



The 4CRP Board

Introduction

The 4CRP board is designed to control up to four Coax-Interface Proximity Readers (Models 910 and 911). Each 4CRP reader board provides four door strike DO relays.

- Host software restrictions:
 - Both **Picture Perfect™** and **Secure Perfect®** support up to two 4CRP boards.
 - **Entry Perfect™** does not support the 4CRP board.
- Each 4CRP board is limited to only one type of reader: Coax-Interface Proximity Readers Models 910 and 911.
- Only Micro/5-PX and Micro/5-PXN will support the 4CRP board and 91x readers.
- The Micro/5 Power/Communications board should be Revision J or higher. (The revision can be located on the board next to the CASI-RUSCO logo.)
- 4CRP Door Strike Relays = 2 amps @ 28VDC or 30VAC maximum.
- The current rating of the Micro/5 power supply should be at least 4 amps for a single fully loaded 4CRP board and 6 amps for two fully loaded 4CRP boards.
- One of the following power supplies must be used with the 4CRP board:
Battery Backup 5A, 110V
Battery Backup 5A, 220V
Non-battery Backup, Universal Input, 7.5A
- Maximum cable distance with or without an MSM is 1,000 feet.
- The 4CRP board does NOT provide DI (input) points. In order to gain DI points, the optional Multiple Switch Monitor (MSM) unit must be used. The MSM provides four DI points. Depending on the jumper setting on the MSM, the DI points may contain a Door DI and an Exit Request DI. Refer to the *Multiple Switch Monitor Installation Guide* P/N 460278001.
- The 4CRP board is not UL certified.

