

NEXLIGHT

*APPLICATIONS
GUIDE*



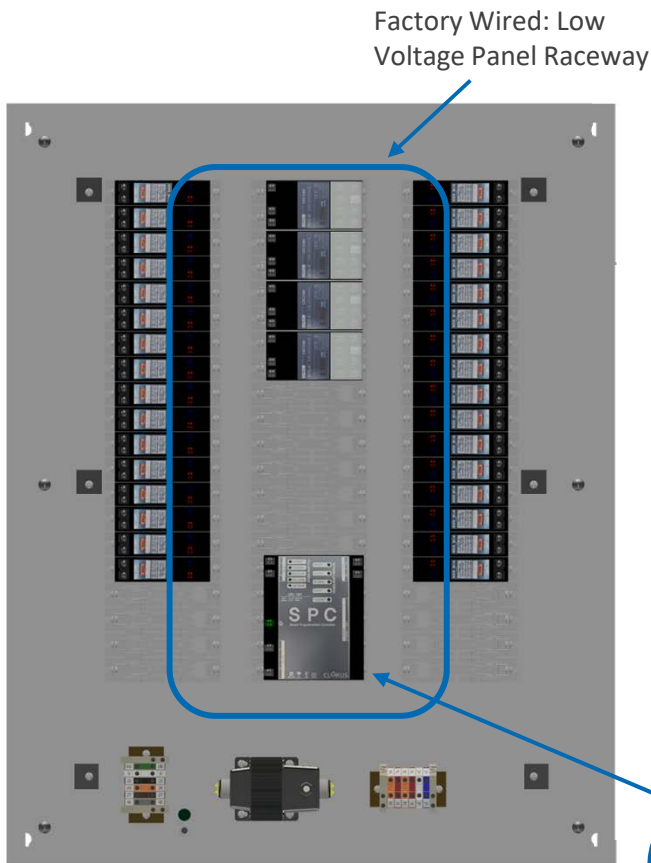
FOR THE LIFE OF YOUR BUILDING.

TABLE OF CONTENTS

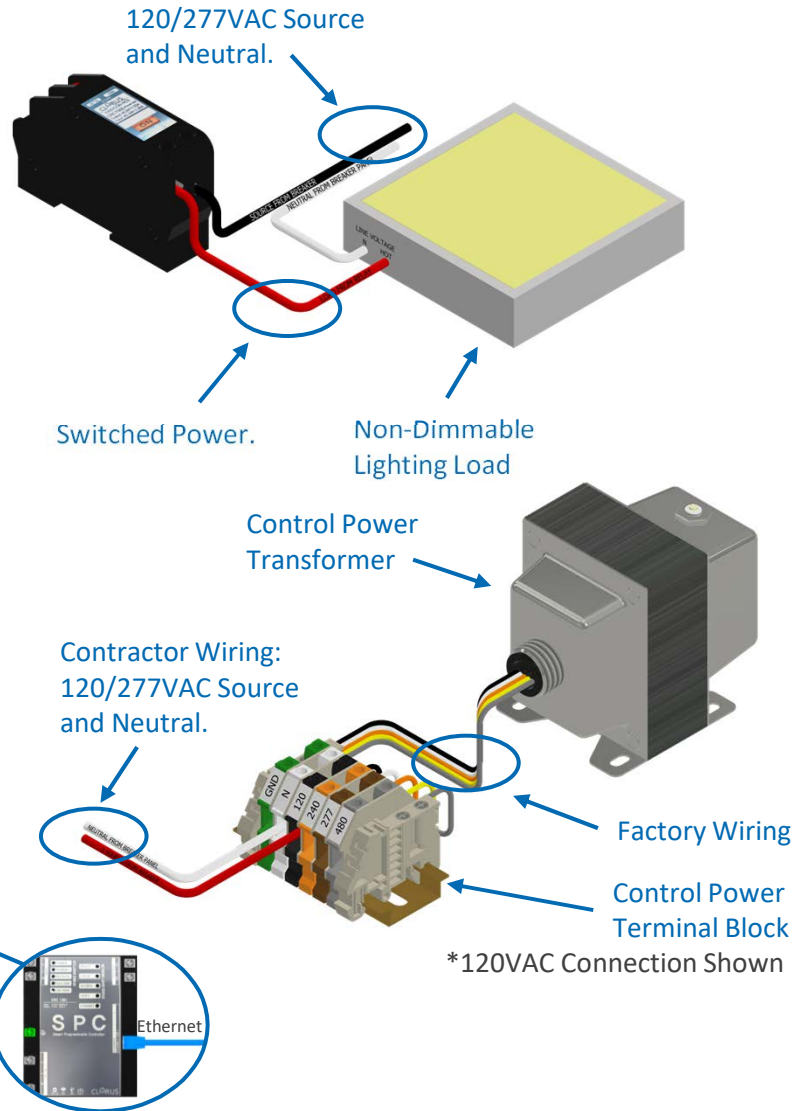
Pages		Subject
1-2	-----	<i>R Series</i> Relay Panels
3-4	-----	<i>D Series</i> Dimming Panels
5	-----	<i>RC Series</i> Room Control Panels
6	-----	<i>DMX Series</i> Lighting Control Panels
7	-----	<i>NXL-BMS</i> BACnet Protocol Conversion Panel
8	-----	<i>NXL-OPC</i> Outdoor Photocell Integration Panel
9	-----	<i>NXL-00P5</i> 0-10V Dimming Expansion Panel
10	-----	<i>NXL-AVI</i> Contact Input Panel
11	-----	Network Low Voltage Switches
12	-----	Network Low Voltage Occupancy Sensors
13	-----	Network Low Voltage Daylight Sensors
14	-----	Stand-Alone Sensor Integration
15-16	-----	2-Wire Network Application
17	-----	Local Area Network Application

