SNAP-SCM-PROFI Communication Module

Features

- Single isolated port with built-in DB-9 connector
- Baud rates to 1.5 MBaud
- Works with the SNAP PAC System
- Up to eight SNAP-SCM-PROFI modules per rack
- 30-month warranty

SNAP-SCM-PROFI Module

Description

The SNAP-SCM-PROFI module is a high-speed serial communications module that provides a standard electrical interface between Opto 22's Ethernet-based SNAP PAC System and PROFIBUS DP® networks.

The SNAP-SCM-PROFI module is designed for use with Opto 22's SNAP PAC R-series controllers and SNAP PAC EB brains, both the standard wired models and the Wired+Wireless™ models.

The SNAP-SCM-PROFI module snaps into Opto 22 SNAP PAC mounting racks, right beside other SNAP I/O modules, to provide the mix of analog, digital, and serial channels you need at any location. LEDs indicate Transmit and Receive activity on the port, as well as power and operation status.

SNAP racks use a retention rail locking system that holds modules securely to the rack. Normally, a hold-down screw is not required. However, for applications that require additional module security, each module has provisions for two 4-40 by ½-inch standard machine screws to hold each module in position on the SNAP rack.

In order to facilitate system integration using a SNAP-SCM-PROFI module with a SNAP PAC controller using PAC Project software, Opto 22 provides PROFIBUS DP Master Software. For more information, see Opto 22 form #1591, the *PROFIBUS DP Master Technical Note*.

Part Number

Part	Description
SNAP-SCM-PROFI	Serial communications module that provides an electrical interface to PROFIBUS DP® networks.

Specifications

Baud rates	9600 to 1.5 MBaud*
Channel-to-channel isolation	750 Vrms
Logic supply voltage	5.0 VDC
Logic supply current	250 mA
Number of ports per module	1
Maximum number of modules per rack*	8
Processor compatibility	SNAP PAC R-series controllers and SNAP PAC EB brains, both standard wired and Wired+Wireless models. Also SNAP-B3000-ENET, SNAP-ENET-RTC, SNAP-ENET-S64, SNAP-UP1-ADS, and SNAP-UP1-M64.
Processor firmware	Firmware 6.1c or newer required
Operating temperature Storage temperature	0 to 70 °C -30 to 85 °C
Torque, hold-down screws	4 in-lb (0.45 N-m)
Torque, connector screws	5.26 in-lb (0.6 N-m)
Agency Approvals	CE, RoHS, DFARS
Warranty	30 months