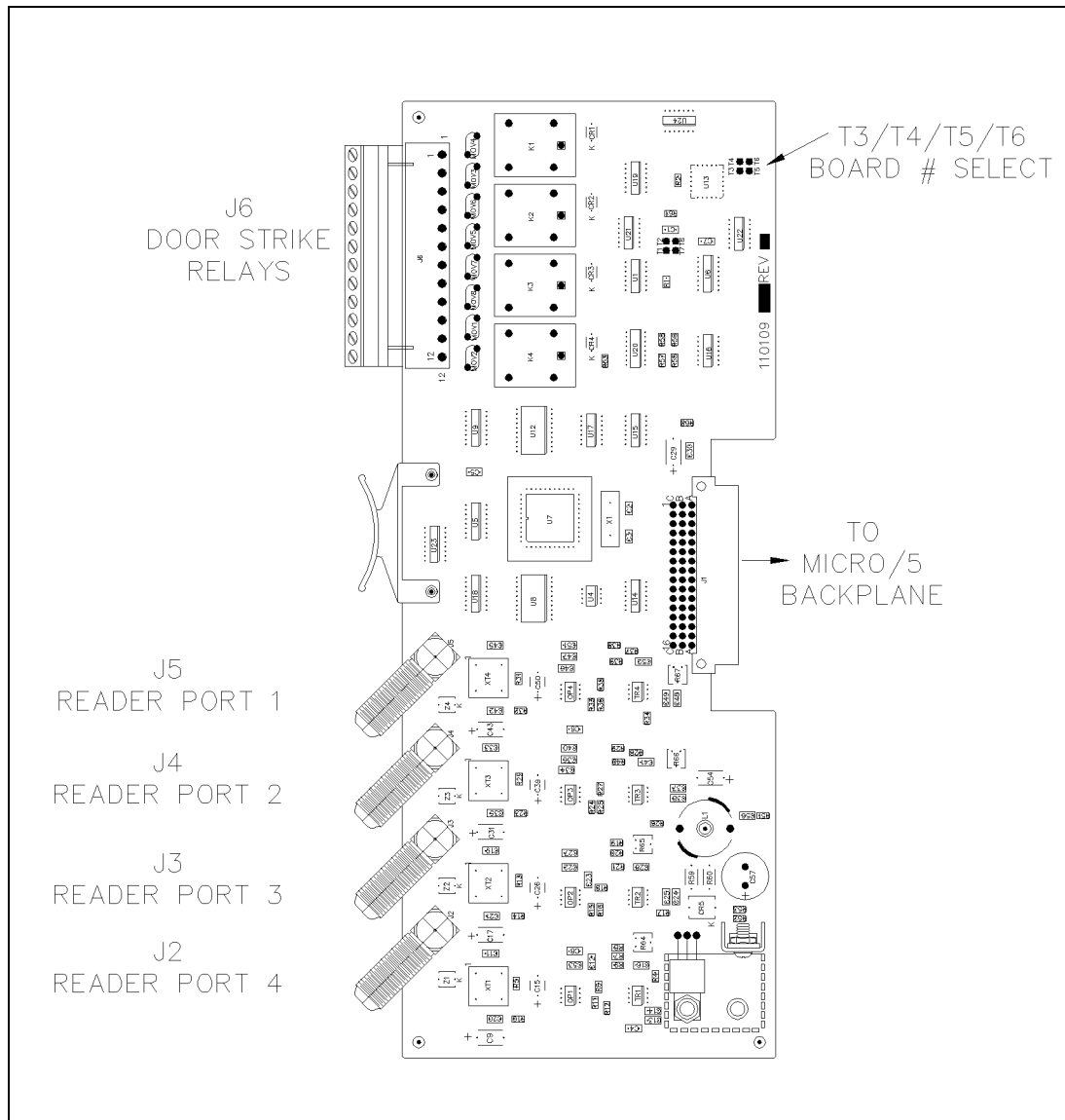


Figure 1: 4CRP Board Layout

Device Addressing

Readers

To configure readers in the host software, you will first need to know the following:

1. Address of the 4CRP Board

This can be either 1 or 2. The address is determined by jumpers T3, T4, T5, and T6.

- If the jumper is between T5 and T6 or there is no jumper installed, this 4CRP is set as board 1.
- If the jumper is between T3 and T4, this 4CRP is set as board 2.

2. Number of the Reader Port

Each board can support up to 4 readers.

With the above information, use Table 1 for **Picture Perfect** addressing, Table 2 for **Secure Perfect** Version 2.0 or earlier addressing, and Table 3 for **Secure Perfect** Version 2.1 or later addressing:

Table 1: Reader Addressing - Picture Perfect

	4CRP Board 1		4CRP Board 2	
Reader Port	Picture Perfect Board Number	Address	Picture Perfect Board Number	Address
1	1	00	3	00
2	1	01	3	01
3	2	00	4	00
4	2	01	4	01

Table 2: Reader Addressing - Secure Perfect Version 2.0 or Earlier

Reader Port	4CRP Board 1	4CRP Board 2
	Address	Address
1	1	5
2	2	6
3	3	7
4	4	8

Table 3: Reader Addressing - Secure Perfect Version 2.1 or Later

Reader Port	4CRP Board 1	4CRP Board 2
	Address *	Address *
1	mm-1-01	mm-2-01
2	mm-1-02	mm-2-02
3	mm-1-03	mm-2-03
4	mm-1-04	mm-2-04

*. As of **Secure Perfect 2.1**, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Digital Inputs

The 4CRP board DOES NOT provide DI (input) points; it is the Multiple Switch Monitor (MSM) unit which provides four digital inputs. If there is NO MSM unit attached to the reader you are configuring, skip this section.

If there is an MSM unit attached, you will need the following three items:

1. Address of the 4CRP Board

Check jumpers T3, T4, T5, and T6.

- If the jumper is between T5 and T6 or there is no jumper installed, this 4CRP is set as board 1.
- If the jumper is between T3 and T4, this 4CRP is set as board 2.

2. Number of the Reader Port

Determine which reader port is connected to the reader with the MSM.

