

1. Introduction

The MD-D02 is an optional expansion board for use with Rosslare Security's family of state-of-the-art AC-225 and AC-525 networked access controllers.

The expansion board adds an additional two reader or keypad inputs; four relay outputs and four supervised inputs to the access control panel.

As a result, an access control panel with an MD-D02 expansion can support a total of four readers and four door panels. In addition, it is possible to add any keypad or biometric reader that supports the Wiegand or Clock & Data transmission formats.

The host access controller has complete control over the additional readers, inputs and outputs of the MD-D02 expansion board. The inputs and outputs can be configured using an access control software system such as Rosslare Security's AxTrax. The software system also configures the MD-D02's reader card transmission format and input connection topology.

This guide explains how to install and begin working with your new MD-D02 access control panel expansion board.

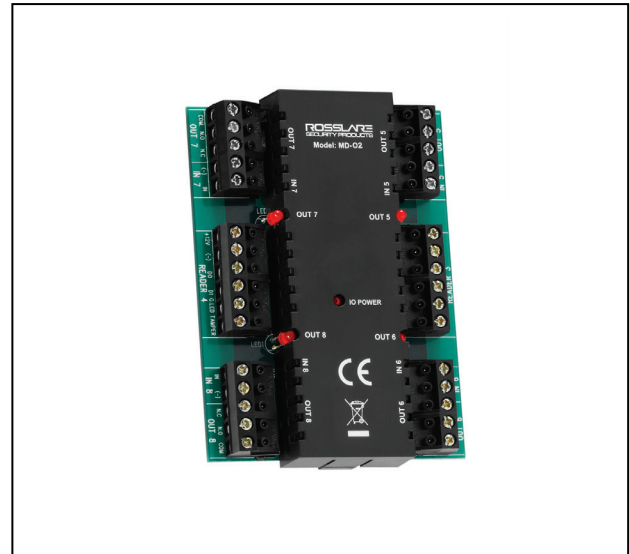


Figure 1: MD-D02 Access Controller Expansion Board

2. Technical Specifications

2.1 Electrical Characteristics

MD-D02 Input Voltage:	12 VDC
MD-D02 Input Current:	(not including attached devices) Standby: 30 mA Maximum: 190 mA
Number of Reader Ports:	2
Number of Inputs:	4
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 <ul style="list-style-type: none"> • Normally Open • Normally Closed • Supervised with one resistor (three states, normally open or normally closed) • Supervised with two resistors (four states, Normally Open or Normally Closed)
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2.3 Physical Characteristics

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

2.4 Reader Characteristics

Reader Output Voltage:	12 VDC
Max. Reader Current:	245 mA
LED Control Output:	Open Collector, Active Low
Tamper Input:	5 VDC maximum voltage Optical anti-tamper sensor
Supported Formats:	Various, please refer to the AxTrax S/W manual

2.5 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. Installation

3.1 Attaching the MD-D02

- 1) Disconnect power to the access control panel before attaching the MD-D02.
- 2) To remove the MD-D02 cover, lightly pull 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-D02 into the gap in the panel cover labeled "Expansion Slot". The text on the MD-D02 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-D02 circuit board.
- 6) Replace the cover on the expansion board, using it as a guide to ease the MD-D02 into the panel's 10-pin female connector.

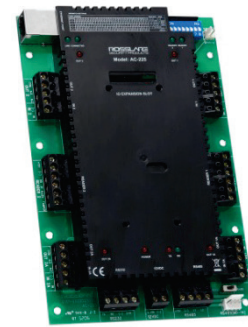


Figure 2: Host Access Control Panel without MD-D02 Expansion

4. Wiring Instructions

4.1 Inputs Wiring

There are six input types:

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

Figure 3 shows the normally open input connection.

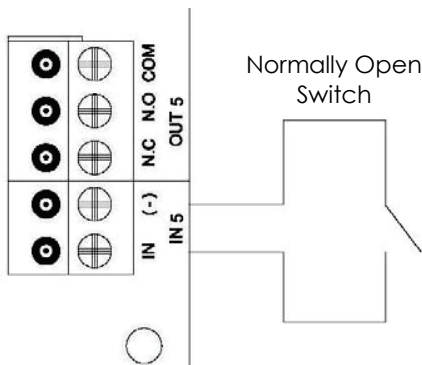


Figure 3: Normally Open Input

Figure 4 shows the normally closed input connection.

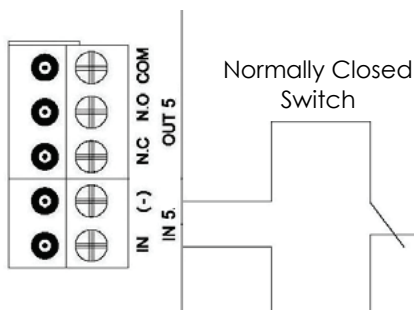


Figure 4: Normally Closed Inputs

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

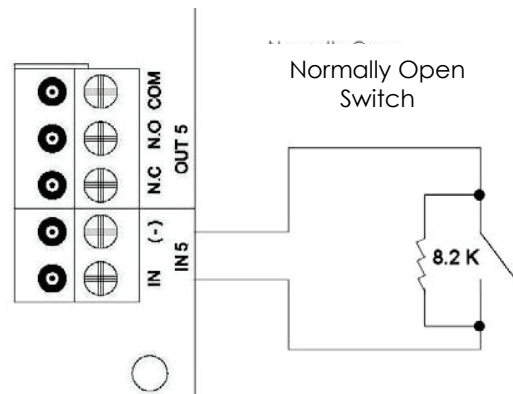


Figure 5: Normally Open Supervised Inputs with Single Resistor

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 6 shows the normally open supervised input connection with double resistor.

