

## SNAP PAC RACKS

### Features

- > Compatible with all SNAP PAC brains and R-series controllers, including Wired+Wireless™ models
- > Secure mounting for SNAP I/O modules plus a SNAP brain or on-the-rack SNAP PAC controller
- > Analog, digital, and serial modules on the same rack
- > Panel or DIN-rail mounting
- > Modules snap into place
- > Factory Mutual-approved versions available



SNAP-PAC-RCK12

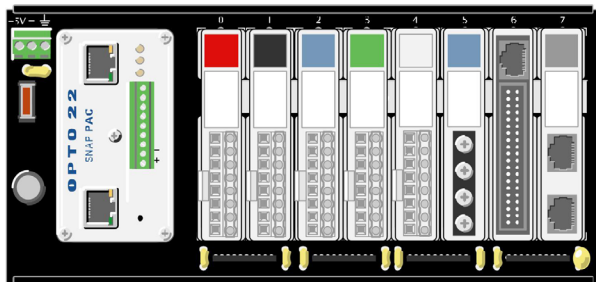
### DESCRIPTION

SNAP PAC I/O mounting racks are designed to hold an intelligent SNAP I/O processor—a SNAP PAC EB-series or SB-series brain or a SNAP PAC R-series on-the-rack controller—and several I/O modules. Both standard wired controllers and brains and Wired+Wireless models are mounted on these racks.

Since SNAP analog, digital, and serial I/O modules all have the same footprint, customers using SNAP PAC racks can mix all these modules on the same I/O mounting rack. Field devices are wired directly to the top-mounted connectors on the modules plugged into each rack, or through breakout boards when additional wiring space is required. (See form 1756, the *SNAP TEX Cables and Breakout Boards Data Sheet*, for more

SNAP PAC racks can accommodate up to 4, 8, 12, or 16 I/O modules. Part numbers ending in -FM are Factory Mutual approved.

The module and rack design allows modules to simply “snap” on the mounting rack.



#### SNAP-PAC-RCK8 (8-Module Position I/O Mounting Rack)

Shown with SNAP-PAC-R1 controller and SNAP modules (all purchased separately)

SNAP PAC racks use a retention rail locking system. Install two 4-40 by 1/2-inch standard machine screws to hold each module in position.

All SNAP PAC racks offer panel mounting and the option of DIN-rail mounting. DIN-rail adapter part numbers are shown in the table below. For more information, see form 1772, the *SNAP TEX Mounting/Wiring Tools and Spare Parts Data Sheet*.

SNAP PAC racks require a 5 VDC power source. One power supply can usually power the rack, the I/O processor (controller or brain), and all modules on the rack. See form 1120, the *SNAP Power Supplies Data Sheet*, to choose a power supply.

### Part Numbers

Part	Description
SNAP-PAC-RCK4	4-module SNAP PAC rack
SNAP-PAC-RCK4-FM	4-module SNAP PAC rack, Factory Mutual approved
SNAP-PAC-RCK8	8-module SNAP PAC rack
SNAP-PAC-RCK8-FM	8-module SNAP PAC rack, Factory Mutual approved
SNAP-PAC-RCK12	12-module SNAP PAC rack
SNAP-PAC-RCK12-FM	12-module SNAP PAC rack, Factory Mutual approved
SNAP-PAC-RCK16	16-module SNAP PAC rack
SNAP-PAC-RCK16-FM	16-module SNAP PAC rack, Factory Mutual approved
SNAP-FUSE7.5AB	7.5-amp fuse, 25 pack
SNAP-TEX-DRC10	SNAP rack DIN-rail adapter clip, 10-pack
SNAP-TEX-REC10W	Wide end cap for SNAP PAC racks DIN-rail assemblies, 10-pack