3. Position of the jumper on the MSM unit

The jumper setting on the left side of the MSM unit determines whether the Door DI and Exit Request (REX) DI will be available or DI 3 and DI 4. Refer to the figure on the next page for the location of the jumper. For more information on the MSM, refer to the manual that came with the MSM unit.

The **Picture Perfect** addressing can be found in Table 4A through Table 5B.

The **Secure Perfect** addressing can be found in Table 6A through Table 7B.

NOTE: Entry Perfect is not supported.

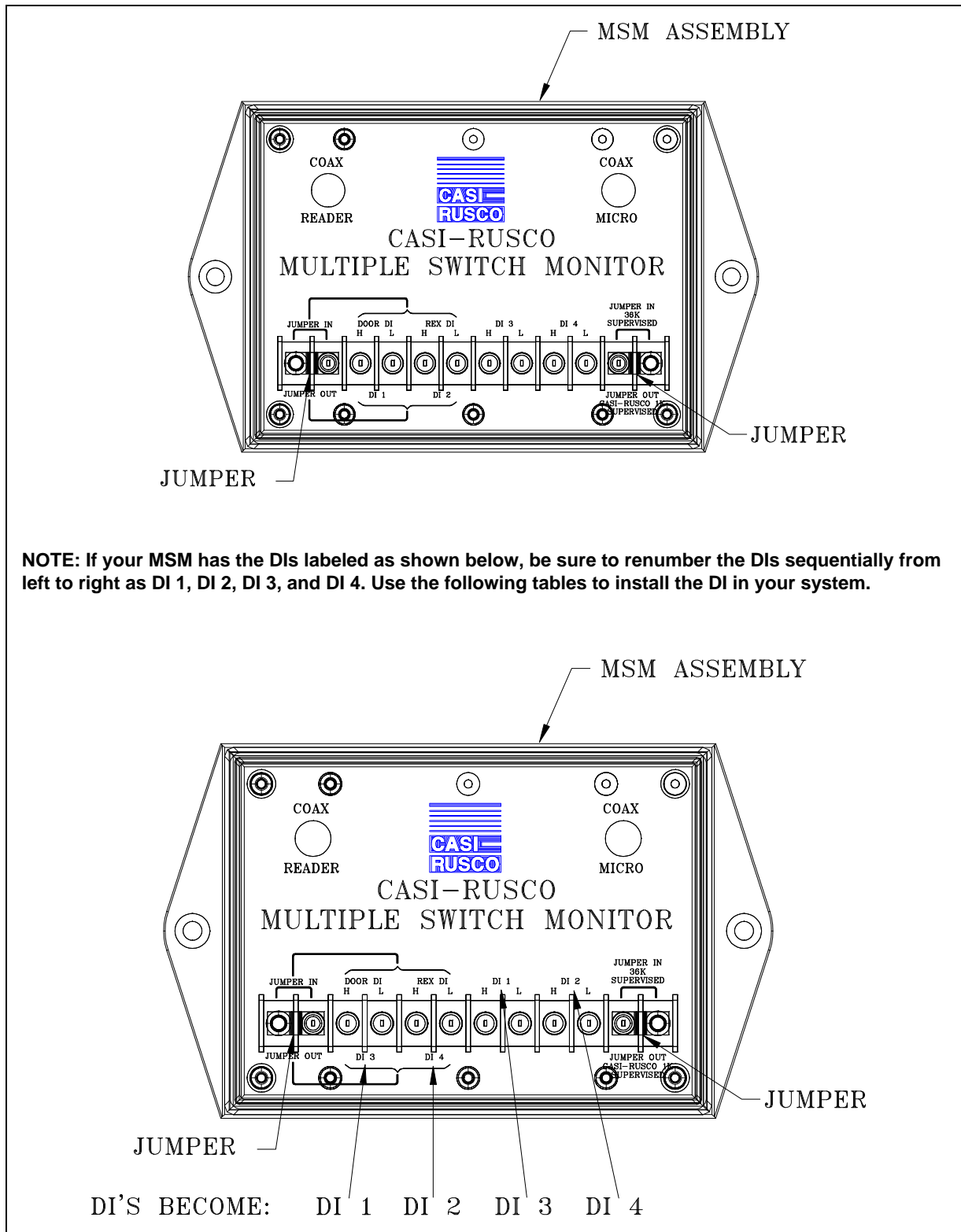


Figure 2: MSM Jumpers Locations

**Table 4A: 4CRP Digital Input Addressing - Picture Perfect
Board 1 - MSM Jumper In**

If the left jumper of the MSM unit is IN ...					
Reader Port	Digital Input	Board Number	Address	20 DI Board	DI Number
1	Door DI	1	00	—	—
	Exit DI	1	08	—	—
	DI 3	—	—	1	18
	DI 4	—	—	1	19
2	Door DI	1	01	—	—
	Exit DI	1	09	—	—
	DI 3	—	—	1	22
	DI 4	—	—	1	23
3	Door DI	2	00	—	—
	Exit DI	2	08	—	—
	DI 3	—	—	1	28
	DI 4	—	—	1	29
4	Door DI	2	01	—	—
	Exit DI	2	09	—	—
	DI 3	—	—	1	32
	DI 4	—	—	1	33

**Table 4B: 4CRP Digital Input Addressing - Picture Perfect
Board 1 - MSM Jumper Out**

