Part #: | Date: | Project:

D SERIES DIMMING PANEL

OVERVIEW

The NexLight™ D Series dimming control panel provides control of lighting loads using world class 20A mechanically latching relays for ON/OFF control and CRC4214 dimming units that provide up to 100 mA (sinking current) of dimming per channel. 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**
- **100 mA of Sinking Current per 0-10V Dimming Channel**
- **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

Dimming Channels

0-10V Sinking Current:	100 mA per dimming channel
High Trim:	100% down to 50%
Low Trim:	0% up to 50%

Additional accessories

NXL-OPC:	Outdoor Photocell Integration Panel, Remote Mounting (8"H x 8"W x 4"D)
NXL-00P5:	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

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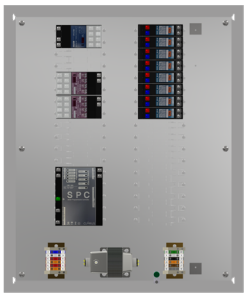
NXL-D8s



Alternate Available Part Numbers:
NXL-D8i & NXL-D8a

Included Components

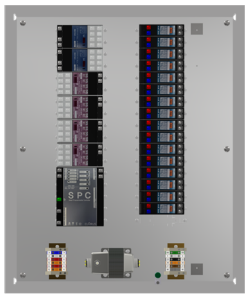
8	CRC7000 20 Amp Relays
2	CRC4214 Dimming Control Units (4 Channels each)
1	CRC1301 SPC[1]
1	CRC2180 Relay Controller
1	TR-5024 Transformer
1	TB-2-6-6 Terminal Block Assembly
1	PA-240-1 Panel Assembly

Physical Specifications

NEMA/Type:	1
Mounting:	Surface Mount
Dimensions:	24.00"H x 20.00"W x 6.00"D
Weight:	47 lbs
Addresses Available:	64[1]
Addresses Used:	16
mA Available:	450
mA Draw:	24
Operating Temperature:	14° to 122°F (-10°C to 55°C)

1 Alternate System Devices Available;
Reference Part Number Information Table

NXL-D16s



Alternate Available Part Numbers:
NXL-D16i & NXL-D16a

Included Components

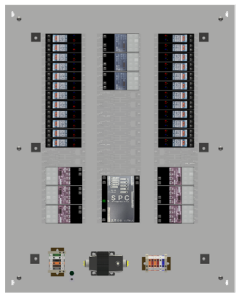
16	CRC7000 20 Amp Relays
4	CRC4214 Dimming Control Units (4 Channels each)
1	CRC1301 SPC[1]
2	CRC2180 Relay Controller
1	TR-5024 Transformer
1	TB-2-6-6 Terminal Block Assembly
1	PA-240-1 Panel Assembly

Physical Specifications

NEMA/Type:	1
Mounting:	Surface Mount
Dimensions:	24.00"H x 20.00"W x 6.00"D
Weight:	51 lbs
Addresses Available:	64[1]
Addresses Used:	32
mA Available:	450
mA Draw:	48
Operating Temperature:	14° to 122°F (-10°C to 55°C)

1 Alternate System Devices Available;
Reference Part Number Information Table

NXL-D24s



Alternate Available Part Numbers:
NXL-D24i & NXL-D24a

Included Components

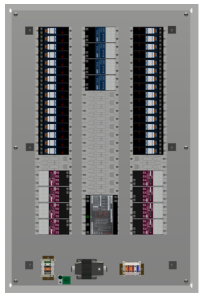
24	CRC7000 20 Amp Relays
6	CRC4214 Dimming Control Units (4 Channels each)
1	CRC1301 SPC[1]
3	CRC2180 Relay Controller
1	TR-5024 Transformer
1	TB-2-6-6 Terminal Block Assembly
1	PA-300-1 Panel Assembly

Physical Specifications

NEMA/Type:	1
Mounting:	Surface Mount
Dimensions:	30.00"H x 24.00"W x 6.00"D
Weight:	72 lbs
Addresses Available:	64[1]
Addresses Used:	48
mA Available:	450
mA Draw:	72
Operating Temperature:	14° to 122°F (-10°C to 55°C)