R SERIES

RELAY CONTROL PANEL



NXL-R32s Shown



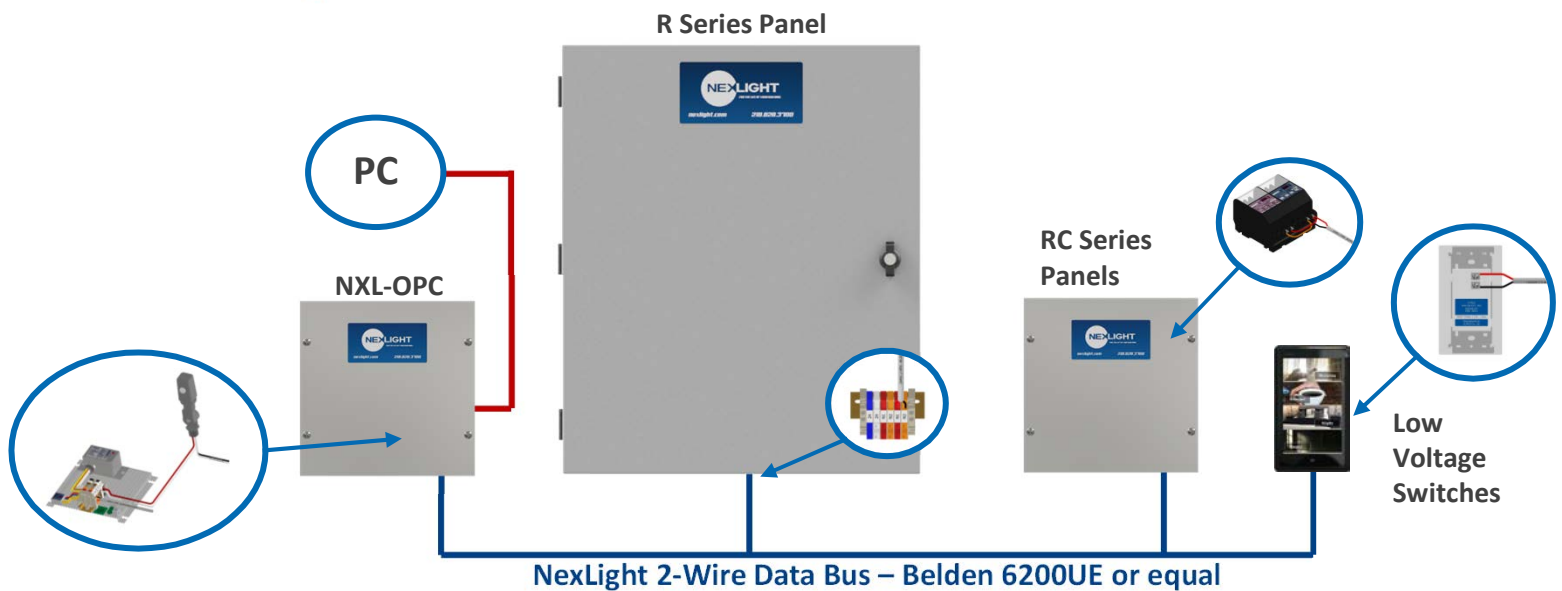
APPLICATION OVERVIEW

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

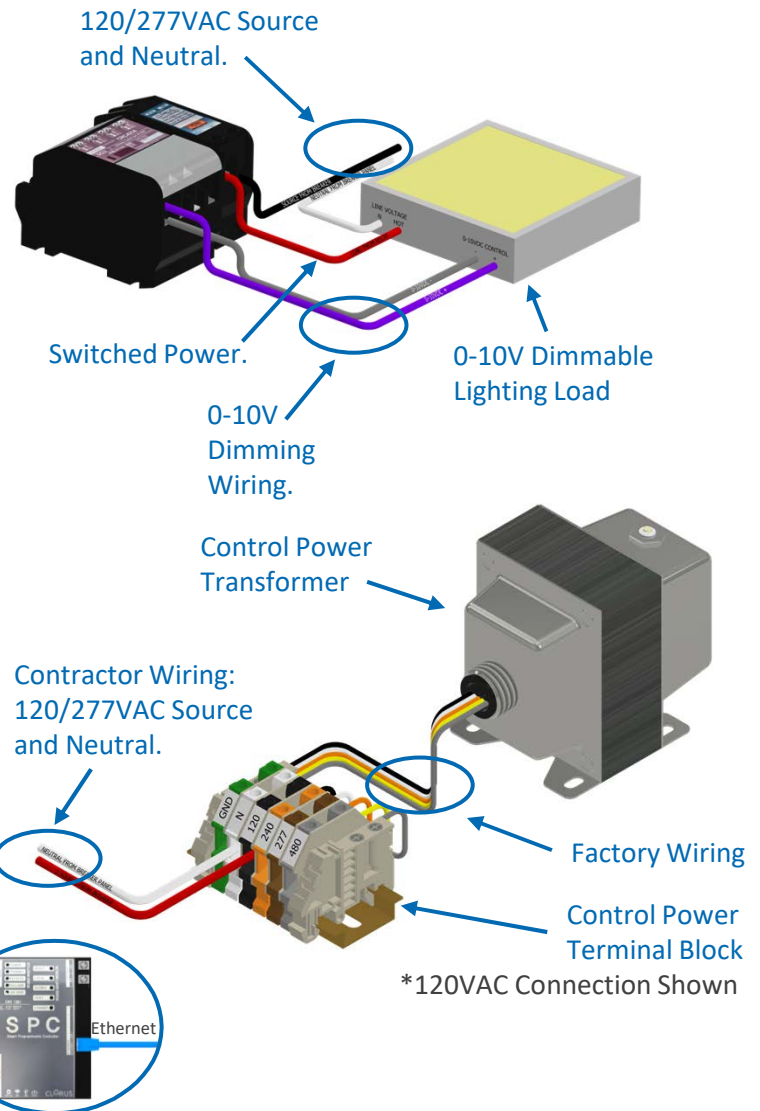
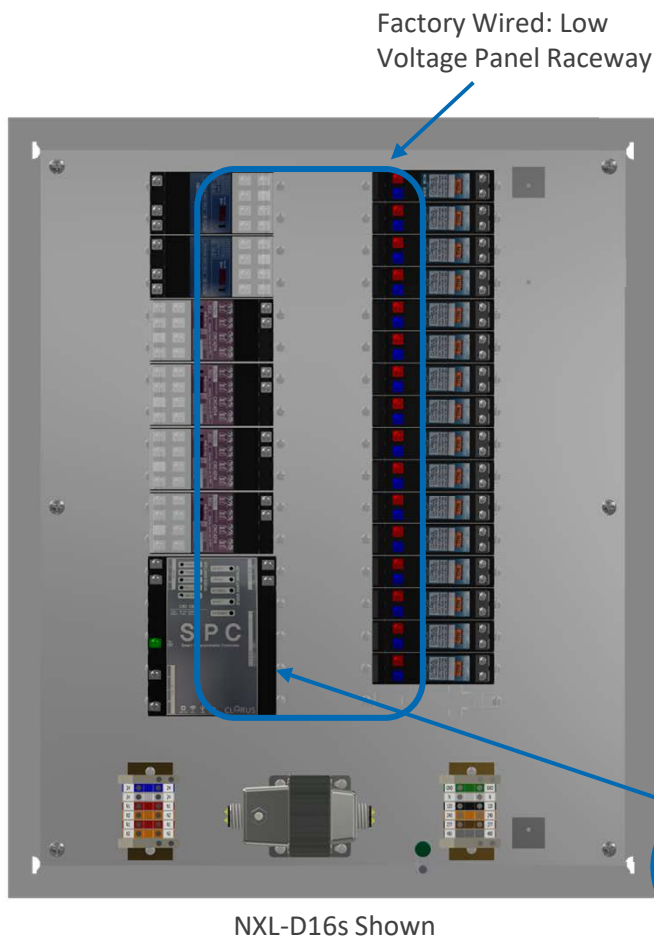
PANEL NAME:		IP ADDRESS:					
MOUNTING LOCATION:		SUBNET MASK:					
TRANSFORMER FEED:		DEFAULT GATEWAY:					
PANEL TYPE: NXL-R32s		PANEL DIMENSIONS:		30.00" H x 24.00" W x 6.00" D			
LEFT SIDE				RIGHT SIDE			
LOAD DESCRIPTION	SOURCE	ADDRESS	DEVICE	DEVICE	ADDRESS	SOURCE	LOAD DESCRIPTION
		0-1	CRC7000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

D SERIES

DIMMING CONTROL PANEL



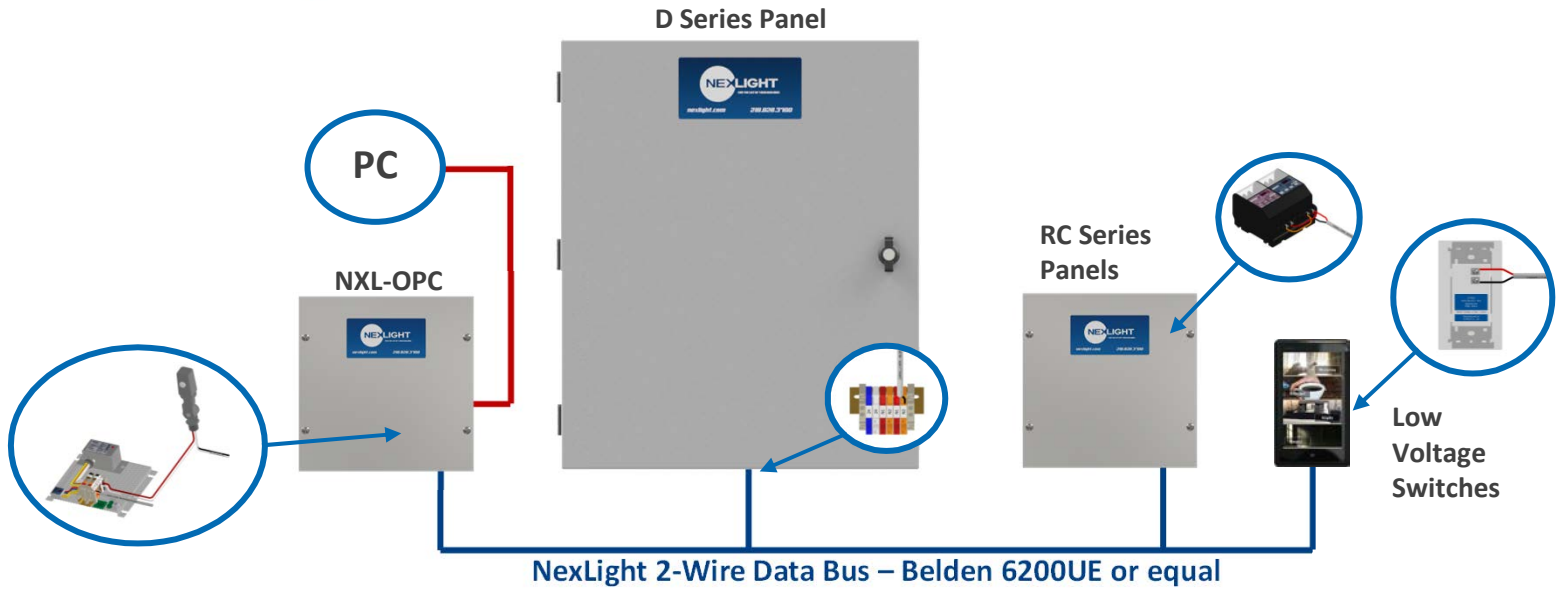
APPLICATION OVERVIEW

The D Series Panels are stand-alone 0-10V dimming panels that serve as the primary point of connection in the 2-Wire NexLight Lighting Control System. Utilizing the CRC1301, the D 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.
- 100 mA of Sinking Current per Dimming Channel.

TYPICAL RISER



PANEL SCHEDULE

Record the control circuit wired to the terminal block

Information supplied by building IT Department

PANEL NAME:		IP ADDRESS:					
MOUNTING LOCATION:		SUBNET MASK:					
TRANSFORMER FEED:		DEFAULT GATEWAY:					
PANEL TYPE: NXL-D16s		PANEL DIMENSIONS: 24,00"H x 20,00"W x 6,00"D					
LEFT SIDE				RIGHT SIDE			
LOAD DESCRIPTION	SOURCE	ADDRESS	DEVICE	DEVICE	ADDRESS	SOURCE	LOAD DESCRIPTION
CRC2180 RELAY CONTROLLER				CRC7000	0-1		
				CRC7000	0-2		
CRC2180 RELAY CONTROLLER				CRC7000	0-3		
				CRC7000	0-4		
	CHANNEL 1	4	-1	CRC4214 0-10 DIMMER	1-1		
	CHANNEL 2		-2				
	CHANNEL 3		-3				
	CHANNEL 4		-4			CRC7000	1-2

Record the Lighting Load Description

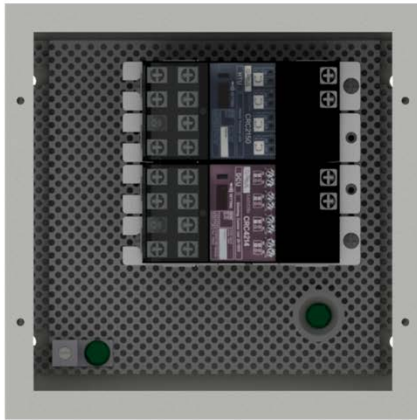
Record the Lighting Load Description
Record the source circuit breaker

