OPTO 22
SNAP Component List

SNAP I/O™ System

Opto 22 Software

Controller software	Human-Machine Interface software	OPC Servers

OptoControl™, ioControl™

OptoDisplay™, ioDisplay™

OptoServer™, OptoOPCServer™, OptoENETServer™
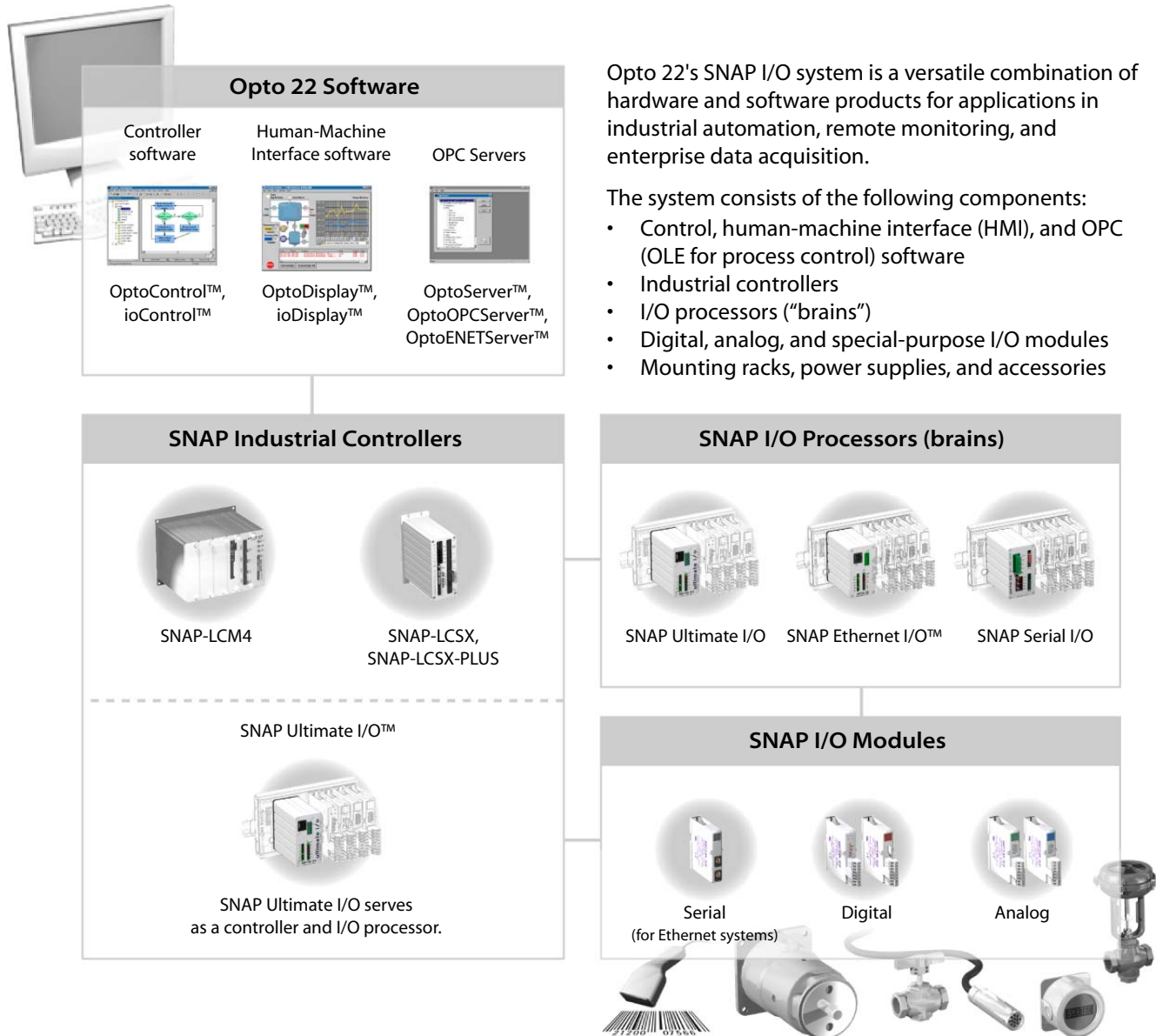
Opto 22's SNAP I/O system is a versatile combination of hardware and software products for applications in industrial automation, remote monitoring, and enterprise data acquisition.

