

Features

- Small form factor industrial I/O termination board
- Sixteen, SPDT Form C medium current relays
- Contacts rated up to 6A @ 250VAC/24VDC
- Mechanical life exceeds 10 million cycles
- +5V nominal coil voltage
- LEDs provide visual status of each relay
- Each relay has up to 4000VAC dielectric strength and 6000V surge strength
- Custom configurations available with optically isolated inputs and/or outputs for OEM applications
- Convenient and reliable, pluggable quick disconnect terminal block connectors for field wiring
- Ribbon cabling directly compatible with WinSystems' single board computers and individual I/O modules
- Small 3.6 x 3.8 inches (90 x 96mm) size allows the module to be put in a stack or to standalone
- Operates from -40°C to +85°C
- RoHS compliant board



Product Description

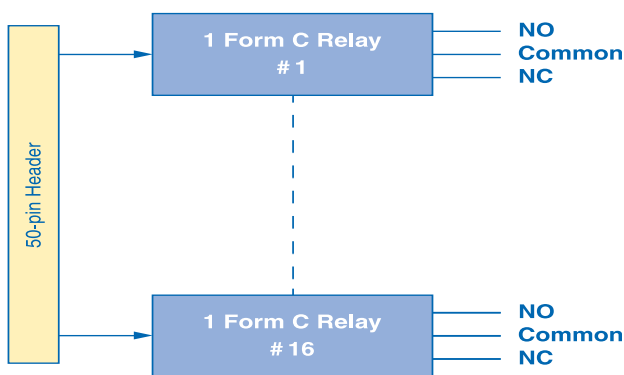
WinSystems' ISM-TRM-RELAY provides 16 independent relays that are Single Pole Double Throw (SPDT) Form C devices. The contacts can handle 6A @ 250VAC / 24VDC for applications requiring medium current capacity plus isolation between an embedded computer and monitoring/control points.

There are two signal lines, Normally Open (NO) and Normally Closed (NC) plus a Common associated for each relay. A nominal 5 volt DC signal activates the relay.

To interface with field wiring, the boards use a 3.5mm pitch pluggable connector to insure a reliable connection with easy removal and insertion. A minimum of three micro-inches of gold plating is on all the connector mating surfaces. The connectors are located on three edges of the board.

These boards will work with small form factor embedded PC and I/O modules that use the WinSystems' WS16C48-compatible digital I/O controller connector pinout. It will also work with other manufacturers' products as well.

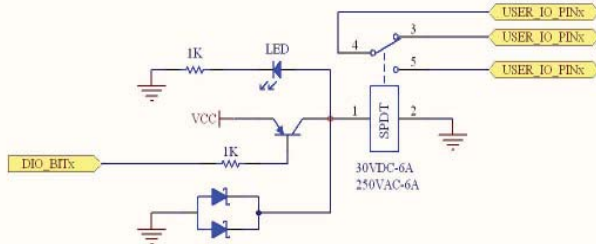
All these boards have the same physical dimensions and mounting holes as the 3.6 x 3.8 inches (90 x 96mm) Industry Standard Module (ISM). This allows ease of mechanical layout and packaging while offering excellent configuration flexibility.



ISM-TRM-RELAY Block Diagram

ISM-TRM-RELAY - 16-Channel SPDT Relay Module

Interface Cables - The ISM-TRM-RELAY board is connected with a 50-pin IDC standard 0.100-inch keyed ribbon cable to the digital I/O controller. WinSystems offers ribbon cables that connect directly for our single board computers and I/O modules to the ISM-TRM-xxx cards. Their lengths and part numbers are listed on our website.



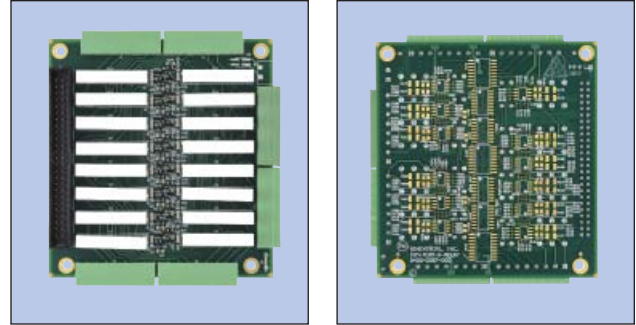
Visual Status - There is a red LED wired to each relay which will illuminate when the device is activated. This provides a visual status for each channel.

Board Mounting - The board measure 3.6 x 3.8 inches (90 x 96mm) and has the same mounting hole pattern as PC/104 modules. It is referred to as an Industry Standard Module (http://www.sff-sig.org/ism_spec_v10.pdf). An ISM-TRM-RELAY can be placed on the top or bottom of a stack, but it does not have the PC/104 connector and therefore does not pass through power, data, or control signals.

Custom Configurations - Other OEM configurations are available. One example is the ISM-TRM-COMBO which has eight relays, eight isolated inputs, and eight isolated output channels. Other population options are available. Please contact a factory application engineer with your application-specific requirements, I/O requirements, and quantity needed.



ISM-TRM-COMBO Module



Front and Back Picture of ISM-TRM-RELAY

Technical Specifications

Electrical

Relay

Coil voltage	5V nominal, 11V maximum
Coil resistance	147Ω (±10%)
Output	Sixteen, SPDT Form C
Contact rating	6A @ 250VAC/24VDC
Contact type	AgSnO ₂
Dielectric strength	4000 VAC
Relay type	SPDT Form C

Mechanical life	10 million operations (min.)
Operating time	8 milliseconds (max. with no bounce)
Release time	4 milliseconds (max. with no bounce)

Power Requirements

Vcc = +5V ±5% @ 500 mA typical (all Relays ON)

Environmental

Operational from -40°C to +85°C
Non-condensing relative humidity 5% to 95%
RoHS compliant Yes

Mechanical

Dimensions	3.6 x 3.8 inches (90 x 96mm)
Weight	4.6 oz. (130 gm)

Connectors

Field wiring	3.5mm pluggable terminal block headers
I/O controller	50-pin 0.100 inch header

Ordering Information

ISM-TRM-RELAY 16-Channel SPDT Relay Module

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