STEPS TO INSTALLATION

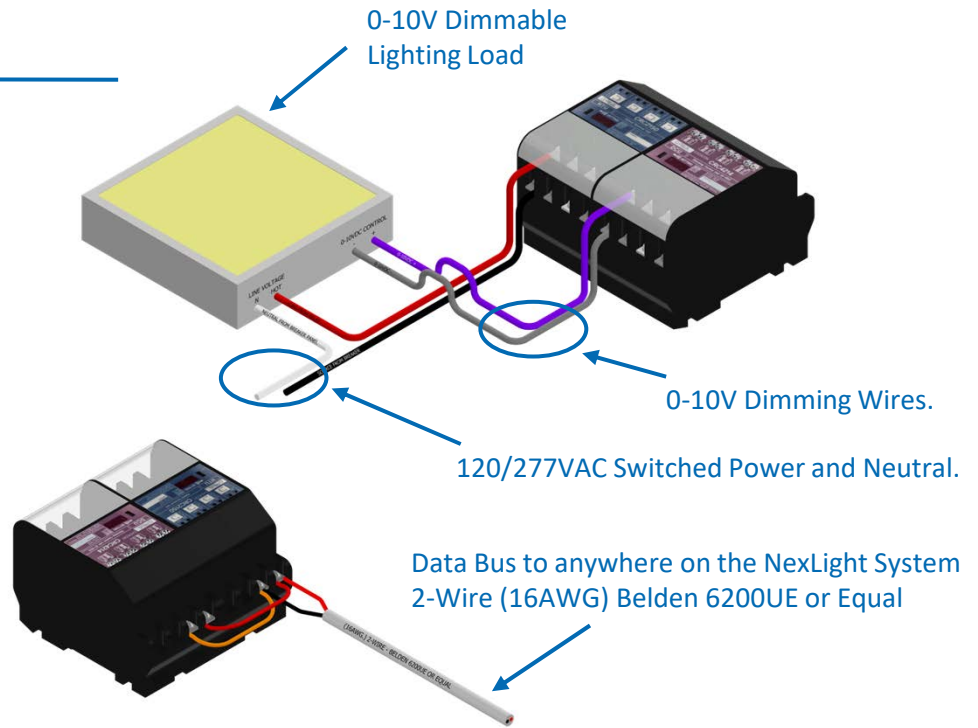
1. Mount the D Series Panel in the desired location.
2. Wire the CRC7000 Relay to the Source and Lighting Load.
 - Record the Source and Lighting Load Description on the part number specific Panel Schedule.
3. Wire the CRC4214 0-10V Dimming Channel to the Lighting Load.
 - Record the Lighting Load Description on the part number specific Panel Schedule.
4. 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.
5. Proceed with wiring the NexLight 2-Wire Data Bus; Reference the Table of Contents for specific applications.

RC SERIES

ROOM CONTROL PANEL



NXL-RC4D Shown



APPLICATION OVERVIEW

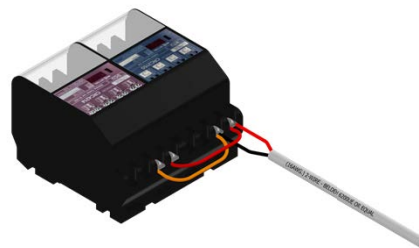
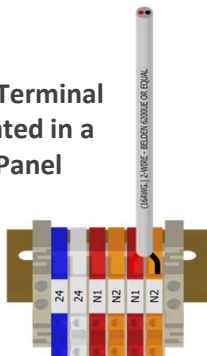
The RC Series Panels are an Auxiliary Panel for use in distributed system designs connected to the NexLight Lighting Control System. The small enclosure can easily be mounted in the controlled space to run smaller lighting Loads (10A or less per zone). The distributed network approach reduces the need for line voltage home runs to the main lighting control panel. There is no transformer for control power, the only control power required is supplied by the NexLight 2-Wire Data Bus. The RC Series provides up to 4 Zones each in either On/Off or Dimming applications.

APPLICATION HIGHLIGHTS

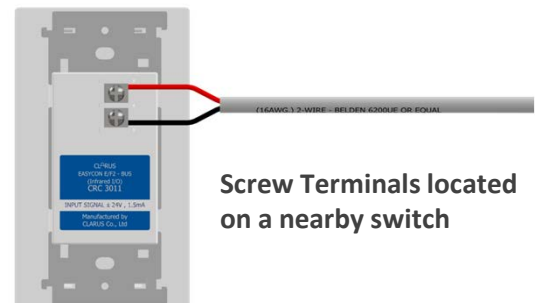
- Easily Expand the control capacity of a NexLight Lighting Control System.
- Use as an auxiliary panel for an R Series, D Series or a Custom Panel.
- Programming, Monitoring and Remote Override available through Main Panel Graphic User Interface (GUI).

TYPICAL DATA BUS CONNECTIONS

Data Bus Terminal Block located in a NexLight Panel



Screw Terminals located on Panel devices



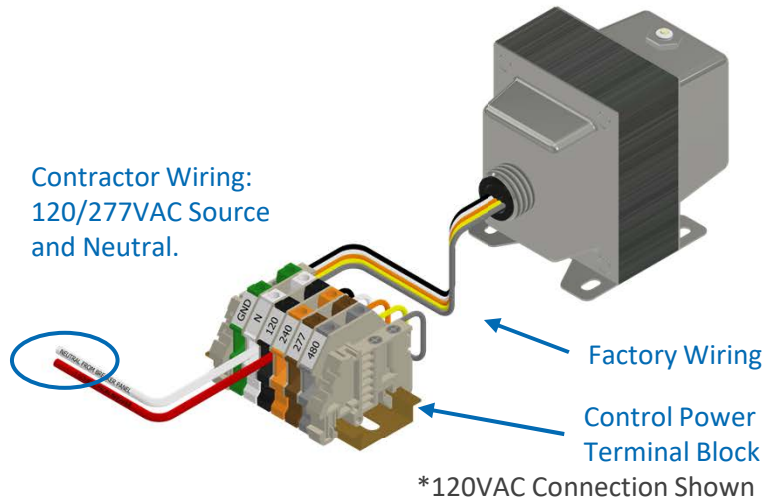
Screw Terminals located on a nearby switch

DMX SERIES

LIGHTING CONTROL PANEL



DMX Control Cable (Belden 9841)



APPLICATION OVERVIEW

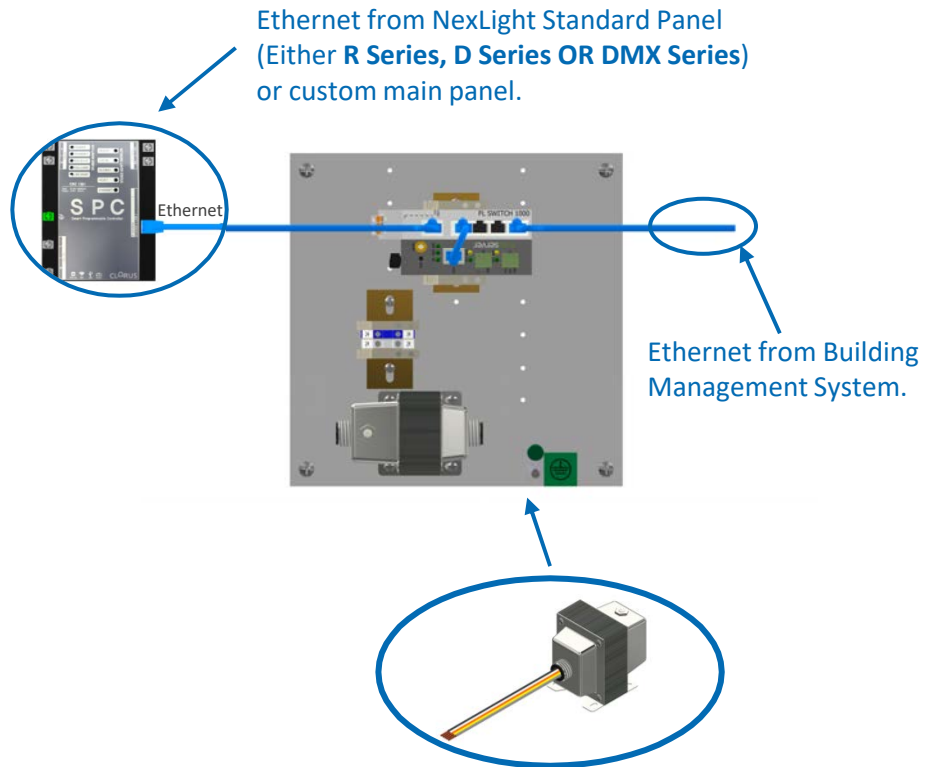
The NexLight® DMX Series lighting control panel provides control of DMX controllable lighting by combining two powerful and reliable control systems, Pharos Architectural and NexLight. The DMX Series provides versatile control as a standard offering from NexLight, with configurations available in 1, 2 or 4 universes. These lighting control panels come in a NEMA/Type 1 enclosure and are factory wired in NexLight's UL508A shop, ready to accept DMX control cable (Belden 9841). Networking multiple panels together using the global addressing feature provides seamless control from a single platform allowing for full integration between DMX fixtures and traditional lighting fixtures. The easy-to-use Graphic User Interface (GUI) may be accessed through a Personal Computer (PC) for real-time programming, monitoring and override of your traditional lighting loads or DMX timelines. 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.

