SNAP SIMPLE BRAIN

Features

> 10/100 Mbps Fast Ethernet network connectivity

> Use SNAP analog, digital, and serial modules in any position on a single 16-module mounting rack

> Simultaneous communication using Modbus/TCP, OPC, and other applications you develop.

Obsolete

SNAP Simple Brain

DESCRIPTION

*** *This product is obsolete and no longer available.* ***

For new designs, Opto 22 suggests the SNAP-PAC-R2.

Opto 22 SNAP Simple I/O™ is a low-cost solution that brings you Ethernet/TCP communications as well as analog, simple digital, and serial capability on the same mounting rack.

Used for high-density commercial and industrial applications and for remote monitoring applications with high I/O point counts, a SNAP Simple I/O unit consists of a SNAP-ENET-S64 brain mounted on a SNAP M-series rack with SNAP I/O™ modules. These analog, standard digital, high-density digital, and serial modules can be mounted in any position on the rack (8 serial modules maximum).

SNAP Simple I/O can act as part of a SNAP control system, or it can act as an independent I/O unit. As a distributed I/O unit in a SNAP control system, SNAP Simple I/O is controlled by a SNAP PAC, SNAP-LCE, or SNAP Ultimate controller.

As an independent I/O unit, SNAP Simple I/O communicates using Modbus/TCP, OptoOPCServer, or applications you develop using the free OptoMMP Communication Toolkit. The brain also supports data streaming.

The SNAP-ENET-S64 brain provides both 10 and 100 Mbps Fast Ethernet compatibility, with automatic speed negotiation and a standard RJ-45 twisted-pair connector. The brain also includes a serial port for programming and diagnostics.

Simple I/O brain functions include the following:

- **Digital**—Input latching, on/off status, and watchdog timer.
- **Analog**—Thermocouple linearization (32-bit floating point for linearized values), minimum/maximum values, offset and gain, scaling, time-proportional output, filter weight, output clamping, and watchdog timer.
- **Serial**—Ability to send and receive ASCII strings to and from attached serial devices, such as chart recorders and barcode readers.

Each SNAP standard digital module contains four input or four output points. SNAP high-density digital modules provide 32 inputs or outputs per module. The number of points on each SNAP analog or serial module varies depending on the module.

Notes for legacy products: The SNAP Simple brain can be used with newer SNAP PAC racks as well as legacy M-series racks. It can be used with the current PAC Project or legacy ioProject software suites, although some features in PAC Project are not supported by this brain. For important information on mixing legacy and current products, see Opto 22 form 1688, *SNAP PAC System Migration Technical Note*.

For a detailed comparison of SNAP Simple brains with other SNAP brains, see Opto 22 form 1693, *Legacy and Current Product Comparison and Compatibility Charts*.

All documents are available on our website, www.opto22.com. The easiest way to find one is to search on its form number.

Part Numbers

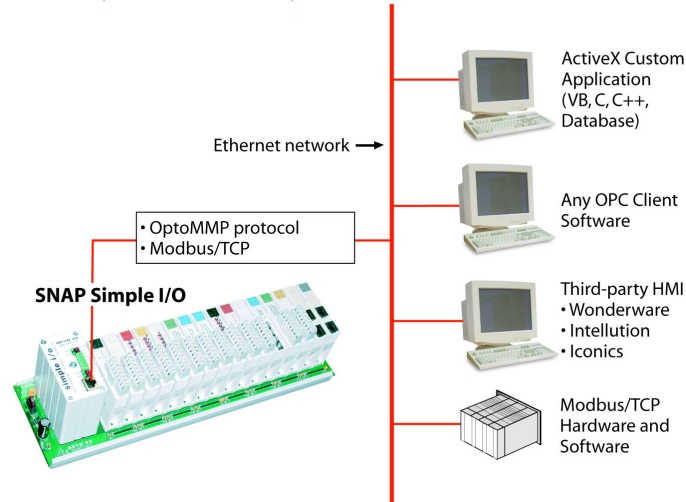| Part	Description
SNAP-ENET-S64 **[Obsolete]**	**[Obsolete]** SNAP Simple Ethernet I/O Brain, Analog/Simple Digital/Serial

