

Installation Instructions

Models TRI-S, TRI-D, TRI-R Addressable Interface Modules

The **SIEMENS** Model TRI Series Addressable modules, shown in Figure 1, interface direct shorting devices to the MXL System's ALD loop circuit.

Note: The TRI-S/-D/-R Series is not compatible with the XL3 System or the XLD-1 loop circuit.

The TRI modules are available in three models. The TRI-S and TRI-R can monitor a normally open or closed dry contact. The TRI-S model can only monitor and report the status of the contact, while the TRI-R incorporates an addressable Form C relay. The TRI-D is a dual input module that supervises and monitors two sets of dry contacts. It requires two address settings.

The TRI has a multi-color LED that flashes green when operating normally, amber if the unit is in trouble condition, and red to indicate a change of state. The TRI-D flashes twice, once for each address. The TRI-R red LED indicates a change of state in the relay.

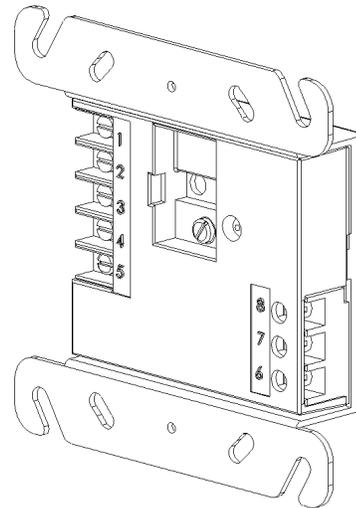


Figure 1
TRI Module

PROGRAMMING INSTRUCTIONS

1. Refer to Figure 2 to locate the openings on the TRI cover that allow access to the programming holes which are on the TRI printed circuit board.
2. To connect the TRI to the **SIEMENS** FPI-32 Programmer/Tester, insert the plug from the FPI-32 cable provided with the Programmer/Tester into the opening on the front of the TRI. Be sure to insert the locating tab on the plug into the slot for the locating tab on the TRI as shown in Figure 2.

CAUTION: TO PREVENT DAMAGE TO THE FPI-32, DO NOT connect a TRI to the FPI-32 until at least one wire is removed from terminals 1 or 2 of the TRI.

Note: Connection from the FPI-32 to the TRI is keyed. Refer to Figures 5-8 for the proper connections to the control panel.

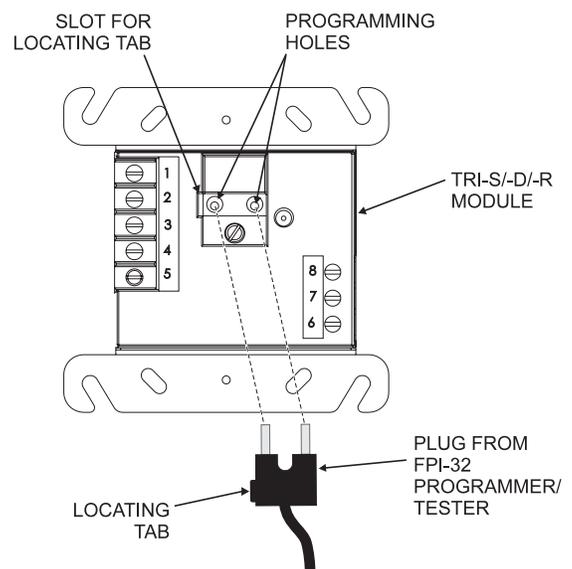
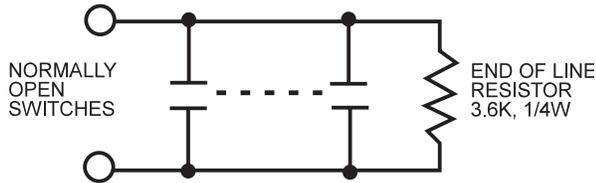


Figure 2
Inserting the FPI-32 Cable in the TRI Module

3. (Refer to Figure 3.) Follow the instructions in the **FPI-32 Programmer/Tester Manual** (P/N 315-090077) to program the TRI to the following:
 - a. Desired address
 - b. Desired application for fire or proprietary burglary (security)
 - c. Normally open or normally closed switch



NOTES:

1. There can be any number of normally open switches.
2. The end of line resistor must be located at the last switch.
3. **Do not** wire a normally closed switch across the end of line resistor.

Application	FPI-32	
	Switch	Device Use
Fire Alarm	Normally Open	Alarm
Fire Trouble	Normally Open	Trouble
Fire Supervisory	Normally Open	Trouble

Figure 3
Wiring Normally Open Switches

4. Record the device address on the label located on the TRI front panel. The TRI can now be installed and wired to the system.

WIRING

(Refer to Figures 4-8)

Refer to the appropriate wiring diagram below and wire the addressable interface module accordingly.