APPLICATION HIGHLIGHTS

- Includes a comprehensive set of pre-loaded timelines and schedules
- The power of Pharos Architectural combined with the reliability of NexLight
- Full Integration of DMX Lighting with Traditional Building Lighting
- Fixture brand agnostic programming capabilities
- BACnet connectivity for BMS available by adding *NXL-BMS* accessory panel
- Graphic User Interface through a PC with a built-in Real Time Clock (RTC) for scheduling

NXL-BMS

BACnet PROTOCOL CONVERSION PANEL



Description	Wire Color
Neutral	Black
120VAC	White
240VAC	Orange
277VAC	Yellow
480VAC	Gray

APPLICATION OVERVIEW

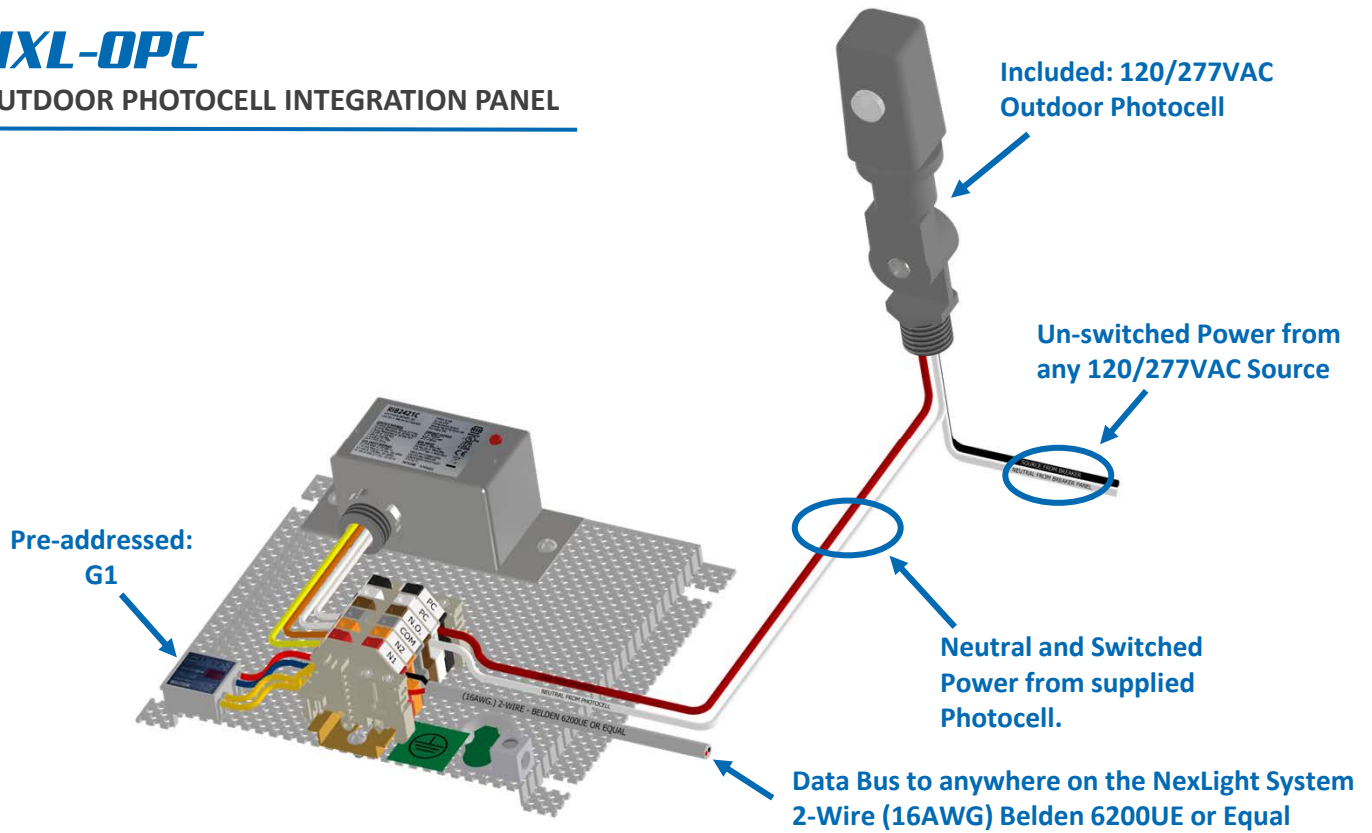
As a standard, all NexLight lighting control panels utilizing the IPC or SPC controller include native Modbus TCP/IP support. If you require BACnet protocol for integrating into your Building Management System, the NXL-BMS is the accessory panel you need. To implement this solution, the installer simply needs to supply power to the included Transformer, connect the main NexLight panel to an available port on the included ethernet switch in the NXL-BMS panel via Ethernet (CAT5E or greater). The BACnet system can then connect either via Ethernet to another available port on the ethernet switch or via RTU connection on the BMS protocol converter in the NXL-BMS panel. The only remaining task is for the Building Management Integrator to set the communication of the device to match their BMS network and Map the NexLight System Points using the supplied points list.

APPLICATION HIGHLIGHTS

- Simple BMS integration using BACnet Protocol.
- Solution for any R Series, D Series, DMX Series or a Custom Main Panel.
- Allows Building Management to override any point on the NexLight System including dimming levels of dimmed lighting loads.

NXL-OPC

OUTDOOR PHOTOCELL INTEGRATION PANEL



APPLICATION OVERVIEW

The NXL-OPC is an Accessory Panel designed to easily allow the addition of an outdoor photocell into a NexLight Lighting Control System. The small enclosure can easily be mounted near the outdoor photocell, minimizing the line voltage run lengths. This is a multi-voltage solution that simplifies installation for the installing contractor.

APPLICATION HIGHLIGHTS

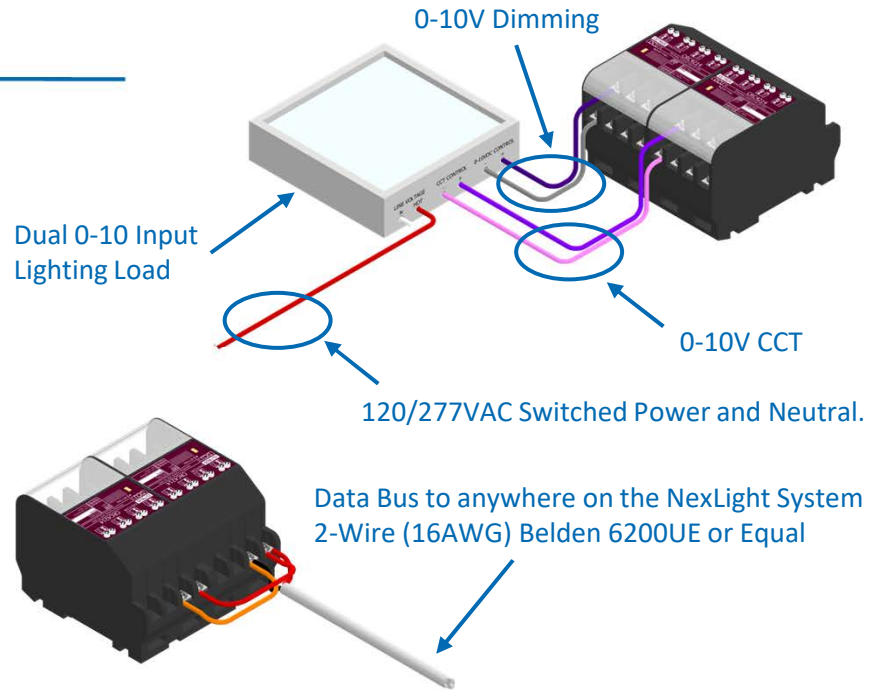
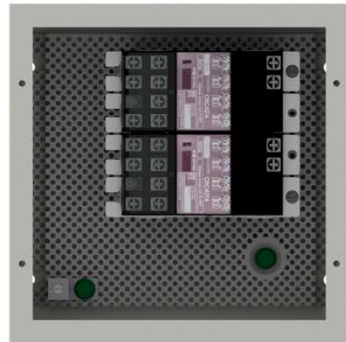
- Included 120/277VAC Outdoor Photocell
- Use with R Series, D Series or a Custom Panel.
- Fully Addressable to provide group control of relays.
- Ability to add a Disable-Address for the outdoor photocell.

TYPICAL DATA BUS CONNECTIONS



NXL-00P5

0-10V EXPANSION PANEL



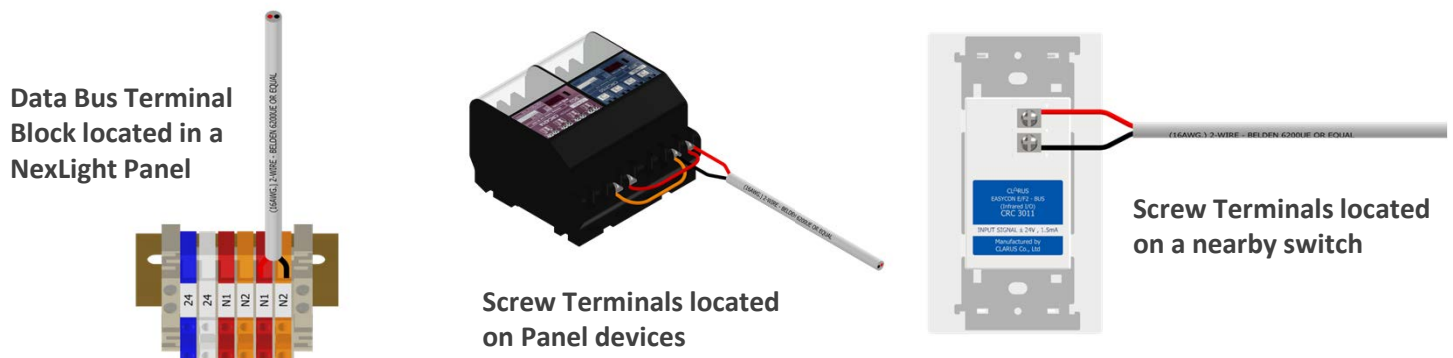
APPLICATION OVERVIEW

The NXL-00P5 is a Dimming Expansion Accessory Panel that allows for the easy addition of 0-10V Dimming Channels to the NexLight Lighting Control System. The small enclosure can easily be mounted in the controlled space or wherever additional 0-10V channels are required. The use of 0-10V for Correlated Color Temperature (CCT) can be achieved by using the 0-10V Control provided in this solution. There is no transformer for control power, the only control power required is supplied by the NexLight 2-Wire Data Bus. The NXL-00P5 provides up to 8 Channels of 0-10V Sinking for either CCT or Dimming applications.

