

### Installation Instructions

#### 1. Introduction

The MD-IO84 is an optional I/O expansion board for use with Rosslare Security's family of state-of-the-art networked access controllers. The expansion board adds an additional four relay outputs and eight supervised inputs to the access control panel.

The host access controller has complete control over the additional inputs and outputs of the MD-IO84 expansion board. The inputs and outputs can be configured using an access control software system such as Rosslare Security's VeriTrax AS-225. The software system also configures the MD-IO84's input connection topology.

This guide explains how to install and begin working with your new MD-IO84 access controller expansion board.



#### 2. Technical Specifications

##### 2.1 Electrical Characteristics

<b>MD-IO84 Input Voltage:</b>	12V DC
<b>MD-IO84 Input Current:</b>	(not including attached devices) Standby: 30mA Maximum: 135mA
<b>Number of Inputs:</b>	8
<b>Number of Outputs:</b>	4
<b>Output Relays:</b>	5A Form C Relays, NO, NC and COM contacts and Form C Relays
<b>Inputs Voltage:</b>	5V DC

##### 2.2 Physical Characteristics

<b>Dimensions:</b>	100mm L x 75.9mm W x 32.5 D (3.93 in. x 2.98 in. x 1.28 in.)
<b>Weight:</b>	98.2g (0.21 lbs)

##### 2.3 Input Characteristics

<b>Input Type:</b>	Selectable as
	<ul style="list-style-type: none"> <li>• Normally open</li> <li>• Normally closed</li> <li>• Non-supervised (two states)</li> <li>• Supervised with one resistor (three states)</li> <li>• Supervised with two resistors (four states)</li> </ul>

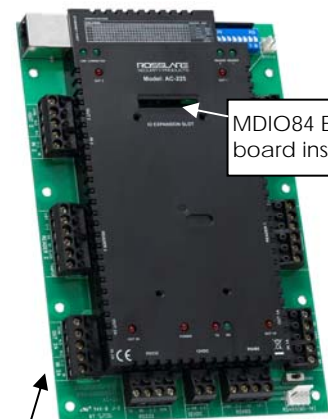
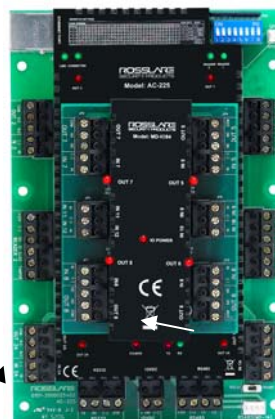
##### 2.4 LED Indicators

<b>Power LED:</b>	Active when connected to a power source.
<b>Output LEDs:</b>	Four LEDs. Each output LED is active when an output relay is energized and NO to COM contacts are closed circuit.

#### 3. Installation

##### 3.1 Attaching the MD-IO84

- 1) Disconnect power to the access control panel before attaching the MD-IO84.
- 2) To remove the MD-IO84 cover, lightly pull one of the cover knobs away from the circuit board. The entire cover comes away from the board.
- 3) Remove the label on the cover of the access control panel marked "Remove to install I/O board".
- 4) Insert the MD-IO84 with its 10 pin male connector fitting into the access control panel 10 pin female connector. The text on the MD-IO84 must face the same way as the text on the panel's cover.
- 5) Tighten the four Philips screws on the MD-IO84 circuit board.
- 6) Ease the corners of the cover back over the board. The text on the cover must face the same way as the text on the circuit board.



Host Access Control Panel with MDIO84 expansion board

Host Access Control Panel

MDIO84 Expansion board inserted here

## 4. Wiring Instructions

### 4.1 Inputs Wiring

There are four input types:

- Normally Open
- Normally Closed
- Normally Open Supervised with one or two resistors
- Normally Closed Supervised with one or two resistors

Figure #1 (below) shows the normally open input connection.

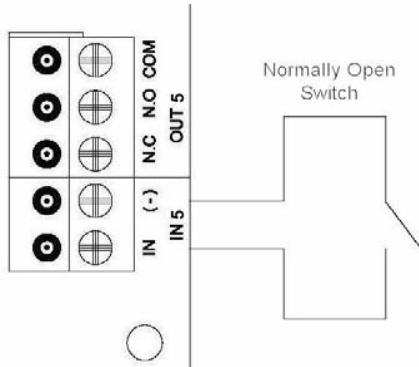


Figure 1 Normally Open Input

Figure #2 (below) shows the normally closed input connection.

