Part Number	Description
SNAP-B4M*	4-module rack
SNAP-B8M*	8-module rack
SNAP-B8MC	8-module rack with extra terminal block for field wiring
SNAP-B8MC-P	8-module rack with extra terminal block for field wiring, pluggable
SNAP-B12M*†	12-module rack
SNAP-B12MC†	12-module rack with extra terminal block for field wiring
SNAP-B12MC-P†	12-module rack with extra terminal block for field wiring, pluggable
SNAP-B16M*†	16-module rack
SNAP-B16MC†	16-module rack with extra terminal block for field wiring
SNAP-B16MC-P†	16-module rack with extra terminal block for field wiring, pluggable
SNAP-D64RS*	16-module rack for digital-only SNAP Ultimate, SNAP Ethernet, and SNAP-PDPRS64 Profibus brains
SNAP-M64	16-module rack for SNAP-UP1-M64 brain
SNAP-FUSE4AB	4-amp fuse, 25-pack
SNAP-FUSE1AB	1-amp fuse, 25-pack
SNAP-RACKDIN	SNAP rack DIN-rail adapter clip
SNAPRACKDINB	SNAP rack DIN-rail adapter clip, 25-pack

* Factory Mutual (FM) approved
† Positions 8 and above are for analog or serial/special-purpose modules only

Description

The SNAP B-series racks are designed to work with the SNAP family of intelligent I/O processors, which Opto 22 calls brains. SNAP brains are designed to communicate with Opto 22 controllers or a host computer. SNAP B-series racks are compatible with SNAP Ultimate and SNAP Ethernet I/O™.

Since SNAP analog, digital, serial, and special-purpose modules have the same footprint, customers using most SNAP B-series racks can mix modules on the same I/O mounting rack. SNAP B-series racks can accommodate 4, 8, 12, or 16 modules. SNAP-B4M, SNAP-B8M, SNAP-B12M, SNAP-B16M, and SNAP-D64RS racks are Factory Mutual approved.

The MC and MC-P model racks provide an auxiliary screw-type terminal strip for field wiring common connections such as loop power distribution. The MC racks use a fixed terminal strip, while the MC-P use removable connectors for easy maintenance (see enlarged view on the following page).

The digital-only SNAP-D64RS rack holds up to 16 4-channel digital SNAP I/O modules and is suitable for use with digital-only SNAP Ultimate brains, SNAP Ethernet brains, and the SNAP-PDPRS64 Profibus brain.

The SNAP-M64 rack is designed specifically for use with the SNAP-UP1-M64 Ultimate brain, which supports analog, digital, or serial/special-purpose modules in any module location. Digital features are limited; see Opto 22 form 1291, the SNAP Ultimate I/O Brain data sheet, for more information.

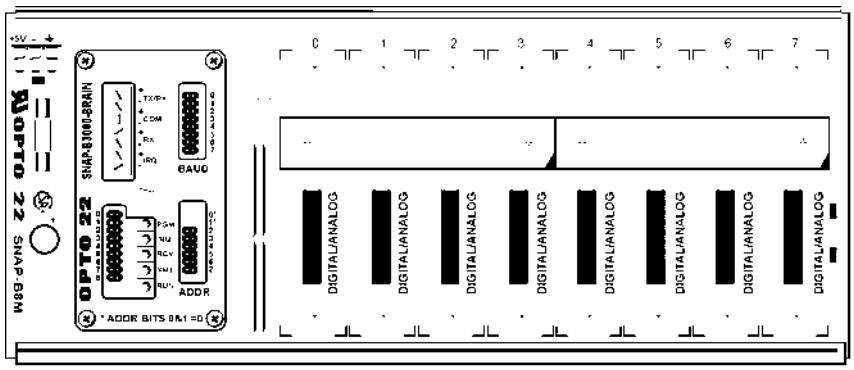
Field devices are wired directly to the top-mounted removable connectors on the SNAP I/O modules plugged into each rack.

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.

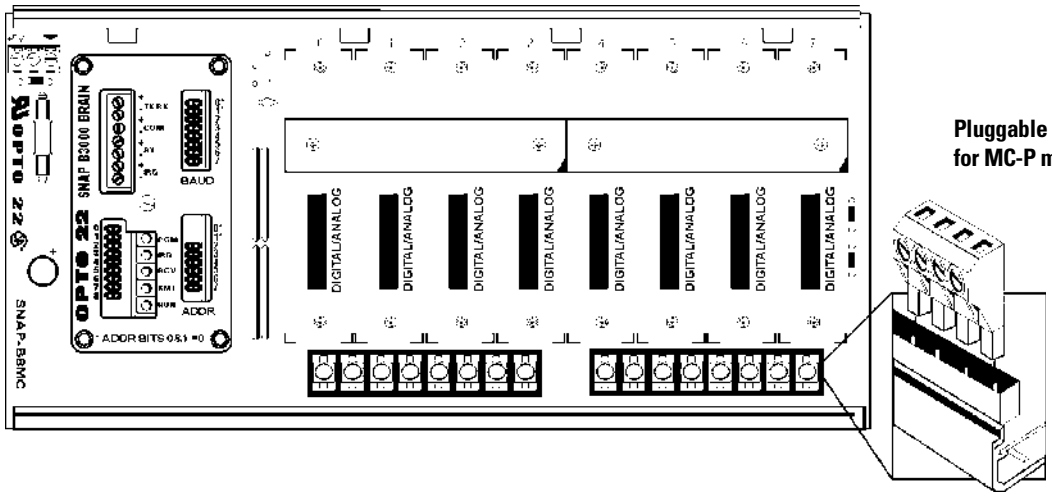
Normally, a hold-down screw is not required. However, for applications that require additional module security, SNAP racks have provisions for two 4-40 by ½-inch standard machine screws to hold each module in position. All SNAP racks offer panel mounting and the option of DIN-rail mounting. SNAP racks require a 5 VDC power source.

