

CASI-RUSCO...*Security Solutions for the 21st Century*

Multiple Switch Monitor (MSM) Installation Guide



**1155 Broken Sound Parkway NW
Boca Raton, Florida 33487
(561) 998-6100**

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Contents

Introduction	1
Product Features	2
Mounting the Optional MSM Unit	3
Connecting Digital Inputs (DIs)	4
Jumpers	6
Technical Specifications	8

Figures

Figure 1: Mounting the Multiple Switch Monitor (MSM)3

Figure 2: Wiring a DI Point4

Figure 3: EMI Suppression Core Installation5

Figure 4: Location of Jumpers on MSM7

Introduction

This manual is an installation guide for the Multiple Switch Monitor (MSM) unit. Throughout this guide, the abbreviation MSM will stand for the Multiple Switch Monitor unit and 91x will stand for reader models 910 and 911.

The MSM is an optional unit that provides 4 supervised digital inputs (DIs). It is connected between the 91x Reader and the Micro/5 4CRP Board.

The MSM is also designed as a plug-in replacement for the Schlage®/Westinghouse™ MSM. The CASI-RUSCO MSM allows 4 digital inputs with either Schlage/Westinghouse or CASI-RUSCO end-of-line resistors.

NOTE: You must have a 4CRP board in the Micro/5 that will be controlling your 91x Coax Reader.

Product Features

The CASI-RUSCO MSM:

- is optional and replaces the Schlage/Westinghouse MSM.
- allows 4 supervised digital inputs (DI).
- uses either Schlage/Westinghouse or CASI-RUSCO end-of-line resistors.
- has the option of using door DI and Exit Request as general purpose DI.
- door DI and Exit Request are supervised when using 1K ohm resistors as shown in Figure 2. This feature supported in Micro/5 PX and PXN only.
- general DIs can always be used in supervised mode with the 1K ohm resistors as shown in Figure 2. This feature supported in Micro/5 PX and PXN only.
- wiring connections are identical to Schlage/Westinghouse MSM.
- is powered from the Micro/5 via coaxial cable.

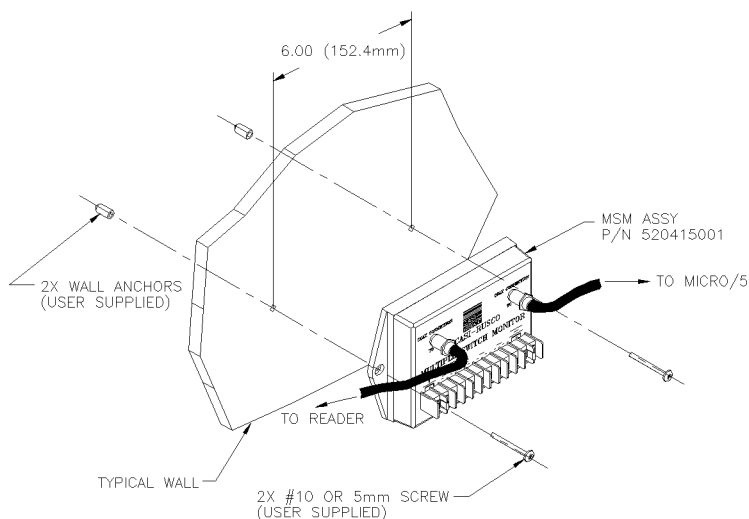
Mounting the Optional MSM Unit

The MSM is connected using coaxial cable between the Micro/5 4CRP board and the 91x Reader. This is an optional unit that provides 4 supervised DIs.

1. Mount the MSM using two #10 or 5mm screws. Refer to Figure 1 below for more information.
 - Use the screw length and thread style to suit the installation.
 - Mounting hole spacing is 6.00 (152.4mm) on center.
2. Connect the coax cables from the 91x Reader and the Micro/5 4CRP board to the designated F-connectors on the MSM.