1 Alternate System Devices Available;
Reference Part Number Information Table

NXL-D32i



Alternate Available Part Numbers:
NXL-D32a

Included Components

32	CRC7000 20 Amp Relays
8	CRC4214 Dimming Control Units (4 Channels each)
1	CRC1201 IPC[1]
4	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:	85 lbs
Addresses Available:	256[1]
Addresses Used:	64
mA Available:	450
mA Draw:	96
Operating Temperature:	14° to 122°F (-10°C to 55°C)

1 Alternate System Devices Available;
Reference Part Number Information Table

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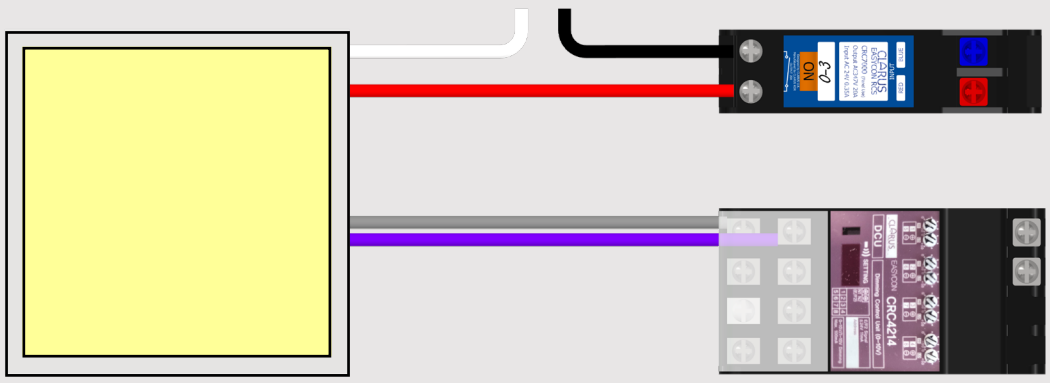
PART NUMBER INFORMATION TABLE

Part Number Information		
Example Used:	NXL-D8s	
(D) D Series Panel	(8) 20A Relays	(s) System Device CRC1301
Available Relay/Dimming Channel Quantities for the D Series Panels: 8, 16, 24, 32*,		
Available System Devices for the D 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
*Quantity 32 is not available with System Device CRC1301 due to address availability constraints		
**Use of the CRC6001 makes the D Series Panel an Auxiliary Panel		

Wiring diagram



**All wiring colors are for illustrative purposes only. Please adhere to local code and ordinance when selecting appropriate wire insulation colors.

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PANEL SELECTION TABLE

PANEL SELECTED	PART #	DESCRIPTION	SYSTEM DEVICE USED	ADDRESSES AVAILABLE
☐	NXL-D8s	8 Relay Dimming Panel, Astronomic Timeclock (SPC) (24"H x 20"W x 6"D)	CRC1301	48
☐	NXL-D8i	8 Relay Dimming Panel, Astronomic Timeclock (IPC) (24"H x 20"W x 6"D)	CRC1201	240
☐	NXL-D8a	8 Relay Dimming Panel, Astronomic Timeclock (AUX) (24"H x 20"W x 6"D)	CRC6001	0
☐	NXL-D16s	16 Relay Dimming Panel, Astronomic Timeclock (SPC) (24"H x 20"W x 6"D)	CRC1301	32
☐	NXL-D16i	16 Relay Dimming Panel, Astronomic Timeclock (IPC) (24"H x 20"W x 6"D)	CRC1201	224
☐	NXL-D16a	16 Relay Dimming Panel, Astronomic Timeclock (AUX) (24"H x 20"W x 6"D)	CRC6001	0
☐	NXL-D24s	24 Relay Dimming Panel, Astronomic Timeclock (SPC) (30"H x 24"W x 6"D)	CRC1301	16
☐	NXL-D24i	24 Relay Dimming Panel, Astronomic Timeclock (IPC) (30"H x 24"W x 6"D)	CRC1201	208
☐	NXL-D24a	24 Relay Dimming Panel, Astronomic Timeclock (AUX) (30"H x 24"W x 6"D)	CRC6001	0
☐	NXL-D32i	32 Relay Dimming Panel, Astronomic Timeclock (IPC) (30"H x 24"W x 6"D)	CRC1201	192
☐	NXL-D32a	32 Relay Dimming Panel, Astronomic Timeclock (AUX) (30"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-D8s	PANEL DIMENSIONS:	24.00"H x 20.00"W x 6.00"D