If the left jumper of the MSM unit is OUT ...			
Reader Port	Digital Input	20 DI Board	DI Number
1	DI 1	1	16
	DI 2	1	17
	DI 3	1	18
	DI 4	1	19
2	DI 1	1	20
	DI 2	1	21
	DI 3	1	22
	DI 4	1	23
3	DI 1	1	26
	DI 2	1	27
	DI 3	1	28
	DI 4	1	29
4	DI 1	1	30
	DI 2	1	31
	DI 3	1	32
	DI 4	1	33

**Table 5A: 4CRP Digital Input Addressing - Picture Perfect
Board 2 - MSM Jumper In**

If the left jumper of the MSM unit is IN ...					
Reader Port	Digital Input	Board Number	Address	20 DI Board	DI Number
1	Door DI	3	00	—	—
	Exit DI	3	08	—	—
	DI 3	—	—	2	18
	DI 4	—	—	2	19
2	Door DI	3	01	—	—
	Exit DI	3	09	—	—
	DI 3	—	—	2	22
	DI 4	—	—	2	23
3	Door DI	4	00	—	—
	Exit DI	4	08	—	—
	DI 3	—	—	2	28
	DI 4	—	—	2	29
4	Door DI	4	01	—	—
	Exit DI	4	09	—	—
	DI 3	—	—	2	32
	DI 4	—	—	2	33

**Table 5B: 4CRP Digital Input Addressing - Picture Perfect
Board 2 - MSM Jumper Out**

If the left jumper of the MSM unit is OUT ...			
Reader Port	Digital Input	20 DI Board	DI Number
1	DI 1	2	16
	DI 2	2	17
	DI 3	2	18
	DI 4	2	19
2	DI 1	2	20
	DI 2	2	21
	DI 3	2	22
	DI 4	2	23
3	DI 1	2	26
	DI 2	2	27
	DI 3	2	28
	DI 4	2	29
4	DI 1	2	30
	DI 2	2	31
	DI 3	2	32
	DI 4	2	33