NOTE: A maximum of 1000 ft. (305m) total length can be used between the MSM and the 4CRP board, and the MSM and the reader, combined.

FIGURE 1: Mounting the Multiple Switch Monitor (MSM)

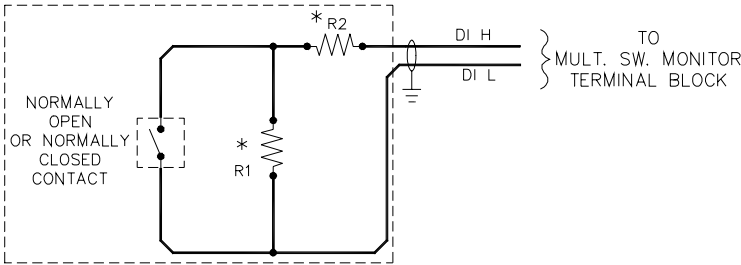


Connecting Digital Inputs (DIs)

Follow the steps below to wire the alarm input devices to the MSM terminal block.

1. Follow the installation specifications for the device. Mount the device according to the manufacturer's specification. The alarm device should have a dry contact which can have a normally-open or normally-closed type switch. A normally-closed contact is in its normal position when it is closed. The opposite is true for a normally-open contact.
2. Select the appropriate digital input for each alarm input device. Refer to **MICRO/5 INSTALLATION GUIDE**, Chapter 8.
3. Ground the DI cable shields at the terminal block mounting screws.
4. Refer to Figure 2 during this step. If CASI-RUSCO supervision is desired, use the eight 1K resistors provided with the MSM unit. Install each resistor as close to the contacts being monitored as possible. Remove the right shorting tab (jumper).

FIGURE 2: Wiring a DI Point

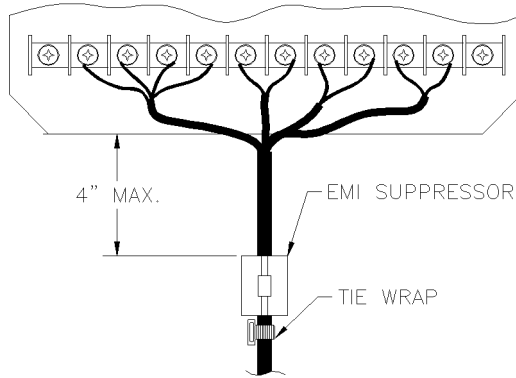


CASI-RUSCO 4-STATE SUPERVISED	
DOOR CONTACT	RESISTANCE AT CONTACT
CLOSED	1,000 OHM
OPEN	2,000 OHM
LINE OPEN	INFINITE
LINE SHORT	0

*NOTE: FOR CASI-RUSCO SUPERVISED (JUMPER ON RIGHT NOT JUMPERED), USE 1K FOR R1 & R2.
1K = 1,000 OHM 1/4 WATT RESISTOR
INSTALL RESISTORS AT CONTACT, NOT AT MSM
THE SCHLAGE SUPERVISED MODE IS NOT SUPPORTED. REGARDLESS OF THE PRESENCE OR ABSENCE OF THE 36K OHM RESISTOR AT THE SWITCH, THE CONTACTS ARE REPORTED AS OPEN OR CLOSED ONLY. IF THE INSTALLATION CURRENTLY HAS 36K OHM RESISTORS THEY MAY BE LEFT IN PLACE AND HAVE NO NEGATIVE EFFECT.

5. Insulate the resistors with tape or heat shrink tubing.
6. Install the EMI Suppression Core (P/N 290066001) as shown in Figure 3.

FIGURE 3: EMI Suppression Core Installation



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Jumpers

There are two jumpers on the MSM unit. See Figure 4 on the following page.

The jumper on the LEFT determines which DIs are used.

