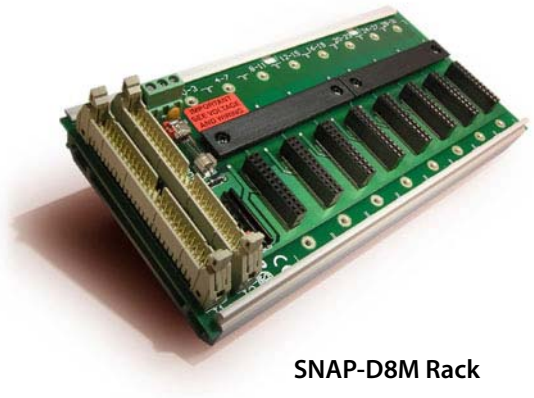
SNAP D-Series Racks

Features

- Ideal for discrete control applications
- Control directly or through an Opto 22 PC adapter card
- Use panel or DIN-rail mounting
- Modules snap into place



SNAP-D8M Rack

Description

SNAP D-series racks are designed for discrete control applications and can accommodate 4, 6, 8, or 12 SNAP 4-channel digital modules. These racks use an industry-standard 50-pin header connector, which allows these racks to be used in a variety of applications.

The logic side of the I/O circuitry can be controlled directly or by using an Opto 22 PCIe-AC5 (PCI Express bus), PCI-AC5 (PCI bus) or G4AC5 or AC5 (ISA bus) PC adapter card.

In addition, the 4-module-position **SNAP-D4M** can be used with:

- A Raspberry Pi® and Opto 22's Digital I/O Carrier Board for Raspberry Pi (part number OPTO-P1-40P)
- Opto 22's Classic brain boards, which use one of Opto 22's industry-standard protocols (*mistic*®, Optomux®, or Pamux®) to control the I/O and communicate either serially or in parallel

Field devices are wired directly to the top-mounted removable connectors on the SNAP I/O modules. The module and rack design allows modules to simply "snap" on and off the mounting rack.

SNAP racks use a retention-rail locking system that holds modules securely to the rack. Use two 4-40 by ½-inch standard machine screws to secure each module in position.

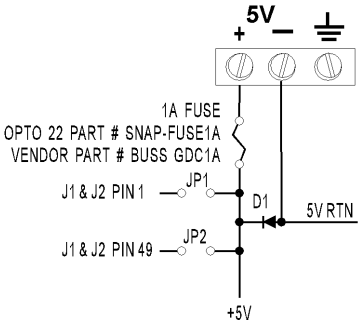
All SNAP racks offer panel mounting and the option of DIN-rail mounting. SNAP racks use a single 5 VDC power source.

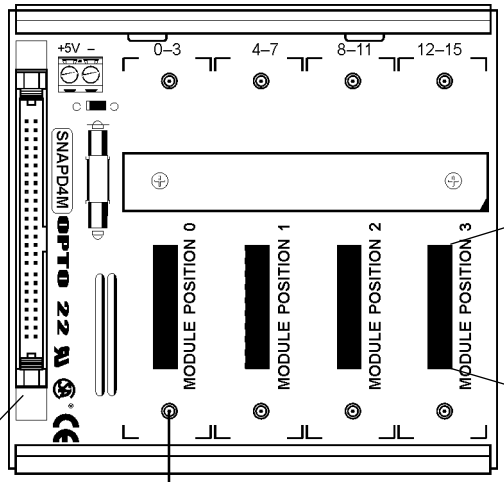
Part Numbers

Part	Description
SNAP-D4M	4-module digital I/O rack
SNAP-D6M	6-module digital I/O rack
SNAP-D8M	8-module digital I/O rack
SNAP-D12M	12-module digital I/O rack
SNAP-CDBBDIN	Classic digital brain board DIN rail adapter
SNAP-FUSE1AB	1 amp fuse, 25-pack
SNAP-TEX-DRC10	SNAP PAC rack DIN-rail adapter clip, 10-pack
SNAP-TEX-REC10N	Narrow end cap for SNAP PAC racks DIN-rail assemblies, 10-pack

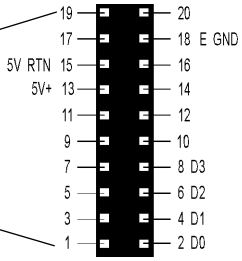
Specifications: SNAP-D4M (4 Module Position)