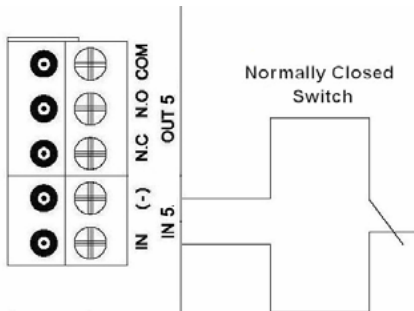


Figure 2 Normally Closed Inputs

Figure #3 (below) shows the normally open supervised input connection with single resistor.

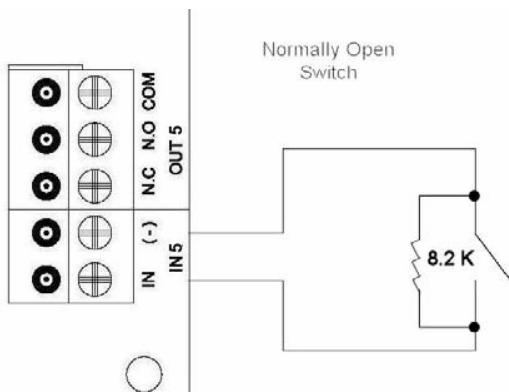


Figure 3 Normally Open Supervised Inputs with Single Resistor

Normally Open Supervised inputs with one resistor must be connected with an 8.2K resistor in parallel to the input switch contacts.

**NOTE:** Always wire resistors on the input switch and not on the terminal block.

Figure #4 (below) shows the normally open supervised input connection with double resistor.

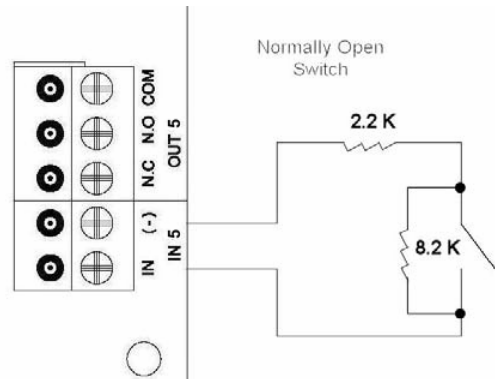


Figure 4 Normally Open Supervised Inputs with Double Resistor

Normally Open Supervised inputs with two resistors must be connected with an 8.2K resistor in parallel and a 2.2K resistor in series to the input switch contacts.

Figure #5 (below) shows the normally closed supervised input connection with single resistor.

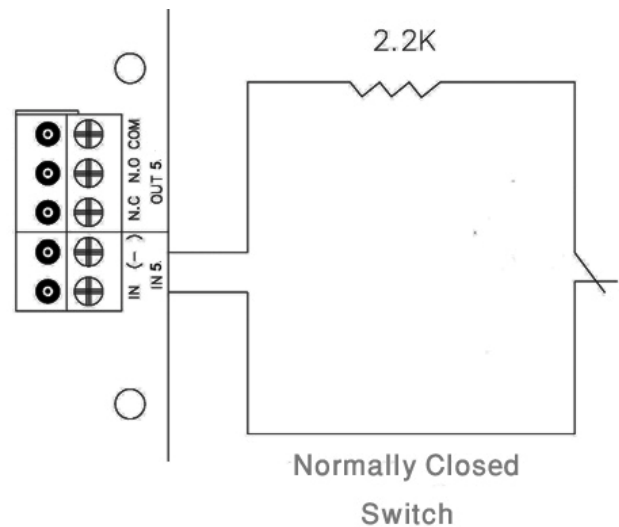


Figure 5 Normally Closed Supervised Input with Single Resistor

Normally Closed Supervised inputs with a single resistor must be connected with a 2.2K resistor in series to the input switch contacts.

Figure #6 (below) shows the normally closed supervised input connection with double resistor.

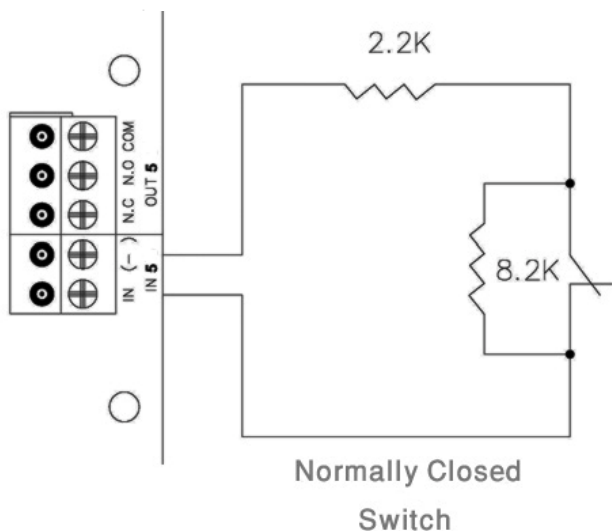


Figure 6 Normally Closed Supervised Input with Double Resistors

Normally Closed Supervised inputs with two resistors must be connected with an 8.2K resistor in parallel and a 2.2K resistor in series to the input switch contacts.

