

Form 778-041216

Description

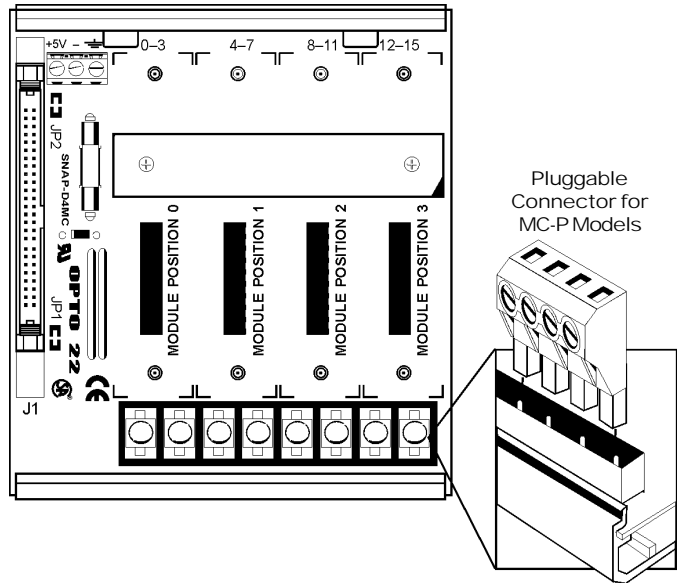
Opto 22 SNAP "D Series" racks are designed for discrete control applications and can accommodate 4, 6, 8, or 12 SNAP 4-channel digital modules. These racks use an industry-standard 50-pin header connector, which allows them to be used in a variety of applications. The logic side of the I/O circuitry can be controlled directly, or by using an ISA bus or PCI bus computer with an Opto 22 adapter card. Use G4AC5 with an ISA bus computer or use PCI-AC5 with a PCI bus computer. In addition, the 4-module position SNAP-D4M can be used with Opto 22's Classic brain boards. These boards 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.

The MC and MC-P model racks provide an auxiliary screw-type terminal strip for additional wiring requirements. The MC racks use a fixed terminal strip while the MC-P uses removable connectors for easy maintenance (see enlarged view below).

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. Normally, a hold-down screw is not required. However, for applications that require additional mounting security, SNAP racks have provisions for two 4-40 by 1/2-inch standard machine screws to hold 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 Number | Ordering Guide |
|---------------|---|
| SNAP-D4MC | SNAP I/O mounting rack: Digital 4-module rack with header connector. Common terminal block |
| SNAP-D4MC-P | SNAP I/O mounting rack: Digital 4-module rack with header connector. Common terminal block pluggable |
| SNAP-D6MC | SNAP I/O mounting rack: Digital 6-module rack with header connector. Common terminal block |
| SNAP-D6MC-P | SNAP I/O mounting rack: Digital 6-module rack with header connector. Common terminal block pluggable |
| SNAP-D8MC | SNAP I/O mounting rack: Digital 8-module rack with header connector. Common terminal block |
| SNAP-D8MC-P | SNAP I/O mounting rack: Digital 8-module rack with header connector. Common terminal block pluggable |
| SNAP-D12MC | SNAP I/O mounting rack: Digital 12-module rack with header connector. Common terminal block |
| SNAP-D12MC-P | SNAP I/O mounting rack: Digital 12-module rack with header connector. Common terminal block pluggable |
| SNAP-CDBBN | Classic digital brain board DIN-rail adapter |
| SNAP-FUSE1A | SNAP 1-Amp fuse |
| SNAP-RACKDIN | SNAP rack DIN-rail adapter clip |
| SNAP-RACKDINB | SNAP rack DIN-rail adapter clip 25-pack |