Power Schematic





Module Mating Connector Pinout (female)



Control Connector (50-pin male)

Module Position	Channel Position	J1 Control Connector
0	0	47
	1	45
	2	43
	3	41
1	4	39
	5	37
	6	35
	7	33
2	8	31
	9	29
	10	27
	11	25
3	12	23
	13	21
	14	19
	15	17

Operating Requirements

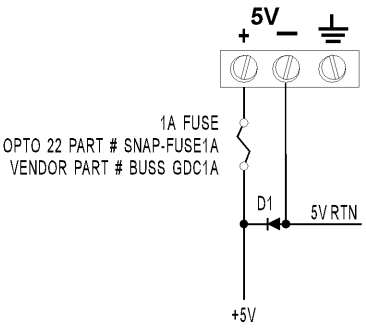
Power Requirements	5 VDC ± 0.1 VDC @ 200 mA max. (700 mA with brain board)
Operating Temperature Range	0° to 70°C
Relative Humidity	95%, non-condensing

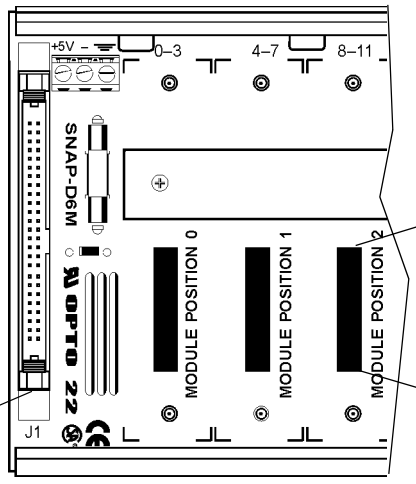
Notes:

1. Even pins on control connectors are connected to 5V RTN.
2. Pin 1 of control connectors J1 and J2 is connected to +5V through jumper JP1.
3. Pin 49 of control connectors J1 and J2 is connected to +5V through jumper JP2.
4. For operation with PC adapter cards (PCIe-AC5, PCI-AC5, AC5, or G4AC5), remove jumpers JP1 and JP2.
5. Odd numbered pins 3 through 15 of control connectors are not used.

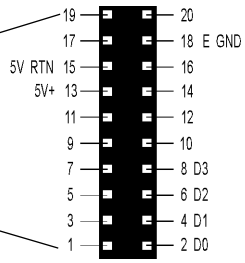
Specifications: SNAP-D6M (6 Module Position)

Power Schematic





Module Mating Connector Pinout (female)



Control Connector (50-pin male)

Module Position	Channel Position	J1 Control Connector
0	0	47
	1	45
	2	43
	3	41
1	4	39
	5	37
	6	35
	7	33
2	8	31
	9	29
	10	27
	11	25
3	12	23
	13	21
	14	19
	15	17
4	16	15
	17	13
	18	11
	19	9
5	20	7
	21	5
	22	3
	23	1

Operating Requirements

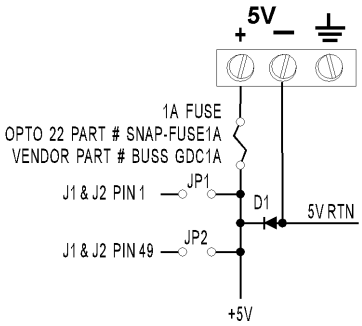
Power Requirements	5 VDC ± 0.1 VDC @ 300 mA max.
Operating Temperature Range	0° to 70°C
Relative Humidity	95%, non-condensing

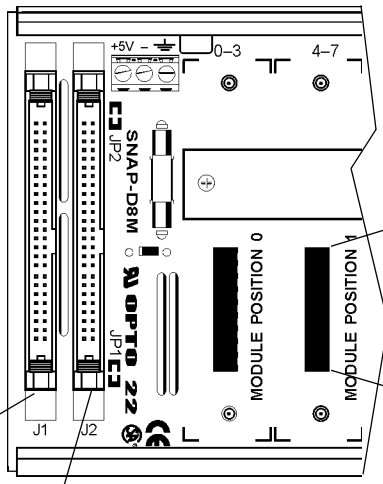
Notes:

1. Even pins on control connectors are connected to 5V RTN.
2. SNAP-D6M and SNAP-D12M are designed to interface with PC adapter cards (PCIe-AC5, PCI-AC5, AC5, or G4AC5). They are not compatible with brain boards, because there is no power to the control connector.
3. Pin 49 - "no" connection.