MADE IN THE
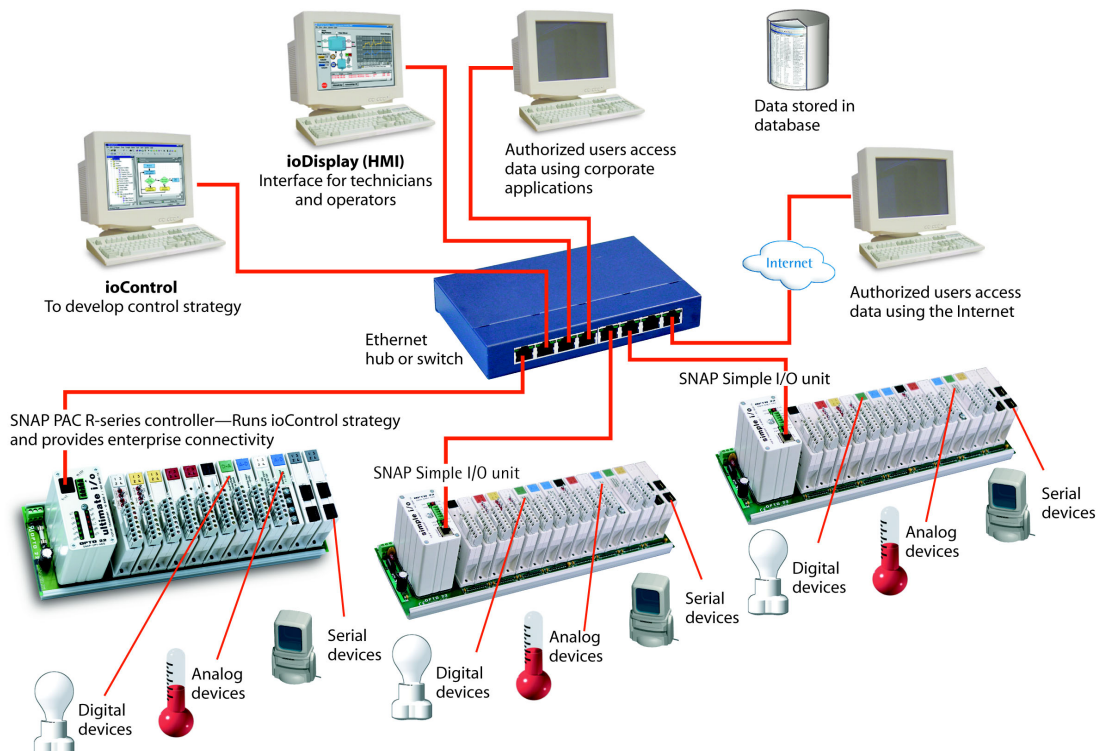USA

SYSTEM ARCHITECTURE [OBSOLETE]

The SNAP-ENET-S64 is shown with a SNAP-M64 mounting rack and standard SNAP I/O modules (analog, digital, and serial).

See Notes for legacy products on .
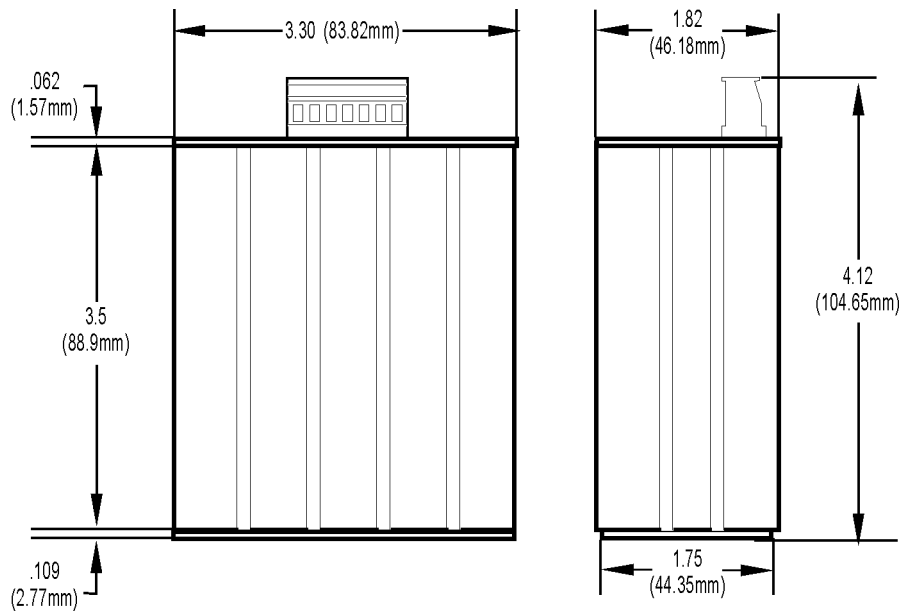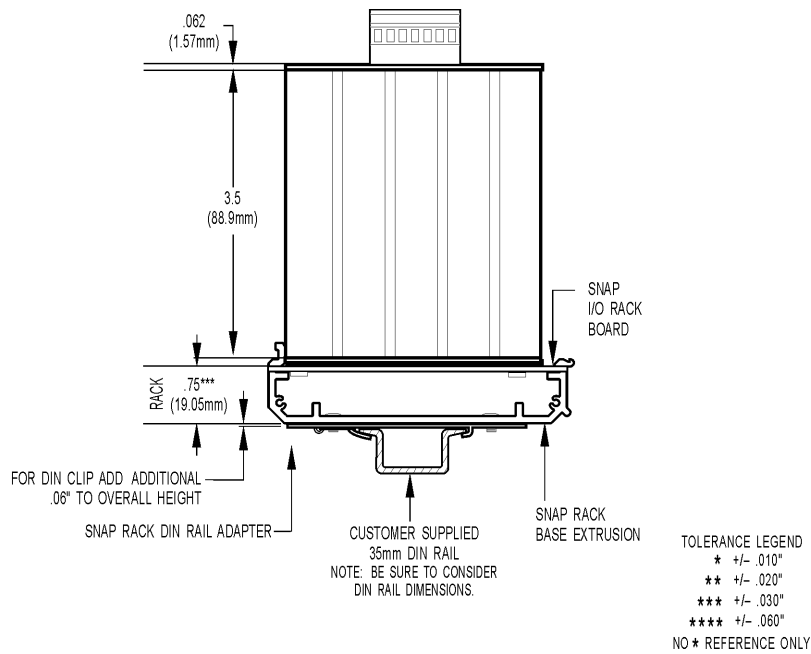
SNAP Simple I/O as an Independent I/O Unit