Note: Recommended wire size:
 18 AWG minimum
 14 AWG maximum
 Wire larger than 14 AWG can damage the connector.

POWER LIMITED WIRING FOR TRI-R ADDRESSABLE INTERFACE MODULE

In compliance with NEC Article 760, all power limited fire protective signaling conductors must be separated

a minimum of 1/4 inch from all of the following items located within an outlet box:

- electric light
- power
- Class 1 or non-power limited fire protective signaling conductors

To meet the above the requirements, the following guidelines **must be observed** when installing this interface module.

NOTE: If power limited wiring is not used within this outlet box, then the following guidelines do not apply. In that case, be sure to follow standard wiring practices.

TRI-R CONTROL MODULE BARRIER

The TRI-R Control Module Barrier must be used when the TRI-R relay contacts are connected to non-power limited lines. Install the barrier diagonally into the backbox to create two separate compartments within the backbox to separate the wires, as shown in Figure 4.

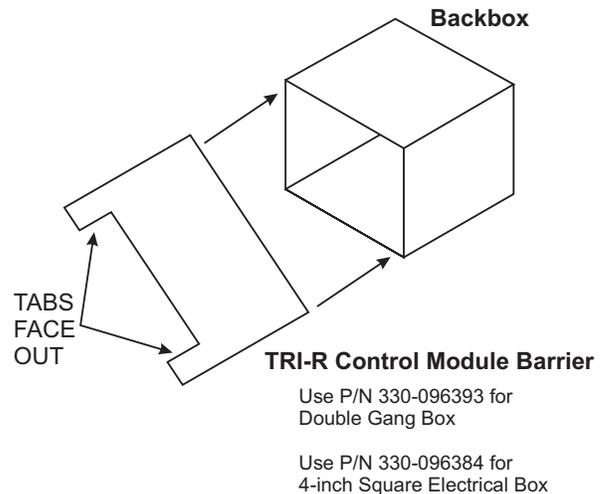


Figure 4
Installing the TRI-R Control Module Barrier

WIRING ENTERING OUTLET BOX
Power Limited Wiring

All power limited wiring must enter the outlet box separately from the electric light, power, Class 1, or non-powered limited fire protection signaling conductors. For the TRI-R, wiring to terminal block positions 1, 2, 3, 4, and 5 must enter the outlet box separately from terminals 6, 7, and 8.

IMPORTANT:
Minimize the length of wire entering the outlet box.

WIRING AT THE TERMINAL BLOCKS

Power Limited Wiring (Refer to Figure 5)

Wiring to positions 1, 2, 3, 4, and 5 is power limited.

Non-Power Limited Wiring

Wiring to positions 6, 7, and 8 is considered non-power limited.

Note: Remove all slack from these wires by pulling excess wiring back through the holes.

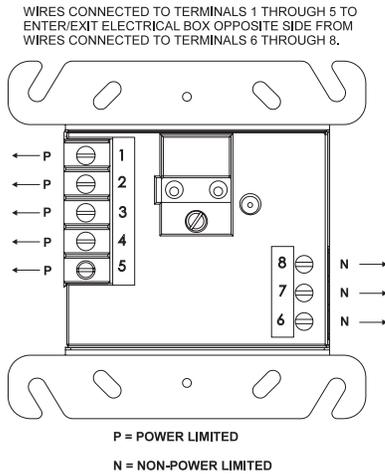


Figure 5
TRI-R Power Limited Wiring

NOTES:

- All supervised switches must be held closed and/or open for at least a quarter of a second to guarantee detection.
- Use ULI listed EOL Model EL-30/31 mounting plate with 470 ohms, $\frac{1}{4}$ W resistor, P/N 140-82016485. Order Model EL-30/31 separately.
- The supervised switches have the following ratings:

Voltage maximum:	27 VDC
Current maximum:	3.5mA during polling
Contact resistance maximum:	10 ohms
Maximum cable length:	200 feet (18 AWG)
$C_{\text{Line to line}}$:	0.02 μ F
$C_{\text{Line to shield}}$:	0.04 μ F
Max line size:	14 AWG
Min line size:	18 AWG
- Supervised switch S1 is on the first programmed address, and Supervised switch S2 is on the second programmed address.
- Relay contacts are rated: 4A, 125VAC resistive