The system consists of the following components:
- Control, human-machine interface (HMI), and OPC (OLE for process control) software
- Industrial controllers
- I/O processors ("brains")
- Digital, analog, and special-purpose I/O modules
- Mounting racks, power supplies, and accessories

SNAP Industrial Controllers

SNAP-LCM4

SNAP-LCSX, SNAP-LCSX-PLUS

SNAP Ultimate I/O™

SNAP Ultimate I/O serves as a controller and I/O processor.

SNAP I/O Processors (brains)

SNAP Ultimate I/O   SNAP Ethernet I/O™   SNAP Serial I/O

SNAP I/O Modules

Serial (for Ethernet systems)   Digital   Analog

This document lists SNAP part numbers by component category and refers you to product data sheets for specifications and additional details.

If you need help selecting SNAP components, see the *SNAP Selection Guide* (Opto 22 form 1377).

For examples of SNAP systems used in industrial automation, remote monitoring, and data acquisition applications, see the *SNAP Applications Guide* (form 1368). Both guides are available from our Web site, www.opto22.com.

For personal assistance with questions about SNAP systems or components, contact an Opto 22 pre-sales engineer by phone (800-452-OPTO or 909-695-3000) or by e-mail (systemseng@opto22.com)

SNAP Components

SNAP Industrial Controllers

Part Number	Description	Data Sheet Number
SNAP-LCM4*	SNAP modular M4 controller. For serial networks, or for Ethernet or ARCNET using adapter card.	Form 1106
SNAP-LCSX*	Small-footprint SNAP controller with 2 COM ports. For serial networks.	Form 1047
SNAP-LCSX-PLUS*	Small-footprint SNAP controller with 4 COM ports. For serial networks.	Form 1047
SNAP-UP1-ADS	SNAP Ultimate I/O: Combination industrial controller and I/O processor, analog/digital/serial. For Ethernet networks.	Form 1291
SNAP-UP1-D64	SNAP Ultimate I/O: Combination industrial controller and I/O processor, digital only. For Ethernet networks.	Form 1291
SNAP-UP1-M64	SNAP Ultimate I/O: Multifunction 64-point combination industrial controller and I/O processor; requires SNAP-M64 rack that can accommodate digital modules in any location.	Form 1291
Controller Accessories		
M4SENET-100*	10/100 Mbps Ethernet card for SNAP-LCM4 controller	Form 1154
M4DUALARC	Dual twisted-pair ARCNET ports for SNAP-LCM4 controller	Form 990
M4SARC	ARCNET adapter card for SNAP-LCM4 controller	Form 631
M4SARCF	ARCNET fiber optic adapter card for SNAP-LCM4 controller	Form 673
M4SARCFR	ARCNET fiber optic repeater adapter card for SNAP-LCM4 controller	Form 673

* Factory Mutual approved

Controllers, controller software, and accessories

Software Suite

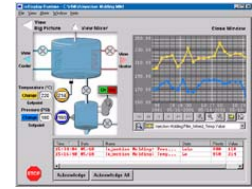| Part Number	For	Description	Data Sheet Number
FACTORYFLOOR	SNAP Controllers	Development software suite for machine control and process applications; includes OptoControl, OptoDisplay, OptoServer™, and OptoConnect™.	Form 1076

Control Software

Part Number	For	Description	Data Sheet Number
OptoControl	SNAP Controllers	Development software for machine control and process applications. Part of FactoryFloor suite.	Form 1076
ioControl	SNAP Ultimate I/O	Development software for machine control and process applications. Provided free with SNAP Ultimate I/O.	Form 1291
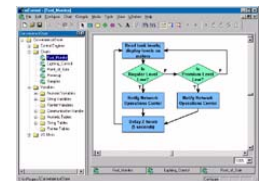
Data sheets are available from our Web site (opto22.com). The fastest way to find a data sheet is to search on its form number.

