

RCS

Model 8R5PX

8 Channel Programmable X10 Relay Controller

Installation Manual

DCN: 140-01406-01
8/05/05

Product Contents

This product kit consist of the following items:

- 1 8R5PX Control Unit
- 1 Power Transformer, 120VAC/12VDC, 500 mA
- 1 X10 Powerline Interface Module, Model PSC05
- 1 Modular phone cable, 4 wire, reversing
- 1 Set of Installation and Programming Manuals

Installation

It is recommended that you perform a bench test of the unit before permanent installation.

Refer to the wiring diagram at the end of this document.

You will need a source of X10 commands to test and/or program the unit.

Place the control unit on a table and connect the power transformer to the power jack. Plug in the power transformer to a 110VAC outlet

The Status LED should be on solid. This indicates that the unit has powered up OK and it is waiting for a valid X10 PLI module to be attached.

Connect the X10 powerline interface module (PSC05) to the 4 wire modular cable. **You MUST use the supplied 4 wire modular cable for the bench test.** Connect this cable to the X10 PLI jack on the control unit circuit board. Plug the PSC05 into an 110VAC Outlet. (If you plan on using a custom X10 PLI cable, you can redo this test with it after it has passed with the supplied cable.)

CAUTION! Do not plug the X10 interface module/cable into phone outlets or damage may result.

The Status LED should start flashing at a slow rate. The unit is ready to accept X10 Commands.

Pre-Programmed X10 Operating Mode

The 8R5PX controller is pre-programmed to be an 8 channel latched relay controller, set to House Code A and Unit Codes 1 to 8 for Relay Channels 1-8. The unit will initially power up in this mode. No additional programming is required to use the control unit in this configuration.

Testing X10 Operation

Connect a suitable X10 transmitter, such as the X10 mini-controller or maxi-controller, RCS CommStar or Stargate control units or other X10 source.

Set the transmitter X10 House Code to A.

Send the following X10 commands.

“A1 On” Relay Channel 1 should turn on.
Status LED will flash four times rapidly when the command is received.

Send the remaining channel commands

“A2 On” Relay Channel 2 should turn on.
“A3 On” Relay Channel 3 should turn on.
“A4 On” Relay Channel 4 should turn on.
“A5 On” Relay Channel 5 should turn on.

“A6 On” Relay Channel 6 should turn on.
“A7 On” Relay Channel 7 should turn on.
“A8 On” Relay Channel 8 should turn on.

Repeat with A1 Off, A2 Off and so on, until all units are off.

If these commands work OK, you have completed the bench test.

If you want to change the default X10 addressing or relay operating modes, proceed to the Programming section.

Confirm the unit operates as programmed.

When these test are completed, install the unit as desired.

Programming the 8R5PX

Setting the X10 House Code, Unit Code Address and Relay Operating Mode.

If you want to change the default House Code (A) and Unit Codes (1-8) for the 8R5PX, use the 8R5PX **programming mode**. This also allows you to change the relay operating mode from Latched to Momentary or Pulsed outputs. Relays can be programmed in groups or individually.

Caution! Disconnect any live loads from the 8R5PX before entering programming mode. Relay channels will be turned on during the programming sequence.

Press the **Program Mode** button on the control unit circuit board to enter the programming mode.

Refer to the 8R5PX programming manual, DCN 147-1406, for details on programming the unit.

Relay LEDs

Each relay channel has an indicator LED. The LED will be on when the relay is on. These LEDs are also used in the programming mode to indicate which relay channel is being programmed.

Status LED

The Status LED is a multifunction indicator that shows that power is on and the unit is working properly. It also indicates that the X10 PLI module is properly attached. It acts as an X10 signal reception indication by flashing when X10 commands are received.

LED On Steady: When the control unit is first powered up, the status LED will come ON steady, indicating power is on and the unit is running OK.