**Table 6A: 4CRP Digital Input Addressing - Secure Perfect
Board 1 - MSM Jumper In**

If the left jumper of the MSM unit is IN ...			
Reader Port	Digital Input	Address	
		Secure Perfect Version 2.0 or Earlier	Secure Perfect Version 2.1 or Later [*]
1	Door DI	01	<i>mm-1-01</i> Reader
	DI 3	11	<i>mm-1-03</i> DI
	DI 4	12	<i>mm-1-04</i> DI
2	Door DI	02	<i>mm-1-02</i> Reader
	DI 3	15	<i>mm-1-07</i> DI
	DI 4	16	<i>mm-1-08</i> DI
3	Door DI	03	<i>mm-1-03</i> Reader
	DI 3	21	<i>mm-1-13</i> DI
	DI 4	22	<i>mm-1-14</i> DI
4	Door DI	04	<i>mm-1-04</i> Reader
	DI 3	25	<i>mm-1-17</i> DI
	DI 4	26	<i>mm-1-18</i> DI

*. As of **Secure Perfect** 2.1, the addressing scheme changed. The default description is now in the format: *mm-b-pp* where *mm* represents the micro number, *b* represents the board number, and *pp* represents the point or device number.

**Table 6B: 4CRP Digital Input Addressing - Secure Perfect
Board 1 - MSM Jumper Out**

If the left jumper of the MSM unit is OUT ...			
Reader Port	Digital Input	Address	
		Secure Perfect Version 2.0 or Earlier	Secure Perfect Version 2.1 or Later*
1	DI 1	9	<i>mm-1-01</i> DI
	DI 2	10	<i>mm-1-02</i> DI
	DI 3	11	<i>mm-1-03</i> DI
	DI 4	12	<i>mm-1-04</i> DI
2	DI 1	13	<i>mm-1-05</i> DI
	DI 2	14	<i>mm-1-06</i> DI
	DI 3	15	<i>mm-1-07</i> DI
	DI 4	16	<i>mm-1-08</i> DI
3	DI 1	19	<i>mm-1-11</i> DI
	DI 2	20	<i>mm-1-12</i> DI
	DI 3	21	<i>mm-1-13</i> DI
	DI 4	22	<i>mm-1-14</i> DI
4	DI 1	23	<i>mm-1-15</i> DI
	DI 2	24	<i>mm-1-16</i> DI
	DI 3	25	<i>mm-1-17</i> DI
	DI 4	26	<i>mm-1-18</i> DI

*. As of **Secure Perfect 2.1**, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

**Table 7A: 4CRP Digital Input Addressing - Secure Perfect
Board 2 - MSM Jumper In**

If the left jumper of the MSM unit is IN ...			
Reader Port	Digital Input	Address	
		Secure Perfect Version 2.0 or Earlier	Secure Perfect Version 2.1 or Later *
1	Door DI	05	<i>mm-2-01</i> Reader
	DI 3	31	<i>mm-2-03</i> DI
	DI 4	32	<i>mm-2-04</i> DI
2	Door DI	06	<i>mm-2-02</i> Reader
	DI 3	35	<i>mm-2-07</i> DI
	DI 4	36	<i>mm-2-08</i> DI
3	Door DI	07	<i>mm-2-03</i> Reader
	DI 3	41	<i>mm-2-13</i> DI
	DI 4	42	<i>mm-2-14</i> DI
4	Door DI	08	<i>mm-2-04</i> Reader
	DI 3	45	<i>mm-2-17</i> DI
	DI 4	46	<i>mm-2-18</i> DI

*. As of **Secure Perfect 2.1**, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

**Table 7B: 4CRP Digital Input Addressing - Secure Perfect
Board 2 - MSM Jumper Out**

If the left jumper of the MSM unit is OUT ...			
Reader Port	Digital Input	Address	
		Secure Perfect Version 2.0 or Earlier	Secure Perfect Version 2.1 or Later*
1	DI 1	29	<i>mm-2-01</i> DI
	DI 2	30	<i>mm-2-02</i> DI
	DI 3	31	<i>mm-2-03</i> DI
	DI 4	32	<i>mm-2-04</i> DI
2	DI 1	33	<i>mm-2-05</i> DI
	DI 2	34	<i>mm-2-06</i> DI
	DI 3	35	<i>mm-2-07</i> DI
	DI 4	36	<i>mm-2-08</i> DI
3	DI 1	39	<i>mm-2-11</i> DI
	DI 2	40	<i>mm-2-12</i> DI
	DI 3	41	<i>mm-2-13</i> DI
	DI 4	42	<i>mm-2-14</i> DI
4	DI 1	43	<i>mm-2-15</i> DI
	DI 2	44	<i>mm-2-16</i> DI
	DI 3	45	<i>mm-2-17</i> DI
	DI 4	46	<i>mm-2-18</i> DI

