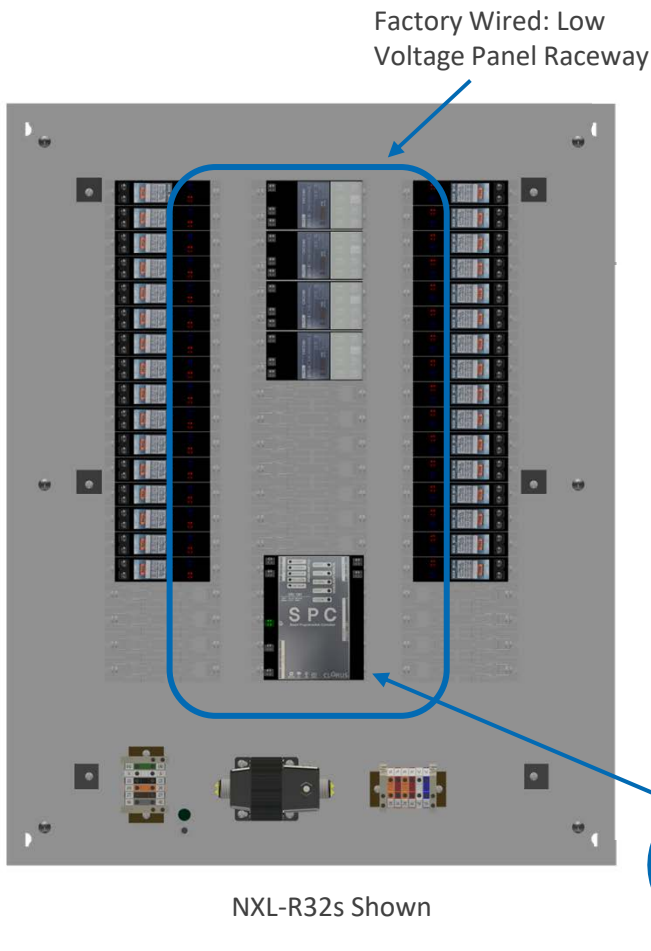
| LEFT SIDE | | | | RIGHT SIDE | | | |
|------------------|--------|---------|---------|------------|---------|--------|------------------|
| LOAD DESCRIPTION | SOURCE | ADDRESS | DEVICE | DEVICE | ADDRESS | SOURCE | LOAD DESCRIPTION |
| | | -1 | CRC7000 | CRC7000 | -2 | | |
| | | -3 | CRC7000 | CRC7000 | -4 | | |
| | | -1 | CRC7000 | CRC7000 | -2 | | |
| | | -3 | CRC7000 | CRC7000 | -4 | | |
| | | -1 | CRC7000 | CRC7000 | -2 | | |
| | | -3 | CRC7000 | CRC7000 | -4 | | |
| | | -1 | CRC7000 | CRC7000 | -2 | | |
| | | -3 | CRC7000 | CRC7000 | -4 | | |
| | | -1 | CRC7000 | CRC7000 | -2 | | |
| | | -3 | CRC7000 | CRC7000 | -4 | | |
| | | -1 | CRC7000 | CRC7000 | -2 | | |
| | | -3 | CRC7000 | CRC7000 | -4 | | |
| | | -1 | CRC7000 | CRC7000 | -2 | | |
| | | -3 | CRC7000 | CRC7000 | -4 | | |
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INSTALLING CONTRACTOR TO USE: 16 AWG, BELDEN 6200 UE OR EQUAL; REFERENCE 2-WIRE DATA BUS WIRING DETAIL