Description (continued)

SNAP-B8M 8-Module Position I/O Mounting Rack
Shown with SNAP-B3000 Brain (purchased separately)



SNAP-B8MC 8-Module Position I/O Mounting Rack
Shown with SNAP-B3000 Brain (purchased separately)



Pluggable connector for MC-P models

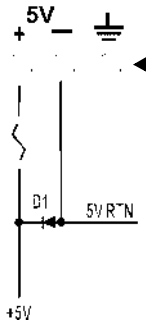
Specifications

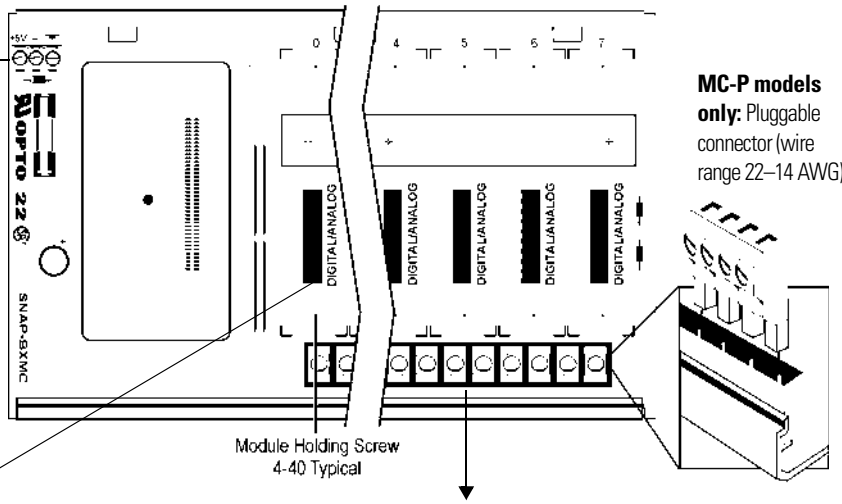
Part Number	Description	Power Requirements*	Brain Compatibility	Replacement Fuse	Operating Temperature	Relative Humidity
SNAP-B4M	4-module mixed	5.0 VDC ± 0.1 @ 1.8 Amps max	SNAP-UP1-ADS SNAP-B3000-ENET SNAP-ENET-RTC SNAP-WLAN-FH-ADS B3000 SNAP-B4 SNAP-B6 SNAP-HA SNAP-BRS SNAP-BRS-HA SNAP-BRS-HA-J SNAP-B3000-MODBUS	SNAP-FUSE4A or Bel 5HF4†	0° to 70° C	95%, non-condensing
SNAP-B8M	8-module mixed	5.0 VDC ± 0.1 @ 2.6 Amps max				
SNAP-B8MC	8-module mixed, terminal block					
SNAP-B8MC-P	8-module mixed, pluggable terminal block					
SNAP-B12M	12-module mixed (digital in positions 0–7 only)	5.0 VDC ± 0.1 @ 3.4 Amps max				
SNAP-B12MC	12-module mixed (digital in positions 0–7 only), terminal block					
SNAP-B12MC-P	12-module mixed (digital in positions 0–7 only), pluggable terminal block					
SNAP-B16M	16-module mixed (digital in positions 0–7 only)	5.0 VDC ± 0.1 @ 4.2 Amps max				
SNAP-B16MC	16-module mixed (digital in positions 0–7 only), terminal block					
SNAP-B16MC-P	16-module mixed (digital in positions 0–7 only), pluggable terminal block					
SNAP-D64RS	16-module digital only (limited digital functions)	5.0 VDC ± 0.1 @ 1.8 Amps max	SNAP-UP1-D64 SNAP-ENET-D64 SNAP-PDPRS64	SNAP-FUSE1A or Buss GDC1A†		
SNAP-M64	16-module mixed, digital in any position (limited digital functions)	5.0 VDC ± 0.1 @ 4.2 Amps max	SNAP-UP1-M64	Littelfuse 297 07.5†		

* Power requirements shown are for a rack, a brain, and a full load of analog modules (for the SNAP-D64RS, a full load of digital modules). Power requirements for SNAP serial and special-purpose modules are higher. See module data sheets for more information.
† Manufacturer's part number (not available through Opto 22).

Specifications (continued)

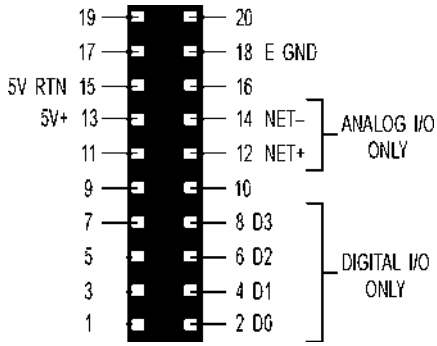
All models:
Power schematic
For fuse part numbers, see Specifications on page 3.

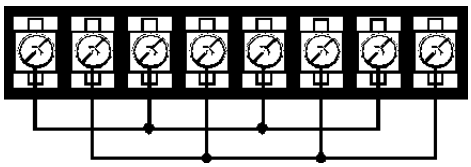




MC-P models only: Pluggable connector (wire range 22–14 AWG)

All models:
Module mating connector pinout (female)