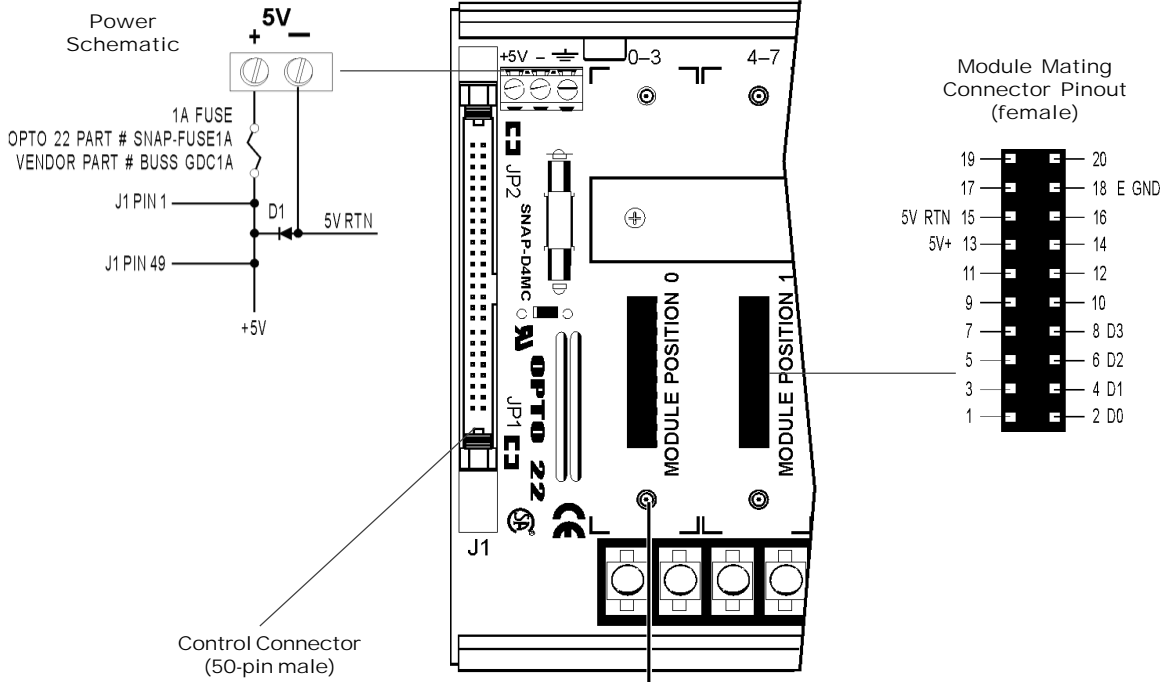
SNAP-D4M 4-Module Position
I/O Mounting Rack



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Specifications

SNAP-D4MC/MC-P (4 Module Position)



| 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 Holding Screw
4-40 Typical

Operating Requirements

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

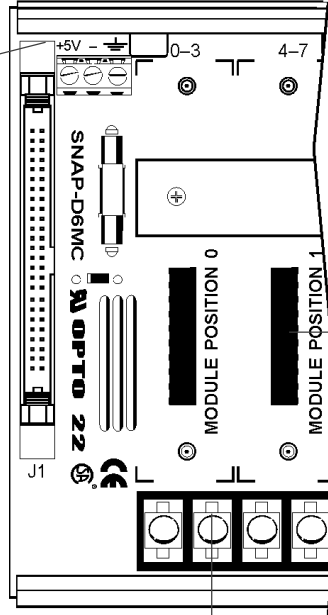
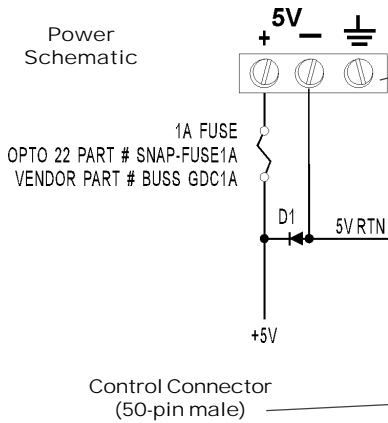
Notes

- Even pins on control connector are connected common to +5V RTN.
- Pin 1 of control connector J1 is connected common to +5V through jumper JP1.
- Pin 49 of control connector J1 is connected common to +5V through jumper JP2.
- For operation of SNAP-D4MC/MC-P with Classic plug-in brain boards (B100, B1, and B5), install jumpers JP1 and JP2.
- For operation with PC adapter cards (i.e. G4AC5), remove jumpers JP1 and JP2.
- Odd numbered pins 3 through 15 of control connector are not used.