Human-Machine Interface (HMI) Software

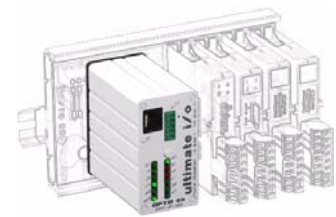| Part Number	For	Description	Data Sheet Number
OptoDisplay	SNAP Controllers	HMI development software; used with OptoControl. Part of FactoryFloor suite.	Form 1076
ioDisplay	SNAP Ultimate I/O	HMI development software for SNAP Ultimate I/O	Form 1296

OPC Servers

Part Number	For	Description	Data Sheet Number
OptoServer	SNAP Controllers	OPC 1.0-compliant server for SNAP controllers. Part of FactoryFloor suite.	Form 1076
OptoOPCServer	SNAP Ethernet and SNAP Ultimate I/O	OPC 2.0-compliant server for SNAP Ethernet I/O and SNAP Ultimate I/O. Free for download.	Form 1439
OptoENETServer	SNAP Ethernet and SNAP Ultimate I/O	OPC 1.0-compliant server for OPC or DDE; for use with SNAP Ethernet I/O or SNAP Ultimate I/O. Free for download.	Form 1361
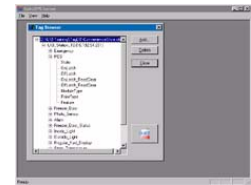
SNAP I/O Processors (Brains)

Part number	Description	Data sheet number
SNAP-UP1-ADS	SNAP Ultimate I/O: Analog/digital/serial combination industrial controller and I/O processor	Form 1291
SNAP-UP1-D64	SNAP Ultimate I/O: Digital-only combination industrial controller and I/O processor; requires SNAP-D64RS digital-only rack	Form 1291
SNAP-UP1-M64	SNAP Ultimate I/O: Multifunction 64-point combination industrial controller and I/O processor; requires SNAP-M64 rack that can accommodate digital modules in any location	Form 1291
SNAP-B3000-ENET*	Analog/digital/serial Ethernet brain	Form 1083
SNAP-ENET-D64	Digital-only Ethernet brain; requires SNAP-D64RS digital-only rack	Form 1083
SNAP-ENET-RTC	Analog/digital/serial Ethernet brain with real-time clock	Form 1083
SNAP-WLAN-FH-ADS	Analog/digital/serial wireless LAN Ethernet brain	Form 1261
B3000*	Analog/digital brain, Mistic®/Optomux® protocol, serial	Form 0787
B3000-HA	Analog/digital brain, Mistic/Optomux protocol, dual ARCNET	Form 1000
SNAP-B3000-MODBUS	Analog/digital Modbus slave, ASCII or RTU protocol	Form 1051
SNAP-BRS	Remote digital read/write brain, Mistic protocol, serial	Form 0956
SNAP-BRS-HA	Remote digital read/write brain, Mistic protocol, dual ARCNET	Form 1001
SNAP-B4	High-speed digital brain, Pamux® protocol	Form 0955
SNAP-B6	High-speed analog/digital brain, Pamux protocol	Form 1055

* Factory Mutual approved

I/O Processors (Brains)

Data sheets are available from our Web site (opto22.com). The fastest way to find a data sheet is to search on its form number.

OPTO 22
SNAP Component List

SNAP Analog Input Modules

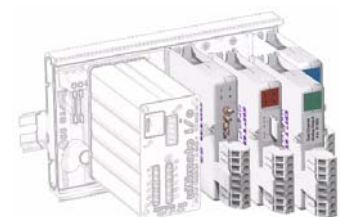| Part number	Description	Data sheet number
SNAP-AIARMS*	2-channel, AC/DC input, 0–10 amp RMS	Form 1065
SNAP-AICTD*	2-channel, analog temperature input, ICTD	Form 1065
SNAP-AICTD-4*	4-channel, analog temperature input, ICTD	Form 1065
SNAP-AIMA*	2-channel, analog current input, -20 mA to +20 mA	Form 1065
SNAP-AIMA-4*	4-channel, analog current input, -20 mA to +20 mA	Form 1065
SNAP-AIMA-i*	2-channel, analog current input, isolated, -20 mA to +20 mA	Form 1182
SNAP-AIMA-iSRC	2-channel, analog current input, isolated, -20mA to +20 mA, with loop sourcing	Form 1182
SNAP-AIMV2-4*	4-channel, -50 mV to +50 mV input or -25 mV to +25 mV input	Form 1065
SNAP-AIMV-4*	4-channel, -150 mV to +150 mV input or -75 mV to +75 mV input	Form 1065
SNAP-AIR40K-4*	4-channel, analog thermistor input	Form 1065
SNAP-AIRATE*	2-channel, analog rate input, 0 to 25,000 Hz	Form 1065
SNAP-AIRTD*	2-channel, 100-ohm, platinum RTD input	Form 1065
SNAP-AITM*	2-channel, analog, type E, J, K thermocouple or -150 mV to +150 mV input or -75 mV to +75 mV input	Form 1065
SNAP-AITM-i*	2-channel, analog, isolated, type E, J, K thermocouple or -150 mV to +150 mV input or -75 mV to +75 mV input	Form 1182
SNAP-AITM-2*	2-channel, analog, type B, C, D, G, N, T, R, or S thermocouple or -50 mV to +50 mV DC input or -25 mV to +25 mV DC input	Form 1065
SNAP-AITM2-i*	2-channel, analog, isolated, type B, C, D, G, N, T, R, or S thermocouple or -50 mV to +50 mV DC input or -25 mV to +25 mV DC input	Form 1182
SNAP-AIV*	2-channel, analog voltage input, -10 VDC to +10 VDC	Form 1065
SNAP-AIV-4*	4-channel, analog voltage input, -10 VDC to +10 VDC	Form 1065
SNAP-AIV-i*	2-channel, analog voltage input, isolated, -10 VDC to +10 VDC	Form 1182
SNAP-AIV2-i*	2-channel, analog voltage input, isolated, -100 VDC to +100 VDC	Form 1182
SNAP-AIVRMS*	2-channel, AC/DC input, 0–250 V RMS	Form 1065

