



## 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

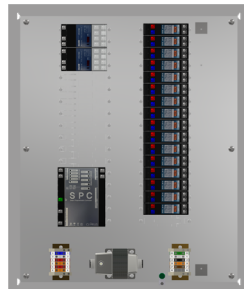
- 8 CRC7000 20 Amp Relays
- 1 CRC1301 SPC<sub>1</sub>
- 1 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-240-1 Panel Assembly

### 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 <sub>1</sub>
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

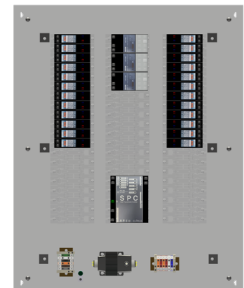
- 16 CRC7000 20 Amp Relays
- 1 CRC1301 SPC<sub>1</sub>
- 2 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-240-1 Panel Assembly

### 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 <sub>1</sub>
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

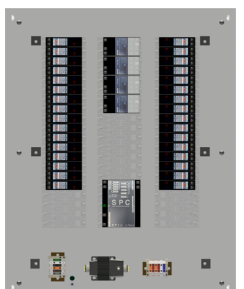
- 24 CRC7000 20 Amp Relays
- 1 CRC1301 SPC<sub>1</sub>
- 3 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-300-1 Panel Assembly

### 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 <sub>1</sub>
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

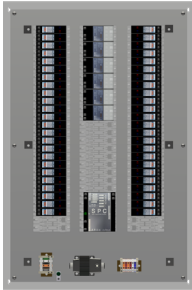
- 32 CRC7000 20 Amp Relays
- 1 CRC1301 SPC<sub>1</sub>
- 4 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-300-1 Panel Assembly

### 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 <sub>1</sub>
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 SPC<sub>1</sub>
- 6 CRC2180 Relay Controller
- 1 TR-5024 Transformer
- 1 TB-2-6-6 Terminal Block Assembly
- 1 PA-360-1 Panel Assembly

## Physical Specifications

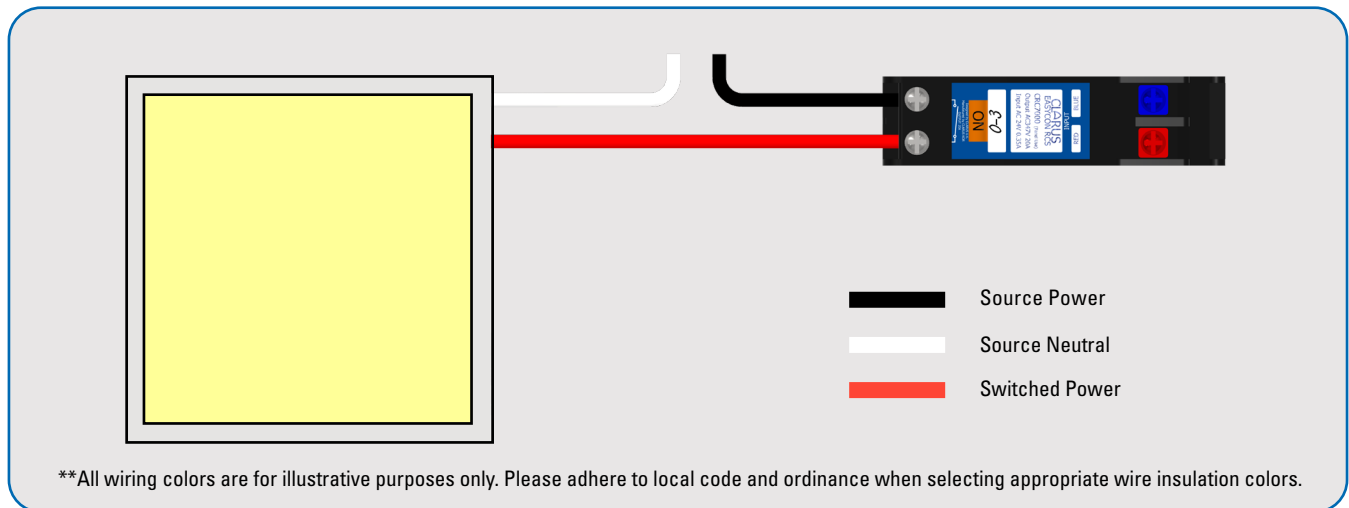
- NEMA/Type: 1
- Mounting: Surface Mount
- Dimensions: 36.00"H x 24.00"W x 6.00"D
- Weight: 80 lbs
- Addresses Available: 64<sub>1</sub>
- Addresses Used: 48
- mA Available: 450
- mA Draw: 12
- Operating Temperature: 14° to 122°F (-10°C to 55°C)