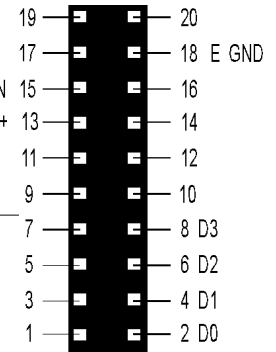
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Specifications

SNAP-D6MC/MC-P (6 Module Position)

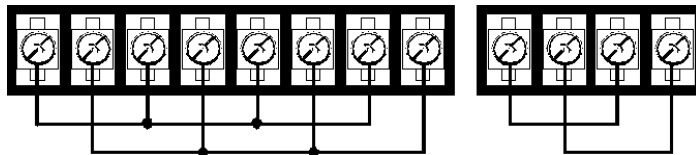


Module Mating Connector Pinout (female)



| Module Position | Channel Position | 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 |

Connection Diagram for 12-position terminal strip (MC and MC-P models, MC shown)



For detailed information on terminal strip, see pages 9-10.

Notes

1. Even pins on control connectors are connected to +5V RTN.
2. SNAP-D6MC/MC-P is designed to interface with PC adapter cards (i.e. AC5 or G4AC5). It will not work with brain boards because there is no power to the control connector.
3. Pin 49 - "no" connection.

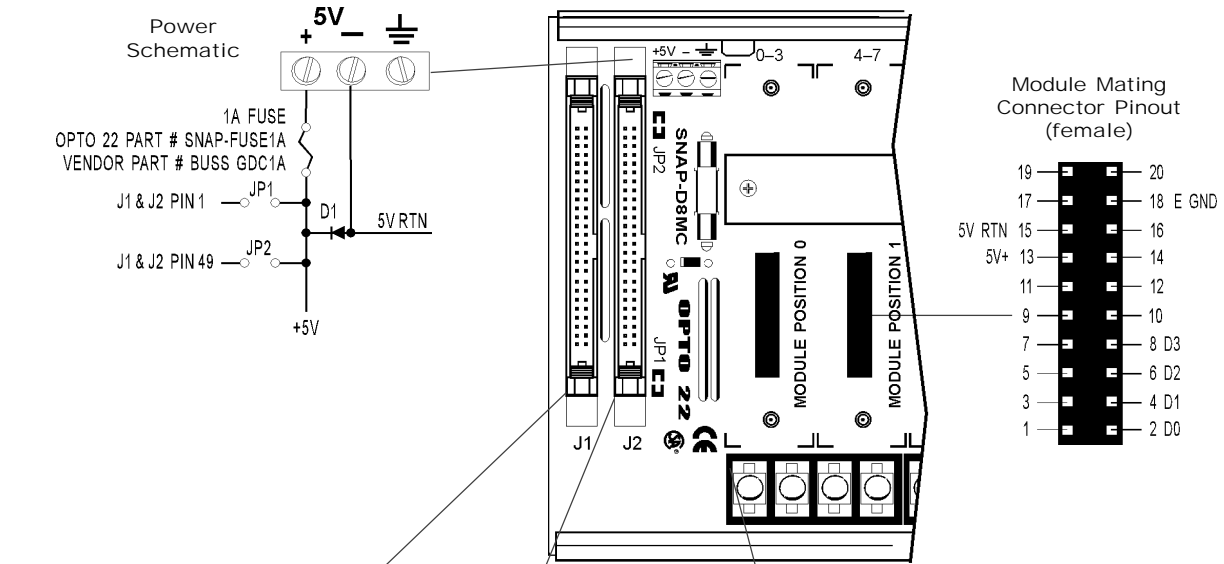
Operating Requirements

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

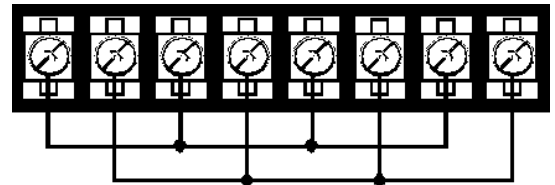
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Specifications

SNAP-D8MC/MC-P (8 Module Position)



Connection Diagram for each of the two 8-position terminal strips (MC and MC-P models, MC shown)



For detailed information on terminal strip, see pages 9-10.

