DESCRIPTION

Model Series 380AX Relay Modules provide a pair of independent relays that are energized and de-energized by inputs such as switching transistors, logic signals or switch contacts, etc. Standard or hermetically sealed relays are available (see MODEL DESIGNATION). Each relay has single-pole double-throw contacts.

When used with SYNCRO 350 Stations, the station status signals (+6V & -6V dc), or open-collector transistor switches (e.g. Alarm Module sinks) that pull the Relay Module inputs down to circuit common, will cause the relays to change state.

The Relay Module trip-points are fixed. When its inputs are ≥ 4.0V dc, the IC1-14 and IC1-6 outputs are high (+15V dc). These outputs switch to a low (0.0V dc) when the inputs are ≤ 3.5V dc. Note that pull-up resistors (R28 & R29) are used to apply 5.2V dc to the inputs.

The two, remaining stages of IC1 are used as inverters. Note that jumper wires K1 and K2 are used to select normal (N) or reverse (R) relay action. Normal means that the relay is energized when the input is above the trip point. Reverse means that the relay is energized when the input is below the trip point.

There are two LED's at the front of the Relay Module, one for each relay. The top LED is for relay 1 and the bottom for relay 2. When either relay is energized, its LED will be on.

MODEL DESIGNATION

Function Module Designation
Relay Module
Type of Relays
1. Standard
2. Hermetically Sealed

GENERAL SPECIFICATIONS

Input:............. Normal Relay Action
Energized - Open input circuit or
input ≥ 4.0V dc.
De-energized - Contact closure to
 circuit common, or
input ≤ 3.5V dc.
Reverse Relay Action
Energized - Contact closure to
 circuit common, or
input ≤ 3.5V dc.
De-energized - Open input circuit, or
input ≥ 4.0V dc.

Input
Impedance:...... 100K Ohm (min.)

Output:............ Two SPDT Relays
Standard - 2 Amps, 117V ac or
28V dc resistive.
Hermetically Sealed - 3 Amps, 117V
ac or 28V dc resistive.

Relay Action:........ Reversible

INSTALLATION

The Relay Module must be installed in the Card Cage Enclosure. It can be plugged into any of the numbered slots in the enclosure. Refer to your drawings for the designated slot, or choose a slot for the module.

The safety keys in the Card Cage enclosure must be set before the module is plugged in. Service instructions SD3801 identifies these safety keys and gives the procedure for setting them. The positions of the keys for the Relay Module are as follows:

Left Key: V (vertical)
Right Key: V (vertical)

Input and output wiring connections are made on the terminal strips in the Card Cage Enclosure. There is a terminal strip for each numbered slot; the terminal
strips are numbered to correspond to the slot numbers. Refer to the CONNECTION DIAGRAM in this instruction for the electrical connections at the terminal strip. For all other wiring information, refer to Service Instructions SD3801.

The module, as shipped, is set for Normal relay action (i.e. with open input circuits, or input voltages ≥ 4.0V dc, the relays will be energized).

CHANGING RELAY ACTION

There are solder posts and jumper wires on the foil side of the circuit board. The jumpers are designated K1 and K2; K1 for relay 1 and K2 for relay 2.

"N" is for normal relay action; "R" is for reverse relay action. Refer to GENERAL SPECIFICATIONS for a description of normal and reverse relay action.

MAINTENANCE

Except for annual cleaning, the module requires no routine maintenance.

If the module does not operate properly when initially installed, check the input and output circuit wiring. Most problems on new installations can be traced to wiring mistakes. Also, verify that the equipment associated with the input and output circuits is functioning.

If a problem is traced to the module, use the P/N 15378-27 Card Extender to troubleshoot the module, or remove the module and give it a full bench check. Conventional electronic troubleshooting methods suffice.

RECOMMENDED SPARES

There are no recommended spare parts for the Relay Module.

One spare Relay Module is recommended for every 1 to 10 in service.

CONNECTION DIAGRAM

TERMINAL STRIPT ON SERIES 380 RACK ENCLOSURES.

INPUT RLY 1
INPUT RLY 2
COMMON

RELAY 1
OUTPUT
RELAY 2

NOTES:
1. CONTACTS SHOWN WITH OUTPUT RELAY DE-ENERGIZED.
2. THE "COMMON" INPUT TERMINAL IS ALSO COMMON WITH THE CAGE DC POWER SUPPLY.