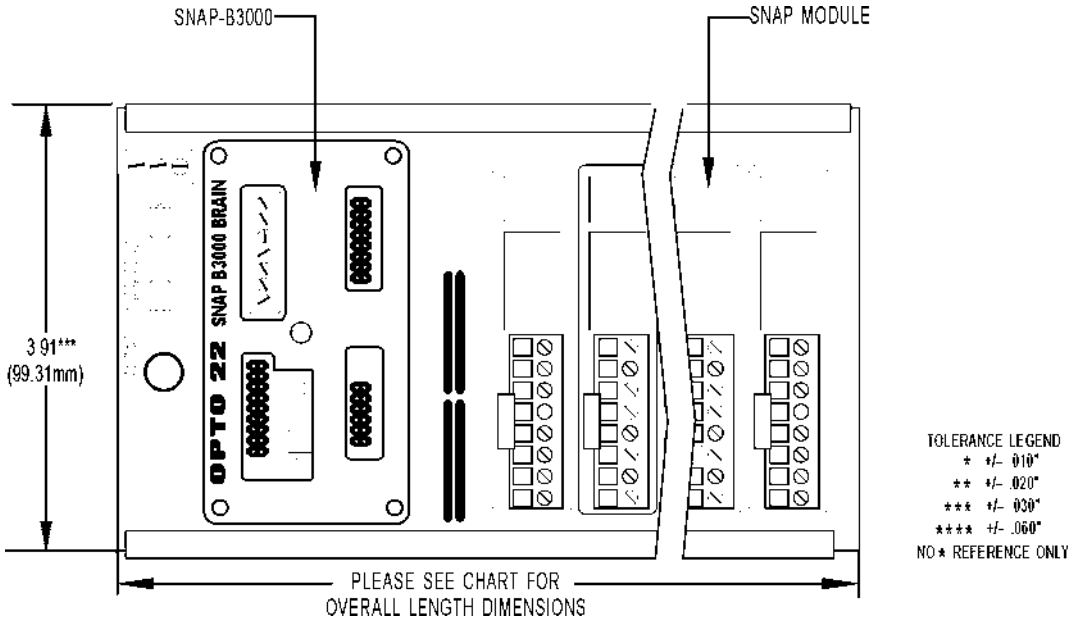




MC and MC-P models only: For detailed information on terminal strip usage, see page 12 through page 16.

Dimensional Drawings

Dimensions—M Models Only

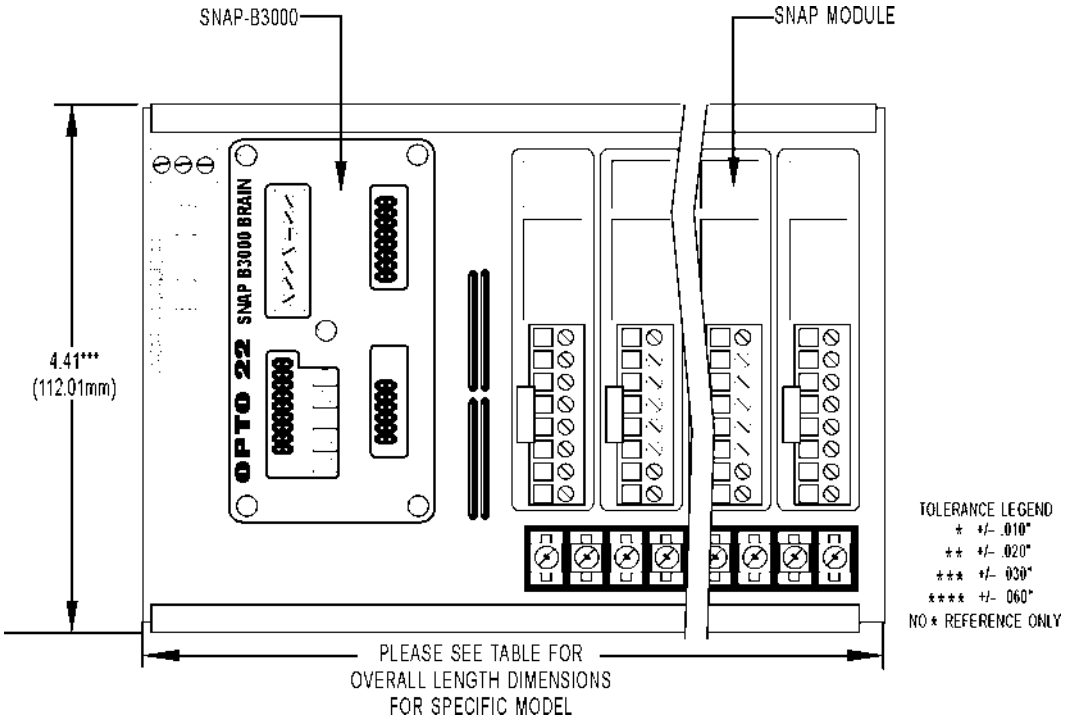


Overall Length Dimensions (M models only)

Part Number	Description	Width (inches)	Width (mm)	Length (inches)	Length (mm)
SNAP-B4M	4-module rack	3.91	99.31	6.24	158.41
SNAP-B8M	8-module rack	3.91	99.31	9.24	234.70
SNAP-B12M	12-module rack	3.91	99.31	12.24	310.90
SNAP-B16M	16-module rack	3.91	99.31	15.24	387.10

Dimensional Drawings (continued)

