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MODEL M-6D

NEMA TS 1 / TS 2 DETECTOR CARD RACK

INSTALLATION AND OPERATING INSTRUCTIONS

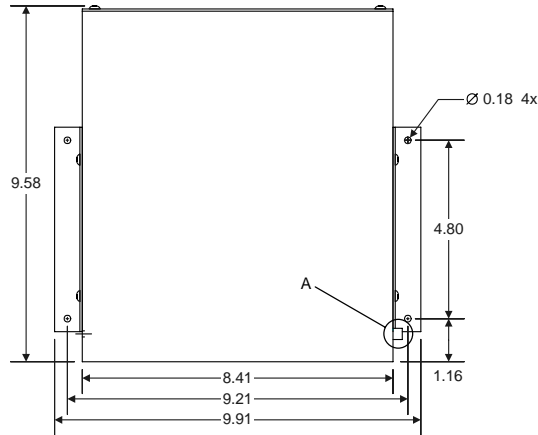
I General

The Model M-6D Detector Card Rack has been specially designed for NEMA TS 1 and TS 2 applications where shelf space is at a premium. This high-density card rack is capable of housing an integral power supply; four (4), single width (1.12 inch), four channel detectors; and a single width BIU/2.

The Model M-6D may also be configured to accept, in place of the BIU/2, a Reno A&E Model SP-300 detector switch panel. The use of the Model SP-300 allows the user to disconnect or simulate detector call outputs.

II Installation Instructions

The drawing below should be used as a reference for mounting dimensions. All dimensions shown are without components installed in the card rack.



TOP VIEW - CARD RACK HEIGHT IS 6.27 INCH

i Single Rack Configuration

Using four (4) #6 screws, fasten the Model M-6D card rack to a solid surface.

ii Multiple Rack Configuration

Up to four (4) Model M-6D card racks can be fastened together. Special rear panels can be ordered to facilitate double, triple, and quadruple rack configurations.

1. Remove the four (4) #6 screws securing the rear panels on each rack to be joined together.
2. Remove the two (2) #6 screws securing the mounting brackets on the sides of the racks that will be in contact with each other once the racks are joined together.
3. Reinstall the screws removed in Step 2.

4. Remove the #6 screw(s) from the threaded standoff(s) (Detail A in the drawing on page 1) on the sides of the racks that will be in contact with each other once the racks are joined together. Set this (these) screw(s) aside.
5. Place the racks about 1/2" apart on a flat surface.
6. The Model M-6D has a series of connectors mounted on the backplane (PC board). Make sure that all wiring harness connectors are securely fastened to their mating connectors and that the wiring harnesses are routed through the appropriate semicircular slots on the sides of the card racks.
7. Use the screws removed in Step 1 to fasten the multi-rack rear panel to the rear or the racks being joined together.
8. Use the screw(s) removed in Step 4 to fasten the front portion of the racks together by installing the screws through the clearance hole(s) and into the threaded standoff(s) (Detail A in the drawing on page 1).
9. Fasten the card rack assembly to a solid surface using four (4) #6 screws.

III Connector Pin Assignments

The Model M-6D has a set of back plane connectors that are used in conjunction with Reno A&E MH series wiring harnesses to provide a simple and effective way to connect the Model M-6D to the controller.

i Power Supply Inputs

Slot 0 - J22

6	1
7	2
8	3
9	4
10	5

Pin	Function	Edge Card / DIN Connector Termination
1	Earth Ground	Pin L - Slots 0 - 4 Pin A31 - Slot 5
2	Line Frequency Reference	Pin B31 - Slot 5
3	DC + 3	Pins 17 & U - Slot 0
4	DC + 4	Pins 18 & V - Slot 0
5	DC -	Pin A - Slots 0 - 4 Pins A32 & B32 - Slot 5
6	AC Neutral	Pin M - Slots 0 - 4
7	AC Line	Pin N - Slots 0 - 4
8	DC + 1	Pins 2 & B - Slot 0
9	DC + 2	Pins 3 & C - Slot 0
10	DC +	Pin B - Slots 1 - 4 Pins A1 & B1 - Slot 5

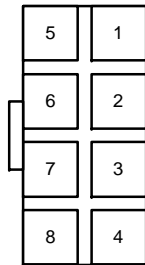
ii Detector Inputs and Outputs (Channels 1 and 2)

Slot 0 - J30 (Optional), Slot 1 - J29, Slot 2 - J28, Slot 3 - J27, Slot 4 - J26

6	1
7	2
8	3
9	4
10	5

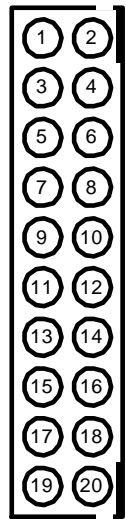
Pin	Function	Edge Card Connector Termination
1	Phase Green Input - Channel 2	Pin 2
2	Loop Input - Channel 1	Pins 5 & E
3	Loop Input - Channel 2	Pins 9 & K
4	Call Output - Channel 2	Pin W
5	DC -	Pin A
6	Phase Green Input - Channel 1	Pin 1
7	Loop Input - Channel 1	Pins 4 & D
8	Loop Input - Channel 2	Pins 8 & J
9	Call Output - Channel 1	Pin F
10	Output Emitter Commons	Pins H, T, X, & Z

iii **Detector Inputs and Outputs (Channels 3 and 4)**
Slot 0 - J15 (Optional), Slot 1 - J14, Slot 2 - J13, Slot 3 - J12, Slot 4 - J11