Ethernet network →

• OptoMMP protocol
• Modbus/TCP

SNAP Simple I/O

ActiveX Custom Application (VB, C, C++, Database)

Any OPC Client Software

Third-party HMI
• Wonderware
• Intellution
• Iconics

Modbus/TCP Hardware and Software

SNAP Simple I/O as Part of a SNAP PAC Control System

ioDisplay (HMI)
Interface for technicians and operators

Authorized users access data using corporate applications

Data stored in database

ioControl
To develop control strategy

Internet

Authorized users access data using the Internet

Ethernet hub or switch

SNAP Simple I/O unit

SNAP PAC R-series controller—Runs ioControl strategy and provides enterprise connectivity

SNAP Simple I/O unit

Serial devices

Analog devices

Digital devices

Serial devices

Serial devices

Analog devices

Digital devices

Analog devices

Digital devices

Serial devices

Analog devices

Digital devices

This product is obsolete.

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DIMENSIONAL DRAWING [OBSOLETE]

.062
(1.57mm)

3.5
(88.9mm)

SNAP
I/O RACK
BOARD

RACK

.75***
(19.05mm)

FOR DIN CLIP ADD ADDITIONAL
.06" TO OVERALL HEIGHT

SNAP RACK DIN RAIL ADAPTER

CUSTOMER SUPPLIED
35mm DIN RAIL
NOTE: BE SURE TO CONSIDER
DIN RAIL DIMENSIONS.

SNAP RACK
BASE EXTRUSION

TOLERANCE LEGEND
* +/- .010"
** +/- .020"
*** +/- .030"
**** +/- .060"
NO * REFERENCE ONLY

3.30 (83.82mm)

.062
(1.57mm)

3.5
(88.9mm)

.109
(2.77mm)

1.82
(46.18mm)

4.12
(104.65mm)

1.75
(44.35mm)

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More about Opto 22

PRODUCTS

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

groov RIO®

groov RIO edge I/O offers a single, compact, PoE-powered industrial package with web-based configuration and IIoT software built in, support for multiple OT and IT protocols, and security features like a device firewall, data encryption, and user account control.

Standing alone, *groov* RIO connects to sensors, equipment, and legacy systems, collecting and securely publishing data from field to cloud. Choose a universal I/O model with thousands of possible field I/O configurations, with or without Ignition from Inductive Automation®, or a RIO EMU energy monitoring unit that reports 64 energy data values from 3-phase loads up to 600 VAC, Delta or Wye.

You can also use *groov* RIO with a Modbus/TCP master or as remote I/O for a *groov* EPIC system.

groov EPIC® System

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

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. No industrial PC needed.

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, on a monitor connected via the HDMI or USB ports, or on a PC or mobile device with a web browser.

groov EPIC I/O

groov I/O connects locally to sensors and equipment. 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 Software

The *groov* EPIC processor comes ready to run the software you need:

- Programming: Choose flowchart-based PAC Control, CODESYS Development System for IEC61131-3 compliant programs, or secure shell access (SSH) to the Linux OS for custom applications
- Node-RED for creating simple IIoT logic flows from pre-built nodes
- Efficient MQTT data communications with string or Sparkplug data formats
- Multiple OPC UA server options
- HMI: *groov* View to build your own HMI viewable on touchscreen, PCs, and mobile devices; PAC Display for a Windows HMI; Node-RED dashboard UI
- Ignition or Ignition Edge® from Inductive Automation (requires license purchase) with OPC-UA drivers to Allen-Bradley®, Siemens®, and other control systems, and MQTT communications

Older products

From solid state relays, to world-famous G4 and SNAP I/O, to SNAP PAC controllers, older Opto 22 products are still supported and working hard at thousands of installations worldwide. You can count on us for 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.

FREE PRODUCT SUPPORT

Opto 22's California-based Product Support Group offers free 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, including free online training at OptoU, how-to videos, user's guides, the Opto 22 KnowledgeBase, and OptoForums.

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 **+1-951-695-3000**, or visit our website at www.opto22.com.