Dimensions—All Except M Models

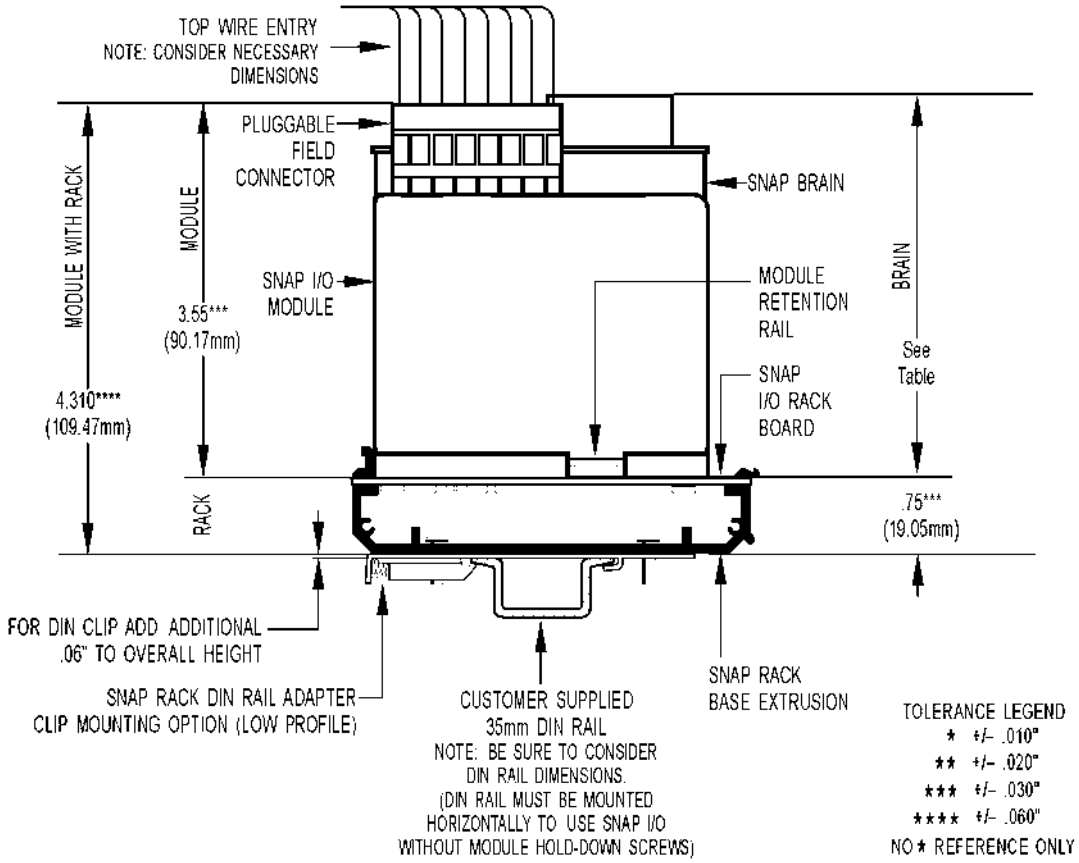


Overall Length Dimensions (all except M models)

Part Number	Description	Width (inches)	Width (mm)	Length (inches)	Length (mm)
SNAP-B8MC SNAP-B8MC-P	8-module rack with terminal block	4.41	112.01	9.25	234.95
SNAP-B12MC SNAP-B12MC-P	12-module rack with terminal block	4.41	112.01	12.25	311.15
SNAP-B16MC SNAP-B16MC-P	16-module rack with terminal block	4.41	112.01	15.25	387.35
SNAP-D64RS	16-module rack, digital only	4.41	112.01	15.25	387.35
SNAP-M64	16-module rack for SNAP-M64 brain	4.41	112.01	15.25	387.35

Dimensional Drawings (continued)

M Models Only: Right Side View with DIN-Rail Option Installed

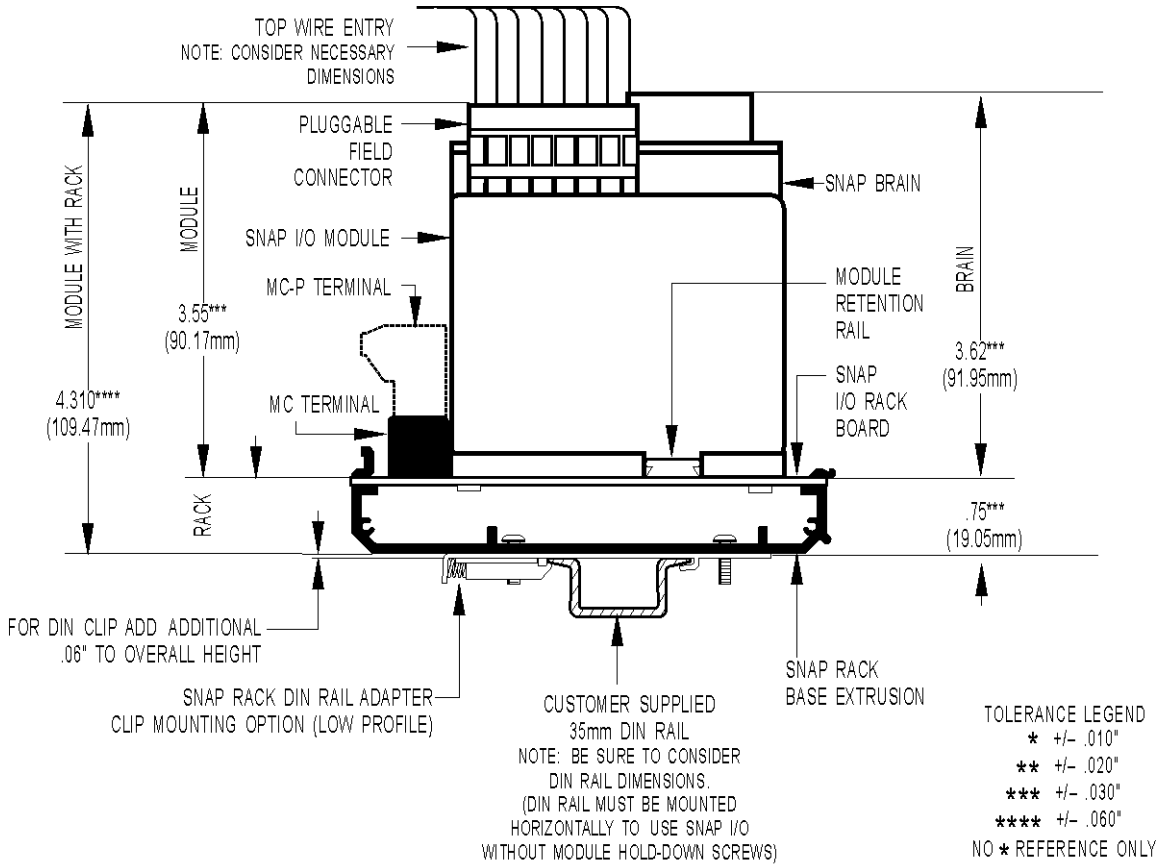


Brain Height*	Brain Part Number
5.15 in. (130.8 mm)	Wireless LAN Ethernet brains
4.12 in. (104.6 mm)	SNAP Ultimate brains SNAP Ethernet brains (except wireless LAN)
3.70 in. (95.9 mm)	B3000 SNAP-HA SNAP-BRS-HA-J SNAP-B4 SNAP-BRS SNAP-B3000-MODBUS SNAP-B6 SNAP-BRS-HA