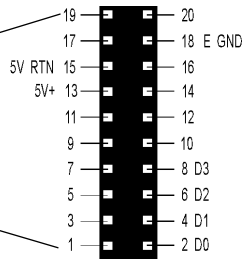
Specifications: SNAP-D8M (8 Module Position)

Power Schematic





Module Mating Connector Pinout (female)



Control Connectors (50-pin male)

Module Position	Channel Position	J1 Control Connector
0	0	47
	1	45
	2	43
	3	41
1	4	39
	5	37
	6	35
	7	33
2	8	31
	9	29
	10	27
	11	25
3	12	23
	13	21
	14	19
	15	17

Module Position	Channel Position	J2 Control Connector
4	16	47
	17	45
	18	43
	19	41
5	20	39
	21	37
	22	35
	23	33
6	24	31
	25	29
	26	27
	27	25
7	28	23
	29	21
	30	19
	31	17

Operating Requirements

Power Requirements	5 VDC ± 0.1 VDC @ 400 mA max.
Operating Temperature Range	0° to 70°C
Relative Humidity	95%, non-condensing

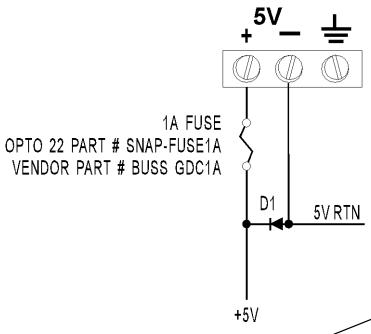
Notes:

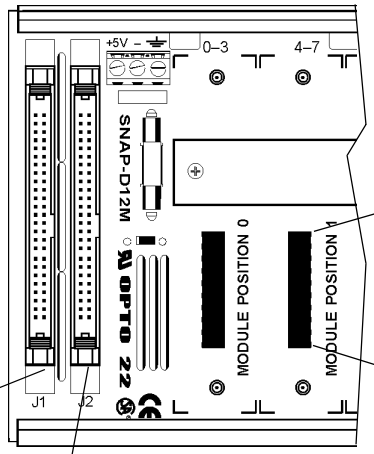
1. Even pins on control connectors are connected to 5V RTN.
2. Pin 1 of control connectors J1 and J2 is connected to +5V through jumper JP1.
3. Pin 49 of control connectors J1 and J2 is connected to +5V through jumper JP2.
4. For operation with PC adapter cards (PCIe-AC5, PCI-AC5, AC5, or G4AC5), remove jumpers JP1 and JP2.
5. Odd numbered pins 3 through 15 of control connectors are not used.

SNAP D-Series Racks

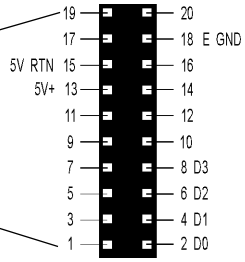
Specifications: SNAP-D12M (12 Module Position)

Power Schematic





Module Mating Connector Pinout (female)



Control Connectors (50-pin male)

Module Position	Channel Position	J1 Control Connector
0	0	47
	1	45
	2	43
	3	41
1	4	39
	5	37
	6	35
	7	33
2	8	31
	9	29
	10	27
	11	25
3	12	23
	13	21
	14	19
	15	17
4	16	15
	17	13
	18	11
	19	9
5	20	7
	21	5
	22	3
	23	1

Module Position	Channel Position	J2 Control Connector
6	0	47
	1	45
	2	43
	3	41
7	4	39
	5	37
	6	35
	7	33
8	8	31
	9	29
	10	27
	11	25
9	12	23
	13	21
	14	19
	15	17
10	16	15
	17	13
	18	11
	19	9
11	20	7
	21	5
	22	3
	23	1

