

# SNAP PAC System Enclosures

## Features

- Sturdy enclosures provide protection and convenience for your SNAP PAC System
- Just add the I/O modules and processor (brain or rack-mounted controller) needed for your application
- Mounting rack and power supply are already wired
- Easy to install and use

## Description

SNAP-IT enclosures make it easy to install Opto 22 I/O where you need it. With a choice of rack, panel, and wall mounting, these enclosures provide convenience and protection for your processor and I/O.

Each enclosure includes an I/O mounting rack and a power supply, already wired. You add the I/O processor, either a SNAP PAC R-series controller or a SNAP PAC Ethernet brain, and the SNAP input and output (I/O) modules needed for your application.

## Adding a Processor

For the processor, if you need programming capability, choose a SNAP PAC R-series programmable automation controller. The PAC Project Basic Software Suite is a free download from our website and provides full-featured control programming plus HMI (human-machine interface) development and runtime.

If you don't need programmability, choose a SNAP PAC Ethernet brain. These brains provide local intelligence and communication and can be used with a SNAP PAC controller, with an Allen-Bradley PLC or a Modbus/TCP system, or for PC-based control.

Controllers and brains communicate over a standard 10/100 Mbps wired Ethernet network. In some enclosures you can also use a Wired+Wireless™ model, which communicates over a wired Ethernet network, over an 802.11a, b, or g wireless LAN, or both ways simultaneously.

## Adding I/O

For I/O, you can choose the mix of analog, digital, and serial modules you require. Modules range from one to 32 points per module, and a wide variety of signal types is available. All SNAP I/O modules work with any SNAP PAC brain or R-series controller and all can be mixed in the same enclosure.



SNAP-IT-RM16

See the Products tab on the Opto 22 website ([www.opto22.com](http://www.opto22.com)) to choose your processor and I/O and to download the free PAC Project software.

## Enclosure Models

Three SNAP-IT enclosures are available:

**SNAP-IT-RM16**—This rack-mounted metal enclosure is a standard 3U box and can also be used as a tabletop unit. It holds one processor and up to 16 I/O modules. A typical application would be monitoring and controlling facilities and interior equipment.



## Part Numbers

Part	Description
SNAP-IT-RM16	SNAP PAC System 16-module enclosure, metal, rack-mounted
SNAP-IT-PM12	SNAP PAC System 12-module enclosure, NEMA 3R, metal, panel-mounted
SNAP-IT-WM4	SNAP PAC System 4-module enclosure, polycarbonate, wall-mounted
POWERCABLE-US	120 VAC power cord (United States) for the SNAP-IT-RM16
POWERCABLE-UK	240 VAC power cord (United Kingdom) for the SNAP-IT-RM16
POWERCABLE-INTL	240 VAC power cord (International) for the SNAP-IT-RM16



**SNAP-IT-PM12**—This panel-mounted enclosure is a NEMA3R metal housing for mounting on interior or exterior walls or equipment. It holds one processor and up to 12 I/O modules and includes a 24 V loop power supply.

SNAP-IT-PM12 units are ideal for use in industrial

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environments, for example manufacturing and processing machinery, communication towers, tanks, and pipelines.

**SNAP-IT-WM4**—The wall-mounted WM4 is a sturdy polycarbonate industrial enclosure that holds one processor and up to four I/O modules.



The SNAP-IT-WM4 has a transparent cover. It is a handy size for small areas and mounts on any wall.