*. As of **Secure Perfect** 2.1, the addressing scheme changed. The default description is now in the format: ***mm-b-pp*** where ***mm*** represents the micro number, ***b*** represents the board number, and ***pp*** represents the point or device number.

Wiring the Readers

Follow the steps below to wire the readers.

1. Mount the reader. **Refer to the manual that came with your reader for specific mounting instructions.**
2. If you are not using the MSM, skip to step 3.

If using the MSM, mount the MSM. **Refer to the manual that came with your MSM for specific mounting instructions.**

Run cable from the reader to the MSM. Plug the F-connector into the top-left of the MSM which is labeled COAX CONNECTION TO READER.

Then, run cable from the MSM to the microcontroller. At the MSM, plug the F-connector into the top-right of the MSM which is labeled COAX CONNECTION TO MICRO. Then bring each reader cable through the appropriate knockout hole in the microcontroller cabinet. Plug it into one of the four readers connections at the 4CRP board in the Micro/5. Allow some slack wire for servicing the cables and for plugging cable into an adjacent slot for troubleshooting. Maximum cable distance is 1,000 feet.

Skip to step 4.

3. If you are not using the MSM, run cable from the reader to the microcontroller. Bring each reader cable through the appropriate knockout hole in the microcontroller cabinet. Plug it into one of the four readers connections at the 4CRP board in the Micro/5. Allow some slack wire for servicing the cables and for plugging cable into an adjacent slot for troubleshooting.
4. Maximum cable distance is 1,000 feet. Label each cable end with the Micro Address #/ Device or Reader #.

Table 8: J6 Relay Connector Pinouts*

PIN	Relay
1	Door #1 Strike Relay – Normally Open (NO)
2	Door #1 Strike Relay – Common (Com)
3	Door #1 Strike Relay – Normally Closed (NC)
4	Door #2 Strike Relay – Normally Open (NO)
5	Door #2 Strike Relay – Common (Com)
6	Door #2 Strike Relay – Normally Closed (NC)
7	Door #3 Strike Relay – Normally Open (NO)
8	Door #3 Strike Relay – Common (Com)

Table 8: J6 Relay Connector Pinouts* (Continued)

PIN	Relay
9	Door #3 Strike Relay – Normally Closed (NC)
10	Door #4 Strike Relay – Normally Open (NO)
11	Door #4 Strike Relay – Common (Com)
12	Door #4 Strike Relay – Normally Closed (NC)

*. Refer to Figure 1 for the location of Connector J6 and the location of the pins.