Control Connectors (50-pin male)

| Position | Channel Position | J1 Control Connector | Module Position | Channel Position | J2 Control Connector |
|----------|------------------|----------------------|-----------------|------------------|----------------------|
| 0 | 0 | 47 | 4 | 16 | 47 |
| | 1 | 45 | | 17 | 45 |
| | 2 | 43 | | 18 | 43 |
| | 3 | 41 | | 19 | 41 |
| 1 | 4 | 39 | 5 | 20 | 39 |
| | 5 | 37 | | 21 | 37 |
| | 6 | 35 | | 22 | 35 |
| | 7 | 33 | | 23 | 33 |
| 2 | 8 | 31 | 6 | 24 | 31 |
| | 9 | 29 | | 25 | 29 |
| | 10 | 27 | | 26 | 27 |
| | 11 | 25 | | 27 | 25 |
| 3 | 12 | 23 | 7 | 28 | 23 |
| | 13 | 21 | | 29 | 21 |
| | 14 | 19 | | 30 | 19 |
| | 15 | 17 | | 31 | 17 |

Operating Requirements

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

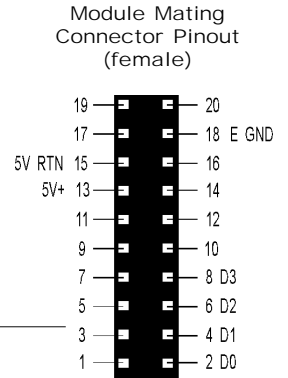
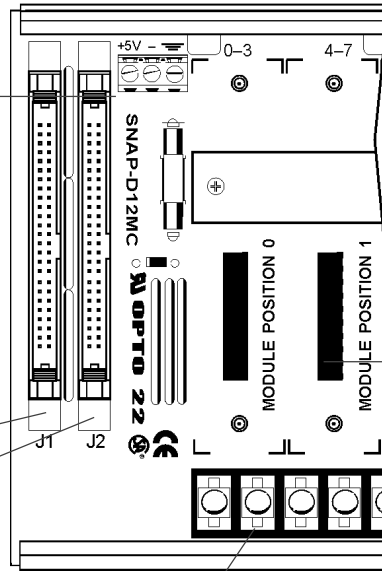
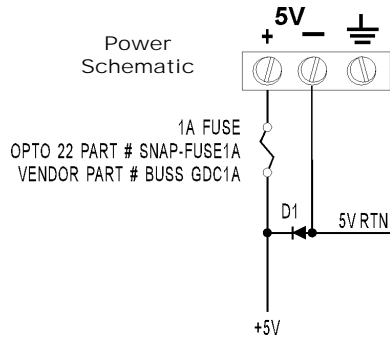
Notes

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 (i.e. AC5 or G4AC5), remove jumpers JP1 and JP2.
5. Odd numbered pins 3 through 15 of control connectors are not used.

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Specifications

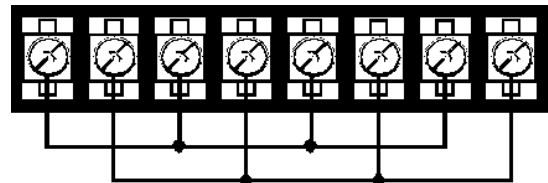
SNAP-D12MC/MC-P (12 Module Position)



Control Connectors (50-pin male)

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

Connection diagram for each of the three 8-position terminal strips (MC and MC-P models, MC shown)



For detailed information on terminal strip, see pages 9-10.

Operating Requirements

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

Notes

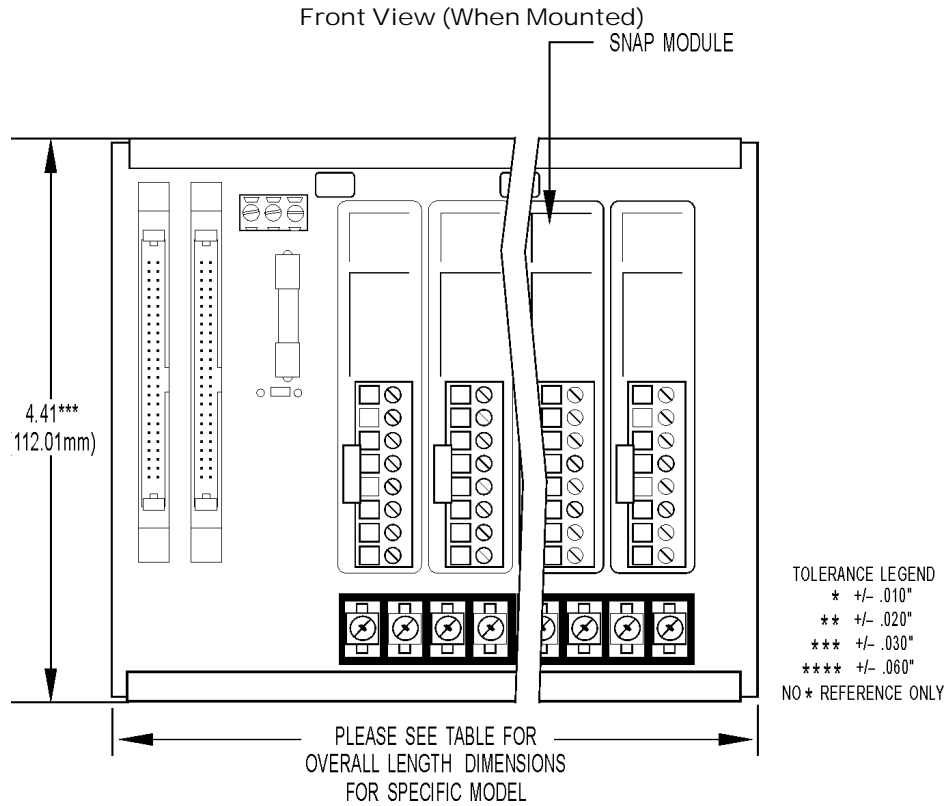
- Even pins on control connectors are connected to +5V RTN.
- SNAP-12MC/MC-P is designed to interface with PC adapter cards (i.e. AC5 or G4AC5).
It will not work with brain boards because there is no power to the control connector.

