



SNAP DNP I/O is a low-cost RTU alternative that seamlessly integrates into your DNP3-based SCADA system.

SNAP DNP I/O on an 8-module SNAP rack with various SNAP analog and digital I/O modules

SNAP dnp I/O™

Overview

Since its creation, the DNP3 protocol has been widely adopted in the electrical, water/wastewater, transportation, and oil and gas industries. Opto 22, a manufacturer of monitoring and control hardware, and POWER Engineers, a global consulting and integration services firm specializing in energy, facilities, and communication projects, have co-developed SNAP DNP I/O, a low-cost RTU alternative that seamlessly integrates into your DNP3-based SCADA system. In doing so, SNAP DNP I/O offers:

- Monitoring, control, and data acquisition from remote electrical and other utility equipment
- Interoperability between multi-vendor devices
- Reduced software costs
- Easy system expansion
- Operational savings
- Integration of legacy equipment into a DNP system
- Acquiring analog input data that conveys voltages, currents, power, and temperatures
- Setting analog output values such as pressure or voltage levels
- Tripping circuit breakers, opening or closing valves, and controlling other equipment remotely

SNAP DNP I/O capabilities include:

- Monitoring binary input data for two-state devices (for example, determining if a circuit breaker has been tripped or if an alarm state is present)

Additionally, the SNAP DNP I/O system's modularity and distributed intelligence enables quick and seamless expandability, allowing you to remotely monitor and control newly added facility equipment without reprogramming or altering your existing systems.

SNAP DNP I/O Rack and Module Selection Guide

SNAP Mounting Racks

SNAP-B4M	4-Module Rack
SNAP-B8M	8-Module Rack,
SNAP-B8MC/MC-P	8-Module Rack with Terminal Block
SNAP-B12M	12-Module Rack
SNAP-B12MC/MC-P	12-Module Rack with Terminal Block
SNAP-B16M	16-Module Rack
SNAP-B16MC/MC-P	16-Module Rack with Terminal Block

SNAP Power Supplies

SNAP-PS5	5 VDC @ 4 Amp, 120 VAC Input
SNAP-PS5-24DC	5 VDC @ 4 Amp, 24 VDC Input
SNAP-PS5U	5 VDC @ 5 Amp, 100–250 VAC Input
SNAP-PS24	24 VDC @ .75 Amp for Powering Current Loops
SNAP-PS24U	24 VDC @ 1.25 Amp for Powering Current Loops

SNAP Digital Input Modules

All digital input modules are channel-to-channel isolated.

SNAP-IACS	4-Channel Digital Input, 90–140 VAC/VDC, 5 VDC Logic
SNAP-IAC5FM*	[Obsolete] 4-Channel Digital Input, 90–140 VAC/VDC, 5 VDC Logic
SNAP-IAC5A	4-Channel Digital Input, 180–280 VAC/VDC, 5 VDC Logic
SNAP-IAC5AFM*	[Obsolete] 4-Channel Digital Input, 180–280 VAC/VDC, 5 VDC Logic
SNAP-IAC5MA	4-Channel Digital Input, 90–140 VAC/VDC, Manual/Auto
SNAP-IDC5	Switches 4-Channel Digital Input, 10–32 VAC/VDC, 5 VDC Logic
SNAP-IDC5FM*	[Obsolete] 4-Channel Digital Input, 10–32 VAC/VDC, 5 VDC Logic
SNAP-IDC5MA	4-Channel Digital Input, 10–32 VAC/VDC, Manual/Auto Switches
SNAP-IDC5D	4-Channel Digital Input, 2.5–28 VDC, 5 VDC Logic
SNAP-IDC5DFM *	[Obsolete] 4-Channel Digital Input, 2.5–28 VDC, 5 VDC Logic,
SNAP-IDC5-FAST	4-Channel Digital Input, 2.5–16 VDC, 5 VDC Logic, High-speed
SNAP-IDC5-FAST-A	4-Channel Digital Input, 18–32 VDC, 5 VDC Logic, High-speed
SNAP-IDC5G	4-Channel Digital Input, 35–75 VAC/VDC, 5 VDC Logic
	4-Channel Digital Input, 15–32 VDC, Leakage-tolerant
SNAP-IDC5-SW	4-Channel Digital Input, Self-Powering, Normally Open
SNAP-IDC5-SW-NC	4-Channel Digital Input, Self-Powering, Normally Closed

* Obsolete Product, contact Opto 22 Pre-Sales Engineering for help.

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 SNAP 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 85 million Opto 22-connected devices deployed worldwide, the company has an established reputation for quality and reliability. For more information, contact Opto 22 headquarters at 800-321-OPTO or visit www.opto22.com.