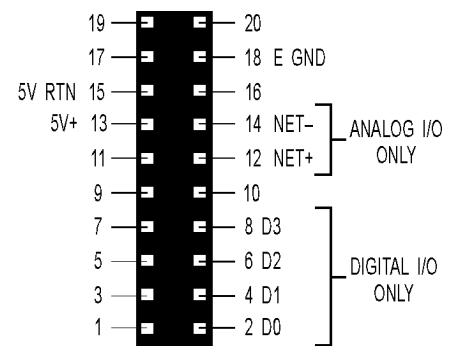
## SPECIFICATIONS

Power <sup>1</sup> Requirements	5.0 to 5.2 VDC @ 4.2 Amps max	
I/O Processor <sup>2</sup> Compatibility	SNAP-PAC-R1	SNAP-PAC-R2-W
	SNAP-PAC-R2	SNAP-PAC-EB1-W
	SNAP-PAC-EB1	SNAP-PAC-EB2-W
	SNAP-PAC-EB2	SNAP-PAC-R1-FM
	SNAP-PAC-SB1	SNAP-PAC-R2-FM
	SNAP-PAC-SB2	SNAP-PAC-EB1-FM
	SNAP-PAC-R1-W	SNAP-PAC-EB2-FM
Replacement Fuse	SNAP-FUSE7.5AB or Littelfuse 297 07.5	
Rack Power Terminals Wire Size	22 to 14 AWG	
Operating Temperature	-20 to 70 °C	
Storage Temperature	-40 to 85 °C	
Relative Humidity	95%, non-condensing	
Agency Approvals	Non -FM models: UL, CE, RoHS, DFARS -FM models: FM, CE, ATEX, RoHS, DFARS	
Warranty	30 months from date of manufacture	

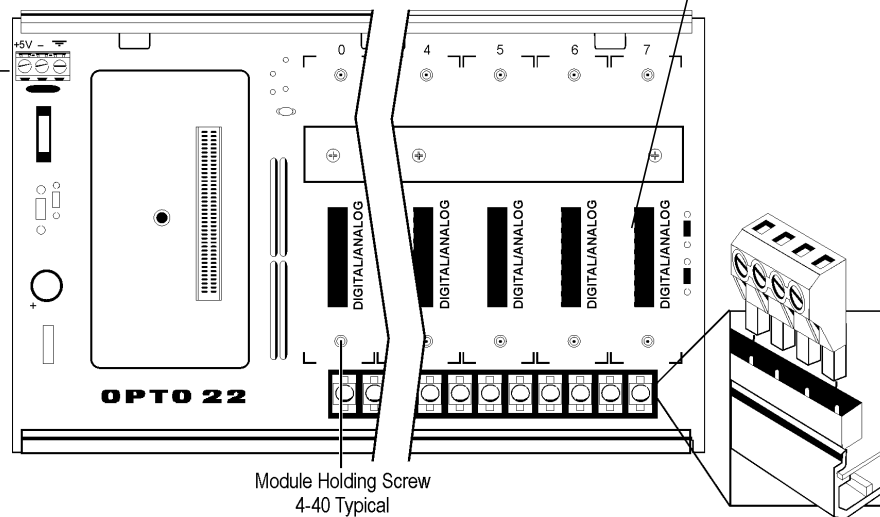
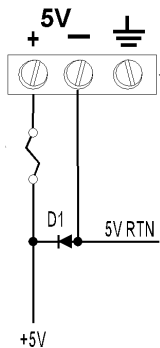
1 Power requirements shown are for a rack, a processor, and a full load of analog modules. Power requirements for SNAP serial and high-density modules are higher. See module data sheets.

2 "I/O Processor" means a SNAP PAC brain or SNAP PAC on-the-rack controller. For compatibility with legacy Opto 22 products, see form #1693, *Legacy and Current Product Comparison and Compatibility Charts*.

Module Mating Connector Pinout (female)



Power Schematic



### Notes on Grounding

Pin 18 E GND on each module (see diagram above right) is connected to the rack's GND. Module hold-down screws are also connected to the rack's GND.

The brain or rack-mounted controller is connected to the rack's GND through its center hold-down screw.

