

## 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



SNAP-IT-RM16

### 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.

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, NEMA 4, 4X, 6; IP66, IP67; 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 environments, for example manufacturing and processing machinery, communication towers, tanks, and pipelines.



**SNAP-IT-WM4**—The NEMA 4/4X/6 wall-mounted WM4 is a sturdy polycarbonate industrial enclosure that holds one processor and up to four I/O modules. It includes a 24 V loop power supply.

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

## SPECIFICATIONS

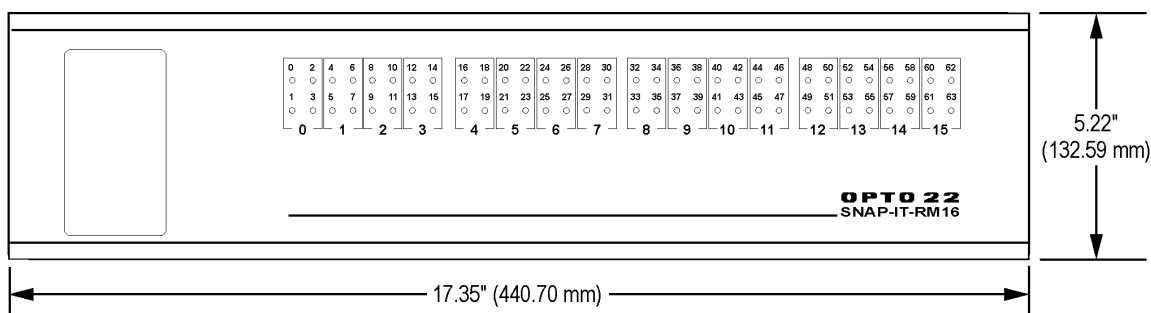
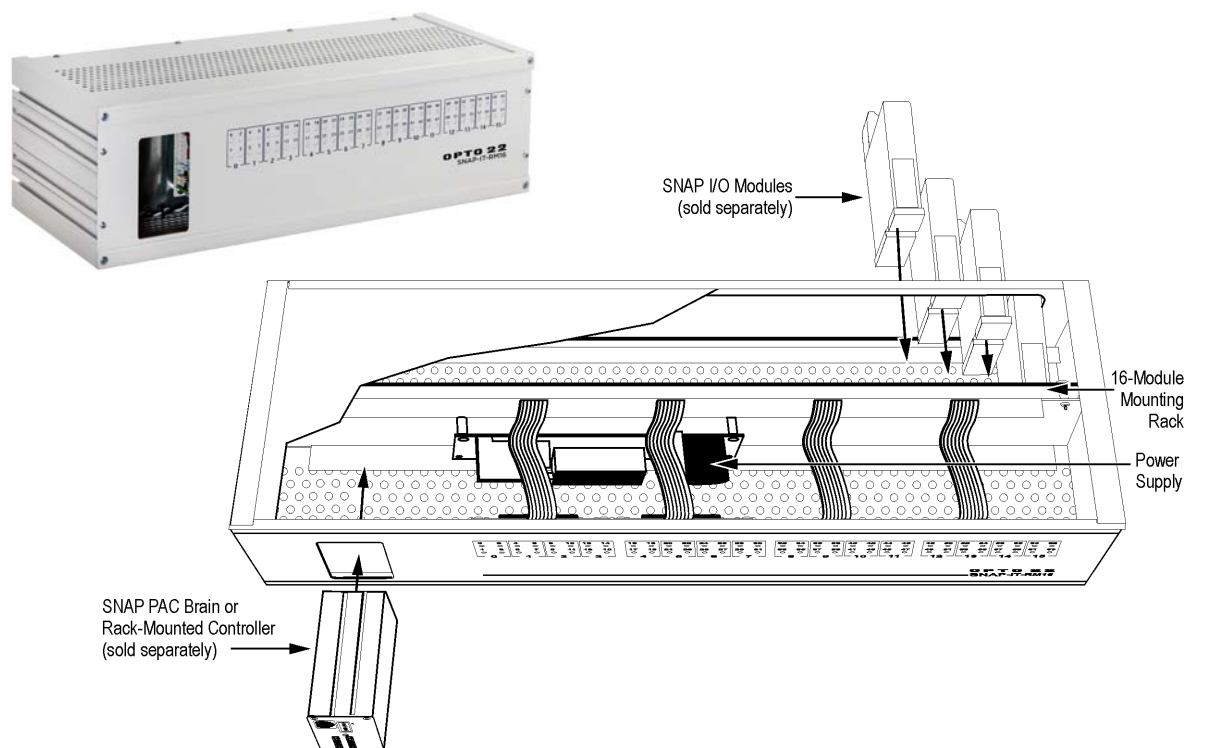
|                                    | SNAP-IT-RM16                                                                                                                                                     | SNAP-IT-PM12                                                                                                   | 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, transparent cover; meets NEMA 4, 4X, 6 and IP66, IP67                      |
| Dimensions                         | 17.25" W x 5.22" H x 7.5" D<br>(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<br>(41.1 cm x 46.4 cm x 16.7 cm)                                                 | 9.84" W x 6.89" H x 5.9" D<br>(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, power supply, and 24 V loop power supply                                    |
| I/O module slots                   | 16                                                                                                                                                               | 12                                                                                                             | 4                                                                                                              |
| Power supply                       | UL rated 120-250 VAC<br>Manufacturer rated 100-250 VAC                                                                                                           | UL rated 120-250 VAC<br>Manufacturer rated 100-250 VAC<br>Loop power supply: 24 VDC                            | 100–240 VAC (50/60 Hz)<br>Loop power supply: 24 VDC                                                            |
| 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.