APPLICATION HIGHLIGHTS

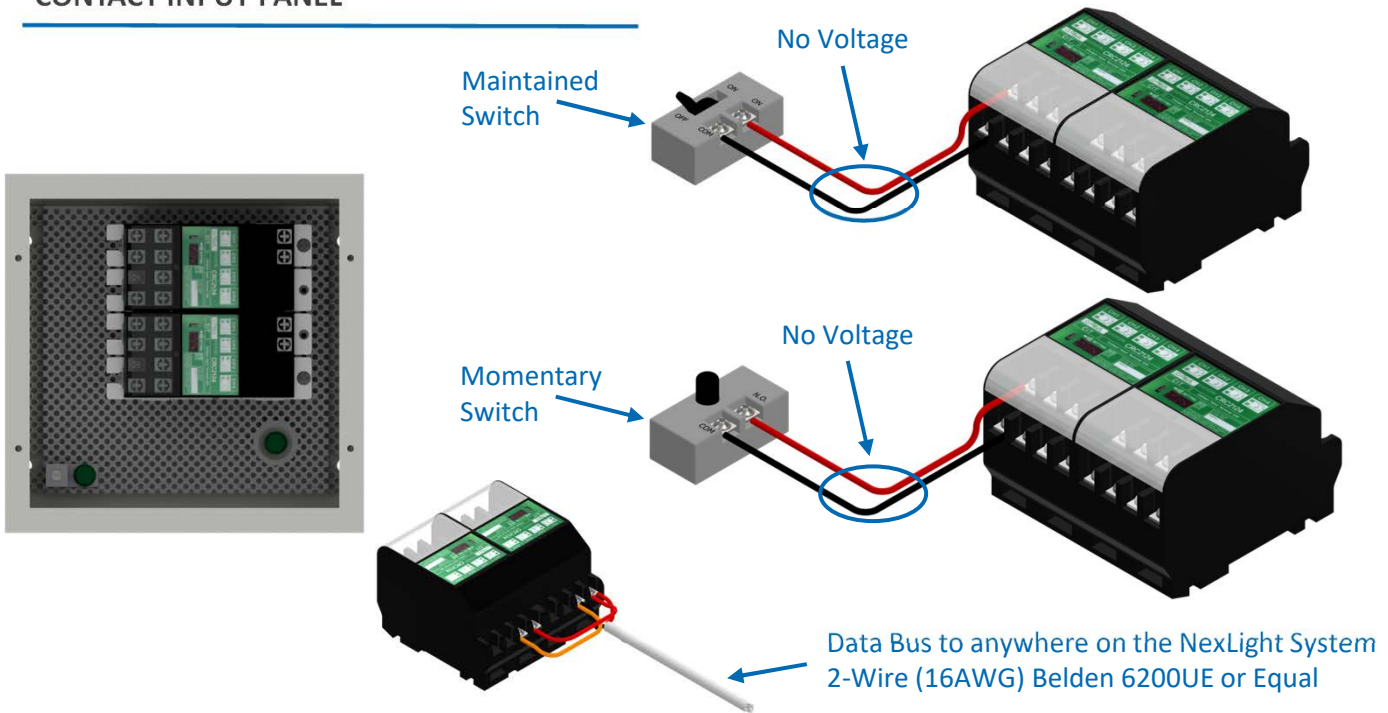
- (8) 0-10V Control Channels (100mA Sinking Current per channel).
- Use with R Series, D Series or a Custom Panel.
- Expanded Capacity of the NexLight System using a “building block” solution.
- Physical High and Low trim level potentiometers to accommodate final adjustment.

TYPICAL DATA BUS CONNECTIONS



NXL-AVI

CONTACT INPUT PANEL



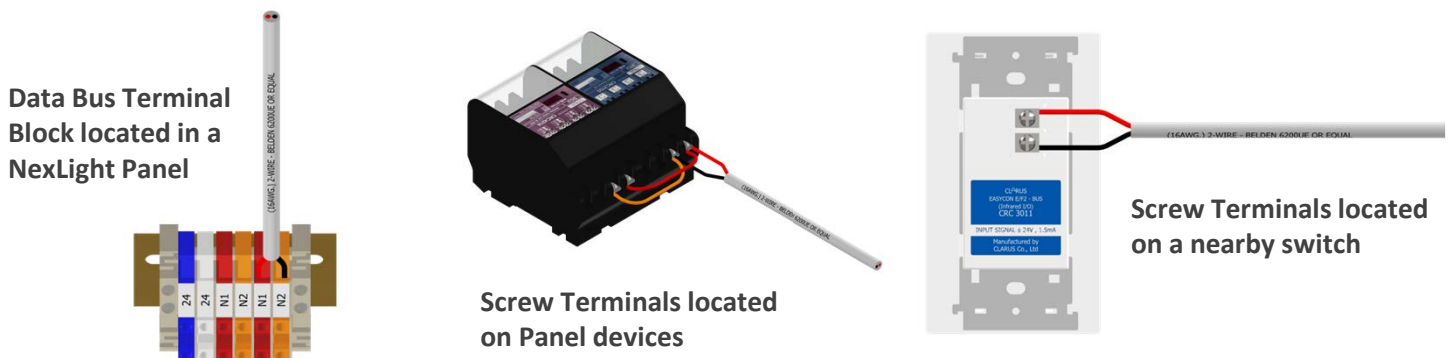
APPLICATION OVERVIEW

The NXL-AVI is a Contact Input Accessory Panel commonly used for integration of A/V systems with the NexLight Lighting Control System. The small enclosure can easily be mounted adjacent to the system providing contact closures. Contact Closures may be momentary or maintained allowing flexibility in achieving the desired sequence of operation. The NXL-AVI requires no transformer for control power, the only control power required is supplied by the NexLight 2-Wire Data Bus to provide up to 8 Contact Inputs.

APPLICATION HIGHLIGHTS

- (8) Contact Inputs that accept “Dry” Contact Closures.
- Use with R Series, D Series or a Custom Panel.
- Simple integration of 3rd party systems and devices into the NexLight System.

TYPICAL DATA BUS CONNECTIONS



2-Wire Network

LOW VOLTAGE ADDRESSABLE SWITCHES

Data Bus to anywhere on the NexLight System
2-Wire (16AWG) Belden 6200UE or Equal



- ← Top Button: Individual Address
- ← 2nd Button: Group Address
- ← 3rd Button: Scene Address
- ← Bottom Button: Scene Address

*The desired button order may be achieved by assigning the appropriate addresses to the corresponding channels.



APPLICATION OVERVIEW

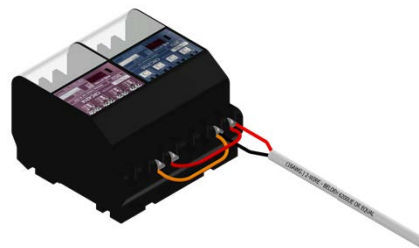
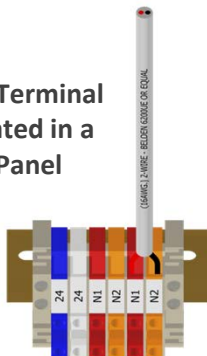
The NexLight Lighting Control System features fully addressable switches that provide the flexibility to control any addresses on the 2-Wire Data Bus. Addresses created within the Graphic User Interface (GUI) are assigned to the switches using the CRC6400 Address Setting Unit. The available address types include Individual (IND), Group (GRP) & Scene (SCN). No supplementary power supply is required for control power, the only connection needed is to the NexLight 2-Wire Data Bus. Switches come in 1, 2, 3, 4, or Dimmer Configurations. Real time adjustments for manually adjusting light levels require a Low Voltage Dimmer Switch configuration.

APPLICATION HIGHLIGHTS

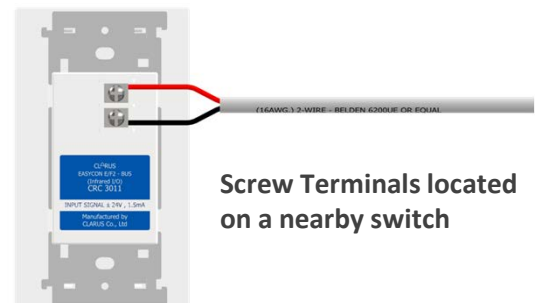
- Use with R Series, D Series, DMX Series or a Custom Main Panel.
- Simple User Level control of NexLight System using a Low Voltage 2-Wire connection.