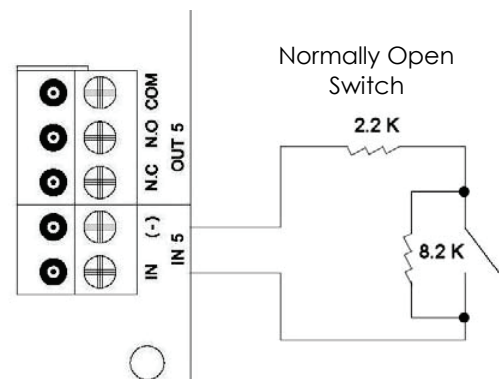


Figure 6: Normally Open Supervised Inputs with Double Resistor

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 7 shows the normally closed supervised input connection with single resistor.

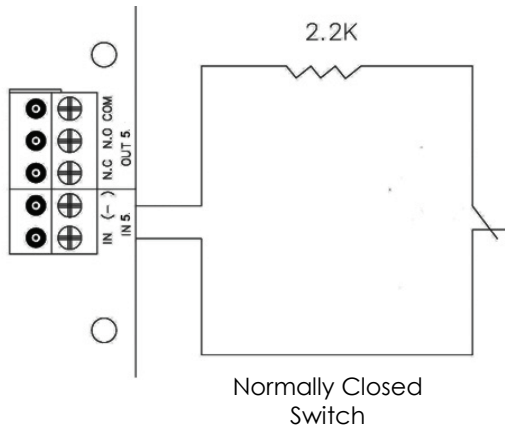


Figure 7: Normally Closed Supervised Input with Single Resistor

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

Figure 8 shows the normally closed supervised input connection with double resistor.

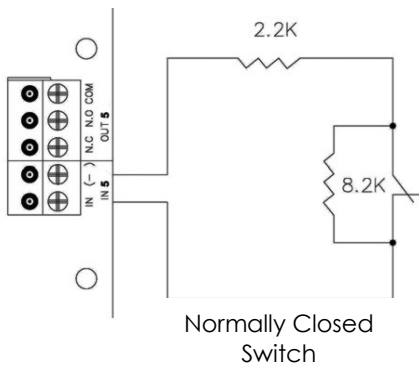


Figure 8: Normally Closed Supervised Input with Double Resistors

Normally Closed Supervised inputs with two resistors must be connected with an 8.2 K resistor in parallel and a 2.2 K 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.

4.3 Readers

The reader terminal supports the reader's two data lines. For Wiegand readers, these are data lines D0 and D1. For Clock & Data readers, D0 is the DATA line and D1 is the CLOCK line.)

There is also support for a tamper signal input from the reader and for one LED control output to the reader.

Proximity and keypad readers are supplied with a limited cable. The color of the cable cover represents the cable's function.

In general, the cable length should be no more than 150 m with an 18 AWG cable. Refer to each reader's installation guide for specific details.

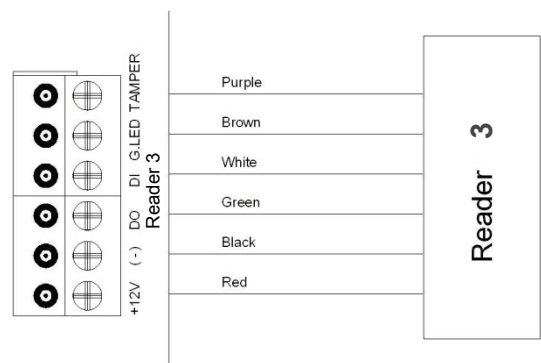


Figure 9 : Wiring for Reader 3

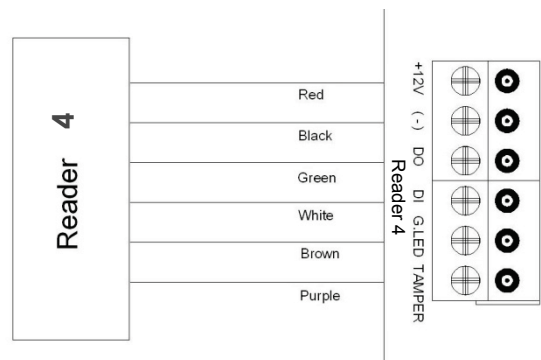


Figure 10: Wiring for Reader 4

5. Using the MD-D02

5.1 Operating the MD-D02

The access control panel detects the MD-D02 expansion board when it powers up. When defining the panel in the access control panel's PC application (such as AxTrax), select the option designating Panel name with following "MD-D02" designation.

Readers, inputs and outputs must be defined using the access system software. Readers connected through an MD-D02 will be recognized as "Reader3" and "Reader4" in the software system.

Define each input's type and make sure the connection is compatible with the input wiring.

When selecting inputs and outputs from the software, note that input and output type and function in the access control software normally reflect the host access control panel's general purpose inputs and outputs.

When using AxTrax, 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 AxTrax Software Manual".

6. Limited Warranty

ROSSLARE ENTERPRISES LIMITED (ROSSLARE) TWO-YEAR LIMITED WARRANTY is applicable worldwide. This warranty supersedes any other warranty. ROSSLARE'S TWO-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 the MD-D02 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 2 year (24 Months).

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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 representative, return of the failed product(s) is not immediately required.

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

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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.

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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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