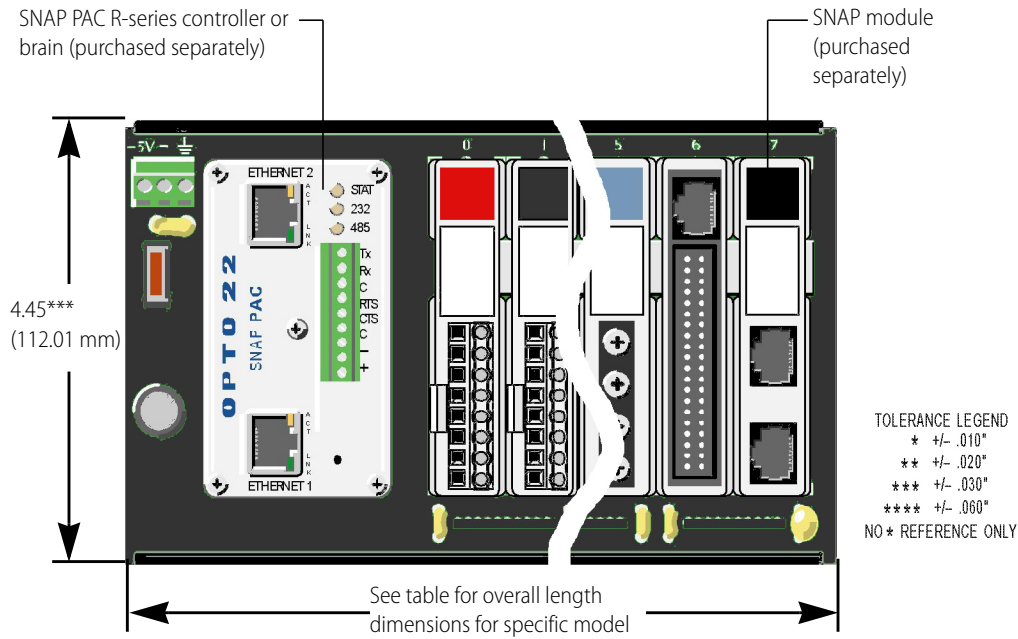
**WARNING:** EXPLOSION HAZARD. DO NOT DISCONNECT WHILE CIRCUIT IS LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.

**AVERTISSEMENT:** RISQUE D'EXPLOSION. NE PAS DÉBRANCHER TANT QUE LE CIRCUIT EST SOUS TENSION, À MOINS QU'IL NE S'AGISSE D'UN EMPLACEMENT NON DANGEREUX.