<sup>1</sup> 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



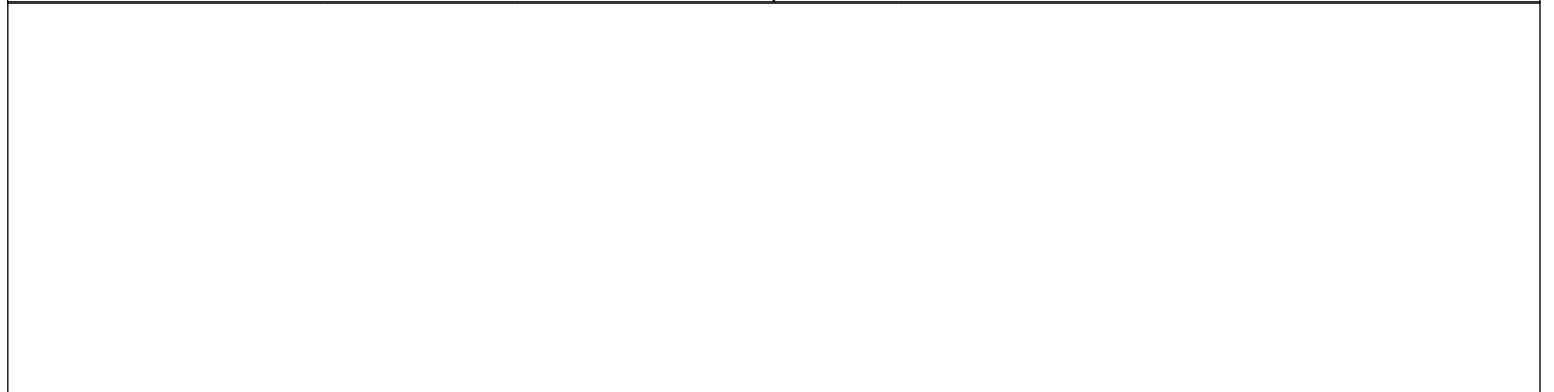
## PANEL SELECTION TABLE

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




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		
		4-3	CRC7000	CRC7000	4-4		
		5-1	CRC7000	CRC7000	5-2		
		5-3	CRC7000	CRC7000	5-4		
		6-1	CRC7000	CRC7000	6-2		
		6-3	CRC7000	CRC7000	6-4		
		7-1	CRC7000	CRC7000	7-2		
		7-3	CRC7000	CRC7000	7-4		
SPACE				SPACE			
SPACE				SPACE			
SPACE				SPACE			
SPACE				SPACE			



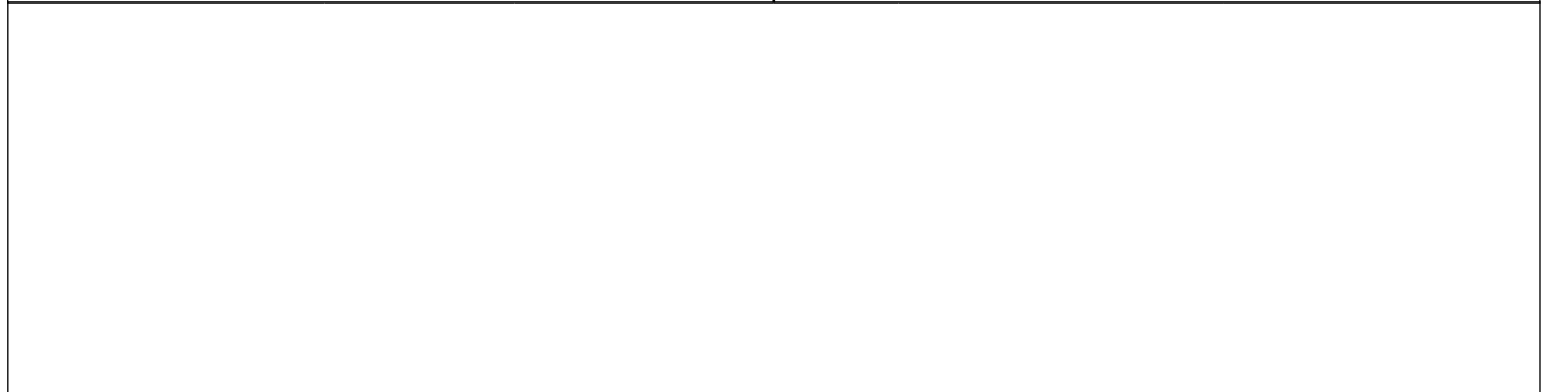
INSTALLING CONTRACTOR TO USE: 16 AWG, BELDEN 6200 UE OR EQUAL; REFERENCE 2-WIRE DATA BUS WIRING DETAIL