### Specifications

	SNAP-IT-RM16	SNAP-IT-PM12	SNAP-IT-WM4
Mounting	Rack mounted	Panel mounted	Wall mounted
Enclosure	Standard 19-inch metal rack-mount enclosure, 3U	Metal enclosure meets NEMA 3R. <sup>1</sup>	Polycarbonate industrial enclosure with transparent cover
Dimensions	17.25" W x 5.22" H x 7.5" D (43.8 cm x 13.3 cm x 19.1 cm) Depth includes modules, which extend 0.88" (2.3 cm) out the back of the box for wiring convenience.	16.19" W x 18.25" H x 6.57" D (41.1 cm x 46.4 cm x 16.7 cm)	9.84" W x 6.89" H x 5.9" D (25.0 cm x 17.5 cm x 15.0 cm)
Items included	Enclosure, SNAP PAC mounting rack, and power supply	Enclosure, SNAP PAC mounting rack, power supply, and 24 V loop power supply	Enclosure, SNAP PAC mounting rack, and power supply
I/O module slots	16	12	4
Power supply	UL rated 120-250 VAC Manufacturer rated 100-250 VAC	UL rated 120-250 VAC Manufacturer rated 100-250 VAC Loop power supply: 24 VDC	100–240 VAC (50/60 Hz)
Power consumption	30 W	30 W	10 W
Power cord (order separately)	120 VAC United States, 240 VAC United Kingdom, or 240 VAC International	n/a	n/a
LED indicators <sup>2</sup>	On front panel, 64 LEDs indicate point status for 4-channel digital I/O modules; brain or controller LEDs are also visible on front.	Status LEDs on I/O and status/communication LEDs on brain or controller are not visible outside the enclosure.	Status LEDs on I/O and status/communication LEDs on brain or controller are visible through transparent cover.
Operating temperature <sup>3</sup>	0° to 70° C (32 to 158 ° F)	0° to 70° C (32 to 158 ° F)	–40 to 80 °C (–40 to 176° F)
Storage temperature <sup>3</sup>	–30° to 85° C (–22 to 185° F)	–30° to 85° C (–22 to 185° F)	–40 to 80 °C (–40 to 176° F)
Humidity	0–95% humidity, non-condensing	0–95% humidity, non-condensing	0–95% humidity, non-condensing
Warranty	30 months	30 months	30 months

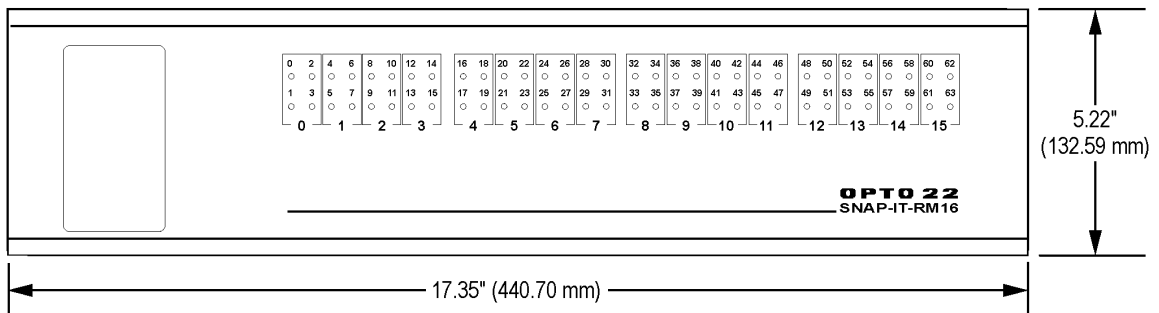
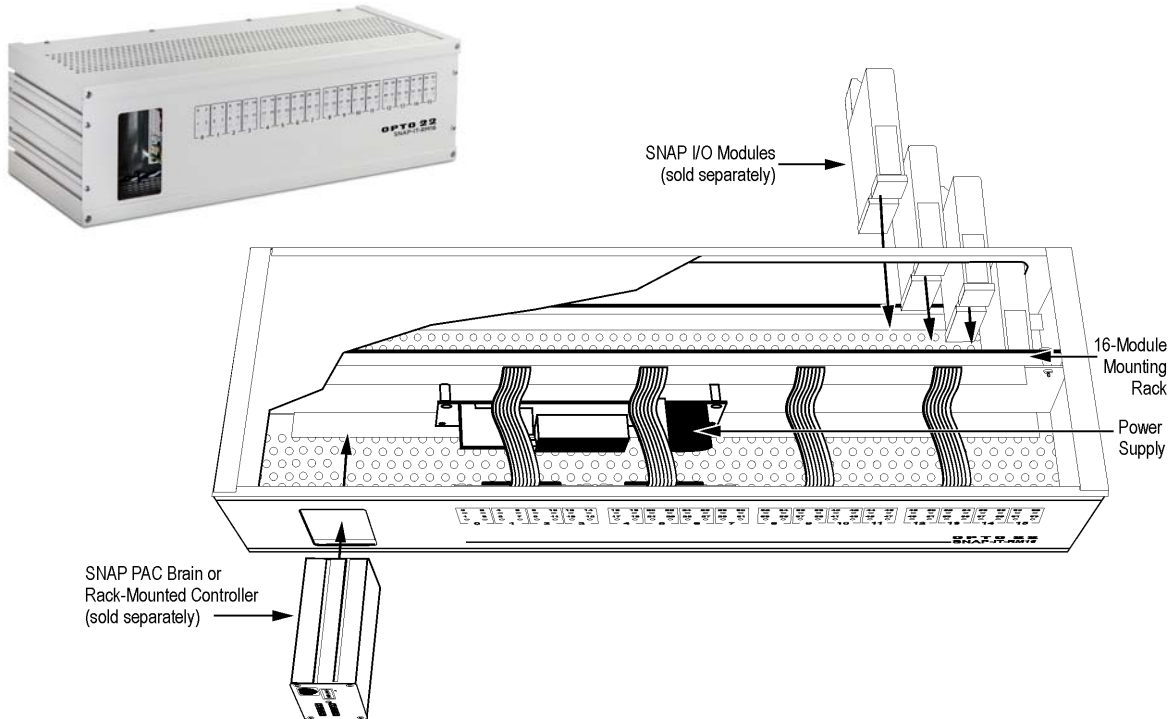
<sup>1</sup> NEMA 3 or NEMA 4 is recommended for exterior use.