## DIMENSIONAL DRAWINGS

### Overall Dimensions

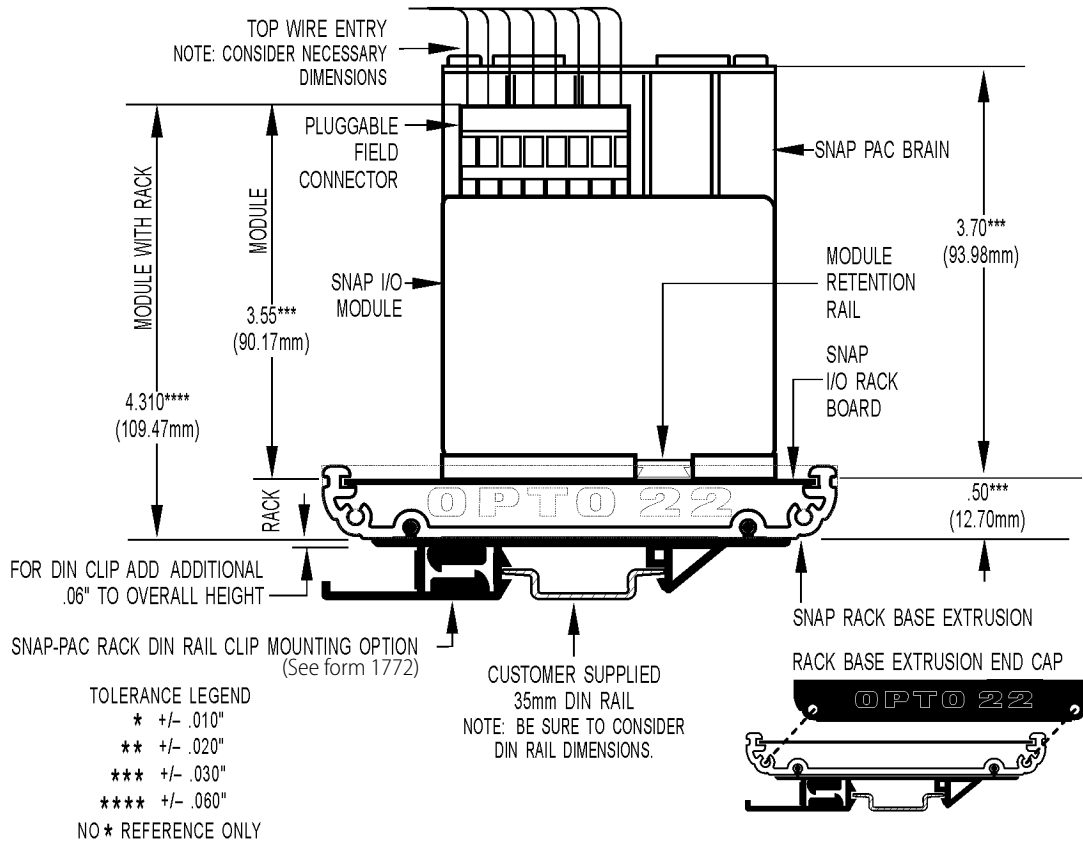


### Overall Length Dimensions

Part Number	Description	Width (inches)	Width (mm)	Length (inches)	Length (mm)
SNAP-PAC-RCK4 SNAP-PAC-RCK4-FM	4-module rack	4.45	112.01	6.25	158.75
SNAP-PAC-RCK8 SNAP-PAC-RCK8-FM	8-module rack	4.45	112.01	9.25	234.95
SNAP-PAC-RCK12 SNAP-PAC-RCK12-FM	12-module rack	4.45	112.01	12.25	311.15
SNAP-PAC-RCK16 SNAP-PAC-RCK16-FM	16-module rack	4.45	112.01	15.25	387.35

## DIMENSIONAL DRAWINGS (CONTINUED)

Right Side View with DIN-Rail Option Installed



For more information on DIN-rail mounting kits, see form 1772, the *SNAP TEX Mounting/Wiring Tools and Spare Parts Data Sheet*.



## MOUNTING THE EXTRUSION ONTO A PANEL

Use the following steps to mount a rack onto a panel. For DIN-rail mounting, see [page 6](#).

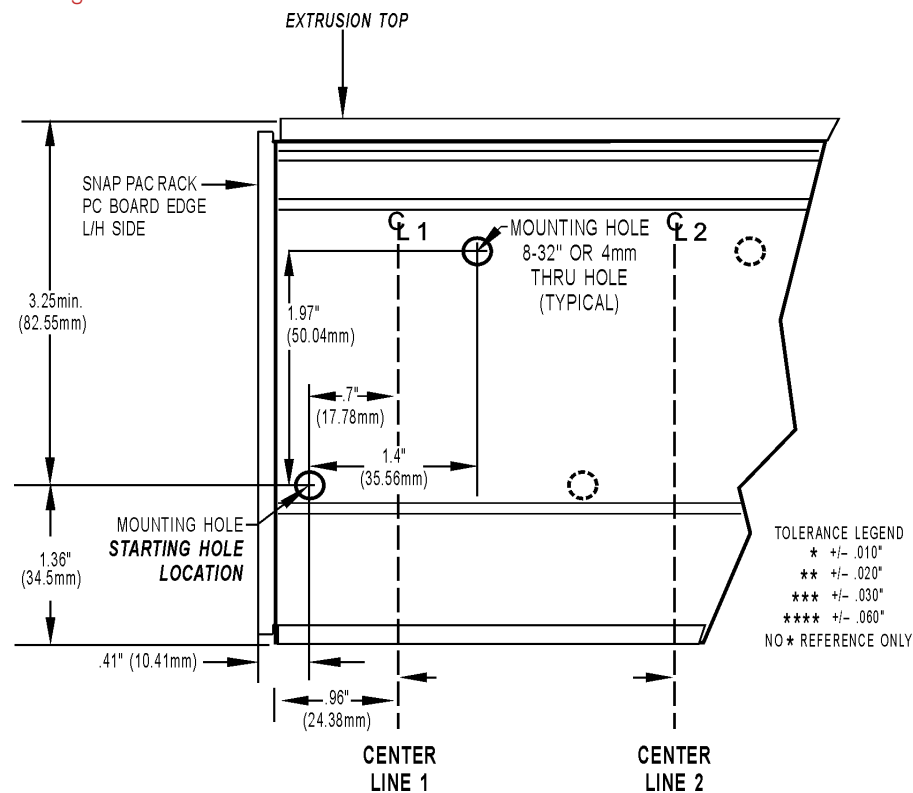
**CAUTION:** Do not let cutting fluids, cleaners, lubricants, or other chemicals contact the plastic extrusion, as they can cause cracking. If you use these chemicals before rack installation, be sure they are thoroughly cleaned off.