PANEL NAME:		IP ADDRESS:		
MOUNTING LOCATION:		SUBNET MASK:		
TRANSFORMER FEED:		DEFAULT GATEWAY:		
PANEL TYPE:	NXL-R32i	PANEL DIMENSIONS:	30.00"H x 24.00"W x 6.00"D	

LEFT SIDE				RIGHT SIDE			
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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		
		6-1	CRC7000	CRC7000	6-2		
		6-3	CRC7000	CRC7000	6-4		
		7-1	CRC7000	CRC7000	7-2		
		7-3	CRC7000	CRC7000	7-4		

SPACE				SPACE			
SPACE				SPACE			
SPACE				SPACE			
SPACE				SPACE			

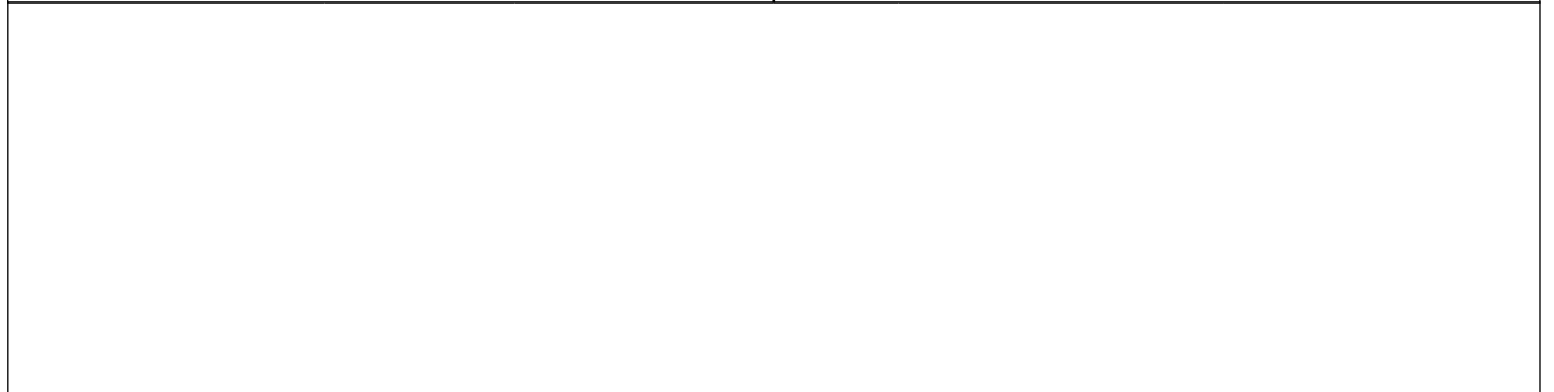


PANEL NAME:		IP ADDRESS:	N/A	
MOUNTING LOCATION:		SUBNET MASK:	N/A	
TRANSFORMER FEED:		DEFAULT GATEWAY:	N/A	
PANEL TYPE:	NXL-R32a	PANEL DIMENSIONS:	30.00"H x 24.00"W x 6.00"D	