<sup>2</sup> See I/O, brain, or controller data sheets for details on LEDs.

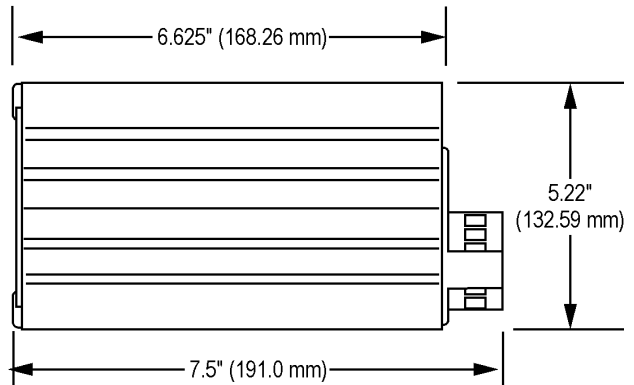
<sup>3</sup> Operating and storage temperatures listed are for the enclosure only. Temperature limitations for the processor and I/O you install inside the enclosure are more limiting. See the processor's and I/O modules' data sheets for their specifications.

# SNAP PAC System Enclosures

## Dimensional Drawings—SNAP-IT-RM16

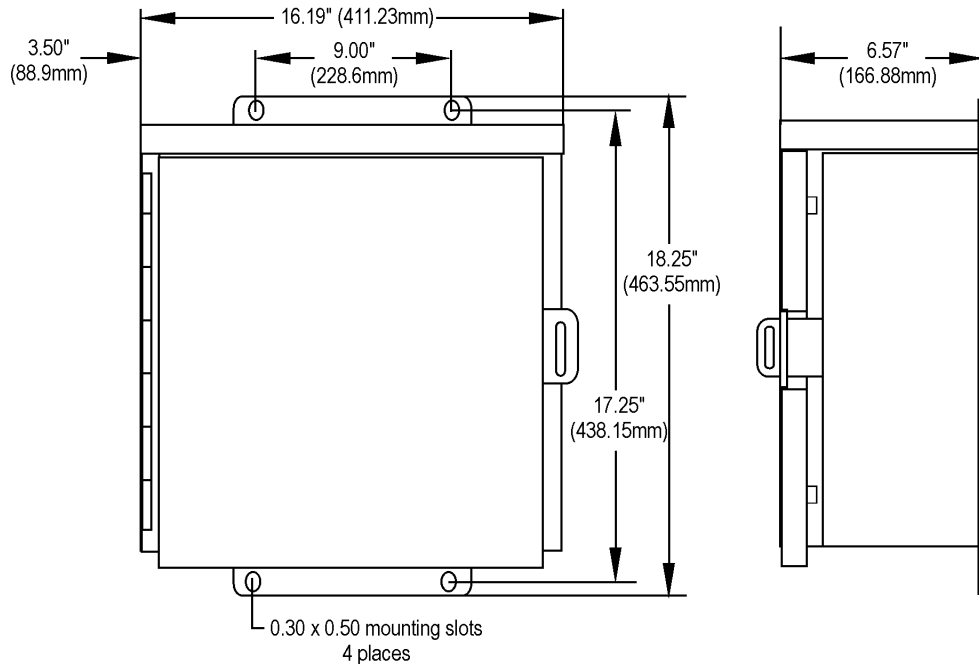
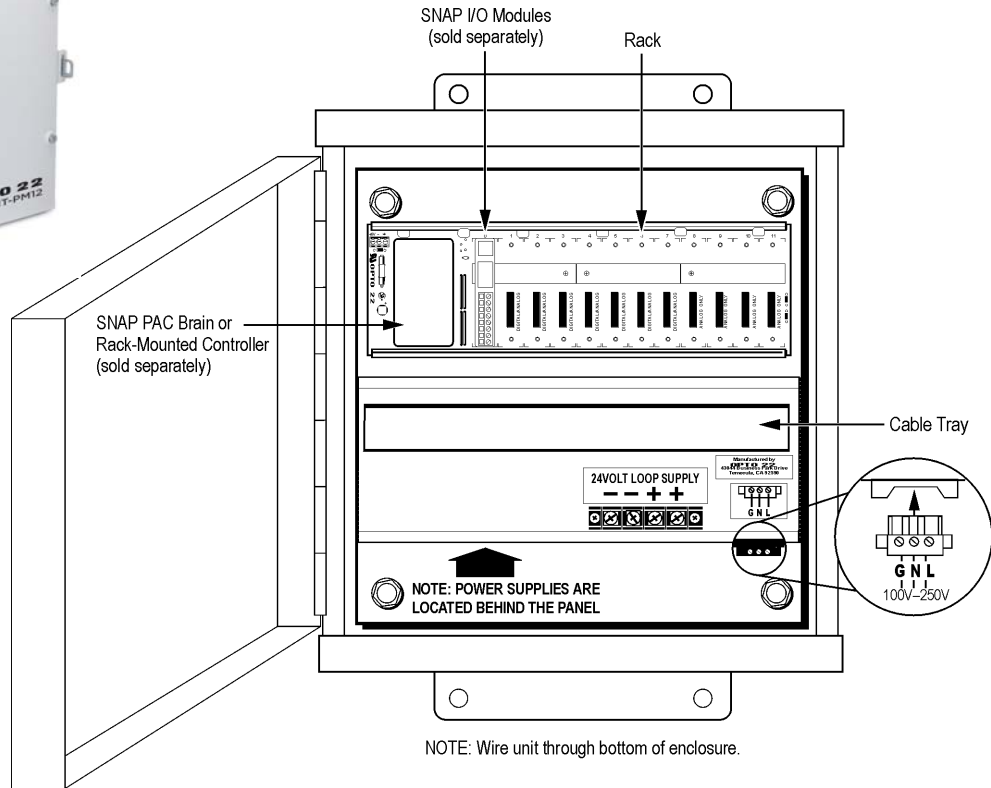


NOTE: I/O modules extend beyond the back edge of the enclosure for easier wiring.



# SNAP PAC System Enclosures

## Dimensional Drawings—SNAP-IT-PM12

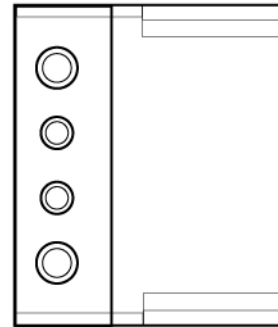
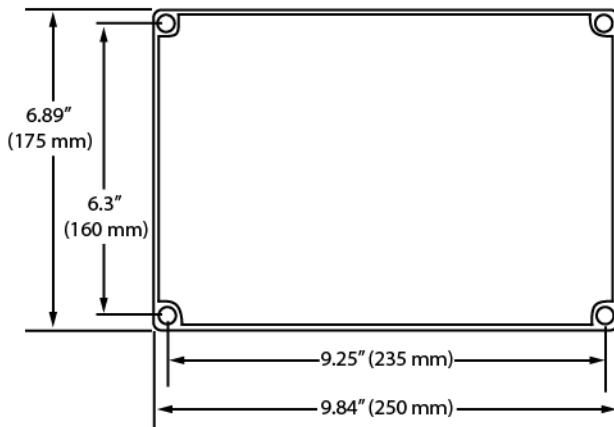
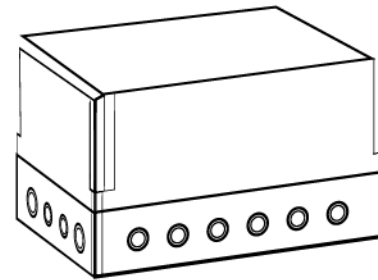
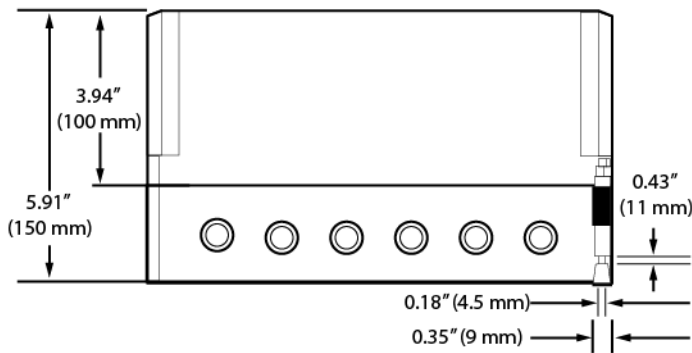