NEXLIGHT

LEFT SIDE				RIGHT SIDE			
LOAD DESCRIPTION	SOURCE	ADDRESS	DEVICE	DEVICE	ADDRESS	SOURCE	LOAD DESCRIPTION
CRC2180 RELAY CONTROLLER				CRC7000	0-1		
				CRC7000	0-2		
SPACE				CRC7000	0-3		
SPACE				CRC7000	0-4		
SPACE				CRC7000	1-1		
SPACE				CRC7000	1-2		
SPACE				CRC7000	1-3		
SPACE				CRC7000	1-4		
	CHANNEL 1	2	-1	CRC4214 0-10 DIMMER	SPACE		
	CHANNEL 2		-2				
	CHANNEL 3		-3		SPACE		
	CHANNEL 4		-4				
	CHANNEL 1	3	-1	CRC4214 0-10 DIMMER	SPACE		
	CHANNEL 2		-2				
	CHANNEL 3		-3		SPACE		
	CHANNEL 4		-4				
CRC1301 (SPC) SPACE FOR CPU				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-D8i	PANEL DIMENSIONS:	24.00"H x 20.00"W x 6.00"D

NEXLIGHT

LEFT SIDE				RIGHT SIDE			
LOAD DESCRIPTION	SOURCE	ADDRESS	DEVICE	DEVICE	ADDRESS	SOURCE	LOAD DESCRIPTION
CRC2180 RELAY CONTROLLER				CRC7000	0-1		
				CRC7000	0-2		
SPACE				CRC7000	0-3		
SPACE				CRC7000	0-4		
SPACE				CRC7000	1-1		
SPACE				CRC7000	1-2		
SPACE				CRC7000	1-3		
SPACE				CRC7000	1-4		
	CHANNEL 1	2	-1	CRC4214 0-10 DIMMER	SPACE		
	CHANNEL 2		-2				
	CHANNEL 3		-3		SPACE		
	CHANNEL 4		-4				
	CHANNEL 1	3	-1	CRC4214 0-10 DIMMER	SPACE		
	CHANNEL 2		-2				
	CHANNEL 3		-3		SPACE		
	CHANNEL 4		-4				
CRC1201 (IPC) SPACE FOR CPU				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:	N/A
MOUNTING LOCATION:		SUBNET MASK:	N/A
TRANSFORMER FEED:		DEFAULT GATEWAY:	N/A
PANEL TYPE:	NXL-D8a	PANEL DIMENSIONS:	24.00"H x 20.00"W x 6.00"D

