NXR Lighting Control Relays - For use with NX Series Panels
INSTALLATION INSTRUCTIONS

PRECAUTIONS

- READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
- CAUTION - RISK OF ELECTRICAL SHOCK. To prevent electrical shock, turn off power at the circuit breaker before installing or servicing unit. Never wire energized electrical components.
- NOTICE: For installation by a licensed electrician in accordance with National and/or local Electrical Codes and the following instructions.
- CAUTION: USE COPPER CONDUCTOR ONLY.
- Be sure to read and understand all instructions before installing or servicing unit
- For indoor use only. Do not use outdoors.
- Do not mount near gas or electric heaters.
- Disconnect switch or a circuit breaker must be provided and marked as the disconnecting device.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Confirm that device ratings are suitable for application prior to installation.
- No user serviceable parts contained inside unit. Refer all service related questions to the factory. All servicing shall be performed by qualified service personnel.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- Use only approved materials and components (i.e. twist on connectors, electrical box, etc.) as appropriate for installation.
- NOTICE: Do not install if product appears to be damaged.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- Do not use this equipment for other than intended use.
- If any Emergency Circuits are fed or controlled from this panel, it must be located electrically where fed from a UPS, generator, or other guaranteed source of power during emergency and power outage situations.

SAVE THESE INSTRUCTIONS!

DESCRIPTION

NXR Relays are designed to be installed in NX Series Panels only. Individual relays of any type can be placed in any position in the panel. Two pole relays fit in the same space as one pole relay. Relay types are as follows:

Model	Relay Type	
NXR	3L	1-Pole Latching 20A @120VAC-Tungsten; 16A @120/277VAC-Elect. Ballast; 30A @120/277VAC-Mag. Ballast; 20A @347VAC-Elect. Ballast; 18K SCCR @347VAC
	3LEM	1-Pole, Latching 20A @120VAC-Tungsten; 16A @120/277VAC-Elect. Ballast; 30A @120/277VAC-Mag. Ballast; 20A @347VAC-Elect. Ballast; 20A @347VAC-Mag. Ballast; 5K SCCR @347VAC
	TN	2-Pole, Elect. Held N.O. 20A @208/240/480VAC Mag. Ballast; 14K SCCR @480VAC
	TC	2-Pole, Elect. Held N.O. 20A @208/240/480VAC Mag. Ballast; 14K SCCR @480VAC

INSTALLING INDIVIDUAL RELAY CARDS

Install Relays in the NX Panel as follows:

1. Disconnect Low Voltage Control Input Plug located at the top of the Mother Board
2. Align the relay board in the desired relay position and insert the Relay Card Plug Connector (Male) into the socket (Female) on the mother board. Be sure that all of the pines line up and that the connection is tight.
3. Insert and tighten the Relay Card Mounting Screw. Be sure that when tightened that the Relay Card Plug Connector does not loosen due to the torque force.

All terminations within the panel enclosure require installation by a licensed electrician in accordance with National and/or local Electrical Codes
Caution: ALWAYS remove supply power to the Panel Mother Board prior to making any connections between relay boards and panel mother board. Failure to do so may result in personnel injury, damage to the panel, and void its warranty.

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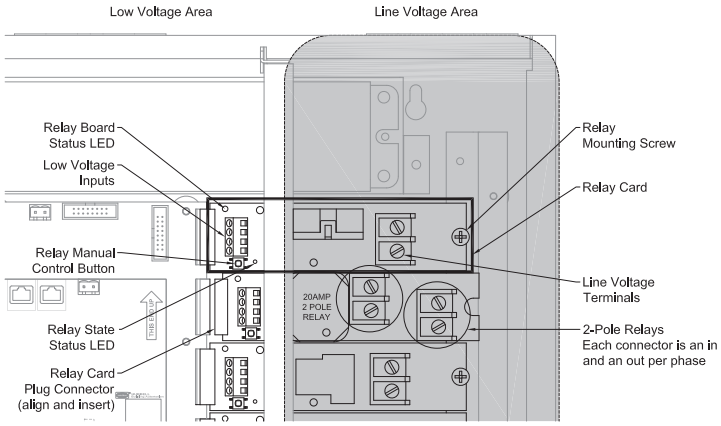

Figure 1 - NX Panel Interior

CONNECTING LIGHTING LOADS

With the power turned off, route the lighting system line and load leads through the high voltage area of the panel shown in Figure 1. Connect line and load leads for each lighting load to the output terminals of the appropriate relay as delineated in the project plans and/or Panel Load Schedule. Space is provided for the circuit identification number to be written adjacent to the terminals on each relay card.