* Factory Mutual approved
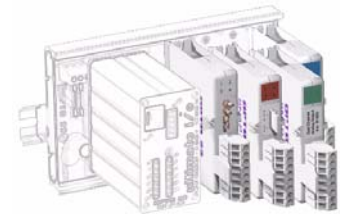
I/O Modules

SNAP Analog Output Modules

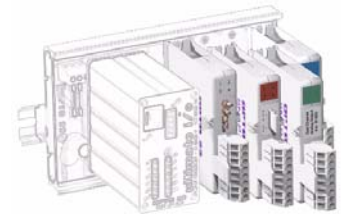| Part number	Description	Data sheet number
SNAP-AOA-23*	2-channel, analog output current, 4–20 mA	Form 1066
SNAP-AOV-25*	2-channel, analog output voltage, 0 to +10 VDC	Form 1066
SNAP-AOV-27*	2-channel, analog output voltage, -10 to +10 VDC	Form 1066
SNAP-AOA-28*	2-channel, analog output current loop, 0–20 mA	Form 1066
SNAP-AOD-29*	2-channel, analog time-proportional digital output, 5–60 VDC	Form 1066
SNAP-AOA-3	Single-channel, analog output current, 4–20 mA	Form 1066
SNAP-AOV-5	Single-channel, analog output voltage, 0 to +10 VDC	Form 1066
SNAP-AOV-7	Single-channel, analog output voltage, -10 to +10 VDC	Form 1066

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I/O Modules

Data sheets are available from our Web site (opto22.com). The fastest way to find a data sheet is to search on its form number.

SNAP Digital Input Modules

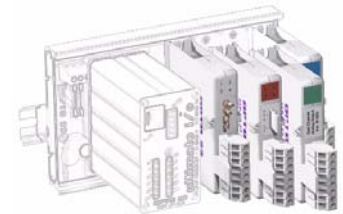| Part number	Description	Data sheet number
AC Input		
SNAP-IAC5	4-channel, 90–140 VAC input, 5 VDC logic	Form 773
SNAP-IAC5A	4-channel, 180–280 VAC input, 5 VDC logic	Form 773
SNAP-IAC5MA	4-channel, 90–140 VAC/VDC input, 5 VDC logic, manual/auto switches	Form 773
SNAP-IAC5FM*	4-channel, 90–140 VAC/VDC input, 5 VDC logic	Form 773
SNAP-IAC5AFM*	4-channel, 180–280 VAC input, 5 VDC logic	Form 773
DC Input		
SNAP-IDC5	4-channel, 10–32 VDC input, 5 VDC logic	Form 773
SNAP-IDC5D	4-channel, 2.5–28 VDC input, 5 VDC logic	Form 773
SNAP-IDC5-FAST	4-channel, high-speed, 2.5–16 VDC input, 5 VDC logic	Form 773
SNAP-IDC5-FAST-A	4-channel, high-speed, 18–32 VDC input, 5 VDC logic	Form 773
SNAP-IDC5G	4-channel, 35–75 VAC/VDC input, 5 VDC logic	Form 773
SNAP-IDC5-HT	4-channel, leakage-tolerant 15–32 VDC input, 5 VDC logic	Form 773
SNAP-IDC5MA	4-channel, isolated, high-speed, 10–32 VAC/VDC input, 5 VDC logic, manual/auto switches	Form 773
SNAP-IDC5Q	Two-axis quadrature position input	Form 1053
SNAP-IDC5-SW	4-channel switch status input, normally open	Form 773
SNAP-IDC5-SW-NC	4-channel switch status input, normally closed	Form 773
SNAP-IDC5FM*	4-channel 10–32 VDC input, 5 VDC logic	Form 773
SNAP-IDC5DFM*	4-channel 2.5–28 VDC input, 5 VDC logic	Form 773