* Height listed is from the brain mounting surface to the highest part of the brain. It does not include wiring, cables, or the antenna for the wireless LAN brain.

Dimensional Drawings (continued)

All Except M Models: Right Side View with DIN-Rail Option Installed



Brain Height*	Brain Part Number		
5.15 in. (130.8 mm)	Wireless LAN Ethernet brains		
4.12 in. (104.6 mm)	SNAP Ultimate brains SNAP Ethernet brains (except wireless LAN)		
3.70 in. (95.9 mm)	B3000 SNAP-B4 SNAP-B6	SNAP-HA SNAP-BRS SNAP-BRS-HA	SNAP-BRS-HA-J SNAP-B3000-MODBUS

* Height listed is from the brain mounting surface to the highest part of the brain. It does not include wiring, cables, or the antenna for the wireless LAN brain.

Mounting

NOTE: If you are not using hold-down screws, the SNAP rack assembly should be mounted horizontally.

Use the following steps to mount racks as shown in the diagrams on the next two pages.

Preferred Method: Template

(Product on site)

1. Use SNAP rack mounting extrusion as template.
2. Be sure to use the diagrams on the next two pages to determine required product and option clearances.

Alternate Method: Prefabrication of Panels

(No product on site)

Mounting holes are in sets of two, located on lower left and upper right with respect to a center line (CL).

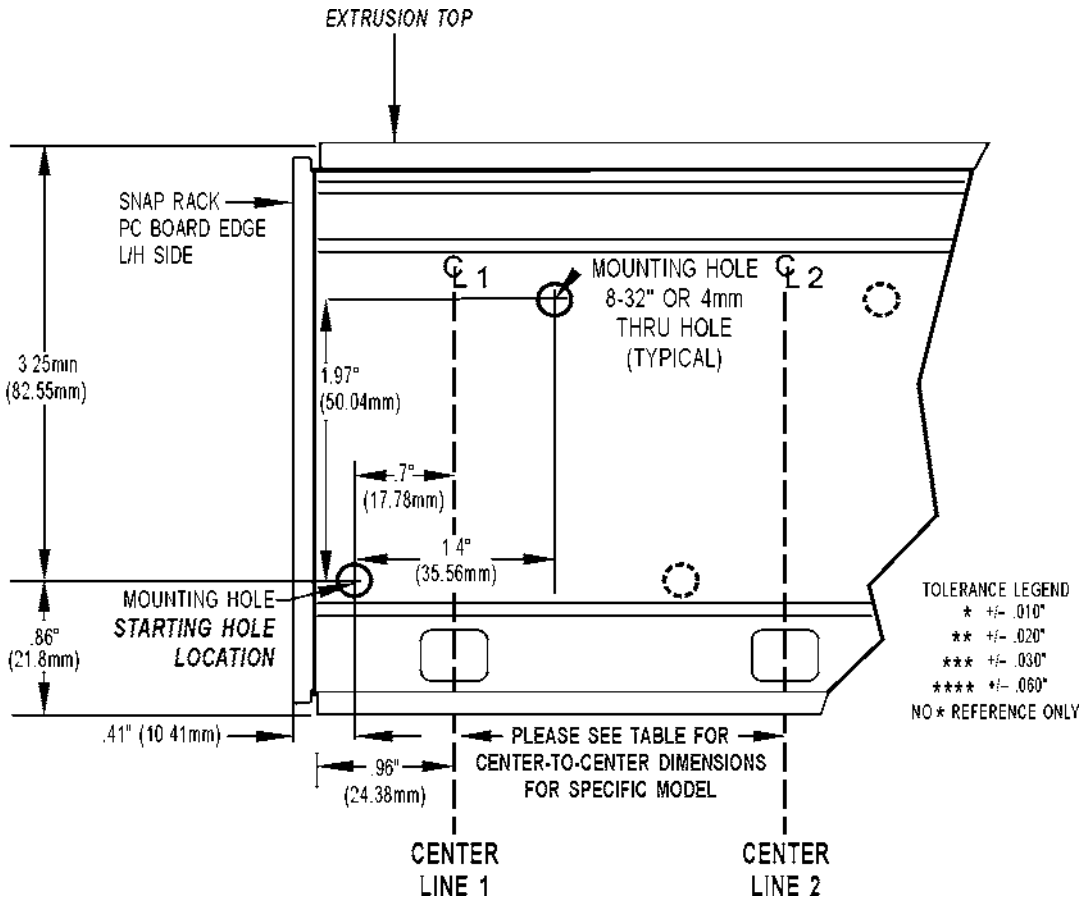
1. Using the diagrams on the next two pages, determine CL1 mounting hole positions. (CL1 is located on the left side of all SNAP rack mounting extrusions.)
2. Use the center-to-center length specification table below to determine the offset between center lines and the number of center line positions for each model.
3. Repeat the process for each center line position.