Caution: Prior to making any connections to the relay outputs, verify that none of the loads are shorted. Failure to do so may result in personnel injury, damage to the panel, and void its warranty

Notice: If no Panel Load Schedule exists, use the Panel Load Schedule Form supplied in the clear plastic pocket inside the Panel Door to record the lighting circuit relay assignments while connecting the relays

CONNECTING LOW VOLTAGE INPUT

Bring the low voltage wiring for the contact inputs in through the knockouts in the low voltage wiring area where indicated in Figure 1. The NXR Relay Card includes one input. The input is software configurable through programming to support momentary switches, maintained switches (latching), motion sensors, or photocells. The input may be connected prior to programming. Inputs may be connected to any terminal location regardless of final control programming. Connect contact closure input devices to the input terminals using 18 AWG wire.

Notice: Use the Panel Load Schedule Form supplied in the clear plastic pocket inside the Panel Door to record the low voltage input types while making connections.

Low Voltage Control Diagrams shown in Figure 2 below are for use with Current Input Devices ONLY. Diagrams may not apply to input devices from other manufacturers.

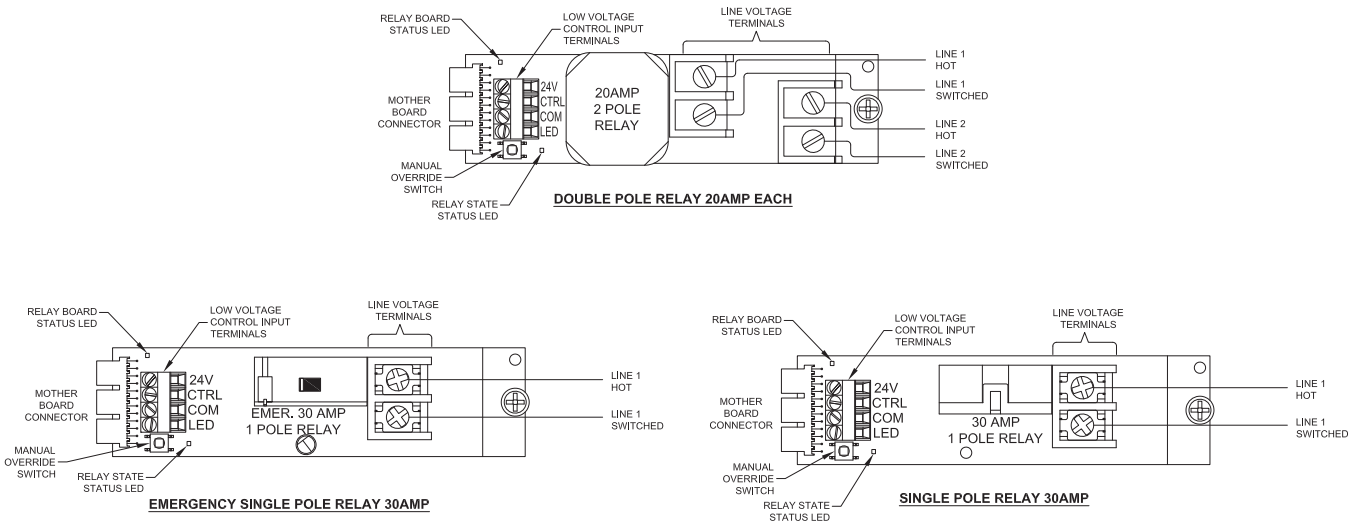

Figure 2- Low Voltage Input Wiring Diagrams

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OPERATING THE PANEL

After installation of the panel and following the NX panel instructions, provide control power to the panel and restore power to the lighting circuits at the source circuit breakers.

Upon initial power up of the NX Lighting Control Panel the relay LEDs will not turn on. The LEDs on the Relay cards only turn on after programming has been established through the NXAC.

Green Relay State Status LED: Indicates the relay is in the on state when illuminated.

Red Relay Board Status LED: Indicates a command was given by the NXAC to turn "ON".

The panel is now fully functional and ready to control the lighting loads.

NX Emergency Relay (NXR3LEM) Function

If any Emergency Circuits are fed or controlled from this panel, it must be located electrically where fed from a UPS, generator, or other guaranteed source of power during emergency and power outage situations. When the panel loses normal power the NXR3LEM relay will close its contacts providing the Emergency Circuit power. When normal power is established the NXR3LEM relay will turn on, off or last state based on programming.