LEFT SIDE	RIGHT SIDE
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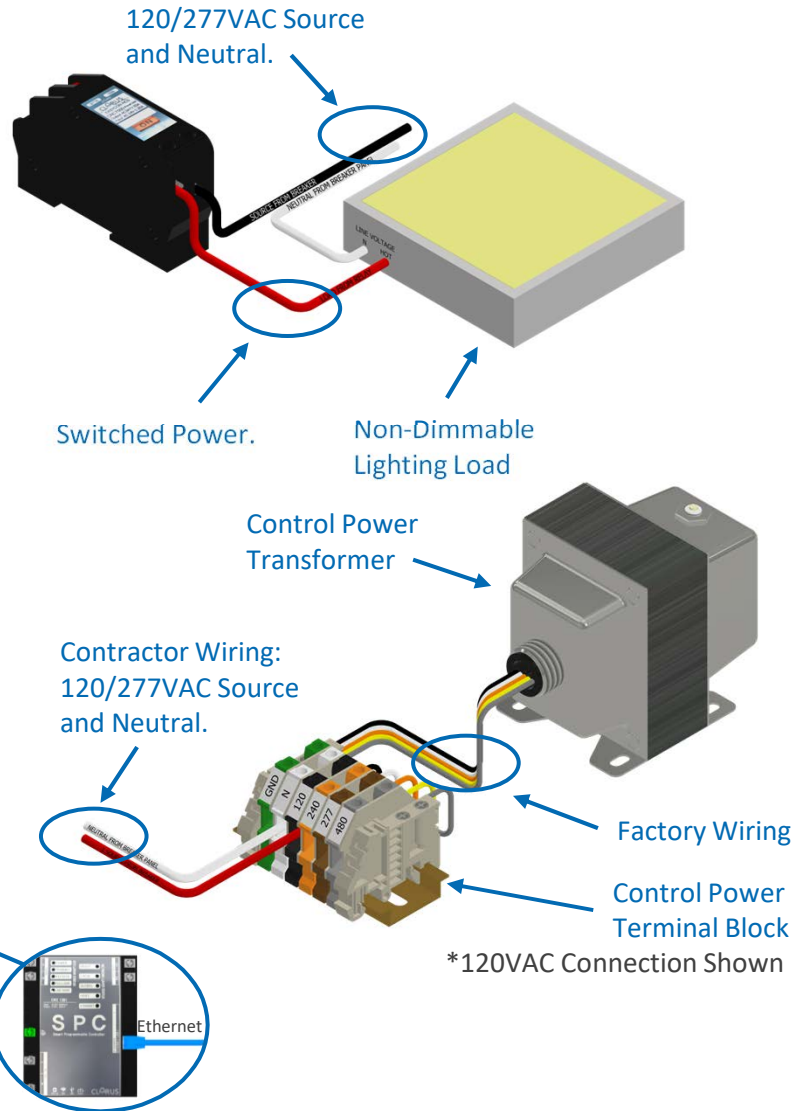
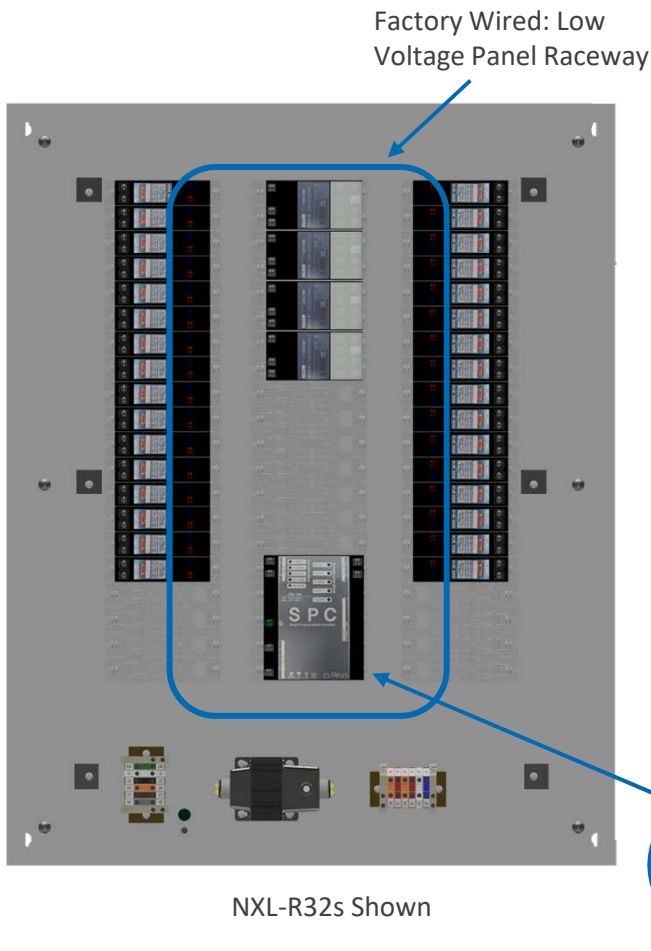
LOAD DESCRIPTION	SOURCE	ADDRESS	DEVICE	DEVICE	ADDRESS	SOURCE	LOAD DESCRIPTION
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		
		-1	CRC7000	CRC7000	-2		
		-3	CRC7000	CRC7000	-4		