### Preferred Method: Template

(Product on site)

1. Use SNAP PAC rack mounting extrusion as template.
2. Use the diagram below to determine required product and option clearances.

### Typical Plain View of SNAP Mounting Extrusion



### Center-to-Center Length (All Models)

Part Number	Description	Center-to-Center Length	Number of Center Positions
SNAP-PAC-RCK4 (or -FM)	4-module rack	4.02 in.	2
SNAP-PAC-RCK8 (or -FM)	8-module rack	3.51 in.	3
SNAP-PAC-RCK12 (or -FM)	12-module rack	5.01 in.	3
SNAP-PAC-RCK16 (or -FM)	16-module rack	4.34 in.	4

### Alternate Method: Prefabrication of Panels

(No product on site)

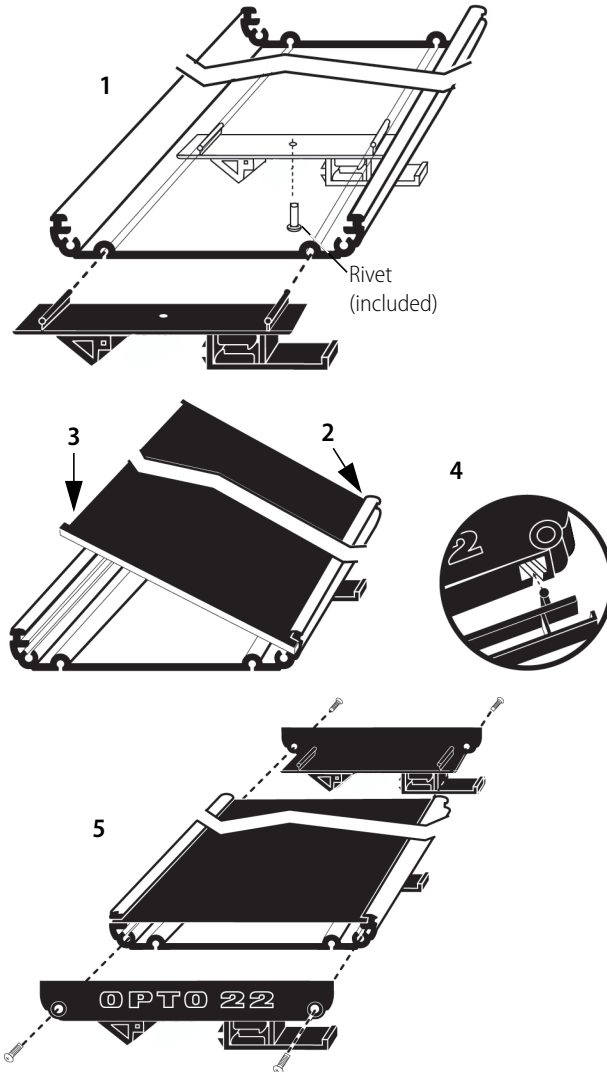
Mounting holes are in sets of two, located on lower left and upper right with respect to a center line (CL).

1. Using the diagram below, determine CL1 mounting hole positions. (CL1 is located on the left side of all SNAP PAC 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.

## ASSEMBLING AND MOUNTING ON A DIN RAIL

For panel mounting, see [page 5](#).

1. (This step only for racks with three or more clips.) Slide one DIN clip to the middle position and secure with the rivet provided. For racks with four clips, add an additional middle clip.
2. Insert one edge of the circuit board into the extrusion.
3. Push down hard on the other edge to snap the board into place.
4. Attach one DIN clip to each end cap using the slots in the end caps as shown.
5. Using the screws provided, secure an end cap and DIN clip assembly to each end of the extrusion.