R SERIES

RELAY CONTROL PANEL



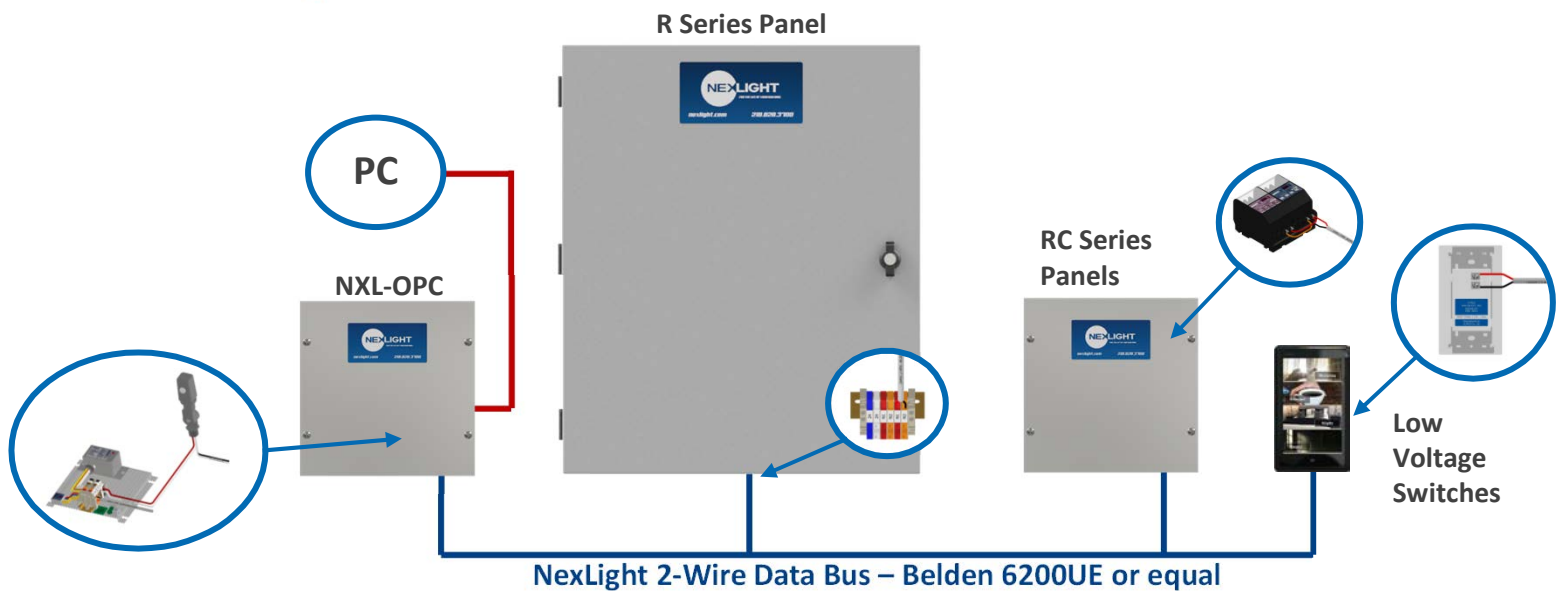
APPLICATION OVERVIEW

The R Series Panels are stand-alone relay panels that serve as the primary point of connection in the 2-Wire NexLight Lighting Control System. Utilizing the CRC1301, the R Series panels provide the same Graphic User Interface as the larger capacity CRC1201. Networking multiple (up to 250) standard panels (R Series and/or D Series) is easily done through a standard Ethernet (CAT5E or greater) Local Area Network. This networking approach allows for a truly segmented network design, while retaining the advantage of leveraging the reliability and simplicity of the NexLight 2-Wire Data Bus.

APPLICATION HIGHLIGHTS

- Networkable via Ethernet.
- Programming, Monitoring and Remote Override available through Graphic User Interface (GUI).
- Utilizes the CRC7000 Mechanically Latching Relay backed by NexLight's 20-Year Relay Warranty.

TYPICAL RISER



PANEL SCHEDULE

Information supplied by building IT Department
Record the control circuit wired to the terminal block

Record the Lighting Load Description
Record the source circuit breaker

| PANEL NAME: | | IP ADDRESS: | | | | | |
|----------------------|--------|-------------------|---------|-------------------------------|---------|--------|------------------|
| MOUNTING LOCATION: | | SUBNET MASK: | | | | | |
| TRANSFORMER FEED: | | DEFAULT GATEWAY: | | | | | |
| PANEL TYPE: NXL-R32s | | PANEL DIMENSIONS: | | 30.00" H x 24.00" W x 6.00" D | | | |
| LEFT SIDE | | | | RIGHT SIDE | | | |
| LOAD DESCRIPTION | SOURCE | ADDRESS | DEVICE | DEVICE | ADDRESS | SOURCE | LOAD DESCRIPTION |
| | | 0-1 | CRC7000 | CRC7000 | 0-2 | | |
| | | 0-3 | CRC7000 | CRC7000 | 0-4 | | |
| | | 1-1 | CRC7000 | CRC7000 | 1-2 | | |
| | | 1-3 | CRC7000 | CRC7000 | 1-4 | | |
| | | 2-1 | CRC7000 | CRC7000 | 2-2 | | |
| | | 2-3 | CRC7000 | CRC7000 | 2-4 | | |
| | | 3-1 | CRC7000 | CRC7000 | 3-2 | | |
| | | 3-3 | CRC7000 | CRC7000 | 3-4 | | |
| | | 4-1 | CRC7000 | CRC7000 | 4-2 | | |

STEPS TO INSTALLATION

1. Mount the R Series Panel in the desired location.
2. Wire the CRC7000 Relay to the Source and Lighting Load.
 - Record the Source and Lighting Load Description on the part number specific Panel Schedule.
3. Connect Line Voltage to the Control Power Terminal Blocks.
 - Record the circuit breaker designation in the appropriate field at the top of the Panel Schedule.
4. Proceed with wiring the NexLight 2-Wire Data Bus; Reference the Table of Contents for specific applications.