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I/O Modules

*Data sheets are available from our Web site (opto22.com). The fastest
way to find a data sheet is to search on its form number.*

OPTO 22
SNAP Component List

SNAP Digital Output Modules

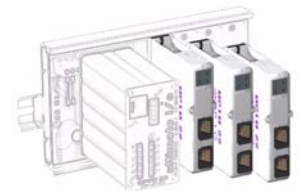| Part number	Description	Data sheet number
AC Output		
SNAP-OAC5	4-channel, 12–250 VAC input, 5 VDC logic	Form 1144
SNAP-OAC5FM*	4-channel, 12–250 VAC input, 5 VDC logic	Form 1144
SNAP-OAC5MA	4-channel, isolated, 12–250 VAC output, 5 VDC logic, manual/auto switches	Form 1144
SNAP-OAC5-i	4-channel, isolated, 12–250 VAC output, 5 VDC logic	Form 1144
SNAP-OAC5-iFM*	4-channel, isolated, 12–250 VAC output, 5 VDC logic	Form 1144
DC Output		
SNAP-ODC5SRC	4-channel, 5–60 VDC output, 5 VDC logic, source	Form 1144
SNAP-ODC5SRCFM*	4-channel, 5–60 VDC output, 5 VDC logic, source	Form 1144
SNAP-ODC5SNK	4-channel, 5–60 VDC output, 5 VDC logic, sink	Form 1144
SNAP-ODC5SNKFM*	4-channel, 5–60 VDC output, 5 VDC logic, sink	Form 1144
SNAP-ODC5ASNK	4-channel, 5–200 VDC output, 5 VDC logic, sink	Form 1144
SNAP-ODC5R	4-channel, dry contact output, normally open	Form 1144
SNAP-ODC5RFM*	4-channel, dry contact output, normally open	Form 1144
SNAP-ODC5R5	4-channel, dry contact output, normally closed	Form 1144
SNAP-ODC5R5FM*	4-channel, dry contact output, normally closed	Form 1144
SNAP-ODC5MA	4-channel, isolated, 5–60 VDC output, 5 VDC logic, manual/auto switches	Form 1144
SNAP-ODC5-i	4-channel, isolated, 5–60 VDC output, 5 VDC logic	Form 1144
SNAP-ODC5-iFM*	4-channel, isolated, 5–60 VDC output, 5 VDC logic	Form 1144
SNAP-ODC5A-i	4-channel, isolated, 5–200 VDC output, 5 VDC logic	Form 1144
SNAP-ODC5A-iFM*	4-channel, isolated, 5–200 VDC output, 5 VDC logic	Form 1144

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I/O Modules

SNAP Special-Purpose Modules

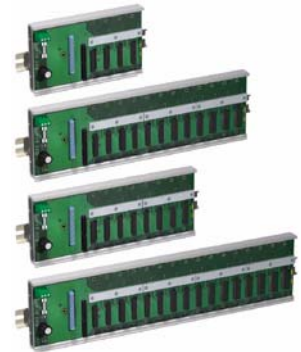| Part number	Description	Data sheet number
SNAP-SCM-232	2-channel, RS-232 serial communication module with optional flow control	Form 1184
SNAP-SCM-485-422	2-channel, RS-485/422 (two-wire or four-wire) serial communication module	Form 1184
SNAP-SCM-W2	2-channel, Wiegand interface serial communication module	Form 1365
SNAP-PID-V	Setpoint and process inputs 0–10 VDC, PID outputs 4–20 mA and 0–10 VDC	Form 1264

I/O Modules

Data sheets are available from our Web site (opto22.com). The fastest way to find a data sheet is to search on its form number.