#### 4.2 Outputs

Electrical devices can be switched using the voltage free relay contacts.

Rosslare Security recommends the use of suppression diodes for all outputs that will be connected to inductive loads and activated by DC current, such as Magnetic Lock ("Maglock") or door strike devices.

Each suppression diode must be connected near its inductive load. Always attach the diode's cathode to the +V terminal of the load. Attach the diode's anode to the -V terminal.

For more information, refer to your access controller's Installation and User Guide.

## 5. Using the MD-IO84

### 5.1 Operating the MD-IO84

The access control panel detects the MD-IO84 expansion board when it powers up. When defining the panel in the access control panel's PC application (such as Veritrax AS-225), select the option designating Panel name with following "IO" designation.

Define inputs and outputs using the access system software. Define each input's type and make sure the connection is compatible with the input wiring.

Input and outputs type and function selection in the access control software are usually similar to the host access control panel general purpose inputs and outputs.

When using VeriTrax AS-225, define input types from the "Inputs" tree menu. Input and output functions are defined using the "Links" element within each "Panel" tree menu item. For more information, refer to the "VeriTrax AS-225 Software Manual".

## 6. Limited Warranty

ROSSLARE ENTERPRISES LIMITED S (Rosslare) ONE YEAR LIMITED WARRANTY is applicable worldwide. This warranty supersedes any other warranty. Rosslare's ONE YEAR LIMITED WARRANTY is subject to the following conditions:

### Warranty

Warranty of Rosslare's products extends to the original purchaser (Customer) of the Rosslare product and is not transferable.

### Products Covered By This Warranty and Duration

ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES (ROSSLARE) warrants that the MD-IO84 Access Controller I/O Expansion Board, to be free from defects in materials and assembly in the course of normal use and service. The warranty period commences with the date of shipment to the original purchaser and extends for a period of 1 year (12 Months).

### Warranty Remedy Coverage

In the event of a breach of warranty, ROSSLARE will credit Customer with the price of the Product paid by Customer, provided that the warranty claim is delivered to ROSSLARE by the Customer during the warranty period in accordance with the terms of this warranty. Unless otherwise requested by ROSSLARE ENTERPRISES LTD. AND / OR SUBSIDIARIES representative, return of the failed product(s) is not immediately required.

If ROSSLARE has not contacted the Customer within a sixty (60) day holding period following the delivery of the warranty claim, Customer will not be required to return the failed product(s). All returned Product(s), as may be requested at ROSSLARE ENTERPRISES LTD. AND /OR SUBSIDIARY'S sole discretion, shall become the property of ROSSLARE ENTERPRISES LTD. AND /OR SUBSIDIARIES.

To exercise the warranty, the user must contact Rosslare Enterprises Ltd. to obtain an RMA number after which, the product must be returned to the Manufacturer freight prepaid and insured

In the event ROSSLARE chooses to perform a product evaluation within the sixty (60) day holding period and no defect is found, a minimum US\$ 50.00 or equivalent charge will be applied to each Product for labor required in the evaluation.

Rosslare will repair or replace, at its discretion, any product that under normal conditions of use and service proves to be defective in material or workmanship. No charge will be applied for labor or parts with respect to defects covered by this warranty, provided that the work is done by Rosslare or a Rosslare authorized service center.

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ROSSLARE shall not be responsible or liable for any damage or loss resulting from the operation or performance of any Product or any systems in which a Product is incorporated. This warranty shall not extend to any ancillary equipment not furnished by ROSSLARE, which is attached to or used in conjunction with a Product, nor to any Product that is used with any ancillary equipment, which is not furnished by ROSSLARE.

This warranty does not cover expenses incurred in the transportation, freight cost to the repair center, removal or reinstallation of the product, whether or not proven defective.

Specifically excluded from this warranty are any failures resulting from Customer's improper testing, operation, installation, or damage resulting from use of the Product in other than its normal and customary manner, or any maintenance, modification, alteration, or adjustment or any type of abuse, neglect, accident, misuse, improper operation, normal wear, defects or damage due to lightning or other electrical discharge. This warranty does not cover repair or replacement where normal use has exhausted the life of a part or instrument, or any modification or abuse of, or tampering with, the Product if Product disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim.

ROSSLARE does not warrant the installation, maintenance, or service of the Product. Service life of the product is dependent upon the care it receives and the conditions under which it has to operate.

In no event shall Rosslare be liable for incidental or consequential damages.

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