Center-to-Center Length (All Models)

Part Number	Description	Center-to-Center Length	Number of Center Positions
SNAP-B4M	4-module rack	4.01 in.	2
SNAP-B8M SNAP-B8MC SNAP-B8MC-P	8-module rack	3.51 in.	3
SNAP-B12M SNAP-B12MC SNAP-B12MC-P	12-module rack	5.01 in.	3
SNAP-B16M SNAP-B16MC SNAP-B16MC-P SNAP-D64RS SNAP-M64	16-module rack	4.34 in.	4

Mounting (continued)

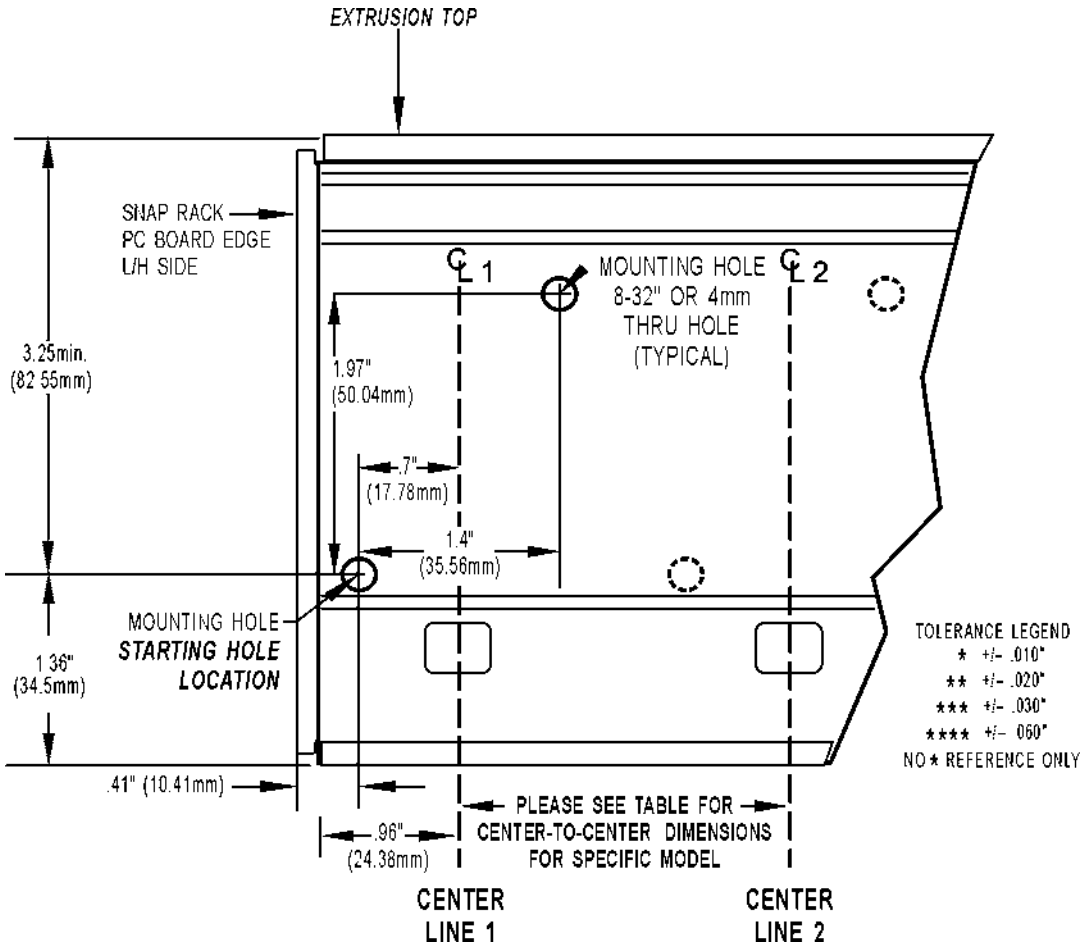
M Models Only: Typical Plain View of SNAP Mounting Extrusion



See instructions and table on page 9.

Mounting (continued)

All Except M Models: Typical Plain View of SNAP Mounting Extrusion



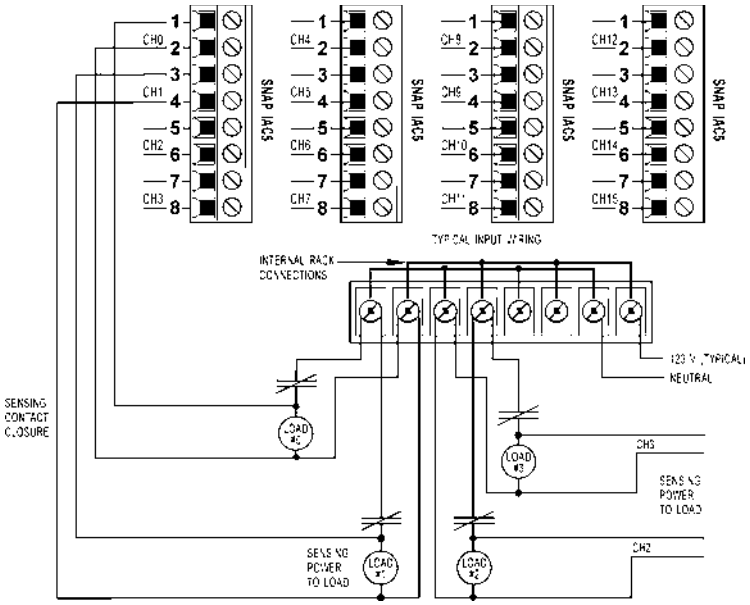
See instructions and table on page 9.