SNAP Mounting Racks

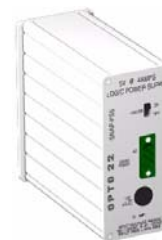| Part number	Description	Data sheet number
Analog/Digital/Serial Racks		
SNAP-B4M*	4-module rack	Form 784
SNAP-B8M*	8-module rack	Form 784
SNAP-B8MC	8-module rack with extra terminal block for field wiring	Form 784
SNAP-B8MC-P	8-module rack with extra, pluggable terminal block for field wiring	Form 784
SNAP-B12M*	12-module rack	Form 784
SNAP-B12MC	12-module rack with extra terminal block for field wiring	Form 784
SNAP-B12MC-P	12-module rack with extra, pluggable terminal block for field wiring	Form 784
SNAP-B16M*	16-module rack	Form 784
SNAP-B16MC	16-module rack with extra terminal block for field wiring	Form 784
SNAP-B16MC-P	16-module rack with extra, pluggable terminal block for field wiring	Form 784
SNAP-M64	16-module rack for SNAP-UP1-M64 brain	Form 784
Digital-Only Racks		
SNAP-D4M	4-module digital-only rack	Form 777
SNAP-D4MC	4-module digital-only rack with extra terminal block for field wiring	Form 778
SNAP-D4MC-P	4-module digital-only rack with extra, pluggable terminal block for field wiring	Form 778
SNAP-D6M	6-module digital-only rack	Form 777
SNAP-D6MC	6-module digital-only rack with extra terminal block for field wiring	Form 778
SNAP-D6MC-P	6-module digital-only rack with extra, pluggable terminal block for field wiring	Form 778
SNAP-D8M	8-module digital-only rack	Form 777
SNAP-D8MC	8-module digital-only rack with extra terminal block for field wiring	Form 778
SNAP-D8MC-P	8-module digital-only rack with extra, pluggable terminal block for field wiring	Form 778
SNAP-D12M	12-module digital-only rack	Form 777
SNAP-D12MC	12-module digital-only rack with extra terminal block for field wiring	Form 778
SNAP-D12MC-P	12-module digital-only rack with extra, pluggable terminal block for field wiring	Form 778
SNAP-D64RS	16-module digital-only rack for SNAP-ENET-D64 Ethernet brain or SNAP-UP1-D64 Ultimate brain	Form 784

* Factory Mutual approved

Mounting Racks

Each mounting rack holds one brain and several modules.

SNAP Power Supplies

Part number	Description	Data sheet number
SNAP-PS5*	Supplies 5 volts at 4 amps; 120 VAC input	Form 1120
SNAP-PS5U*	Supplies 5 volts at 5 amps; 100–250 VAC input	Form 1120
SNAP-PS5-24DC*	Supplies 5 volts at 4 amps; 24 VDC input	Form 1120
SNAP-PS24*	Supplies 3/4 amp at 24 volts to power current loops; 95–130 VAC input	Form 953
SNAP-PS24U*	Supplies 1–1/4 amp at 24 volts to power current loops; 100–250 VAC input	Form 953

* Factory Mutual approved

Power Supplies

Data sheets are available from our Web site (opto22.com). The fastest way to find a data sheet is to search on its form number.

Accessories for SNAP Racks and Modules

Part number	Description
SNAP-CDBBDIN	Classic digital brain DIN-rail adapter
SNAP E-Z REMOVAL TOOL	(No part number—shipped with SNAP modules)
SNAP-FIELDCONB	Module field connector
SNAP-FUSE1AB	1-amp fuse, 25-pack
SNAP-FUSE4AB	4-amp fuse, 25-pack
SNAP-MODFUSEH	Digital output module fuse holder, 10-pack
SNAP-MODLATCHB	Module release latch, 10-pack
SNAP-RACKDIN	SNAP rack DIN-rail adapter clip
SNAP-RACKDINB	SNAP rack DIN-rail adapter clip, 25-pack
SNAP-RETN4	4-module retention rail (OEM)
SNAP-RETN4B	4-module retention rail, 25-pack (OEM)
SNAP-RETN6	6-module retention rail (OEM)
SNAP-RETN6B	6-module retention rail, 25-pack (OEM)
SNAP-STRAP*	Jumper strap for SNAP module field wiring connector
SNAP-WIRESTRAP*	Jumper for SNAP-STRAPS

* Factory Mutual approved

Accessories

*Data sheets are available from our Web site (opto22.com). The fastest
way to find a data sheet is to search on its form number.*

SNAP-IT Packaged Systems

SNAP-IT packaged systems consist of an I/O processor (brain), I/O rack, and power supply within an enclosure. Add I/O modules to suit your application. Programmable systems are available for applications that require control capabilities.