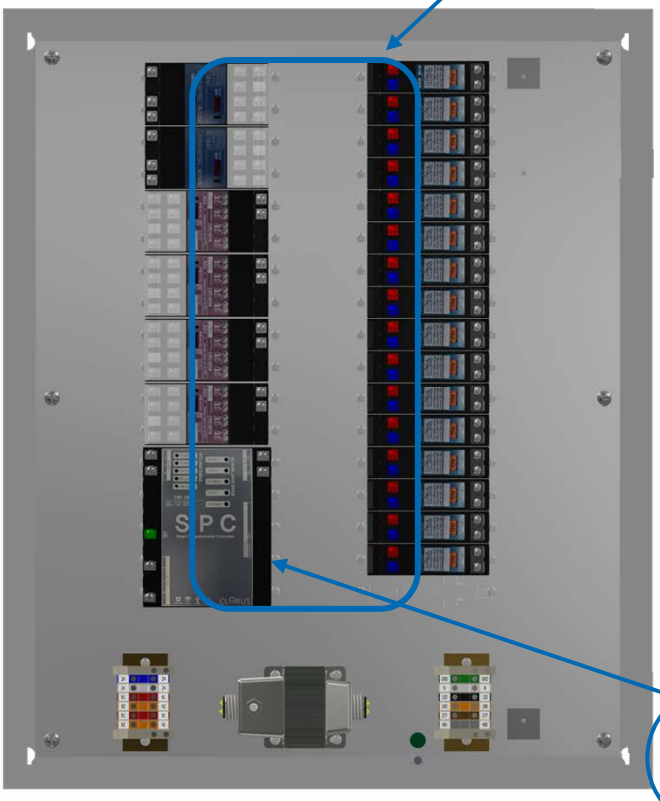
NEXLIGHT

LEFT SIDE				RIGHT SIDE			
LOAD DESCRIPTION	SOURCE	ADDRESS	DEVICE	DEVICE	ADDRESS	SOURCE	LOAD DESCRIPTION
CRC2180 RELAY CONTROLLER				CRC7000	-1		
				CRC7000	-2		
SPACE				CRC7000	-3		
SPACE				CRC7000	-4		
SPACE				CRC7000	-1		
SPACE				CRC7000	-2		
SPACE				CRC7000	-3		
SPACE				CRC7000	-4		
	CHANNEL 1		-1	CRC4214 0-10 DIMMER		SPACE	
	CHANNEL 2		-2				
	CHANNEL 3		-3			SPACE	
	CHANNEL 4		-4				
	CHANNEL 1		-1	CRC4214 0-10 DIMMER		SPACE	
	CHANNEL 2		-2				
	CHANNEL 3		-3			SPACE	
	CHANNEL 4		-4				
CRC6001 (AMP) SPACE FOR AMPLIFIER				SPACE			
				SPACE			
				SPACE			
				SPACE			
				SPACE			

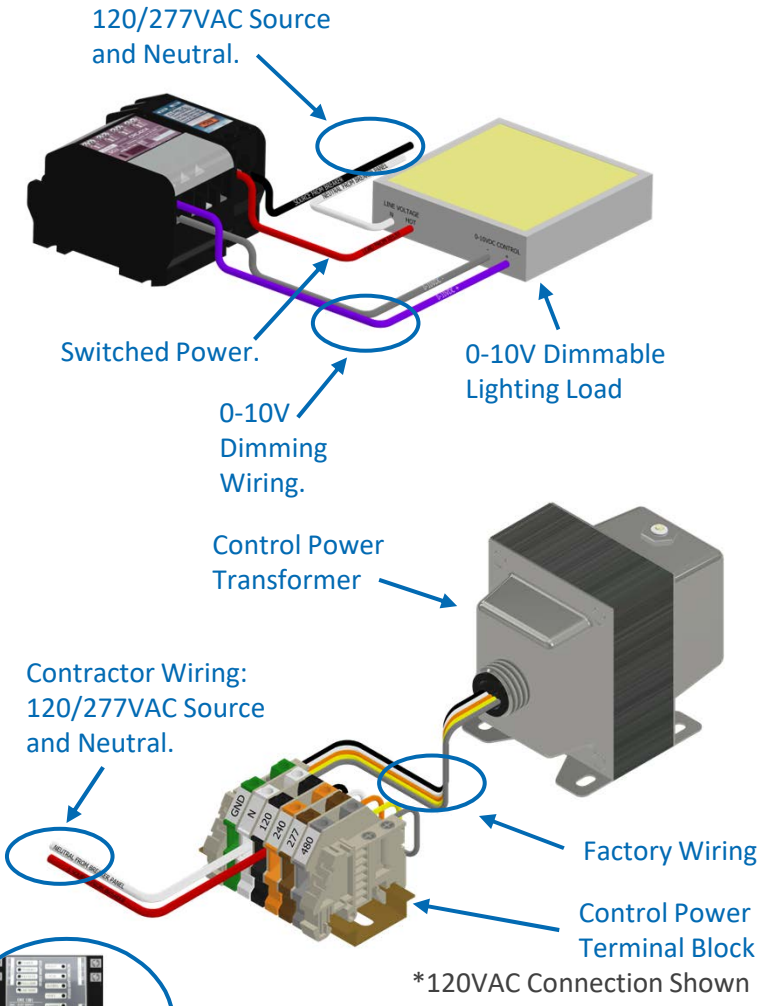
INSTALLING CONTRACTOR TO USE: 16 AWG, BELDEN 6200 UE OR EQUAL; REFERENCE 2-WIRE DATA BUS WIRING DETAIL