LED flashing slowly: When the **X10 power line interface module** is connected and its X10 signal is detected, the Status LED will start flashing slowly. This is the normal system heartbeat.

LED flashes twice rapidly: When the control unit receives **any valid X10 Command**, but not the same house code as set on the controller, the Status LED will **flash twice rapidly**. X10 commands are being received but they are not addressed for this controller.

If you expected the command to activate a relay, check the House Code address setting on the controller and the sending device to be sure they are addressed the same.

Note that the LED on the X10 PLI module will also flash when X10 commands are detected on the power line.

LED flashes four times rapidly: When an X10 command is received with the same House Code as the controller, the status LED will **flash 4 times rapidly. This is a command for the controller!**

LED stops flashing: If the X10 signal is lost, the LED will stop flashing and be ON steady. If this occurs, check the following:

1. Check that the X10 Power Line Interface module is powered and its LED is on. If not check the 110VAC circuit to be sure it is not switched off.
2. Check that the modular cable is plugged in securely on the X10 PLI and the control unit.
3. Verify that the correct “reversing” type modular cable is installed if you are not using the supplied cable or it has been changed just before the problem occurred.
4. Replace module or cable as needed to restore X10 communications.

Status LED in Programming Mode

The 8R5PX has a programming mode of operation to change the relay addressing and operating mode. The Status LED is also used in the programming mode to indicate additional functions and operations. Refer to the Programming Manual, DCN 147-01406, for additional information.

In the programming mode, the Status LED indicates the following functions:

Rapid flash	In programming mode, waiting for a programming command
Long flash	In programming mode, latched output
Long flash followed by 1 short flash	In programming mode, pulse output 1 second long
Long flash followed by 2 short flashes	in programming mode, pulse output 2 seconds long
Long flash followed by 3 short flashes	in programming mode, pulse output 3 seconds long
Long flash followed by 4 short flashes	in programming mode, pulse output 4 seconds long

Relay Channel Specifications

Channels: 8
Type: SPDT
Contact Rating: 5A 30VDC/ 5A 240VAC

CAUTION! This unit is not rated for 120/240Volt operation.