# SNAP PAC System Enclosures

## Dimensional Drawings—SNAP-IT-WM4

**NOTE:** If you are using the SNAP-IT-WM4 with a Wired+Wireless controller or brain, purchase a [90-degree right-angle bracket adapter](#) for the antenna. Wired+Wireless models include the following:

SNAP-PAC-R1-W	SNAP-PAC-EB1-W
SNAP-PAC-R2-W	SNAP-PAC-EB2-W



## More About Opto 22

### Products

Opto 22 develops and manufactures reliable, flexible, easy-to-use hardware and software products for industrial automation, energy management, remote monitoring, and data acquisition applications.

#### OptoEMU Energy Management System

The easy-to-use OptoEMU Sensor monitors electrical energy use in your facility and delivers detailed, real-time data you can see, analyze, and use in building and control systems. The Sensor can monitor energy data from pulsing meters, electrical panels or subpanels, and equipment. View energy data online using a software service or incorporate the data into your control system for complete energy management.

#### SNAP PAC System

Designed to simplify the typically complex process of selecting and applying an automation system, the SNAP PAC System consists of four integrated components:

- SNAP PAC controllers
- PAC Project™ Software Suite
- SNAP PAC brains
- SNAP I/O™

#### SNAP PAC Controllers

Programmable automation controllers (PACs) are multifunctional, modular controllers based on open standards.

Opto 22 has been manufacturing PACs for over two decades. The standalone SNAP PAC S-series, the rack-mounted SNAP PAC R-series, and the software-based SoftPAC™ all handle a wide range of digital, analog, and serial functions for data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

SNAP PACs are based on open Ethernet and Internet Protocol (IP) standards, so you can build or extend a system easily, without the expense and limitations of proprietary networks and protocols. Wired+Wireless™ models are also available.

#### PAC Project Software Suite

Opto 22's PAC Project Software Suite provides full-featured, cost-effective control programming, HMI (human machine interface) development and runtime, OPC server, and database connectivity software for your SNAP PAC System.

Control programming includes both easy-to-learn flowcharts and optional scripting. Commands are in plain English; variables and I/O point names are fully descriptive.

PAC Project Basic offers control and HMI tools and is free for download on our website, [www.opto22.com](http://www.opto22.com). PAC Project Professional, available for separate purchase, adds one

SoftPAC, OptoOPCServer, OptoDataLink, options for controller redundancy or segmented networking, and support for legacy Opto 22 serial *mistic*™ I/O units.

#### SNAP PAC Brains

While SNAP PAC controllers provide central control and data distribution, SNAP PAC brains provide distributed intelligence for I/O processing and communications. Brains offer analog, digital, and serial functions, including thermocouple linearization; PID loop control; and optional high-speed digital counting (up to 20 kHz), quadrature counting, TPO, and pulse generation and measurement.

#### SNAP I/O

I/O provides the local connection to sensors and equipment. Opto 22 SNAP I/O offers 1 to 32 points of reliable I/O per module, depending on the type of module and your needs.

Analog, digital, and serial modules are all mixed on the same mounting rack and controlled by the same processor (SNAP PAC brain or rack-mounted controller).

### 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 only testing a sample of each batch, we can guarantee most solid-state relays and optically isolated I/O modules for life.

### Free Product Support

Opto 22's California-based Product Support Group offers free, comprehensive technical support for Opto 22 products. Our staff of support engineers represents decades of training and experience. Support is available in English and Spanish by phone or email, Monday–Friday, 7 a.m. to 5 p.m. PST.

Additional support is always available on our website: how-to videos, OptoKnowledgeBase, self-training guide, troubleshooting and user's guides, and OptoForums.

In addition, hands-on training is available for free at our Temecula, California headquarters, and you can [register online](#).

### Purchasing Opto 22 Products

Opto 22 products are sold directly and through a worldwide network of distributors, partners, and system integrators. For more information, contact Opto 22 headquarters at 800-321-6786 or 951-695-3000, or visit our website at [www.opto22.com](http://www.opto22.com).

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