Wiring Diagrams—MC and MC-P Models Only

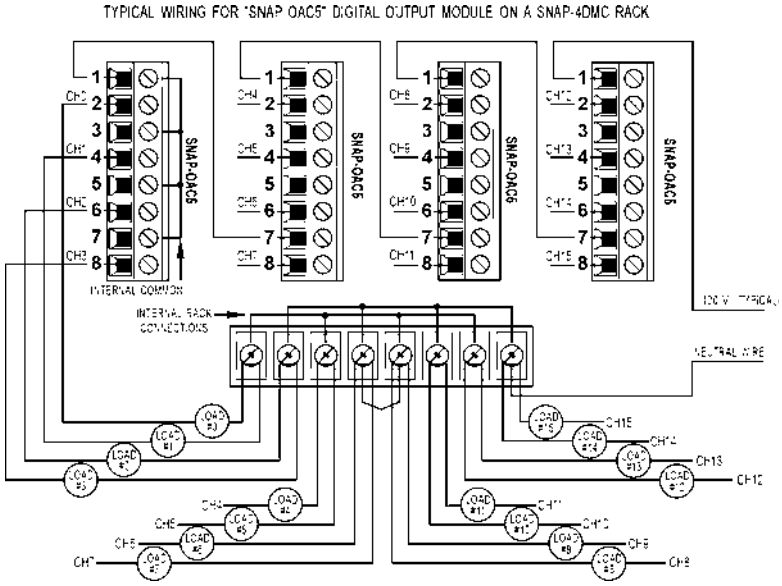
Terminal Strip Usage—Digital

NOTE: Consult the SNAP module data sheet for your specific module for additional wiring information.

Example: Digital Input Using Terminal Strip



Example: Digital AC Output Using Terminal Strip

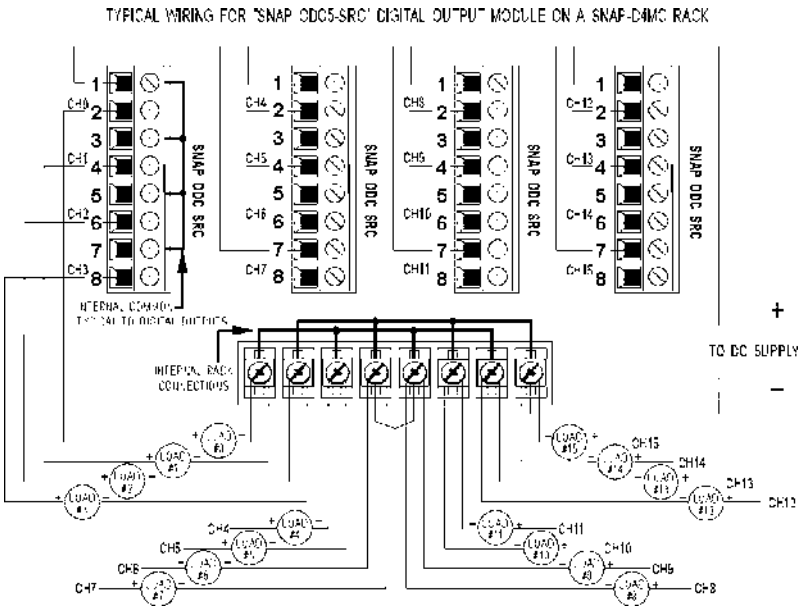


Wiring Diagrams—MC and MC-P Models Only

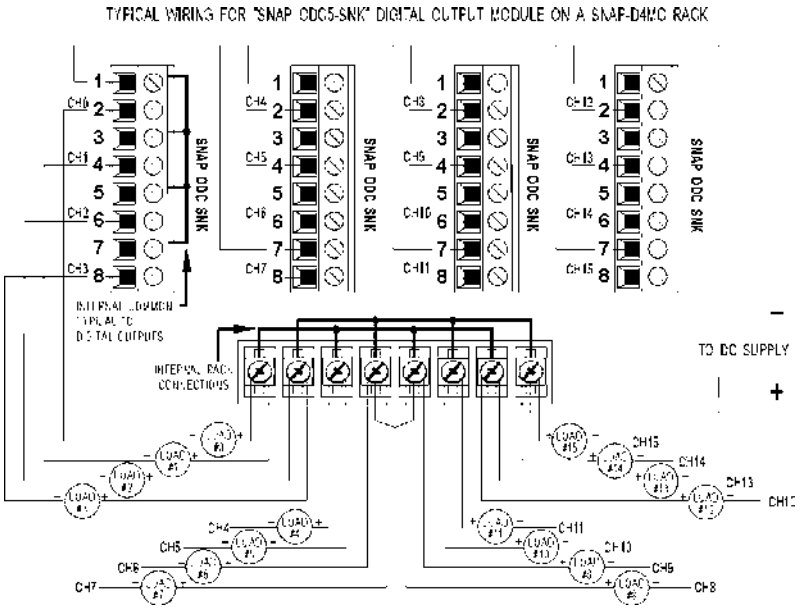
Terminal Strip Usage—Digital (continued)

NOTE: Consult the SNAP module data sheet for your specific module for additional wiring information.