SPACE	SPACE
SPACE	SPACE
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# R SERIES

## RELAY CONTROL PANEL



## APPLICATION OVERVIEW

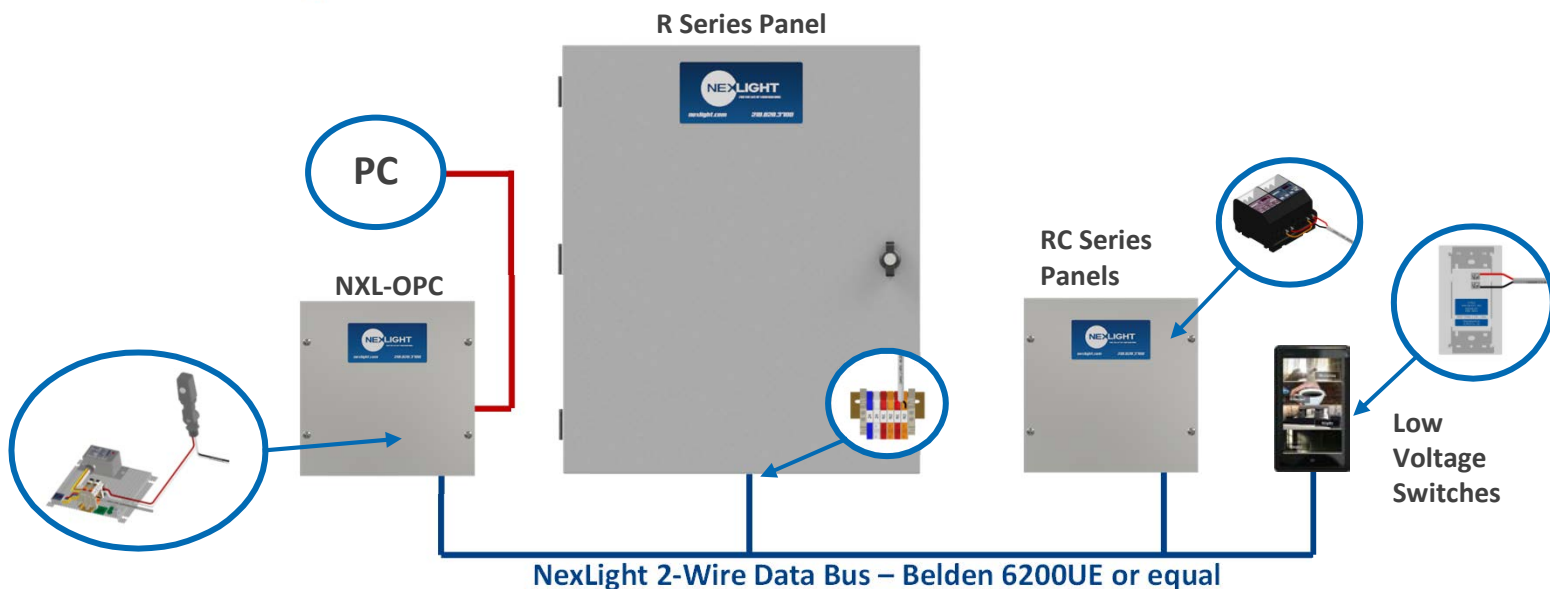
The R Series Panels are stand-alone relay panels that serve as the primary point of connection in the 2-Wire NexLight Lighting Control System. Utilizing the CRC1301, the R Series panels provide the same Graphic User Interface as the larger capacity CRC1201. Networking multiple (up to 250) standard panels (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.