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SNAP Digital Output Modules

SNAP-OAC5	4-Channel Digital Output, 12–250 VAC, 5 VDC Logic
SNAP-OAC5FM *	[Obsolete] 4-Channel Digital Output, 12–250 VAC, 5 VDC Logic
SNAP-OAC5-i	4-Channel Isolated Digital Output, 12–250 VAC, 5 VDC Logic
SNAP-OAC5-IFM*	[Obsolete] 4-Channel Isolated Digital Output, 12–250 VAC, 5 VDC Logic
SNAP-OAC5MA	4-Channel Isolated Digital Output, 12–250 VAC, Manual/Auto
SNAP-ODC5SRC	Switches 4-Channel Digital Output, 5–60 VDC, 5 VDC Logic Source
SNAP-ODC5SRCFM*	[Obsolete] 4-Channel Digital Output, 5–60 VDC, 5 VDC Logic Source,
SNAP-ODC5SNK	4-Channel Digital Output, 5–60 VDC, 5 VDC Logic Sink
SNAP-ODC5SNKFM*	[Obsolete] 4-Channel Digital Output, 5–60 VDC, 5 VDC Logic Sink,
SNAP-ODC5ASNK	4-Channel Digital Output, 5–200 VDC, 5 VDC Logic Sink
SNAP-ODC5R	4-Channel Isolated Dry Contact Output, 0–100 VDC or 0–130 VAC, Normally Open
SNAP-ODC5RFM*	[Obsolete] 4-Channel Isolated Dry Contact Output, 0–100 VDC or 0–130 VA
SNAP-ODC5R5	4-Channel Isolated Dry Contact Output, 0–100 VDC or 0–130 VAC, Normally Closed
SNAP-ODC5R5FM*	4-Channel Isolated Dry Contact Output, 0–100 VDC or 0–130 VAC, Normally Closed
SNAP-ODC5-i	4-Channel Isolated Digital Output, 5–60 VDC, 5 VDC Logic
SNAP-ODC5-IFM*	4-Channel Isolated Digital Output, 5–60 VDC, 5 VDC Logic
SNAP-ODC5MA	4-Channel Isolated Digital Output, 5–60 VDC, Manual/Auto Switches
SNAP-ODC5A-i	4-Channel Isolated Digital Output, 5–200 VDC, 5 VDC Logic
SNAP-ODC5A-IFM*	4-Channel Isolated Digital Output, 5–200 VDC, 5 VDC Logic,

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SNAP Analog Input Modules

SNAP-AICTD	2-Channel Analog Temperature Input, ICTD
SNAP-AICTD-4	4-Channel Analog Temperature Input, ICTD
SNAP-AILC	Load Cell Input, 10 VDC Excitation, 2 or 3 mV/V Input Sensitivity
SNAP-AIMA	2-Channel Analog Current Input, –20 mA to +20 mA
SNAP-AIMA-i	2-Channel Isolated Analog Current Input, –20 mA to +20 mA
SNAP-AIMA-4	4-Channel Analog Current Input, –20 mA to +20 mA
SNAP-AIMA-iSRC	2-Channel Isolated Analog Current Input, –20 mA to +20 mA, with Loop Sourcing
SNAP-AIMV-4	4-Ch. Analog Current Input, –150 mV to +150 mV or –75 mV to +75 mV
SNAP-AIMV2-4	4-Ch. Analog Current Input, –50 mV to +50 mV or –25 mV to +25 mV
SNAP-AIR40K-4	4-Channel Analog Thermistor Input, 0–40,000 Ohm
SNAP-AIRATE	2-Channel Analog Rate Input, 0–25,000 Hz
SNAP-AIRTD	2-Channel Analog RTD Input, 100 Ohm Platinum
SNAP-AITM	2-Channel Analog Input, Type E, J, or K Thermocouple or –150 mV to +150 mV or –75 mV to +75 mV
SNAP-AITM-i	2-Channel Isolated Analog Input, Type E, J, or K Thermocouple or –150 mV to +150 mV or –75 mV to +75 mV
SNAP-AITM-2	2-Channel Analog Input, Type B, C, D, G, N, T, R, or S Thermocouple
SNAP-AITM2-i	2-Channel Isolated Analog Input, Type B, C, D, G, N, T, R, or S Thermocouple or –50 mV to +50 mV or –25 mV to +25 mV
SNAP-AIV	2-Channel Analog Voltage Input, –10 VDC to +10 VDC
SNAP-AIV-i	2-Channel Isolated Analog Voltage Input, –10 VDC to +10 VDC
SNAP-AIV2-i	2-Channel Isolated Analog Voltage Input, –100 VDC to +100 VDC
SNAP-AIV-4	4-Channel Analog Voltage Input, –10 VDC to +10 VDC
SNAP-pH/ORP	–1.0 VDC to +1.0 VDC and –0.5 VDC to +0.5 VDC

SNAP Analog Output Modules

SNAP-AOA-23	2-Channel Analog Current Loop Output, 4–20 mA
SNAP-AOA-28	2-Channel Analog Current Loop Output, 0–20 mA
SNAP-AOV-25	2-Channel Analog Voltage Output, 0 to +10 VDC
SNAP-AOV-27	2-Channel Analog Voltage Output, –10 to +10 VDC
SNAP-AOD-29	2-Channel Analog Time-Proportional Digital Output, 5–60 VDC