Example: Digital DC Output (Sourcing) Using Terminal Strip



Example: Digital DC Output (Sinking) Using Terminal Strip

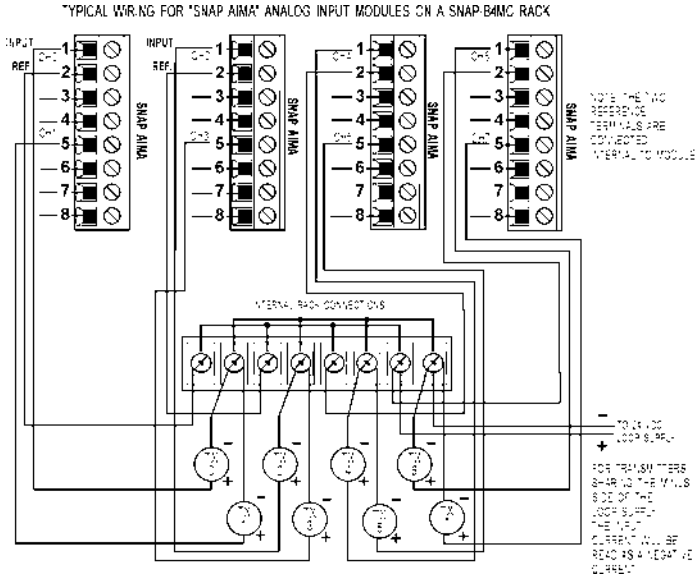


Wiring Diagrams—MC and MC-P Models Only

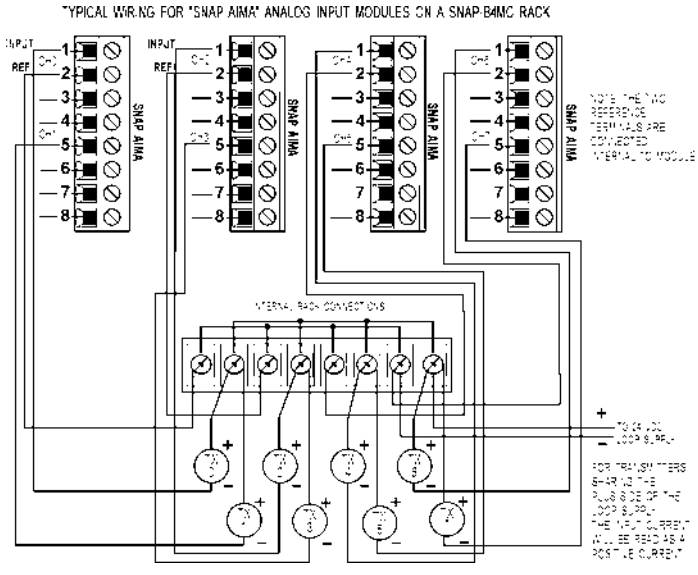
Terminal Strip Usage—Analog

NOTE: Consult the SNAP module data sheet for your specific module for additional wiring information.

Example: Analog Input (Current: Negative) Using Terminal Strip



Example: Analog Input (Current: Positive) Using Terminal Strip

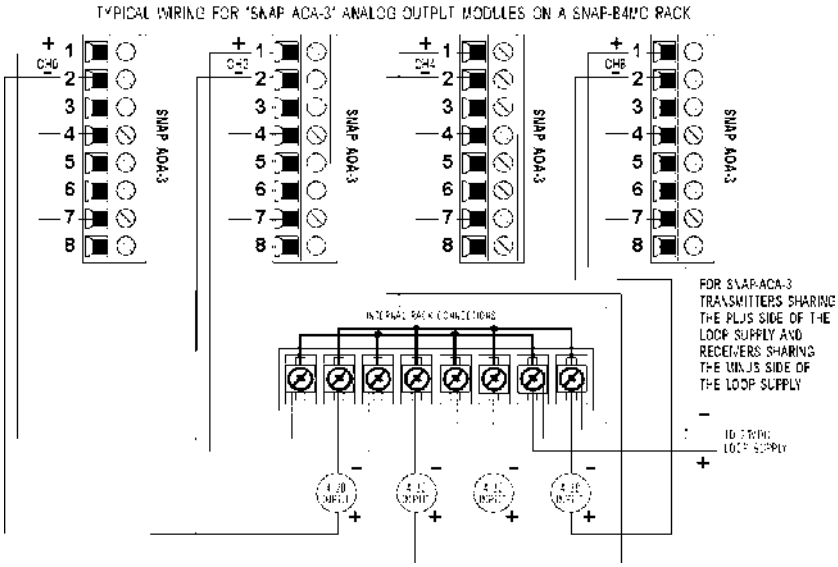


Wiring Diagrams—MC and MC-P Models Only

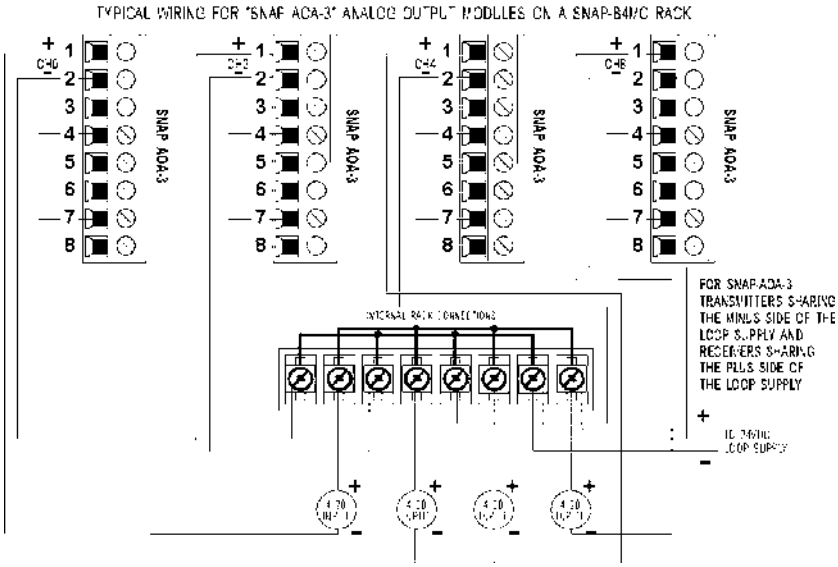
Terminal Strip Usage—Analog (continued)

NOTE: Consult the SNAP module data sheet for your specific module for additional wiring information.

Example: Analog Output (4–20 mA Current: Sourcing) Using Terminal Strip



Example: Analog Output (4–20 mA Current: Sinking) Using Terminal Strip



Wiring Diagrams—MC and MC-P Models Only

Terminal Strip Usage—Analog (continued)

NOTE: Consult the SNAP module data sheet for your specific module for additional wiring information.

Example: Analog Input (Voltage) Using Terminal Strip