TYPICAL DATA BUS CONNECTIONS

Data Bus Terminal Block located in a NexLight Panel

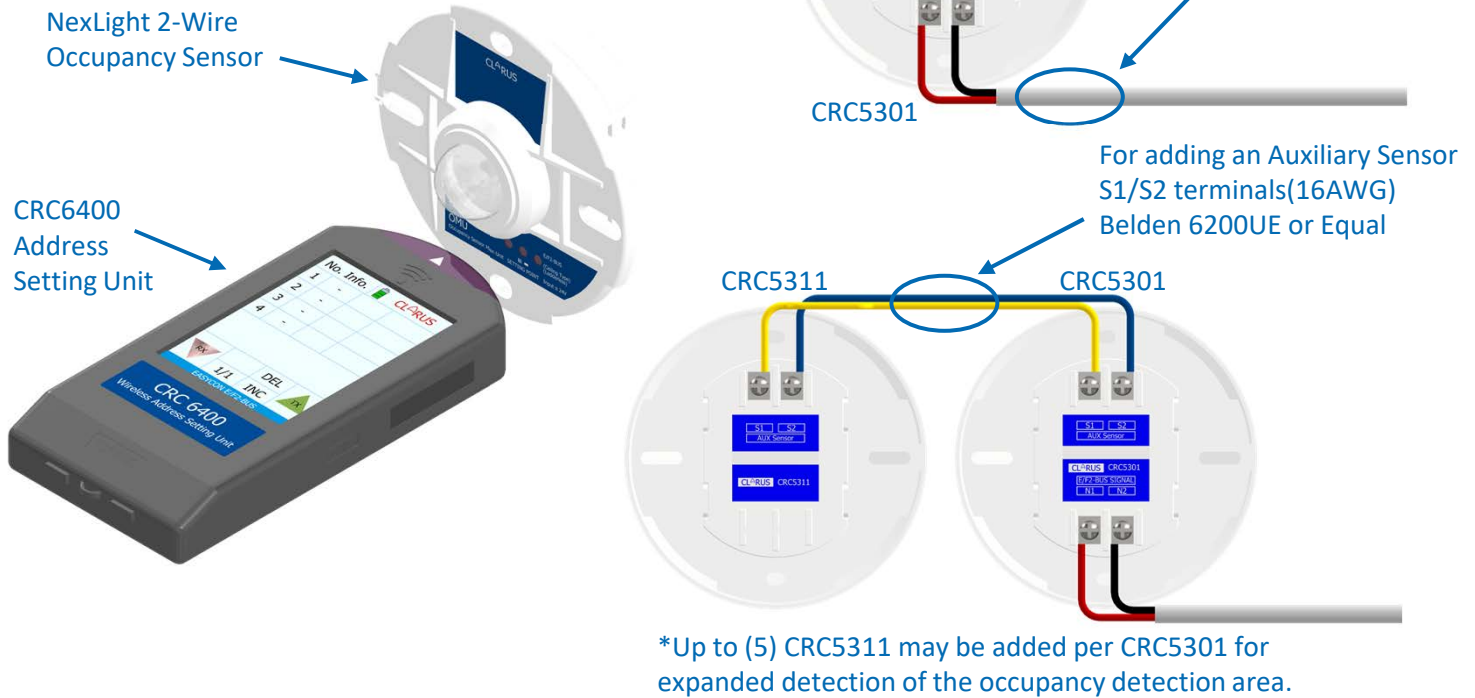


Screw Terminals located on Panel devices



2-Wire Network

LOW VOLTAGE OCCUPANCY SENSORS



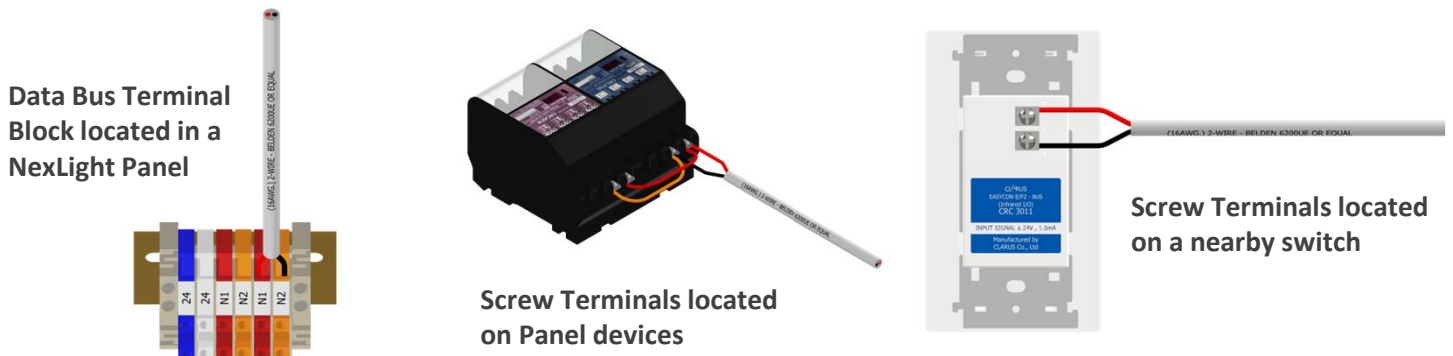
APPLICATION OVERVIEW

The NexLight Lighting Control System features fully addressable ceiling mount occupancy sensors that provide the flexibility to control any addresses on the 2-Wire Data Bus. The CRC5301 Occupancy Sensor Main Unit (OMU) accepts addressing from the CRC6400 Address Setting Unit. Configuration of how the sensor operates is ladder-less and performed within the Graphic User Interface (GUI). This sensor is ideal for corridor High/Low operations in addition to classrooms, offices, lobbies because you can easily disable the sensor operation during scheduled timeframes. No supplementary power supply is required for control power, the only connection needed is to the NexLight 2-Wire Data Bus.

APPLICATION HIGHLIGHTS

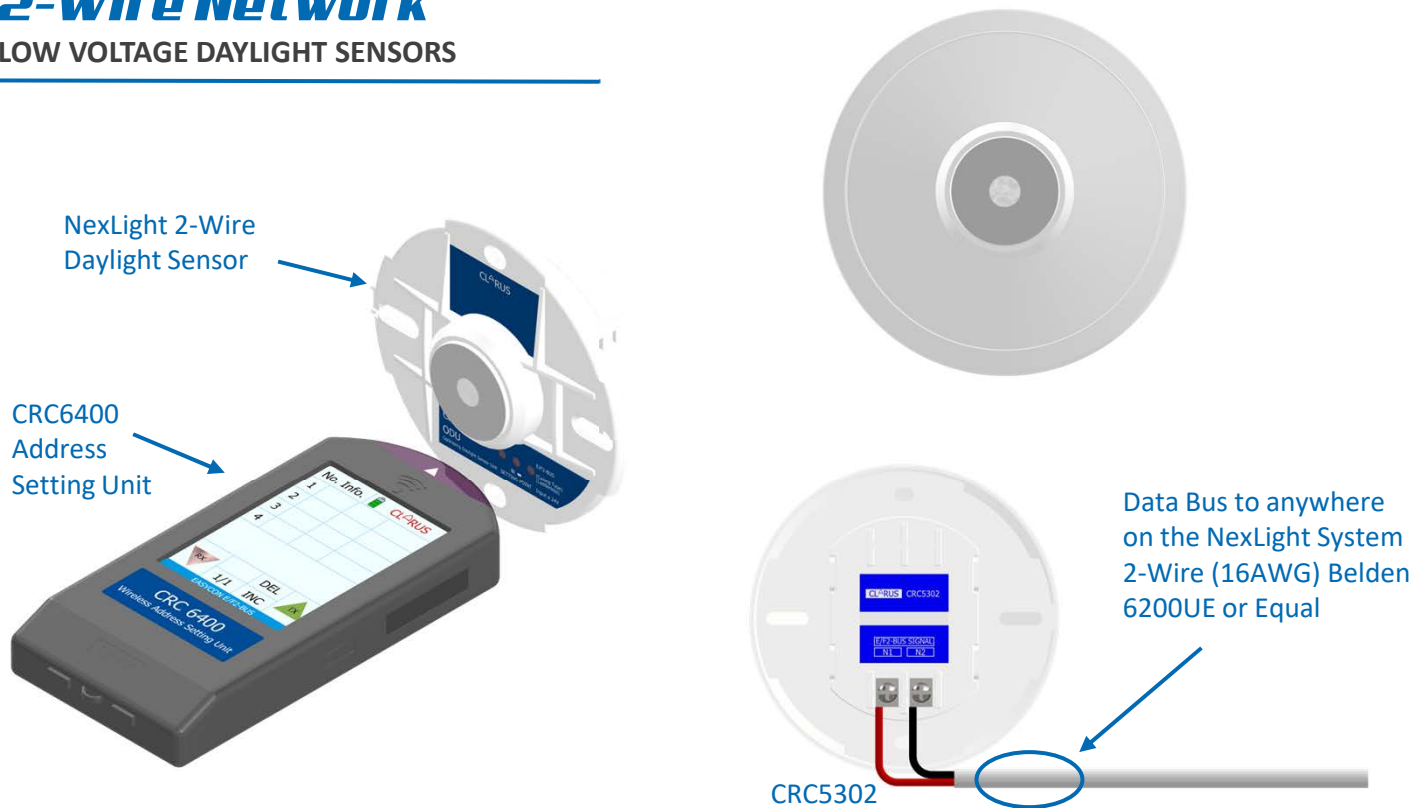
- Use with R Series, D Series or a Custom Panel.
- Ladder-less configuration through the NexLight Graphic User Interface (GUI).

TYPICAL DATA BUS CONNECTIONS



2-Wire Network

LOW VOLTAGE DAYLIGHT SENSORS



APPLICATION OVERVIEW

The NexLight Lighting Control System features a fully addressable daylight sensor that provides the flexibility to control any addresses on the 2-Wire Data Bus. The CRC5302 Optimizing Daylight Unit (ODU) accepts addressing from the CRC6400 Address Setting Unit. Configuration of what daylight zones are controlled by the sensor is ladder-less and performed within the Graphic User Interface (GUI). This sensor can be used for multiple panel-controlled zones, so there is no need for multiple daylight sensors within a single daylight harvesting zone. No supplementary power supply is required for control power, the only connection needed is to the NexLight 2-Wire Data Bus.

APPLICATION HIGHLIGHTS

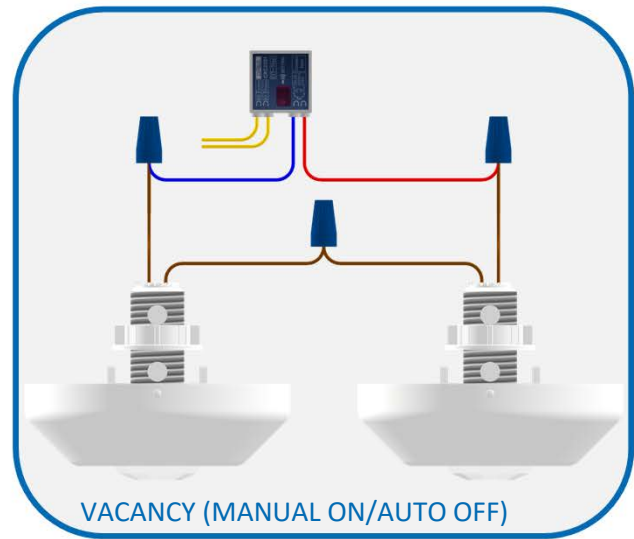
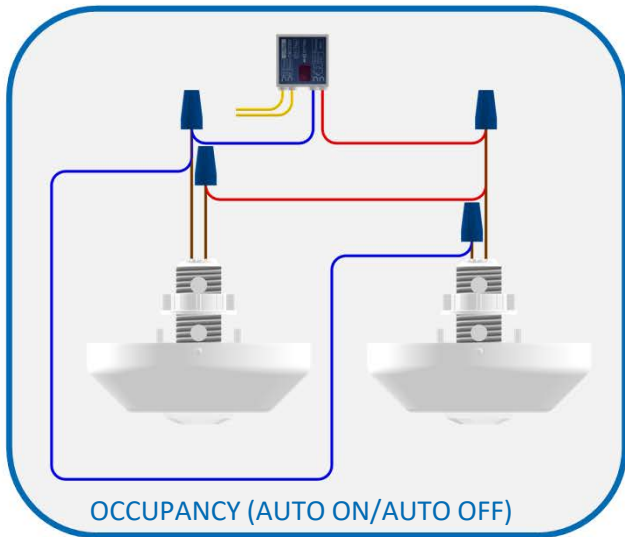
- Use with R Series, D Series or a Custom Panel.
- Ladder-less configuration through the NexLight Graphic User Interface (GUI).