Operating Requirements

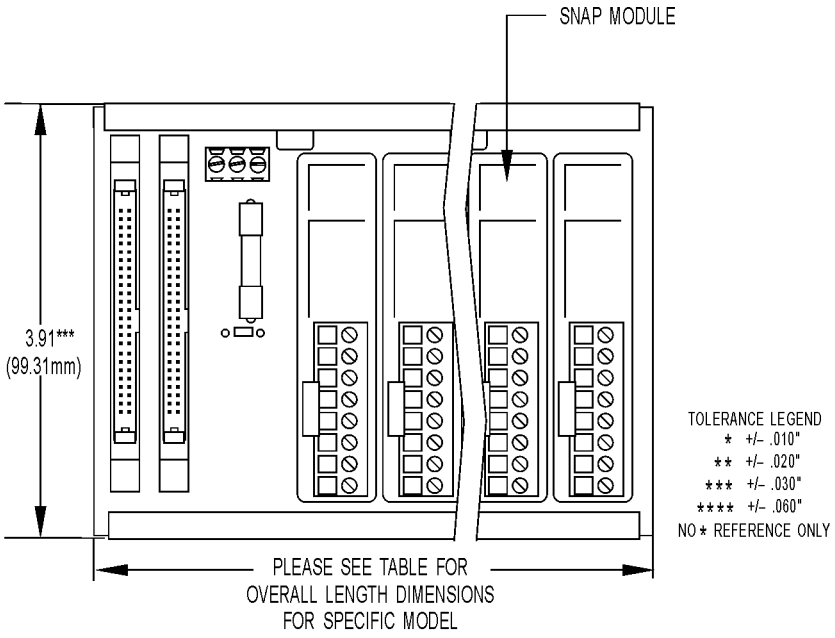
Power Requirements	5 VDC ± 0.1 VDC @ 1200mA max.
Operating Temperature Range	0° to 70°C
Relative Humidity	95%, non-condensing

Notes

1. Even pins on control connectors are connected to 5V RTN.
2. SNAP-D6M and SNAP-D12M are designed to interface with PC adapter cards (PCIe-AC5, PCI-AC5, AC5, or G4AC5). They are not compatible with brain boards, because there is no power to the control connector.