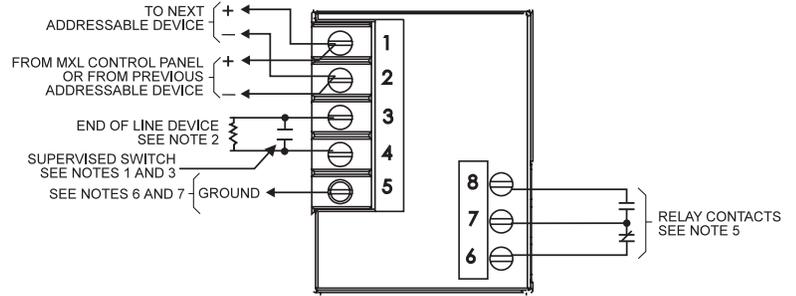


Figure 6
Model TRI-R Wiring

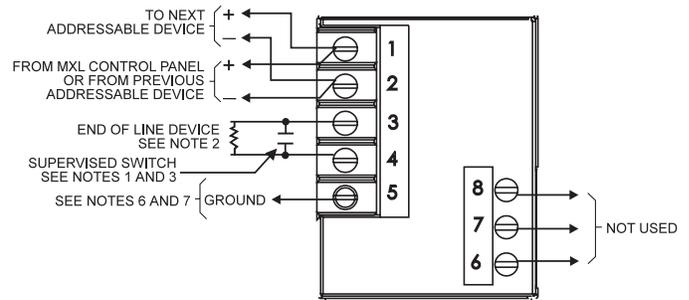


Figure 7
Model TRI-S Wiring

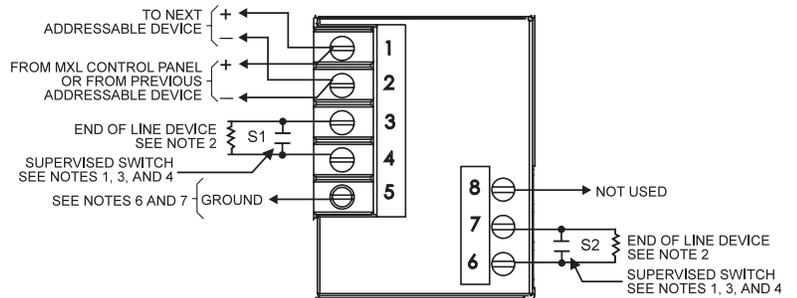


Figure 8
Model TRI-D Wiring

4A, 30 VDC resistive
Inductive: 3.5A, 120 VAC (0.6 P.F.)
3.0A, 30 VDC (0.6 P.F.)
2.0A, 120 VAC (0.4 P.F.)
2.0A, 120 VAC (0.35 P.F.)
2.0A, 30 VDC (0.35 P.F.)

The relay is shown in supervisory condition.

NOTES (Cont.):

CAUTION
Ground shield wire **ONLY** at the specified location
on the Control Panel.

6. **If a Good Local Earth Ground is Available:**
- a. Terminal 5 must be connected to earth ground.
 - b. Use wire nuts to pass the shield wire through the electrical box with **NO** connection to the device terminal block or to local ground.
 - c. Use shielded wire to connect the switch wiring to the TRI.
 - d. Tie the switch wiring shield to the ALD wiring shield. **Do not connect** shield to terminal 5 or the local earth ground.

- 7. **If a Good Local Earth Ground is NOT Available:**
Connect shield to terminal 5.
- 8. **If ALD wiring is not shielded,** the switch wiring must be in metal raceway.
- 9. In supervisory:
TRI-S/-R draws 1.6mA
TRI-D draws 1.6mA

IMPORTANT
Terminal 5 of the TRI-S/-D/-R must be connected
to a known good earth ground for proper operation.
If the electrical box the TRI is installed in is
grounded, connect Terminal 5 to same.

MOUNTING

Addressable Interface Models TRI-S, TRI-D, and TRI-R mount directly into a (user supplied) double gang or 4 inch square electrical box. Fasten the module to the square box with the switchplate using the 2 screws provided.

NOTE: Be sure to program the TRI before fastening the switchplate to the unit.

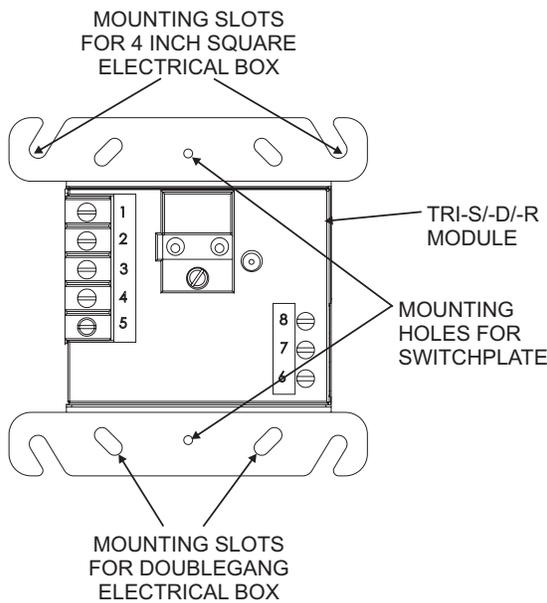


Figure 9
Mounting the TRI-S/-R/-D