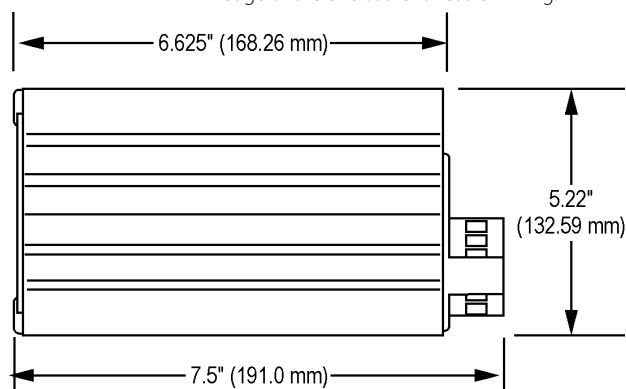
<sup>2</sup> See I/O, brain, or controller data sheets for details on LEDs.

<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.

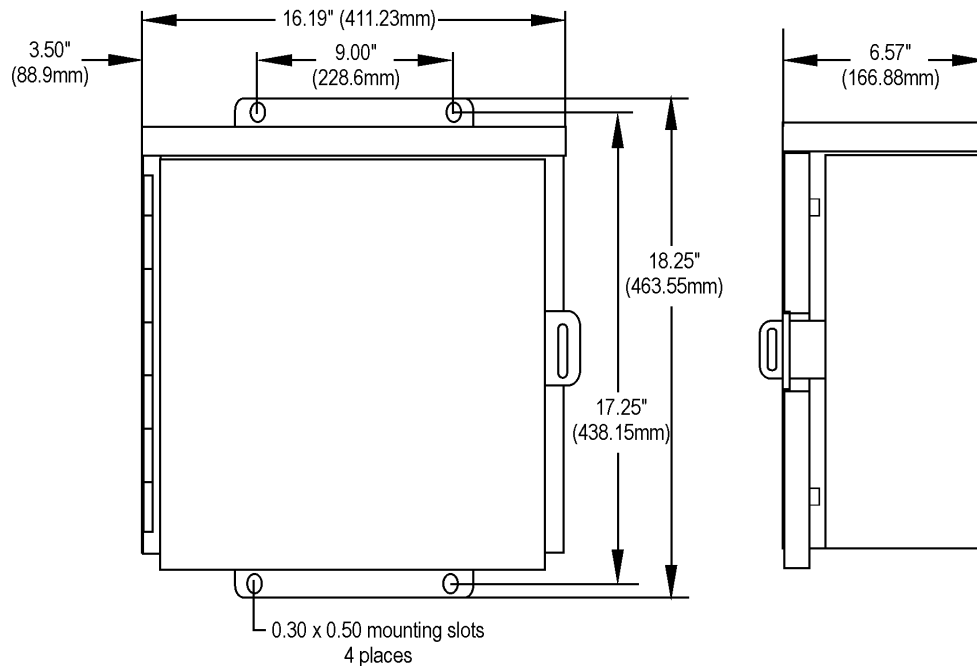
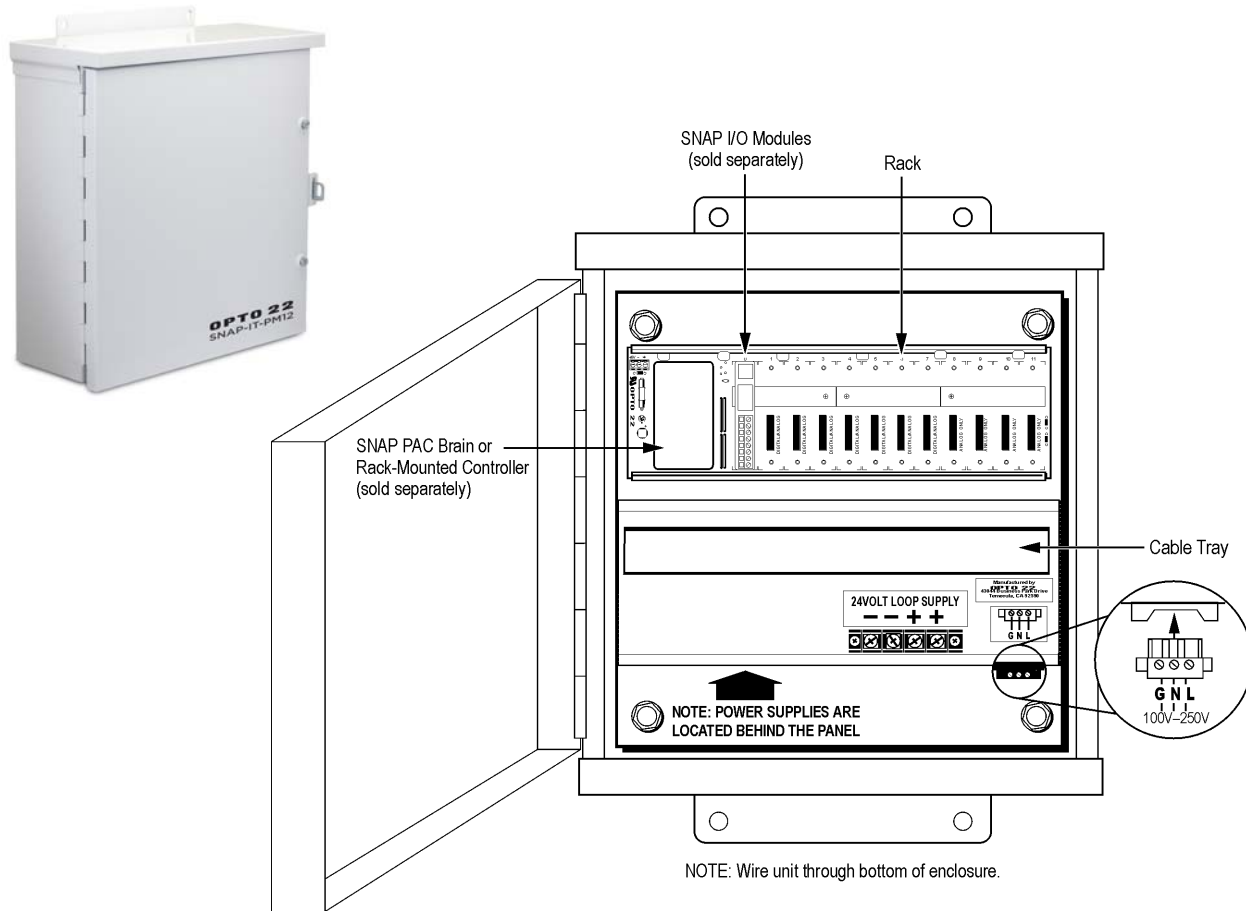
## DIMENSIONAL DRAWINGS—SNAP-IT-RM16