Pin	Function	Edge Card Connector Termination
1	Phase Green Input - Channel 4	Pin 10
2	Loop Input - Channel 3	Pins 14 & R
3	Loop Input - Channel 4	Pins 18 & V
4	Call Output - Channel 4	Pin Y
5	Phase Green Input - Channel 3	Pin 3
6	Loop Input - Channel 3	Pins 13 & P
7	Loop Input - Channel 4	Pins 17 & U
8	Call Output - Channel 3	Pin S

iv **Detector Switch Panel / Bus Interface Unit Outputs**
Slot 5 - J38 (SP-300 Installed in Slot 5)



Pin	Function	DIN Connector Termination
1	Detector 1 - Channel 1	Pin A4 - Slot 5
2	Detector 1 - Channel 2	Pin B4 - Slot 5
3	Detector 1 - Channel 3	Pin A5 - Slot 5
4	Detector 1 - Channel 4	Pin B5 - Slot 5
5	Detector 2 - Channel 1	Pin A6 - Slot 5
6	Detector 2 - Channel 2	Pin B6 - Slot 5
7	Detector 2 - Channel 3	Pin A7 - Slot 5
8	Detector 2 - Channel 4	Pin B7 - Slot 5
9	Detector 3 - Channel 1	Pin A8 - Slot 5
10	Detector 3 - Channel 2	Pin B8 - Slot 5
11	Detector 3 - Channel 3	Pin A9 - Slot 5
12 *	Detector 3 - Channel 4 *	Pin B25 - Slot 5
13 *	Detector 4 - Channel 1 *	Pin A26 - Slot 5
14 *	Detector 4 - Channel 2 *	Pin B26 - Slot 5
15 *	Detector 4 - Channel 3 *	Pin A27 - Slot 5
16 *	Detector 4 - Channel 4 *	Pin B27 - Slot 5
17	Logic Ground / DC -	Pins A, H, T, X, & Z - Slots 0 - 4 Pins A32 & B32 - Slot 5
18	Logic Ground / DC -	Pins A, H, T, X, & Z Pins A32 & B32 - Slot 5
19	Logic Ground / DC -	Pins A, H, T, X, & Z Pins A32 & B32 - Slot 5
20	Logic Ground / DC -	Pins A, H, T, X, & Z Pins A32 & B32 - Slot 5

NOTE: * Pin assignments with a BIU/2 installed in Slot 5 are Pin 12 - OPTO Input 1, Pin 13 - OPTO Input 2, Pin 14 - OPTO Input 3, Pin 15 - OPTO Input 4, and Pin 16 - OPTO Input Common.

IV **Jumpers**

Jumper	Function
J7	Power Supply Generated Frequency for BIU
J8 *	BIU Address Bit 2 *
J9 *	BIU Address Bit 1 *
J10 *	BIU Address Bit 0 *
J16	Serial Communications Address Bit 1 - Slot 0
J17	Serial Communications Address Bit 1 - Slot 4
J18	Serial Communications Address Bit 1 - Slot 2
J19	Serial Communications Address Bit 2 - Slot 0
J20	Serial Communications Address Bit 3 - Slot 0
J21	External Reset Bus - Slot 0
J23	Serial Communications Address Bit 0 - Slot 0
J24	External Reset Bus - Slot 4
J25	External Reset Bus - Slot 3
J31	External Reset Bus - Slot 2
J32	External Reset Bus - Slot 1
J33	Installed with Power Supply in Slot 0 - Pin 2 to Pin B
J34	Installed with Power Supply in Slot 0 - Pin 3 to Pin C
J35	Detector Rx Bus to BIU
J36	Detector Tx Bus to BIU
J39 **	Slot 0 Output Commons to Output Commons Bus **
J40 **	Slot 1 Output Commons to Output Commons Bus **
J41 **	Slot 2 Output Commons to Output Commons Bus **
J42 **	Slot 3 Output Commons to Output Commons Bus **
J43 **	Slot 0 DC Common to DC Common Bus **
J44 **	Slot 1 DC Common to DC Common Bus **
J45 **	Slot 2 DC Common to DC Common Bus **
J46 **	Slot 3 DC Common to DC Common Bus **
J47 **	Slot 4 DC Common to DC Common Bus **
J48 **	DC Common Bus to DC Common Bus **
J49 **	Slot 4 Output Commons to Output Commons Bus **

NOTES: * BIU Address Bit 3 is connected to Logic Ground so that the default BIU address is 8. Installing a jumper at J10 will add 1 to the address, installing a jumper at J9 will add 2 to the address, and installing a jumper at J8 will add 4 to the address. Installing one or more jumpers will assign an address value of 9 to 15 to the BIU address.

** J39 through J49 allow isolation of the DC Common and/or Output Commons on a per slot basis. Installing a BIU/2 or SP-300 in Slot 5 will tie the DC Common Bus to the Output Commons Bus.