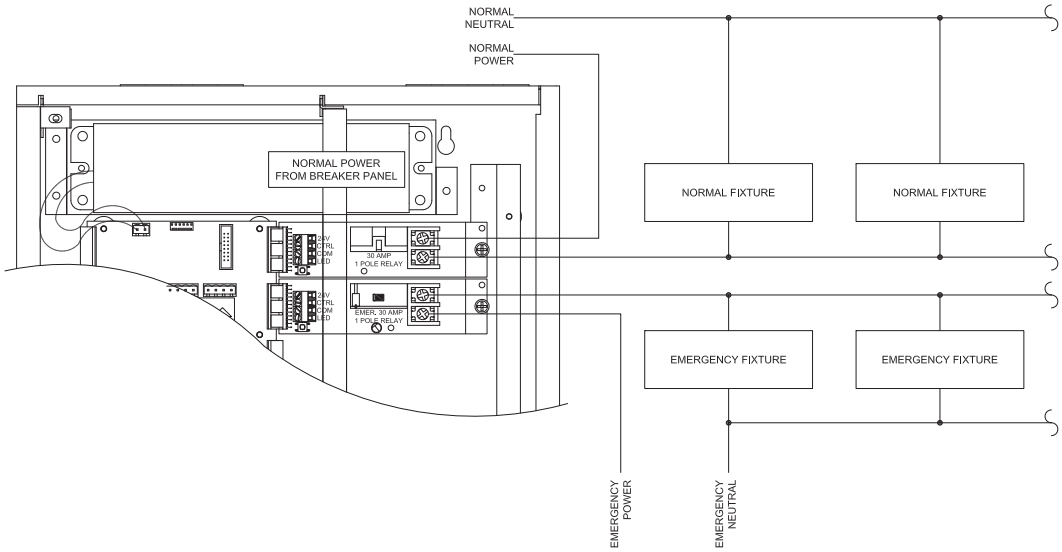

Figure 3- Low Voltage Input Wiring Diagrams

TROUBLESHOOTING

A blinking "green" relay board status LED indicates that communication has not been properly established for this card.

1. Power down the panel
2. Remove the relay card and check the connectors on the relay card and on the motherboard to verify they are undamaged.
3. Reinstall the relay card
4. Power up the panel and see if the LED indicator light stopped blinking and verify the relay card is seen through the controller.

The relay does not appear to turn ON.

1. With the load removed, check continuity of the relay terminal blocks.
   a. If the green relay board status LED is on there should be resistance
   b. If the green relay board status LED is off there should be no resistance
2. Verify the supply breaker is on and energized
3. Relay contact may be damaged

The relay does not appear to turn OFF the load.

1. With the load removed, check continuity of the relay terminal blocks.
   a. If the green relay board status LED is on there should be resistance
   b. If the green relay board status LED is off there should be no resistance
2. Relay contact may have been welded shut.
3. Circuit from supply breaker may be wired in parallel to load.

For further assistance contact Technical Services for assistance and replacement as required. Or visit our website chat line found on our website.

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NXR RELAY SPECIFICATIONS

Characteristics			Load Ratings				SCCR Rating
Type	Poles	VAC	Tungsten	Elect. Ballast	Magnetic Ballast	Motor Rating	
NXR-3L - Latching	1	120	20A	16A	30A	1 HP	18K Amps
		277	N/A	16A	30A	N/A	
		347	N/A	20A	N/A	N/A	
NXR-3LEM - Latching*	1	120	20A	16A	30A	1 HP	5K Amps
		277	N/A	16A	30A	3/4 HP	
		347	20A	20A	20A	N/A	
NXR-TN - Elec. Held, N.O.	2	208/240/480	N/A	N/A	20A	2 HP	14K Amps
NXR-TC - Elec. Held, N.C.	2	208/240/480	N/A	N/A	20A	2 HP	

* Includes mechanical override lever, suitable for use on emergency lighting circuits

GENERAL SPECIFICATIONS

Operating Voltages	NXR3L 120/277/347VAC (50/60Hz) NXR3LEM 120/277/347VAC (50/60Hz) NXRTN 208/240/480VAC (50/60Hz) NXRTC 208/240/480VAC (50/60Hz)
Class 2 I/O output rating	NX08/NX16/NX24/ NX32/NX48; 24VDC, 150mA (max. 900mA)
Class 2 I/O terminal	Wire size 14, 16, 18, 20, 22 AWG Recommended Tightening Torque: 0.45 N-m (4 in-lbs.)
Status Indicator	Green - Indicates relay is in closed position Red- Dependant on input being programmed
Operating environment	32°-112°F (0°-50°C) Relative humidity (non-condensing): 10%-90%
Inrush withstand	500A @ 2ms (NXR3LEM)
Dimensions	1.625" W x 5.5" L (41.28mm W x 139.7mm L)
Mounting	Mounts inside a NX series panel Pre-drilled mounting hole for securing relay card Individual relay cards - 1P and 2P are equal size
Safety Standards	UL 916, CAN/CSA C22.2 No.205 UL 924, CAN/CSA C22.2 No. 141 Emergency Lighting (NXR3LEM)
Warranty	5 year limited

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