TYPICAL DATA BUS CONNECTIONS

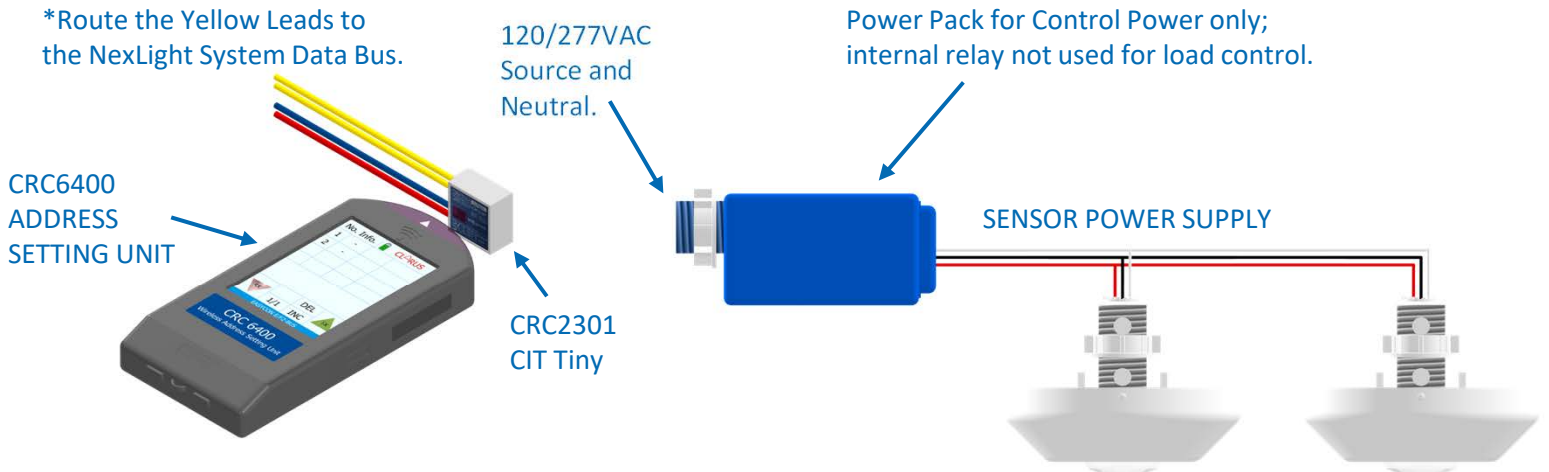


2-Wire Network

STAND-ALONE SENSOR INTEGRATION



*Route the Yellow Leads to the NexLight System Data Bus.



APPLICATION OVERVIEW

Integrating Stand-alone sensors into the 2-Wire NexLight Lighting Control System can be done using any sensor that has a Form-C Relay wired to a CRC2301 CIT Tiny. Wiring the CRC2301 to achieve Occupancy operation, is a matter of landing the red and blue leads onto the common and normally open (wired in parallel for multiple sensors); reference Occupancy Diagram above. Wiring to achieve Vacancy operation, is a matter of landing the red and blue leads onto the common and normally closed (wired in series for multiple sensors); reference Vacancy Diagram above. The power pack is only required for powering the sensors, the isolated relay in the power pack may be used for plug load in the space if desired. Wire the Yellow leads on the CRC2301 to anywhere on the NexLight 2-Wire Data Bus Network.

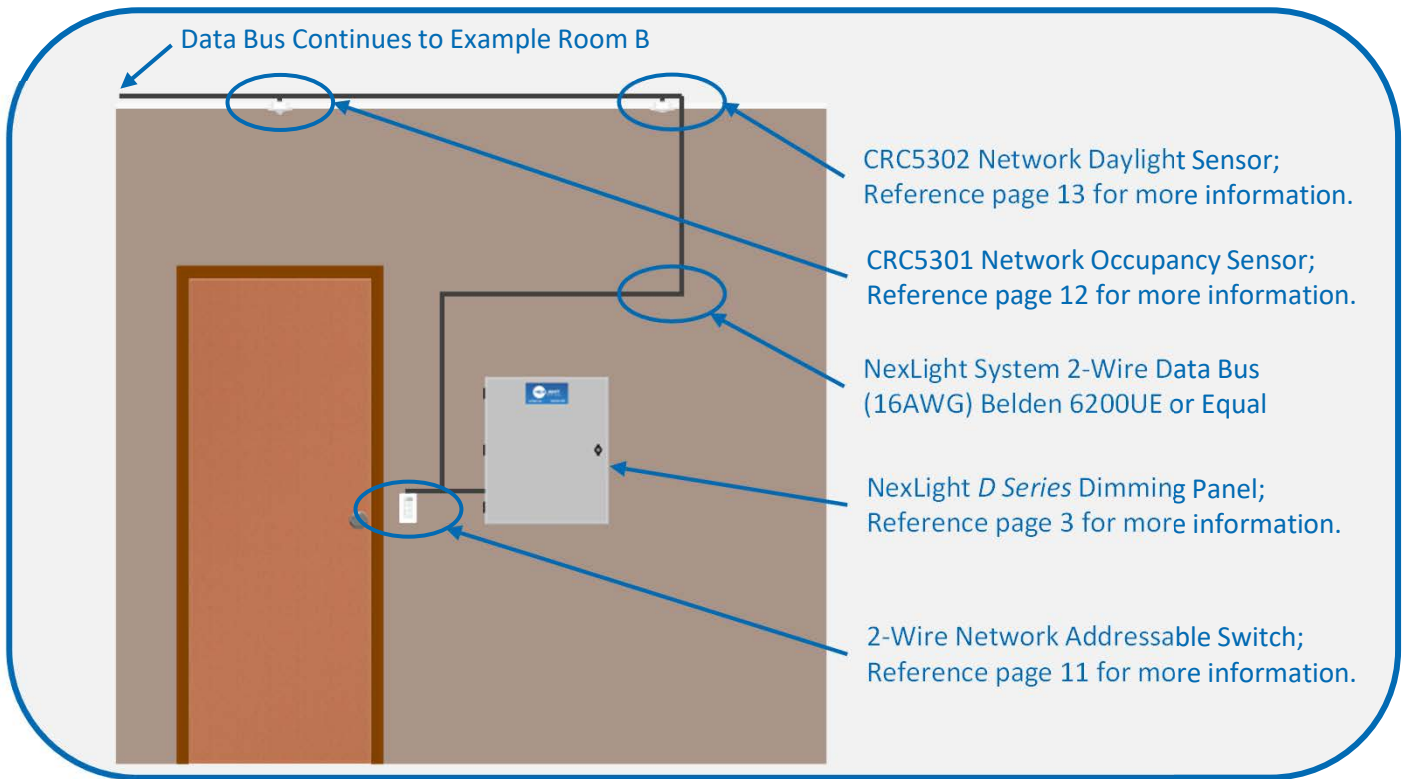
APPLICATION HIGHLIGHTS

- Acts as a potential plug load solution.
- Programming, Monitoring and Remote Override available through the NexLight Graphic User Interface (GUI).
- Ability to disable sensor operation using an optional individual address within the CRC2301.