Dimensional Drawing

Front View (when Mounted)—All Models

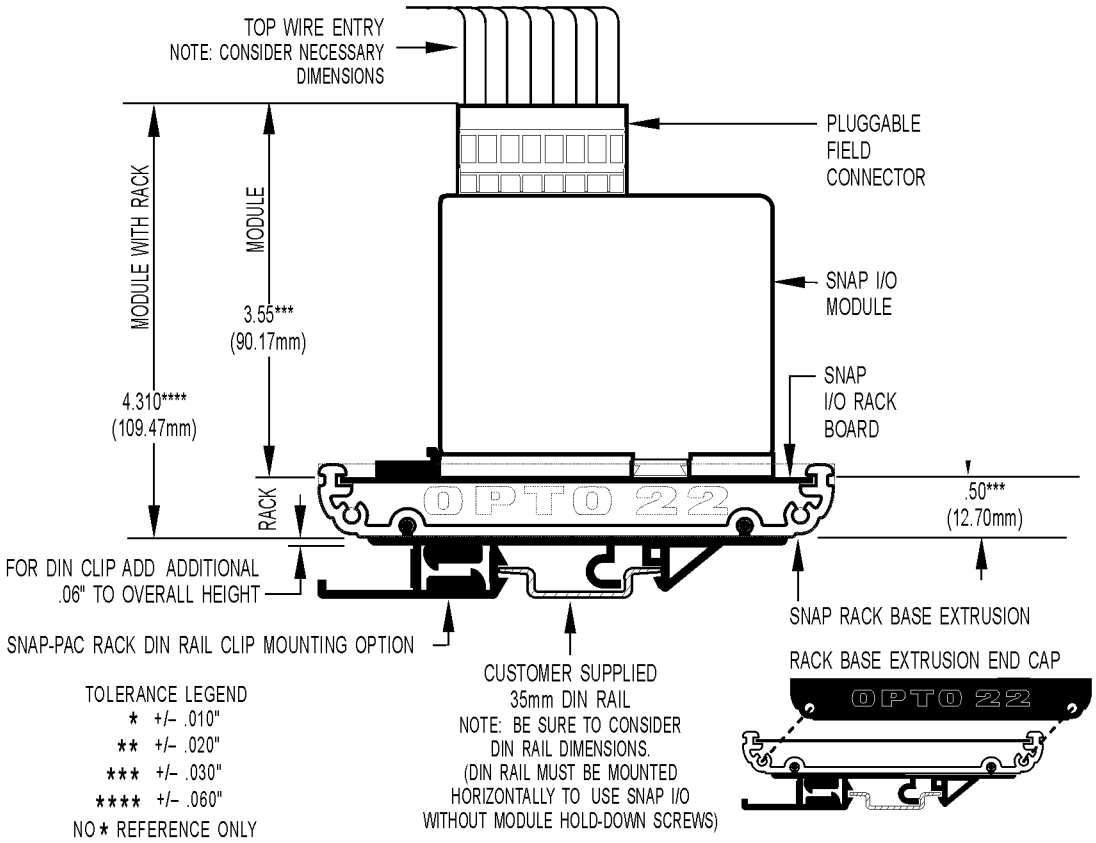


Overall Length Dimension (All Models)

Part Numbers	Description	Length (inches)	Length (mm)
SNAP-D4M	4-module rack	4.19	106.43
SNAP-D6M	6-module rack	5.74	145.8
SNAP-D8M	8-module rack	7.74	196.6
SNAP-D12M	12-module rack	10.74	272.8

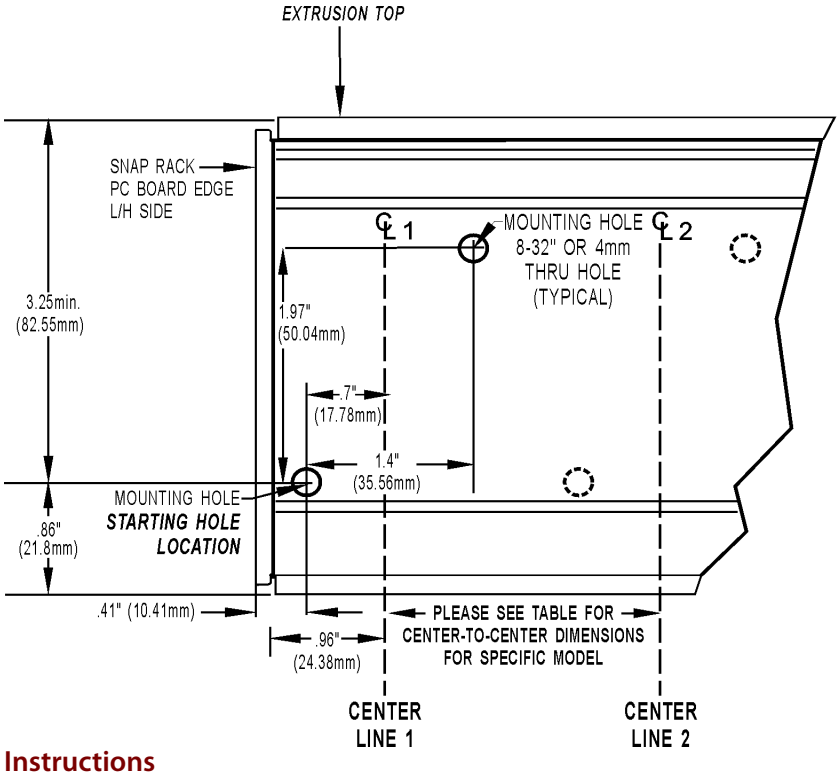
Dimensional Drawing

Right Side View (with Customer-supplied DIN-Rail Option)—All Models



Dimensional Drawing

Typical Plain View of SNAP Mounting Extrusion—All Models



General Mounting Instructions

The SNAP rack assembly should be mounted horizontally, as shown in diagram, if not using module hold-down screws.

Preferred Method: Template (product on site)

1. Use SNAP rack mounting extrusion as template.
2. Be sure to use drawing to determine required product and option clearances.

Alternate Method: Prefabrication of Panels (no product on site)

1. Mounting holes are in sets of two located on lower left and upper right, with respect to a centerline (CL).
2. Using the drawing, determine CL1 mounting hole positions. (CL1 is located on the left side of all SNAP rack mounting extrusions.)
3. Use the center-to-center length specification table to determine offset between centerlines and number of centerline positions for each model.
4. Repeat process for each centerline position.
5. Dimensions shown in drawing apply to all models.

Center-to-Center Length (All Models)

Part Numbers	Description	Center-to-Center Length (inches)	# of Center Positions
SNAP-D4M	4-module rack	1.98	2
SNAP-D6M	6-module rack	3.53	2
SNAP-D8M	8-module rack	5.53	2
SNAP-D12M	12-module rack	4.26	3