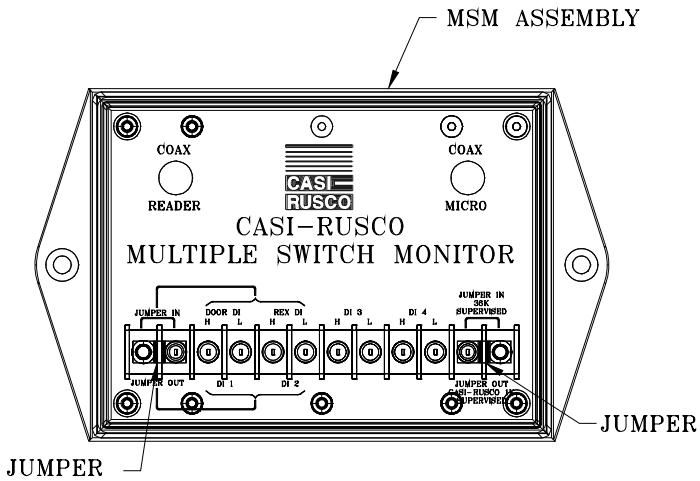
- If the jumper is in, the first two DIs after the jumper will be used as a Door DI and an Exit Request DI.
- If the jumper is out, the first two DIs after the jumper will be used as DI 1 and DI 2.

See the ***MICRO/5 INSTALLATION GUIDE*** for more details.

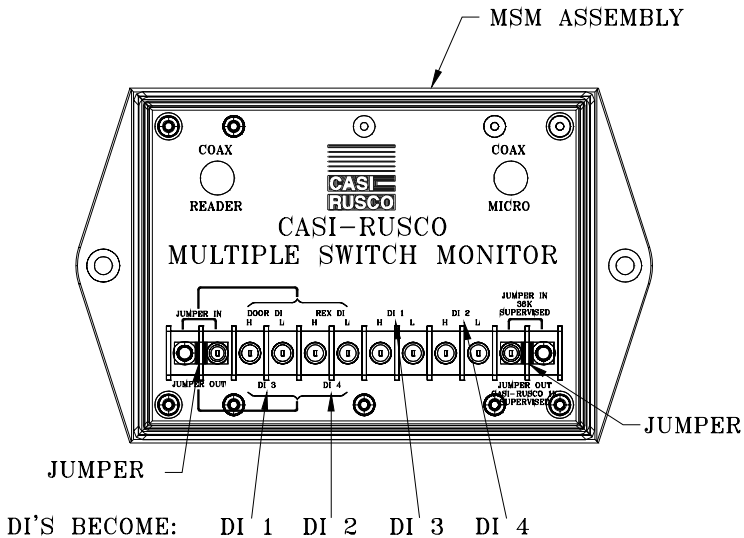
The jumper on the RIGHT determines which type of end-of-line resistors are used (CASI-RUSCO 1K or Schlage 36K).

- If the jumper is in, the MSM will look for either an open or closed contact regardless of the presence of a 36K ohm resistor.
- If the jumper is out, the MSM will look for 1K resistors.

FIGURE 4: Location of Jumpers on MSM



NOTE: If your MSM has the DIs labeled as shown below, be sure to renumber the DIs sequentially from left to right as DI 1, DI 2, DI 3, and DI 4.



See the **MODELS 910/911 COAX READER INSTALLATION GUIDE** for troubleshooting help.

Technical Specifications

Operating Temperature Range: +35° F to +122° F (+2° C to +50° C)

Humidity Range: 5% to 95%, non condensing

Index of Protection: IP40 (IEC 529)

Physical Dimensions: 4.00 in (H) x 6.00in (W) x 1.30 in (D)
100mm(H) x 150mm(W) x 76mm(D)

MSM Components:

- Multiple Switch Monitor

Maximum Cabling Distance: The cabling distance between the 4CRP board in the microcontroller and the MSM plus the cabling distance between the MSM and the reader should not exceed 1000 feet (305m).

Color: Black

Pinouts: Two coax F-connectors on the MSM for communication; 10-position terminal block for DI connection.

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