MD-IO84B

ROSSLARE
Secure Access Solutions

8-Input/4-Output Expansion Module for AC-225x-B and AC-425x/B Control Panels

Installation Manual

1. Introduction

The MD-IO84B is an optional I/O expansion board for use with Rosslare's AC-225x-B and AC-425x-B series of networked access control panels.

This 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-IO84B expansion board. The inputs and outputs are configured using an access control software system such as Rosslare's AxTraxNG™ or AxTraxPro™ Access Control Management Software. The software system also configures the MD-IO84B's input connection topology.

Figure 1: MD-IO84B

2. Technical Specifications

2.1 Electrical Characteristics

Input Voltage	12 VDC
Input Current (not including attached devices))	Standby: 30 mA Maximum: 135 mA
Number of Inputs	8
Number of Outputs	4
Output Relays	5 A with N.O., N.C., and COM contacts Form-C relays
Inputs Voltage	5 VDC maximum voltage

2.2 Input Characteristics

Input Type:	Selectable as: • Normally Open • Normally Closed • Non-supervised (2 states) • Supervised with one resistor (3 states) • Supervised with two resistors (4 states)

2.3 Physical Characteristics

Dimensions (L x W x D)	100 x 75.9 x 32.5 mm (3.9 x 3.0 x 1.3 in.)
Weight:	98.2 g (3.5 oz)

2.4 LED Indicators

Power LED:	Active when connected to a power source
Output LEDs:	Four LEDs Each output LED is active when an output relay is energized and N.O. to COM contacts are shorted.

3. Attaching the MD-IO84B

To attach the MD-IO84B:

1. Disconnect power to the access control panel before attaching the MD-IO84B.
2. Remove the MD-IO84B cover by lightly pulling one of the cover knobs away from the circuit board. The entire cover comes away from the board.
3. Peel off the label on the cover of the panel marked "Remove to install I/O board".

The label is located on the same side of the panel as the DIP switch.

4. Insert the 10-pin male connector of the MD-D02B into the gap in the panel cover labeled "IO EXPANSION SLOT".

The text on the MD-D02B must face the same way as the text on the panel cover.

5. Tighten the screws securing the cover to the access control panel, and the four Philips screws on the MD-D04B circuit board.
6. Replace the cover on the expansion board, using it as a guide to ease the MD-D04B into the panel's 10-pin female connector.

4. Wiring Instructions

4.1 Input Wiring Options

There are 4 input wiring options:

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

Figure 2 shows the normally open input connection.

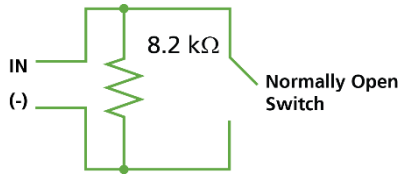
Figure 2: Normally Open Input

Figure 3 shows the normally closed input connection.

Figure 3: Normally Closed Inputs

Figure 4 shows the normally open supervised input connection with single resistor.

Figure 4: Normally Open Supervised Inputs with Single Resistor



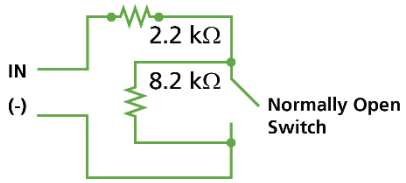
Normally Open Supervised inputs with one resistor must be connected with an 8.2 kΩ resistor in parallel to the input switch contacts.

Note

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

Figure 5 shows the normally open supervised input connection with double resistor.

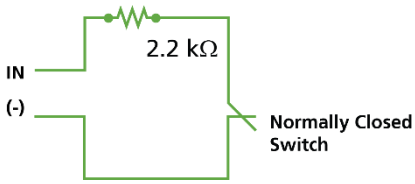
Figure 5: Normally Open Supervised Inputs with Double Resistor



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

Figure 6 shows the normally closed supervised input connection with single resistor.

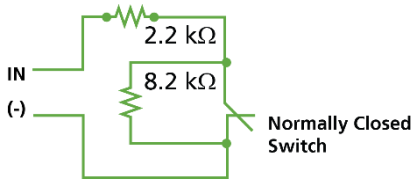
Figure 6: Normally Closed Supervised Input with Single Resistor



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

Figure 7 shows the normally closed supervised input connection with double resistor.

Figure 7: Normally Closed Supervised Input with Double Resistors



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

4.2 Outputs

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

Rosslare recommends using suppression diodes for all outputs that are 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. Operating the MD-IO84B

The access control panel detects the MD-IO84B expansion board when it powers up. When defining the panel in the access control panel's PC application (such as Rosslare's AxTraxNG/AxTraxPro Access Control Management Software), select the option designating the panel name with a designation of "MD-IO84B".

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 AxTraxNG/AxTraxPro Access Control Management Software, 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 *AxTraxNG User Guide* or the *AxTraxPro User Guide*.

UL 294 7th Edition

The MD-IO84B is UL listed to UL 294 7th Edition Standard for Access Control System Units. It has the following Access Control Performance Ratings:

Destructive Attack	Level I
Endurance	Level IV
Line Security	Level I
Standby Power	Level II

Limited Warranty

The full ROSSLARE Limited Warranty Statement is available in the Quick Links section on the ROSSLARE website at www.rosslaresecurity.com.
Rosslare considers any use of this product as agreement to the Warranty Terms even if you do not review them.

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