DATA SHEET

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Dimensional Drawing

All Models



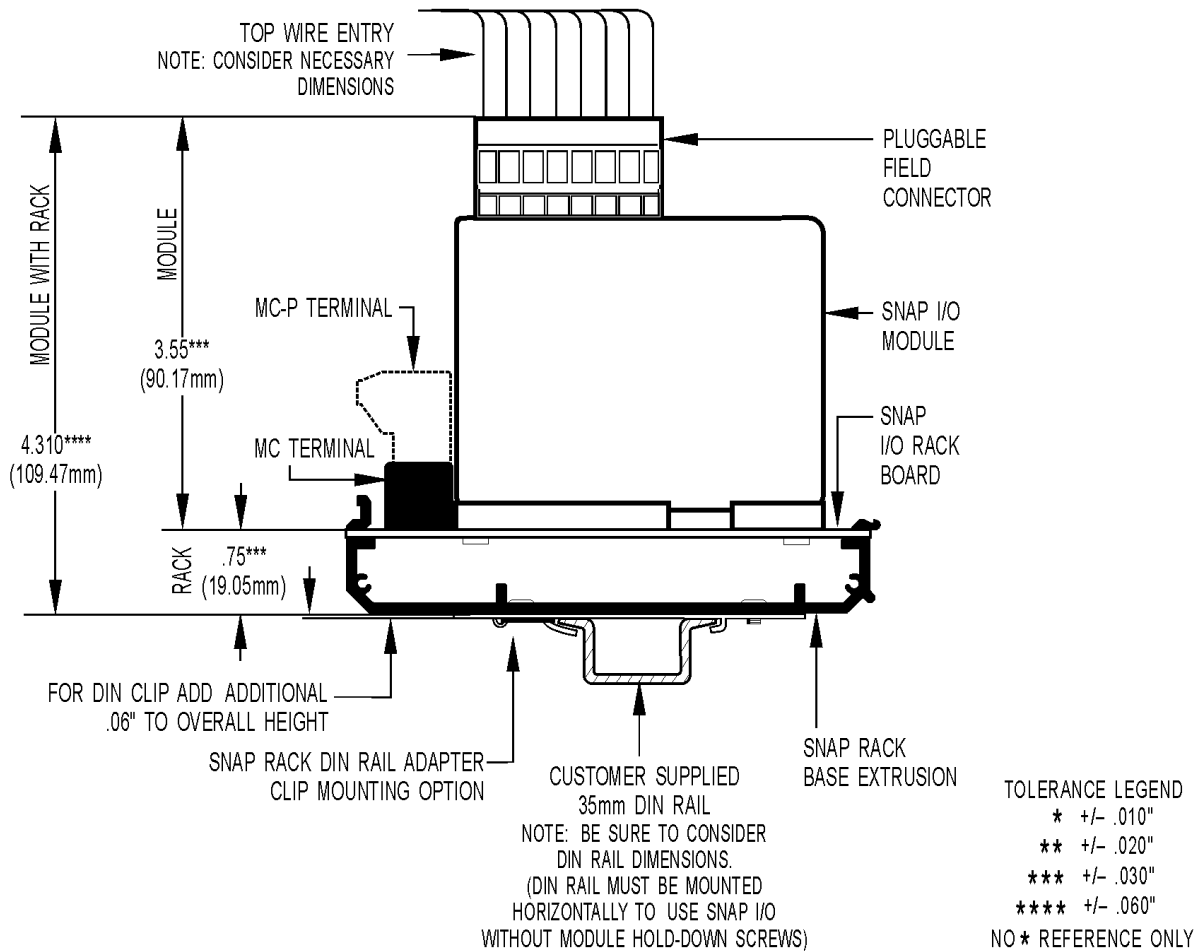
Overall Length Dimension (All Models)

