

M6-D

DETECTOR CARD RACK



- High-density card rack designed to hold a power supply; up to four (4), four channel, single width (1.12" wide) detectors; and a half width BIU/2 or SP-300
- Designed to allow multiple M-6D card racks to be linked together
- Reno A&E Model MH wiring harnesses simplify installation



Reno A&E M-6D Detector Card Rack with a Q-4 Power Supply, four E/2-1200 Four Channel Detectors, and an SP-300 Detector Switch Panel

Overview

The M-6D detector card rack has been specially designed for NEMA TS 1 / TS 2 applications where shelf space is at a premium. This high-density rack is capable of housing a power supply; four, single width (1.12 inch), four channel detectors; and a half width BIU/2 bus interface unit or a Reno A&E Model SP-300 detector switch panel. The Model SP-300 detector switch panel allows the user to disconnect or simulate detector call outputs.

Reno A&E

4655 Aircenter Circle • Reno, Nevada • 89502 • USA

Tel: (775) 826-2020 • Fax: (775) 826-9191 • E-mail: sales@renoae.com • Internet: www.renoae.com



M-6D SPECIFICATION

This is a Performance Specification. It is not intended to be used as Operating Instructions.

General Description: The Model M-6D detector card rack is designed to hold a Reno A&E Model Q-4 power supply; up to four (4) Reno A&E Model E/2-1200 single width, four channel detectors; and a Reno A&E Model BIU/2 half width bus interface unit or a Reno A&E Model SP-300 detector switch panel. Reno A&E MH series wiring harnesses are available to simplify connections between the M-6D and other components in the cabinet. The modular design of the M-6D detector card rack allows up to four (4) racks to be joined together using one of several optional rear panels.

Card Rack Connectors (Power Supply and Detectors): PC board mounted 2 x 22 contact edge card connectors with 0.156 inch (0.396 cm.) contact centers. Connector pin assignments are per NEMA TS1 / TS2.

Card Rack Connector (Detector Switch Panel or Bus Interface Unit): PC board mounted 64-pin, female, DIN 41612 type B series. The connector is oriented with Pin 1 located on top. Connector pin assignments are per NEMA TS1 / TS2.

Back Plane Connector (Power Supply Input): 10 pin, dual row, female header, 0.165 inch (0.420 cm.) pitch with gold plated contacts. (Molex p/n 39-31-0108 or equivalent). Mates with Molex p/n 39-01-2105 or equivalent. (See **Pin Assignments - Power Supply Inputs** table.)

Back Plane Connectors (Detector Inputs and Outputs): 10 pin / 8 pin, dual row, female header, 0.165 inch (0.420 cm.) pitch with gold plated contacts (Molex p/n 39-31-0108 / 39-31-0088 or equivalent). Mates with Molex p/n 39-01-2105 / 39-01-2085 or equivalent. (See **Pin Assignments - Detector Inputs and Outputs** tables.)

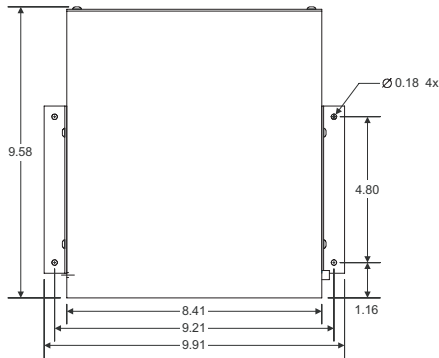
Back Plane Connector (Detector Switch Panel / Bus Interface Unit Outputs): 20 pin, dual row, shrouded male header, 0.100 inch (0.254 cm.) pitch with gold plated contacts (Amp p/n 102618-8 or equivalent). Mates with Amp p/n 1-87631-5 or equivalent. (See **Pin Assignments - Detector Switch Panel / Bus Interface Unit Outputs** table.)

Ruggedized Construction: The M-6D housing is fabricated from 0.062 inch thick aluminum. The printed circuit board is 0.062 inch thick FR4 material with 2 oz. copper on both sides and plated through holes. Circuit board components are conformal coated with polyurethane.

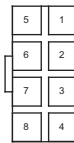
Operating Temperature: -40° F to +180° F (-40° C to +82° C).

Weight: 2.80 lb (1.270 kg).

Size: 6.27 inches (15.93 cm) high x 8.41 inches (21.36 cm) wide x 9.58 inches (24.33 cm) deep (excluding mounting flanges). Mounting flanges add 1.50 inches (3.81 cm.) to the width measurement.



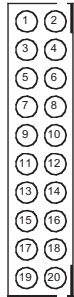
Pin Assignments - Detector Inputs and Outputs (Channels 3 and 4)



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

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



Slot 5 - J38

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 - Slots 0 - 4 Pins A32 & B32 - Slot 5
19	Logic Ground / DC -	Pins A, H, T, X, & Z - Slots 0 - 4 Pins A32 & B32 - Slot 5
20	Logic Ground / DC -	Pins A, H, T, X, & Z - Slots 0 - 4 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.

Jumpers

Jumper	Function
J7	Power Supply Generated Line 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 Output Commons 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.

TABLES

Pin Assignments - Power Supply Inputs



Slot 0 - J22

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

Pin Assignments - Detector Inputs and Outputs (Channels 1 and 2)



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

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