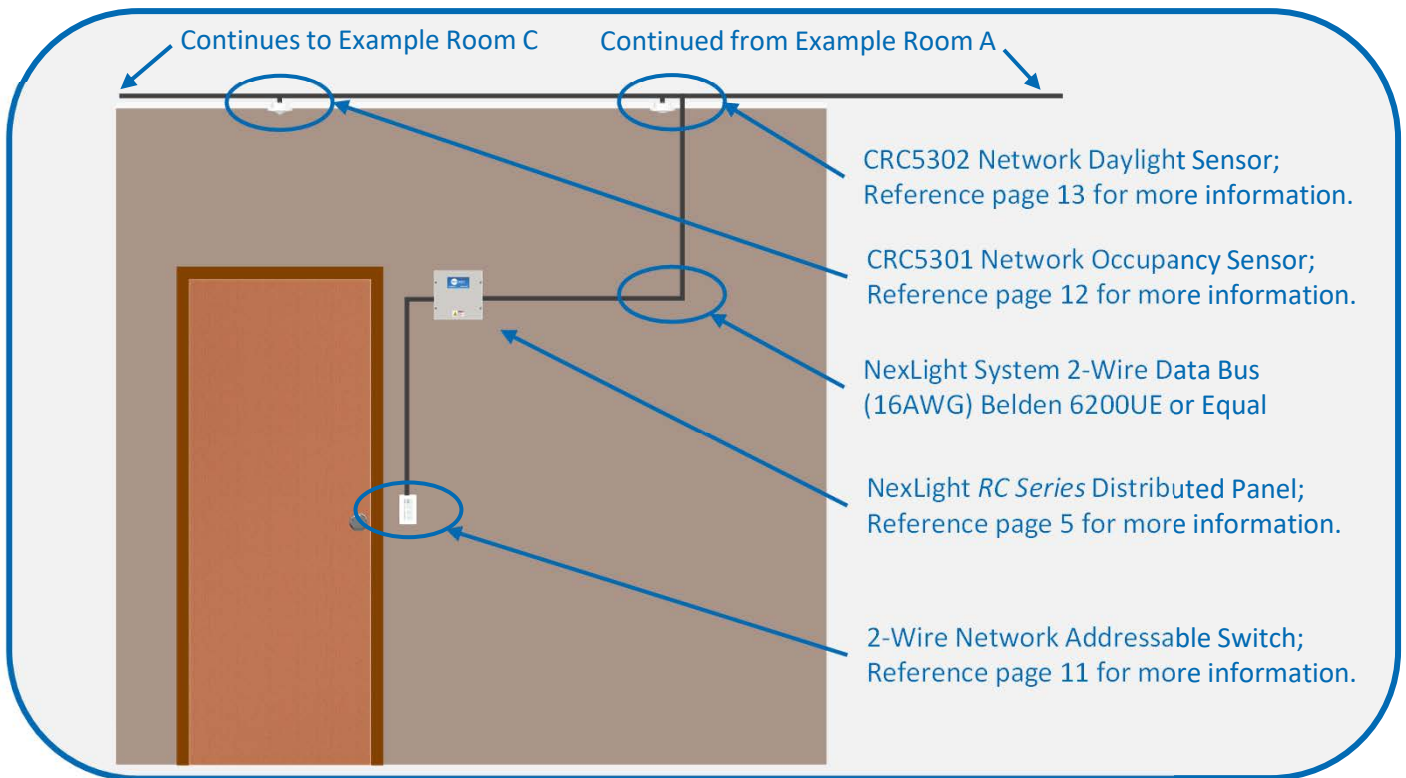
2-Wire Network

APPLICATION OF EQUIPMENT

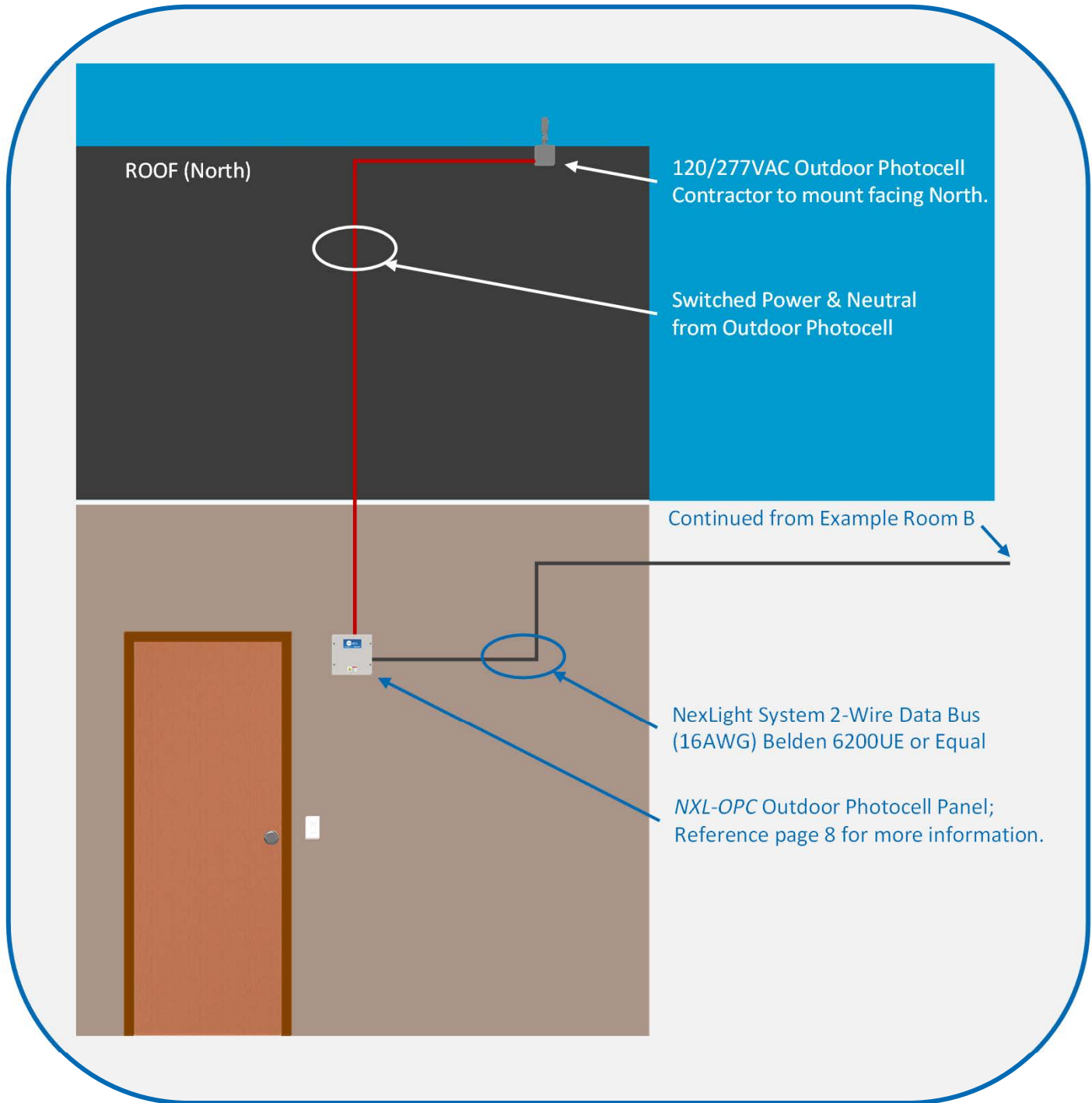
EXAMPLE ROOM A



EXAMPLE ROOM B



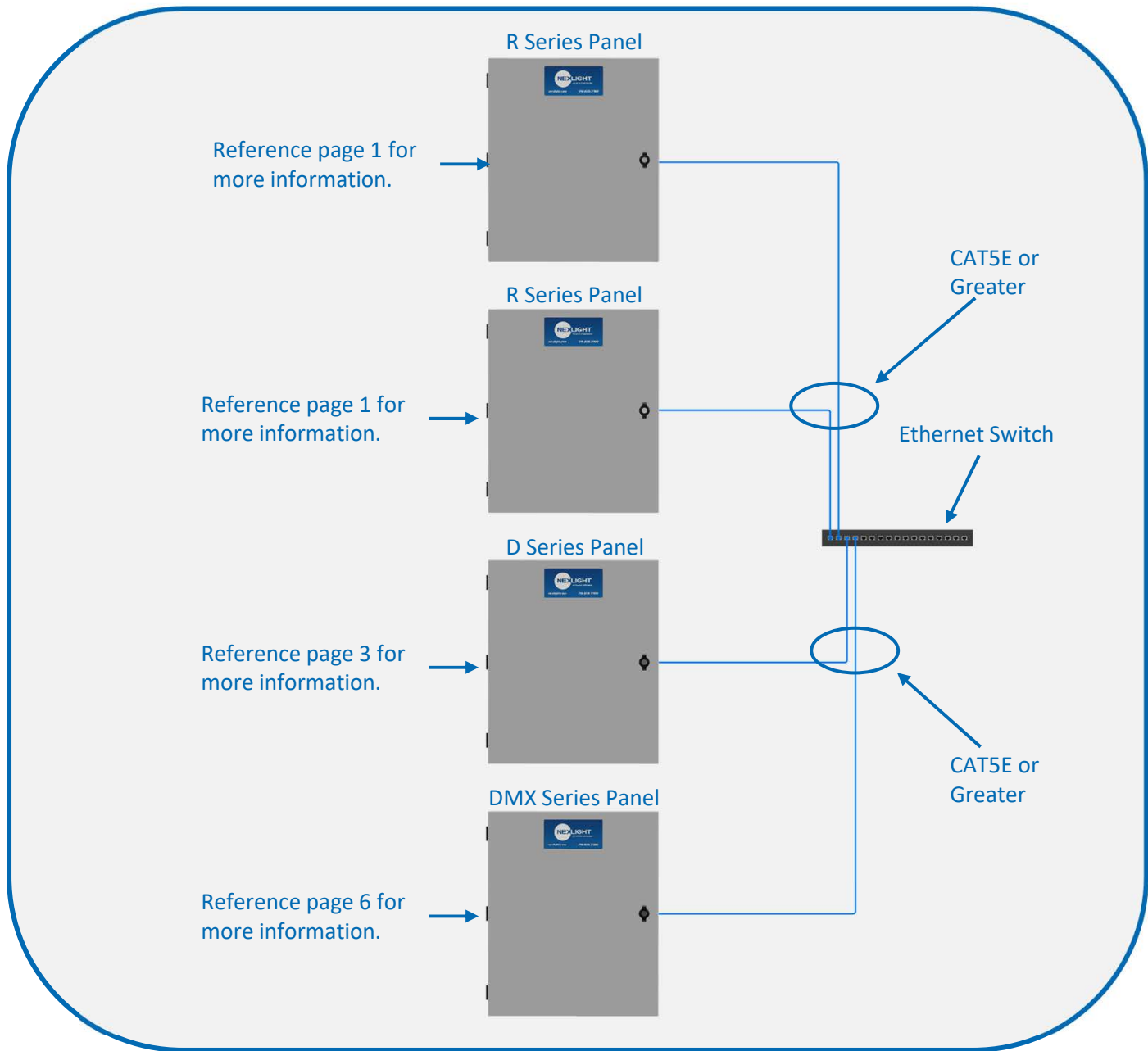
EXAMPLE ROOM C



APPLICATION OVERVIEW

Using the 2-Wire Data Bus Network, the NexLight System can provide up to 256 Individual points of control using *Individual Addresses* (IND). The Individual Addresses may be Grouped for simultaneous control using *Group Addresses* (GRP), the user also has the option of Creating Scenes using *Scene Addresses* (SCN). All configuration of Group and Scene Addresses is achieved using the Graphic User Interface (GUI).

Like the configuration of Group and Scene Addresses, scheduling system events is also achieved within the System GUI.



APPLICATION OVERVIEW

Networking multiple NexLight 2-Wire Systems is done through a Local Area Network (LAN) by changing the IP Address of each Main panel withing the Graphic User Interface (GUI). The Main Panel on the NexLight System has either a CRC1201 IPC (256 address capacity) or a CRC1301 SPC (64 address capacity) Central Processing Unit (CPU). Using this approach provides Networking of up to 250 Separate NexLight 2-Wire Systems and allows for scaled solutions to suit any building. With up to 256 point of control per NexLight 2-Wire System, NexLight can accommodate a Network of 64,000 points of control using the most reliable and stable Network in the Industry.