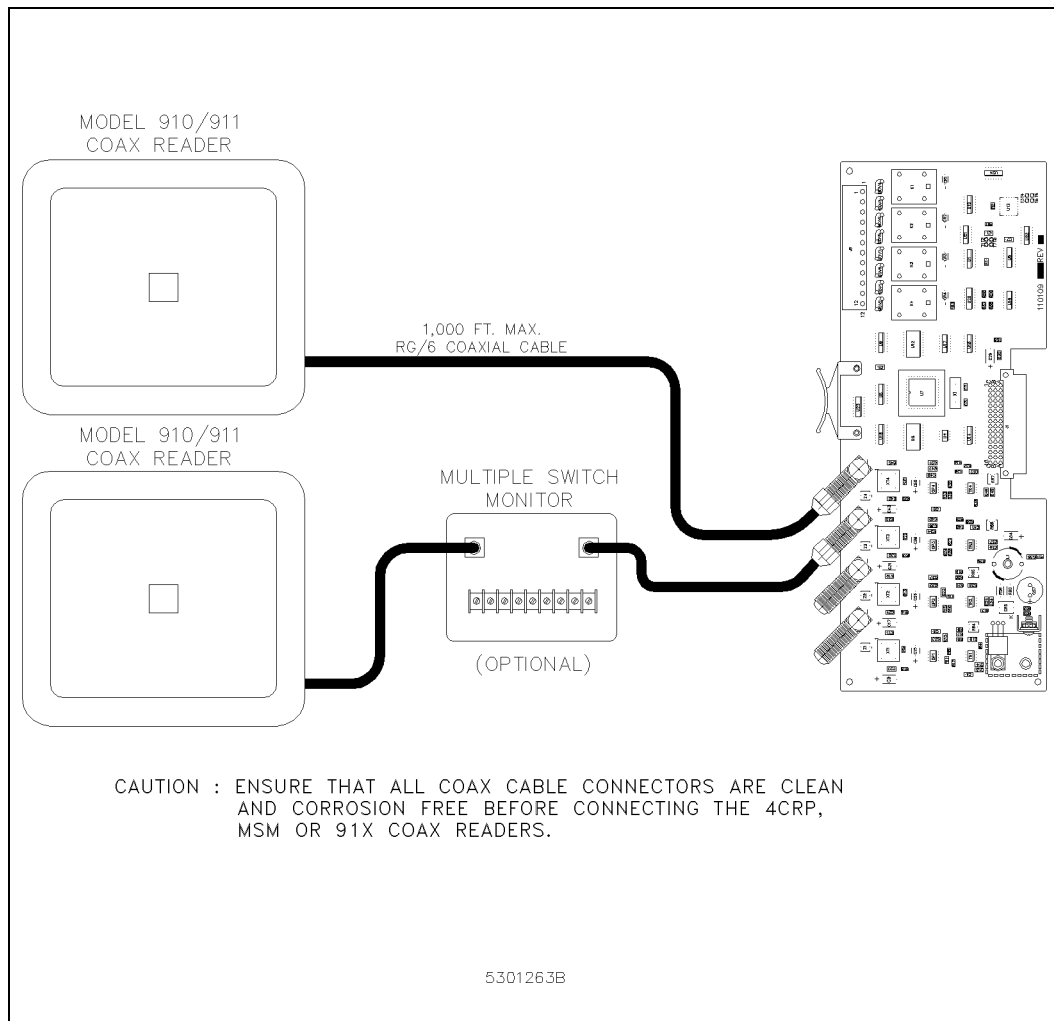


Figure 3: Wiring 4CRP to Coax-Interface Proximity Readers

Wiring the Door Strike

One door DO relay is dedicated to each reader port.

1. Install the door strike (2 amps @ 28VDC or 30VAC maximum) as required.
2. Wire the door strike to the door DO relay. Normally open or normally closed dry contacts are available.
3. Install a protection diode. Use 1N4002, 1N4003, or 1N4004 diodes for DC door strikes and Metal Oxide Varistors (MOV) for AC door strikes.

NOTE: Protection diode or MOV required at all electronic door locks.