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



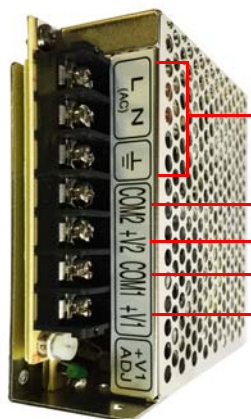
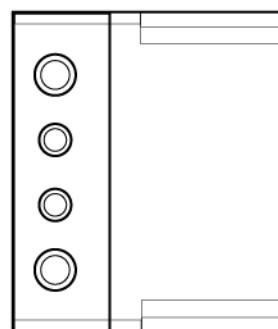
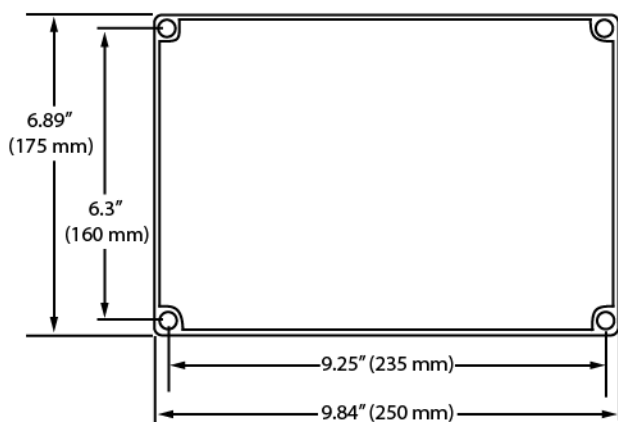
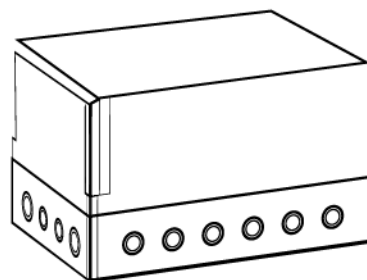
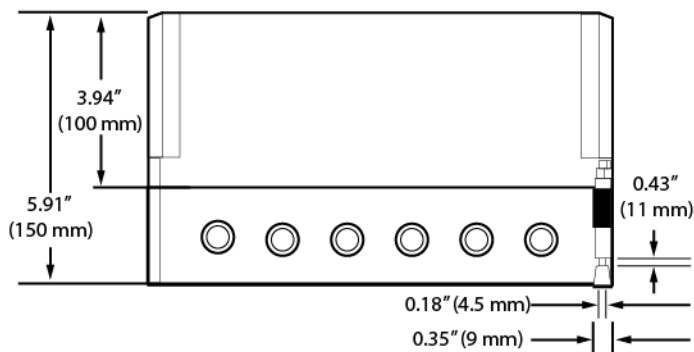
## DIMENSIONAL DRAWINGS—SNAP-IT-PM12



## 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 |



### Wiring the 24 VDC loop power supply

AC

V1 = 4.0 A at 5 VDC

V2 = 1.4 A at 24 VDC

24 common

+ 24 VDC

5 common

5 VDC (wired to rack)

## PRODUCTS

Opto 22 develops and manufactures reliable, easy-to-use, open standards-based hardware and software products used worldwide.

Industrial automation, process control, building automation, industrial refrigeration, remote monitoring, data acquisition, and Industrial Internet of Things (IIoT) applications all rely on Opto 22.



### groov

Monitor and control your equipment from anywhere using your smartphone or tablet with groov. Build your own mobile app easily—just drag, drop, and tag. No programming or coding. Visit [groov.com](http://groov.com) for more information and your free trial.

## SNAP PAC System

Developer- and IIoT-ready, the SNAP PAC System connects physical assets to databases and applications using open standards. 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

SNAP PAC programmable automation controllers handle a wide range of digital, analog, and serial functions for data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

For IIoT applications and easier integration with company systems, standalone and rack-mounted SNAP PACs include a built-in HTTP/HTTPS server and **RESTful API** (application program interface). The REST API gives you secure, direct access to I/O and variable data using your choice of programming languages. No middleware, protocol converters, drivers, or gateways needed.

Based on open Ethernet and Internet Protocol (IP) standards, SNAP PACs make it easier to build or extend a system without the expense and limitations of proprietary networks and protocols.

### PAC Project Software Suite

Opto 22's PAC Project Software Suite offers full-featured, cost-effective control programming, HMI (human machine interface), OPC server, and database connectivity software.

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 software-based controller, 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, local PID loop control, watchdog, totalizing, and much more.

### 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. Analog, digital, and serial modules are mixed on one mounting rack and controlled by a SNAP PAC brain or rack-mounted PAC.

## 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 from engineers with 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.

Support is always available on our website: how-to videos, user's guides, OptoKnowledgeBase, self-training guide, troubleshooting, and OptoForums. In addition, hands-on training is available for free at our Temecula, California headquarters, and you can [register online](http://www.opto22.com).

## 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 (toll-free in the U.S. and Canada) or 951-695-3000, or visit our website at [www.opto22.com](http://www.opto22.com).