* Module performance is limited by the number of serial modules on the SNAP rack. Each rack backplane provides approximately 2.5 Mbps of bandwidth.
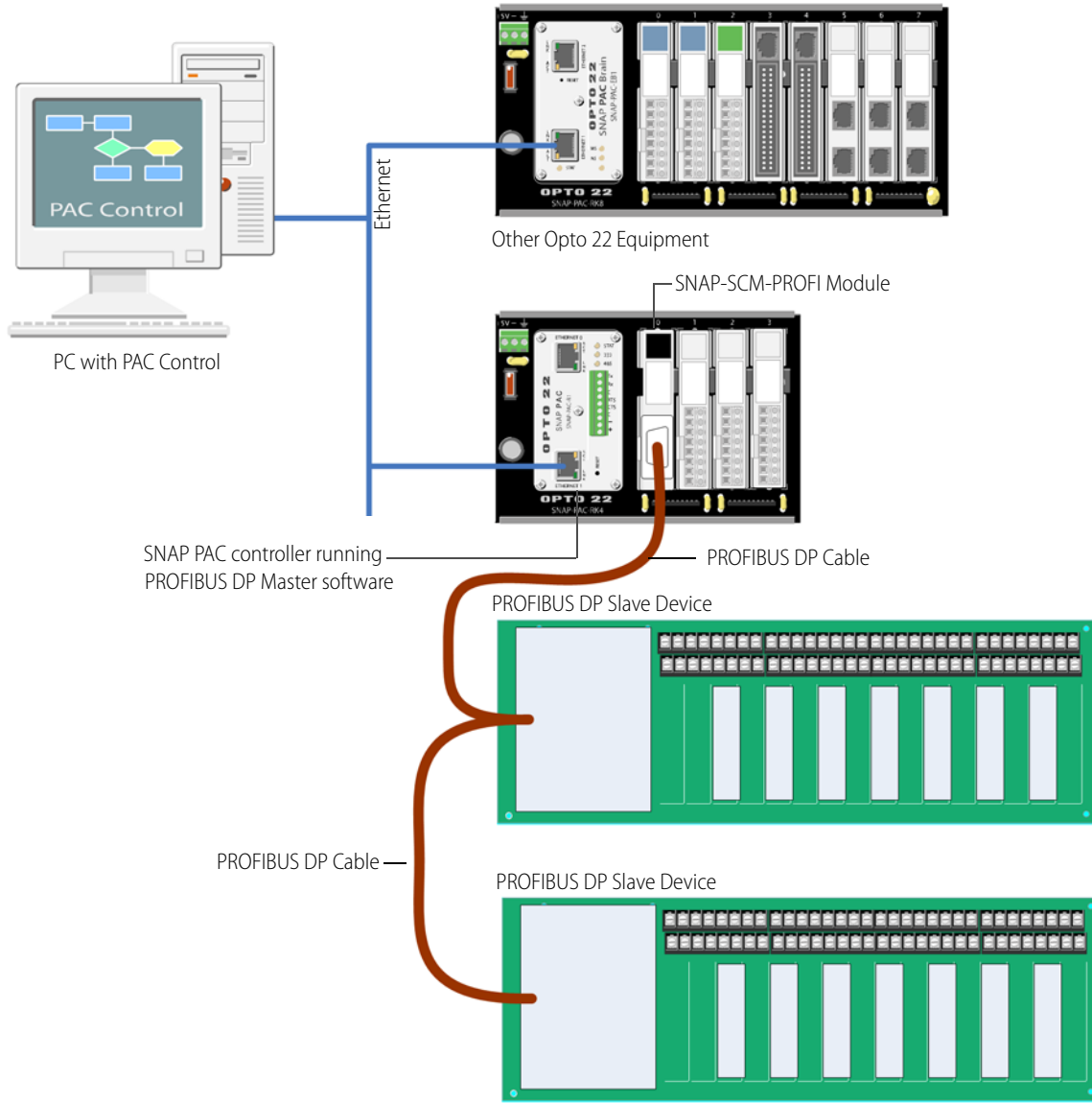** With Opto 22 SNAP power supply and SNAP rack