Connecting Inductive Loads

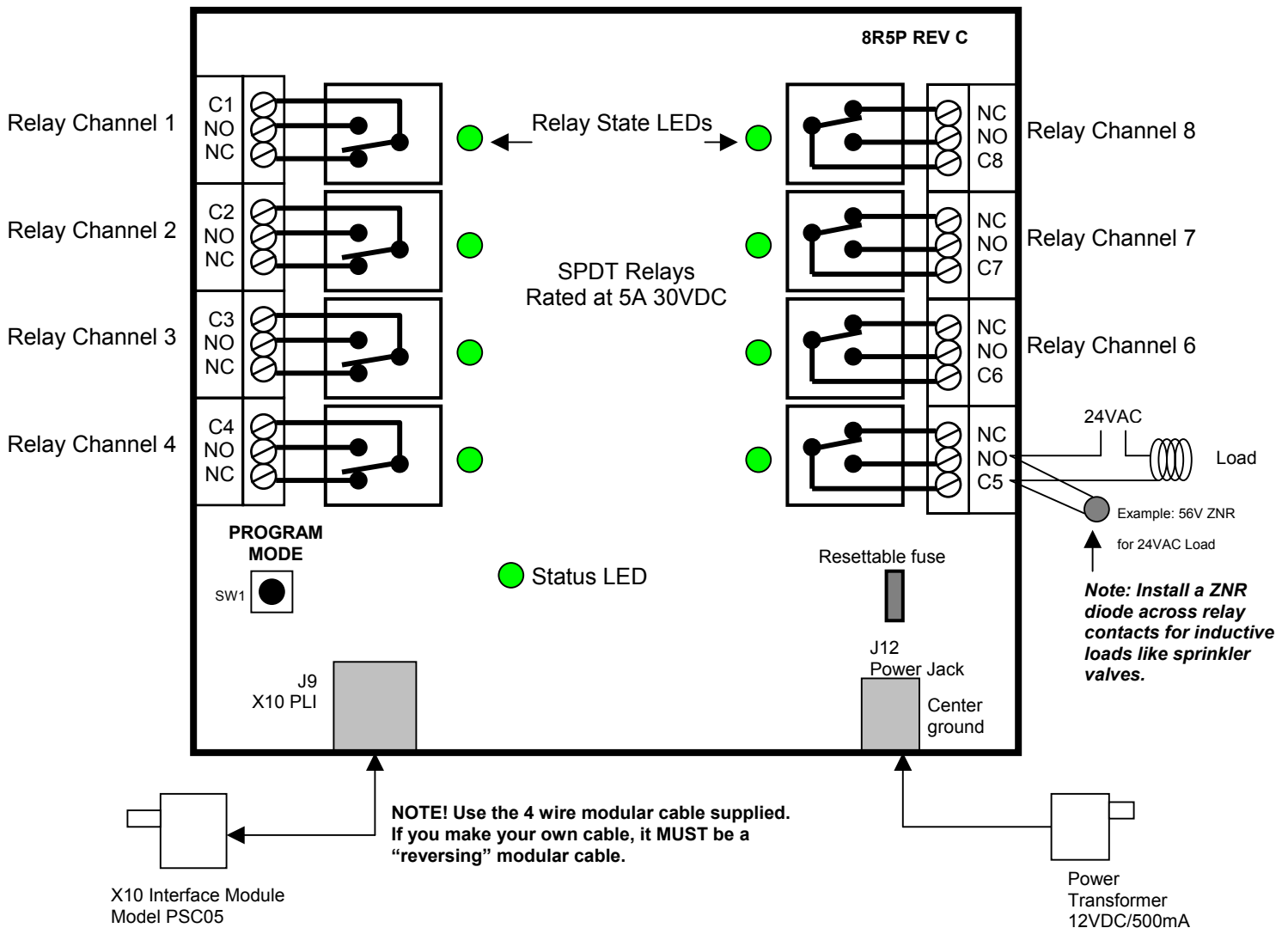
If you are controlling inductive loads like large contactors/relays, solenoids or sprinkler valves, you must install transient voltage suppressor/surge absorbers (called “ZNR” devices) across the relay contact terminals (Com and NO typically) to provide arc suppression and noise reduction.

For 24VAC loads (sprinkler valve for example), use a 56 volt ZNR. Reference Part: Panasonic part number: ERZ-V07D560, available from Digi-Key, Part Number: P7296-ND (www.digikey.com)

A kit of 8 ZNR’s is included with the control unit. Additional ZNR’s are available from Digi-Key.

Wiring Diagram

Rev C PCB



INDUCTIVE LOAD NOTE: If you are controlling inductive loads like large contactors/relays, solenoids or sprinkler valves, you must install transient voltage suppressor/surge absorbers (called "ZNR" devices) across the relay contacts to provide arc suppression and noise reduction. For 24VAC Loads (sprinkler valves), use a 56 volt ZNR. 8 are included with the unit. If you need additional ZNRs, they are available from DigiKey (www.digikey.com) Reference Part: Panasonic part number: ERZ-V07D560, DigiKey Part Number: P7296-ND

Status LED:
Operating Mode

ON
Slow flash
2 fast flashes
4 fast flashes

Function

Power on, OK but No X10 signal
Power on, OK + X10 Signal connected
X10 Command received
X10 Command for this address

Programming Mode

Rapid flash
Long flash
Long flash followed by 1 short flash
Long flash followed by 2 short flashes
Long flash followed by 3 short flashes
Long flash followed by 4 short flashes

In programming mode, waiting for a programming command
In programming mode, latched output
In programming mode, pulse output 1 second long
In programming mode, pulse output 2 seconds long
In programming mode, pulse output 3 seconds long
In programming mode, pulse output 4 seconds long