

XC-REL Communicating Relay Module



Installation Instructions

Location

To ensure reliable, long-term, carefree operation, install the relay module only in a dry location, away from heavy dust and high humidity. The module may be installed wall mounted, table mounted or placed in a larger enclosure. If mounting externally to a structure, place the module in a weatherized box.

Pre-Wire Installation

1. Pull a two-wire cable from the device(s) being controlled to the relay module installation location. The gauge and type of wire used must be determined by the application, keeping within the relay power requirements. Each relay is a SPDT type, rated at 1A@30VDC, 0.3A@110VDC, and 0.5A@125VAC.
2. Pull the XCI communications type cable (4 pair UTP, Category 5) from the network adapter to the relay module.

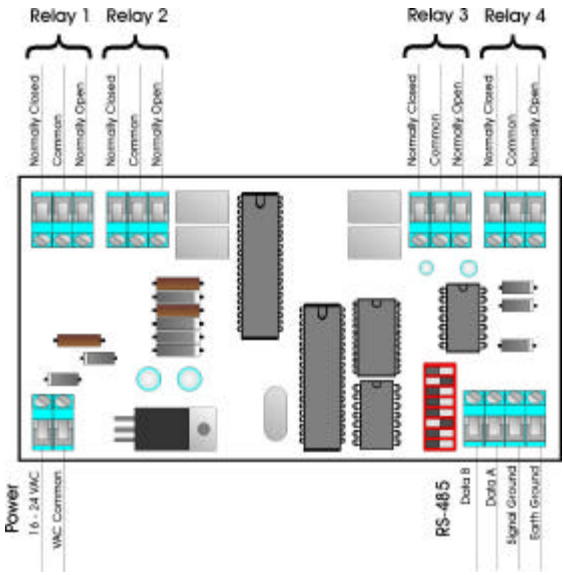
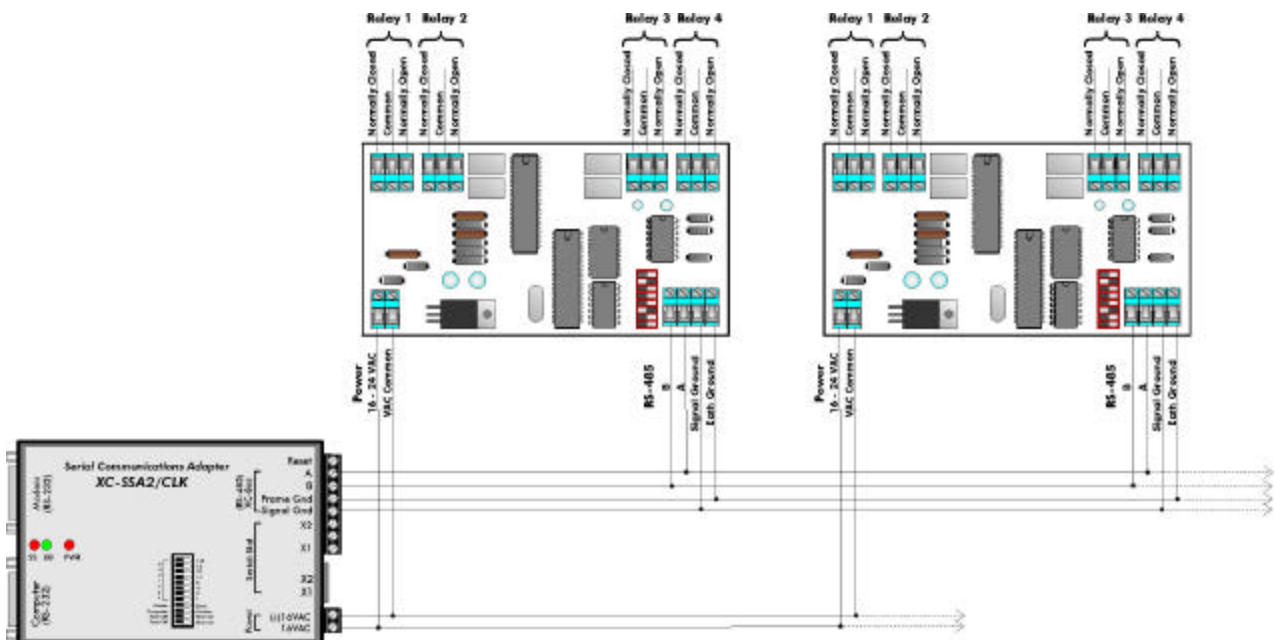
Module Installation

1. Remove the cover of the module using a #1 phillips or a 3/16" slotted screwdriver. Set aside and re-install after completion.
2. Select the appropriate openings or knockouts in the base of the relay module for routing wires into the case.
3. If the connecting cables are surface mounted, using a pair of blunt-nosed pliers, grab the desired knockout locations and cleanly remove the plastic from those areas. All knockouts have a pre-made indentation on the inside of the base. For best results, make sure the nose of the pliers are mated with the indentation before removing plastic.
4. If the connecting cables are protruding through the wall, route them through the pre-made holes in the base of the case.
5. Using the appropriate drywall, metal or wood screws, attach the relay module baseplate.

Wiring Connection

1. Connect the relay output wires from the device(s) being controlled to the desired relay terminals NC & C, or NO & C.
2. Connect the power wires to the AC and (C) terminals on the relay module. Observing power wattage requirements connect the other end of the power wires to the network adapter or another XCI power transformer. The relay module may be powered from 16 VAC to 24VAC. Therefore, the relay module may be powered from a network adapter, a separate 16 or 24VAC power transformer or a thermostat. The preferred method is to power the relay module from a network adapter.
3. Connect the RS-485 cable from the network adapter to the relay module. Connect A to A, B to B. For long cable runs or noisy environments, also connect the SG (signal ground) wire and the EG (earth ground) wire as well. Connect SG to SG and EG to a local earth grounded source.
4. Follow the same wiring standard throughout the connection of all RS-485 devices on the network as described in the *RS-485 Serial Communications Network Wiring Diagram* and the information below.

Relay Module Wiring Diagram for Typical Installations



Communications Cable Wiring Guideline

Pair 1

- A - Blue with White stripe
- B - White with Blue stripe

Pair 2

- EG - Orange with White stripe
- SG - White with Orange stripe

Pair 3

- (C) - Green with White stripe
- AC - White with Green stripe

Pair 4

- Spare - Brown
- Spare - Brown

Network Addressing

Every RS-485 device on an XCI system must have a unique address, ranging from 1 to 255. Typically, a relay module will have an address from 2 to 255, as the master network adapter will have address 1. To address the relay module, slide the switches on the lower right corner of the relay module to the desired address. The address is determined by adding the switched in the 'on' position. Three address examples are shown below, address 2 (2), address 17 (16+1), and address 53 (32+16+4+1). The information is also included directly on the relay module circuit board.

Network Address

Examples:

2, 17, 53



Output Terminal Functions

- NC Normally Closed Relay Contact Output (Relay 1 - 4)
- NO Normally Open Relay Contact Output (Relay 1 - 4)
- C Common Relay Contact Output (Relay 1 - 4)
- A Data Signal A from/to communications network (RS-485)
- B Data Signal B from/to communications network (RS-485)
- SG Signal Ground for communications network (RS-485)
- EG Earth Ground for relay module (RS-485)
- AC 16 - 24 VAC Hot from equipment or network transformer
- (C) 16 - 24 VAC Common