D SERIES

DIMMING CONTROL PANEL



NXL-D16s Shown



*120VAC Connection Shown

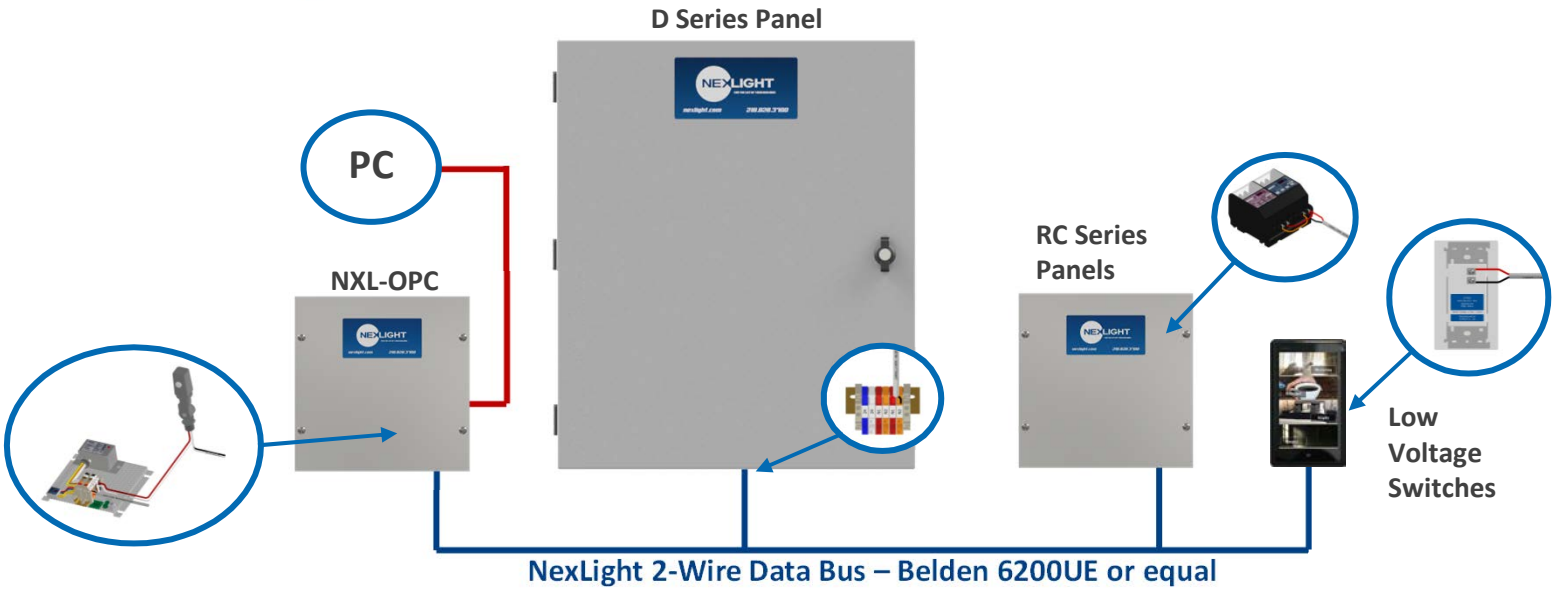
APPLICATION OVERVIEW

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	CRC7000	1-1		
	CHANNEL 2		-2				
	CHANNEL 3		-3		CRC7000	1-2		
	CHANNEL 4		-4				

Record the Lighting Load Description

Record the source circuit breaker

Record the Lighting Load Description

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.**