| Part Number | 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 |

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Dimensional Drawing All Models

Right Side View (with DIN-Rail Option)

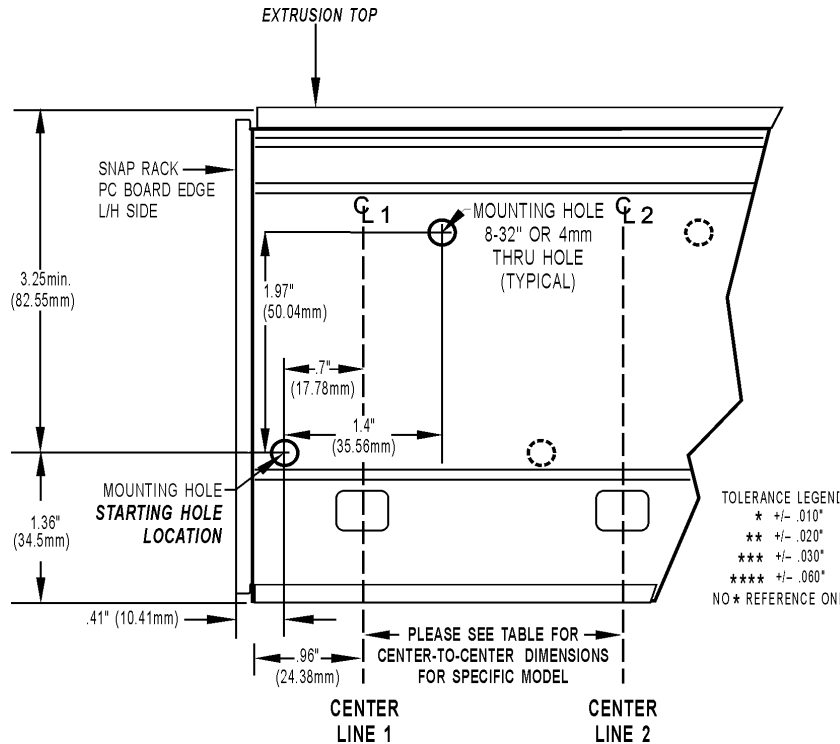


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Dimensional Drawing

All Models

Typical Plain View of SNAP Mounting Extrusion



General

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

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)

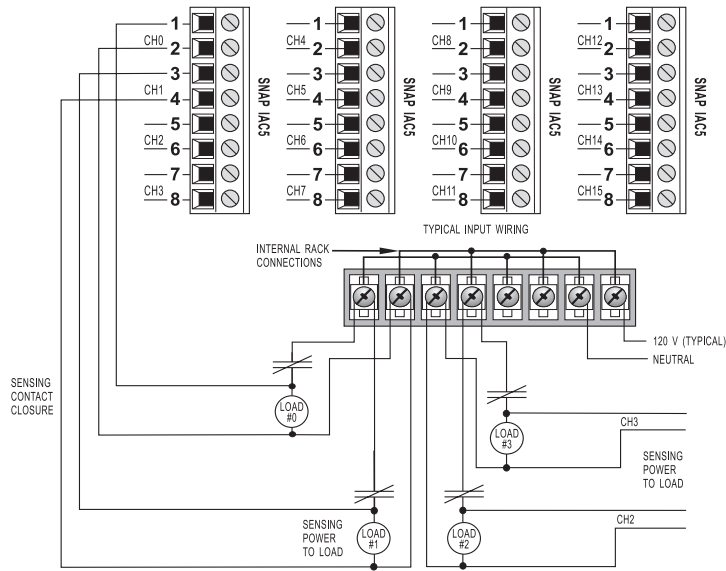
| Part Numbers | Description | Center to Center Length | # of Center Positions |
|--------------|--|-------------------------|-----------------------|
| SNAP-D4MC | 4-module rack with extra terminal block for field wiring | 1.98" | 2 |
| SNAP-D4MC-P | 4-module rack with extra terminal block for field wiring, pluggable | 1.98" | 2 |
| SNAP-D6MC | 6-module rack with extra terminal block for field wiring | 3.53" | 2 |
| SNAP-D6MC-P | 6-module rack with extra terminal block for field wiring, pluggable | 3.53" | 2 |
| SNAP-D8MC | 8-module rack with extra terminal block for field wiring | 5.53" | 2 |
| SNAP-D8MC-P | 8-module rack with extra terminal block for field wiring, pluggable | 5.53" | 2 |
| SNAP-D12MC | 12-module rack with extra terminal block for field wiring | 4.26" | 3 |
| SNAP-D12MC-P | 12-module rack with extra terminal block for field wiring, pluggable | 4.26" | 3 |