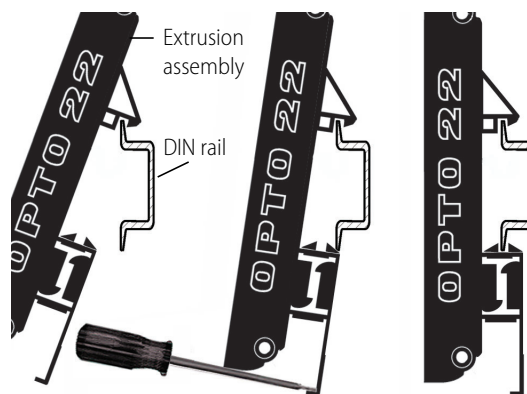


### Removing the Circuit Board from the Rack Extrusion

If end caps are present, remove them. Then insert a flathead screwdriver in one of the circuit board release notches and pry up the board. Repeat in the other release notches until the board pops out of the extrusion.

### Attaching the Adapter Clip to a DIN Rail

1. Hook the DIN-rail clip over the top of the DIN rail.
2. Using a screwdriver, pry open the DIN-rail clip flange at the bottom of the clip. Push the clip toward the DIN rail.
3. Snap the DIN-rail clip into place



## PRODUCTS

Opto 22 develops and manufactures reliable, easy-to-use, open standards-based hardware and software products. Industrial automation, process control, building automation, industrial refrigeration, remote monitoring, data acquisition, and industrial internet of things (IIoT) applications worldwide all rely on Opto 22.

### *groov* EPIC® System

Opto 22's *groov* Edge Programmable Industrial Controller (EPIC) system gives you an industrially hardened system with guaranteed-for-life I/O, a flexible Linux®-based processor with gateway functions, and software for your automation and IIoT applications.

### *groov* EPIC I/O

*groov* I/O connects locally to sensors and equipment with up to 24 channels on each I/O module. Modules have a spring-clamp terminal strip, integrated wireway, swing-away cover, and LEDs indicating module health and discrete channel status.

*groov* I/O is hot swappable, UL Hazardous Locations approved, and ATEX compliant.

### *groov* EPIC Processor

The heart of the system is the *groov* EPIC processor. It handles a wide range of digital, analog, and serial functions for data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

In addition, the EPIC provides secure data communications among physical assets, control systems, software applications, and online services, both on premises and in the cloud.

Configuring and troubleshooting I/O and networking is easier with the EPIC's integrated high-resolution color touchscreen. Authorized users can manage the system locally on the touchscreen or on a monitor connected via the HDMI or USB ports.

### *groov* EPIC Software

Software included in the *groov* EPIC processor:

- PAC Control engine to run PAC Control and PAC Display
- CODESYS Runtime engine to run IEC61131-3 compliant programs built with CODESYS Development System
- Optional access to the Linux operating system through a secure shell (SSH) to download and run custom applications
- groov* View for building your own device-independent HMI, viewable on the touchscreen, PCs, and mobile devices
- Node-RED for creating simple logic flows from pre-built nodes
- Ignition Edge® from Inductive Automation®, with OPC-UA drivers to Allen-Bradley®, Siemens®, and other control systems, and MQTT communications with Sparkplug for efficient IIoT data transfer

### *groov* RIO

*groov* RIO revolutionizes remote I/O by offering a single, compact, PoE-powered industrial package with web-based configuration, commissioning, and flow logic software built in, plus support for multiple OT and IT protocols.

Standing alone, it meets the needs of small, variable I/O count applications, especially those that require data logging or data communications, commonly found in IIoT applications. *groov* RIO can also be used with a Modbus/TCP master or as remote I/O for a *groov* EPIC system.

### Older products

From solid state relays (our first products) to world-famous G4 and SNAP I/O, to SNAP PAC controllers, older Opto 22 products are still supported and still

doing the job at thousands of installations worldwide. You can count on us to give you the reliability and service you expect, now and in the future.

## QUALITY

Founded in 1974, Opto 22 has established a worldwide reputation for high-quality products. All are made in the U.S.A. at our manufacturing facility in Temecula, California.

Because we test each product twice before it leaves our factory rather than testing a sample of each batch, we can afford to guarantee most solid-state relays and optically isolated I/O modules for life.