For additional information or help in choosing your SNAP system, contact an Opto 22 pre-sales engineer by phone (800-452-OPTO or 909-695-3000) or by e-mail (systemseng@opto22.com).

SNAP-IT Panel Mount

Part Number	Description	Data Sheet Number
SNAP-IT-PM-ADS	SNAP-IT panel mount, analog/digital/serial (ADS)	Form 1239
SNAP-IT-PM-ADS-PLUS	SNAP-IT panel mount ADS with modem	Form 1239
SNAP-IT-PM-ADS-PLUS24V	SNAP-IT panel mount ADS with modem	Form 1239
SNAP-IT-PM-UADS	SNAP-IT panel mount ADS, programmable	Form 1239
SNAP-IT-PM-UADS-PLUS	SNAP-IT panel mount ADS, programmable, with modem	Form 1239
SNAP-IT-PMC-XX	SNAP-IT panel mount, custom	Form 1239

Panel mount for outdoor and industrial environments

SNAP-IT Desktop 3U

Part Number	Description	Data Sheet Number
SNAP-IT-RM-ADS	SNAP-IT rack mount, analog/digital/serial	Form 1240
SNAP-IT-RM-D64	SNAP-IT rack mount, digital only	Form 1240
SNAP-IT-RM-WLAN-FH	SNAP-IT rack mount ADS with wireless LAN	Form 1269
SNAP-IT-RM-UADS	SNAP-IT rack mount ADS, programmable	Form 1240
SNAP-IT-RMC-XX	SNAP-IT rack mount, custom	Form 1240
POWERCABLE-US	120 VAC power cord—United States	Form 1240
POWERCABLE-UK	240 VAC power cord—United Kingdom	Form 1240
POWERCABLE-INTL	240 VAC power cord—worldwide	Form 1240

Desktop, table, or rack mount model for interior environments

SNAP-IT Rack Mount 1U

Part Number	Description	Data Sheet Number
SNAP-IT-1U8E	SNAP-IT rack mount, 1U, analog/digital/serial	Form 1373
SNAP-IT-1U8U	SNAP-IT rack mount ADS, 1U, programmable	Form 1373
SNAP-IT-1UC-XX	SNAP-IT rack mount, 1U, custom	Form 1373

1U thin-profile rack mount for interior environments

Data sheets are available from our Web site (opto22.com). The fastest way to find a data sheet is to search on its form number.

More About Opto 22

Other Software and Hardware

Software developer kits (SDKs), diagnostic utilities, and support for the Linux operating system are also available from Opto 22.

Quality

In delivering hardware and software solutions for worldwide device management and control, Opto 22 retains the highest commitment to quality. We do no statistical testing; each product is tested twice before leaving our 160,000-square-foot manufacturing facility in Temecula, California. That's why we can guarantee solid-state relays and optically isolated I/O modules for life.

Product Support

Opto 22's Product Support Group offers comprehensive technical support for Opto 22 products. The staff of support engineers represents years of training and experience, and can assist with a variety of project implementation questions. Product support is available via phone or e-mail in English and Spanish Monday through Friday, 8 a.m. to 5 p.m. Pacific Standard Time.

Opto 22 Web Sites

www.opto22.com

ordering.opto22.com

support.opto22.com

Other Resources

- OptoInfo CD
- Ongoing, up-to-date training
- Integration support
- FaxBack service: 800-474-OPTO

About Opto 22

Opto 22 manufactures and develops hardware and software products for applications in industrial automation, remote monitoring, and enterprise data acquisition. Using standard, commercially available Internet, networking, and computer technologies, Opto 22's input/output and control systems allow customers to monitor, control, and acquire data from all of the mechanical, electrical, and electronic assets that are key to their business operations. Opto 22's products and services support automation end users, OEMs, and information technology and operations personnel. Founded in 1974 and with over 80 million Opto 22-connected devices deployed worldwide, the company has an established reputation for quality and reliability.

Opto 22 products are sold through a worldwide network of distributors, partners, and system integrators. For more information, contact Opto 22 headquarters at 800-321-OPTO or visit our Web site at www.opto22.com.