LEDs

LED	Indicates
1	RUN
2	TRANSMIT
3	POWER
4	RECEIVE

SNAP-SCM-PROFI Communication Module

System Architecture

Other Opto 22 Equipment

PC with PAC Control

SNAP-SCM-PROFI Module

SNAP PAC controller running
PROFIBUS DP Master software

PROFIBUS DP Cable

PROFIBUS DP Slave Device

PROFIBUS DP Cable

PROFIBUS DP Slave Device

OPTO 22

SNAP-SCM-PROFI Communication Module

Wiring

OFF   ON

Pull Up Resistor

Pull Down Resistor

Termination

Not Used

Communication switches

Run — 1 3 — Power
Transmit — 2 4 — Receive

Communication switches

Serial port

pin 5
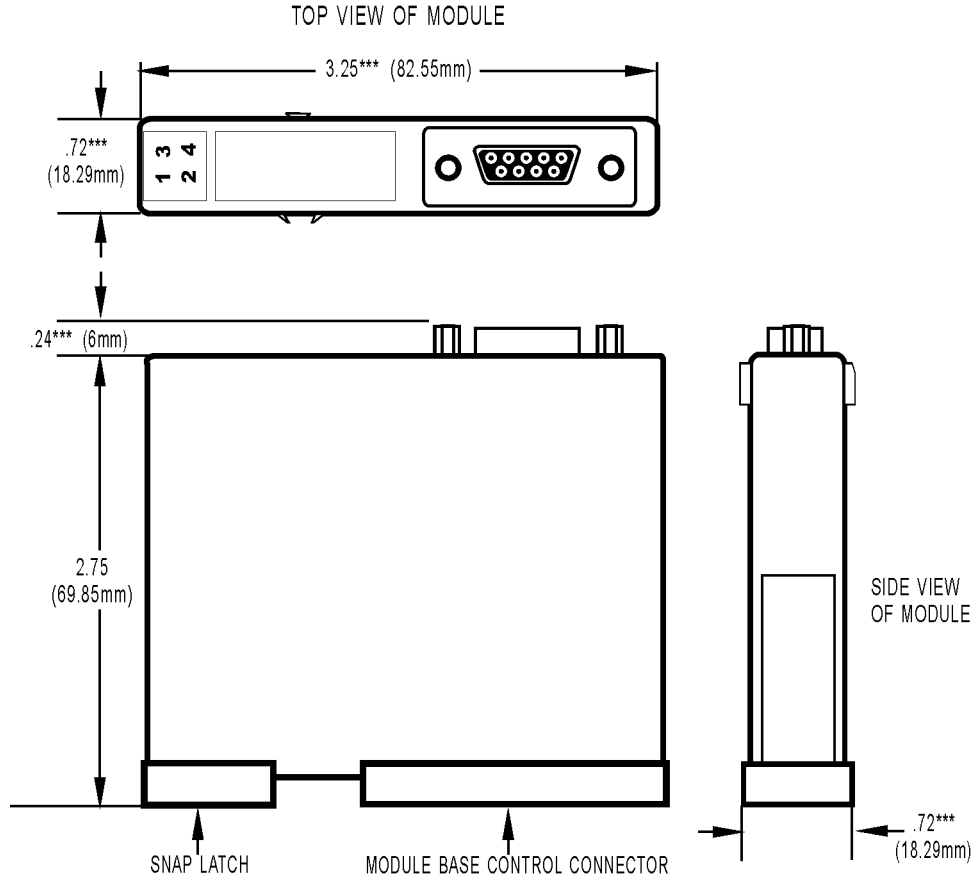Ground

pin 8
Data –

pin 3
Data +

pin 6

pin 1

Serial port pins
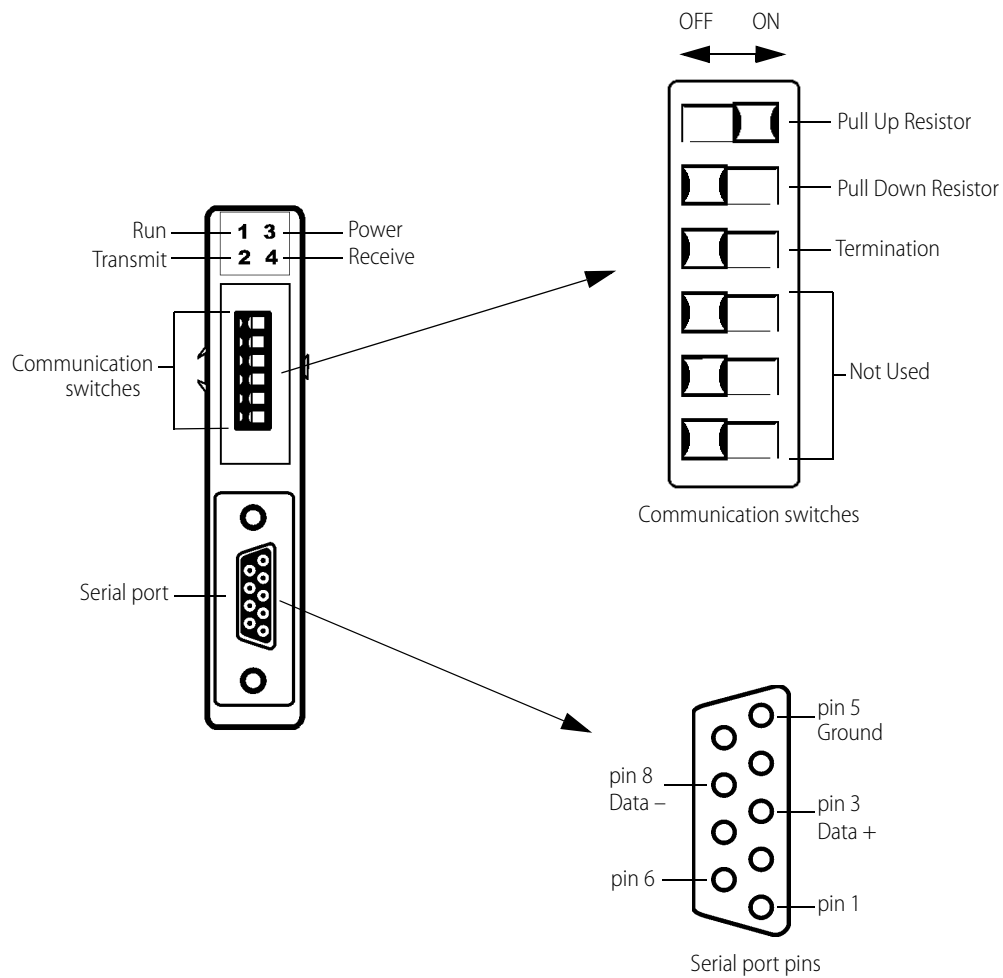
The SNAP-SCM-PROFI module is designed to work with either a standard PROFIBUS DP® cable or a custom-built PROFIBUS DP cable. For information on setting the communication switches, see the *SNAP Serial Communication Module User's Guide*, Opto form #1191.

SNAP-SCM-PROFI Communication Module

Dimensions

TOP VIEW OF MODULE

3.25*** (82.55mm)

.72*** (18.29mm)

1 3
2 4

.24*** (6mm)

2.75 (69.85mm)

SNAP LATCH

MODULE BASE CONTROL CONNECTOR

SIDE VIEW OF MODULE

.72*** (18.29mm)

TOLERANCES LEGEND
* +/– .010"   ** +/– .020"
*** +/– .030"   **** +/– .060"
NO * REFERENCE ONLY

More About Opto 22

Products

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

SNAP PAC System

Designed to simplify the typically complex process of understanding, selecting, buying, 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, multidomain, modular controllers based on open standards and providing an integrated development environment.

Opto 22 has been manufacturing PACs for many years. The latest models include the standalone SNAP PAC S-series and the rack-mounted SNAP PAC R-series. Both handle a wide range of digital, analog, and serial functions and are equally suited to 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 without the expense and limitations of proprietary networks and protocols.

PAC Project Software Suite

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

These fully integrated software applications share a single tagname database, so the data points you configure in PAC Control™ are immediately available for use in PAC Display™, OptoOPCServer™, and OptoDataLink™. 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. PAC Project Professional, available for separate purchase, adds OptoOPCServer, OptoDataLink, options for Ethernet link 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, serial, and special-purpose 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 and with over 85 million devices sold, 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 do no statistical testing and each part is tested twice before leaving our factory, we can guarantee most solid-state relays and optically isolated I/O modules for life.

Free Product Support

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

Free Customer Training

Hands-on training classes for the SNAP PAC System are offered at our headquarters in Temecula, California. Each student has his or her own learning station; classes are limited to nine students. Registration for the free training class is on a first-come, first-served basis. See our website, www.opto22.com, for more information or email training@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 or 951-695-3000, or visit our website at www.opto22.com.

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