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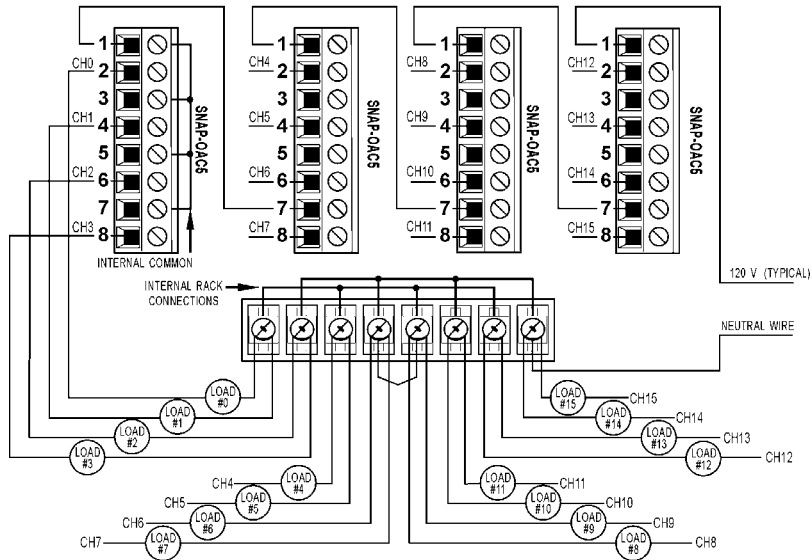
Schematics

Terminal Strip Usage - Digital

Typical Digital Input Using Terminal Strip



Typical Digital AC Output Using Terminal Strip

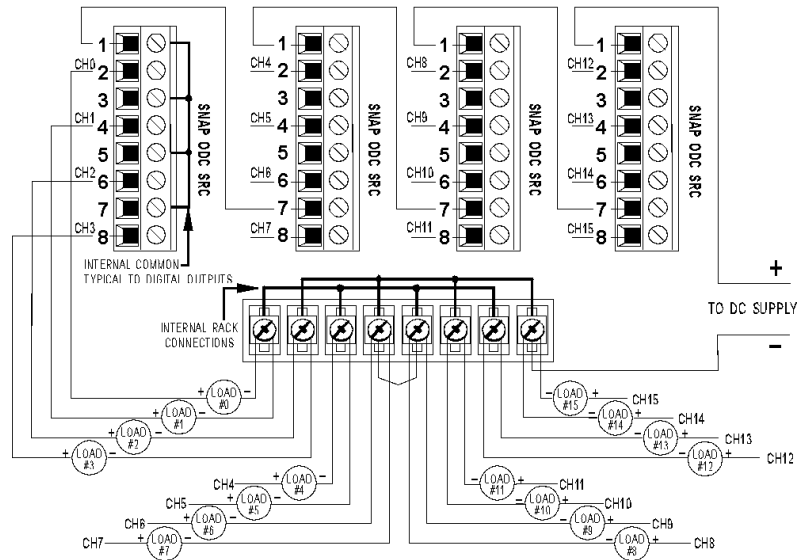


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Schematics

Terminal Strip Usage - Digital

Typical Digital DC Output (Sourcing) Using Terminal Strip



Typical Digital DC Output (Sinking) Using Terminal Strip