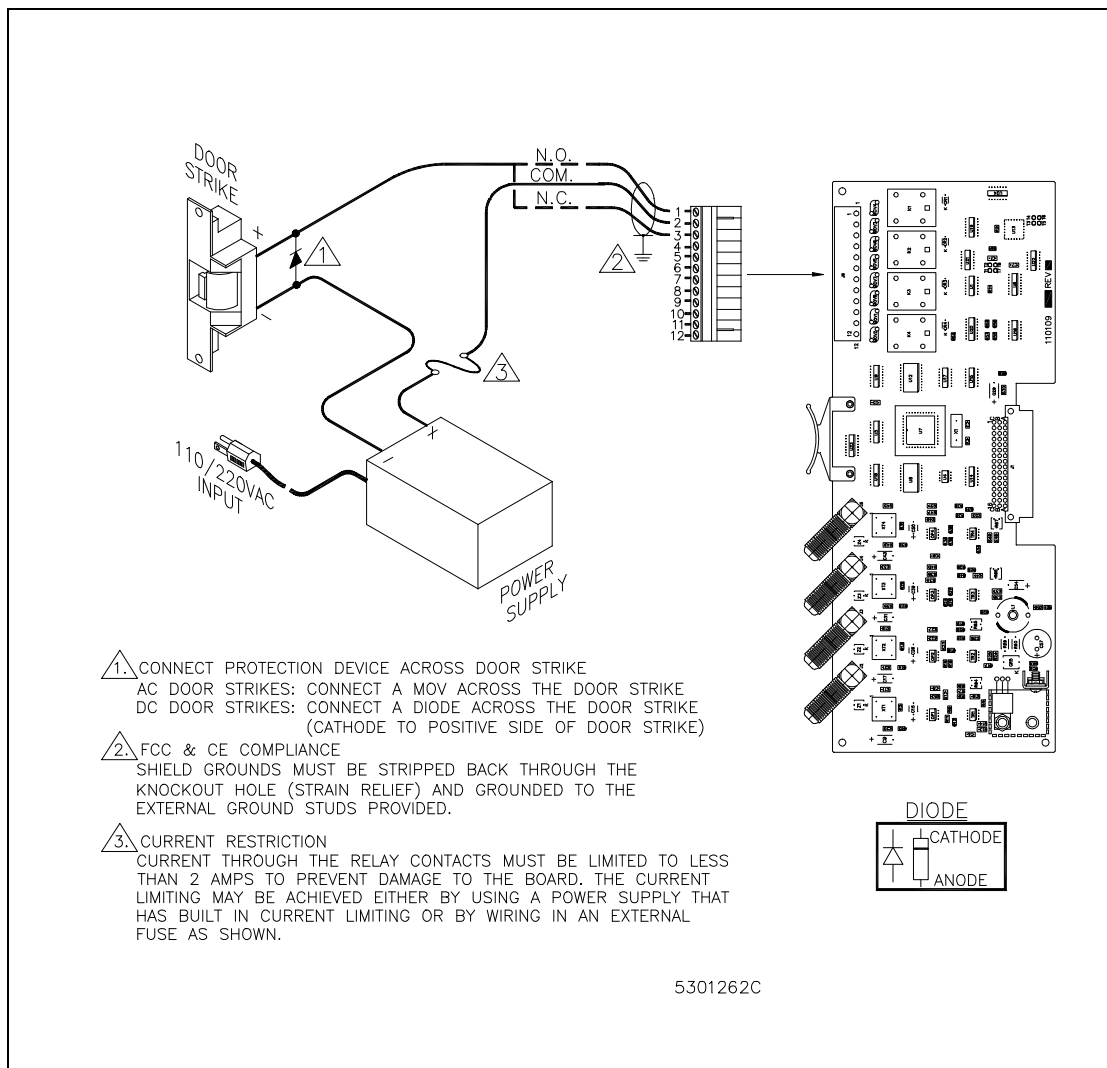


Figure 4: Wiring 4CRP Door Strike

Troubleshooting the 4CRP Board

Consult your reader installation manual for potential problems which are not related to the Micro/5.

If the reader does not power up, do the following:

1. Check the wiring between the 4CRP and the reader. See Figure 3: Wiring 4CRP to Coax-Interface Proximity Readers on page 16 and the reader installation manual.

If using the Multiple Switch Monitor (MSM), check the wiring between the 4CRP and the MSM, and between the MSM and the reader.

2. Be sure the coax connector is firmly seated in the 4CRP board, MSM (if used), and the reader.
3. Check that the power supply is at least 4 amps for a single fully loaded 4CRP board, or 6 amps for two fully loaded 4CRP boards.

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