

OPTO 22 SNAP PAC Controller Comparison Chart

The following table compares SNAP PAC controllers using minimum version 9.5 firmware and 9.5 PAC Project software.

		SNAP PAC Controllers								
		Software	Standalone				Rack-mounted			
		SoftPAC	SNAP-PAC-S1 SNAP-PAC-S1-FM	SNAP-PAC-S2	SNAP-PAC-S1-W	SNAP-PAC-S2-W	SNAP-PAC-R1 SNAP-PAC-R1-FM	SNAP-PAC-R1-B	SNAP-PAC-R2 SNAP-PAC-R2-FM	SNAP-PAC-R1-W
Works with PAC Project software		●	●	●	●	●	●	●	●	●
Runs PAC Control strategies		●	●	●	●	●	●	●	●	●
Maximum PAC Control charts running at once (plus host task)		64	32	32	32	32	16	16	16	16
Compatible brains ^a	SNAP PAC EB brains	●	●	●	●	●	●	●	●	●
	SNAP PAC SB brains		●	●	●	●				
	Onboard I/O processor (brain)						●	●	●	●
Controller-to-brain communication	Ethernet (UDP/IP, 10/100 Mbps)	●	●	●	●	●	●	●	●	●
	Wireless LAN (802.11a, b, or g)	b			●	●				●
	Serial (RS-485)		●	●	●	●				
Controller-to-PC communication	Runs on PC	●								
	Ethernet (TCP/IP, 10/100 Mbps)	b	●	●	●	●	●	●	●	●
	Wireless LAN (802.11a, b, or g)	b			●	●				●
	PPP over dial-up modem, with hardware handshaking		●	●	●	●	●	●	●	●
Two independent Ethernet network interfaces (two IP addresses)		b	●	●	●	●	●	●	●	●
Wireless LAN interface (802.11a, b, or g)		b			●	●				●
Total number of RS-232 serial ports		c	2	4 ^d	2	4 ^d	1	1	1	1
Number of RS-232 serial ports usable for PPP (on dial-up modem)		c	1 ^e	1 ^e	1 ^e	1 ^e	1 ^e	1 ^e	1 ^e	1 ^e
Total number of RS-485 serial ports		c	1	4 ^d	1	4 ^d	-0-	-0-	-0-	-0-
EtherNet/IP™ (Allen-Bradley® RSLogix® systems and others)			●	●	●	●	●	●	●	●
Modbus®/TCP (slave)			●	●	●	●	●	●	●	●
OPC driver support		●	●	●	●	●	●	●	●	●
RESTful API			●	●	●	●	●	●	●	●
HTTP/HTTPS			●	●	●	●	●	●	●	●
OptoMMP memory-mapped protocol		● ^f	●	●	●	●	●	●	●	●
SNMP (network management)			●	●	●	●	●	●	●	●
Direct access to file system (hard drive plus network)		●								
FTP server, file system			●	●	●	●	●	●	●	●
FTP client		●	●	●	●	●	●	●	●	●
PPP (for use with dial-up modems)			●	●	●	●	●	●	●	●
Email (SMTP client with authentication and attachments)		●	●	●	●	●	●	●	●	●
Scratch Pad area for peer-to-peer data (bits, floats, 32-bit integers, 64-bit integers, and strings)		●	●	●	●	●	●	●	●	●
Security for wireless network (WPA2-AES, WPA-TKIP, WEP)		b			●	●				●
Security for wired Ethernet network (IP filtering, port access)		b	●	●	●	●	●	●	●	●
Real-time clock		b	●	●	●	●	●	●	●	●
Backup battery (recharges when controller has power) ^g			●	●	●	●	●	●	●	●
Physical RAM		b	32 MB		128 MB		16 MB			32 MB
RAM available for Strategy		64 MB	16 MB		64 MB		4 MB			10 MB
Non-volatile or Battery-backed RAM		8 MB	8 MB		8 MB		2 MB			2 MB
Flash memory		^h	16 MB		16 MB		8 MB			8 MB
32-bit processor		b	●	●	●	●	●	●	●	●
Floating-point unit (FPU)		b	●	●	●	●	●	●	●	●
Data storage space		b	approx. 2.5 MB				approx. 2 MB			

	SNAP PAC Controllers									
	Software	Standalone				Rack-mounted				
	SoftPAC	SNAP-PAC-S1 SNAP-PAC-S1-FM	SNAP-PAC-S2	SNAP-PAC-S1-W	SNAP-PAC-S2-W	SNAP-PAC-R1 SNAP-PAC-R1-FM	SNAP-PAC-R1-B	SNAP-PAC-R2 SNAP-PAC-R2-FM	SNAP-PAC-R1-W	SNAP-PAC-R2-W
Removable data storage (microSD card slot)	b	2 GB max.				2 GB max.				
Power requirements	b	8–32 VDC ^l 10 W–11.3 W max ^k				5.0 to 5.2 VDC @ 1.2–1.5 A ^k				
Operating Temperature in degrees C	b	-20 to 60				-20 to 60				
Storage Temperature in degrees C	b	-40 to 85				-40 to 85				
Humidity (non-condensing)	b	0–95%				0–95%				
Uses SNAP PAC mounting rack (4, 8, 12, or 16 modules)	n/a	n/a				●		●	●	●
Uses SNAP B-series mounting rack (4, 8, 12, or 16 modules)							●			
Combination controller and I/O processor ^m						●	●	●	●	●
Maximum number of modules allowed on largest rack: Any mix of 16 digital, 16 analog, and 8 serial						● ⁿ	● ⁿ	●	●	●

- a For compatibility with legacy Opto 22 hardware, see form 1693, [Legacy and Current SNAP Product Comparison and Compatibility Charts](#).
- b As provided by the Microsoft Windows-based computer the software runs on.
- c SoftPAC cannot communicate through serial ports on the PC.
- d Serial ports are software configurable for RS-232 or RS-485.
- e One port on SNAP-PAC-S1 supports DTR, DSR, and CD signals and bidirectional flow control on RTS and CTS. All ports on SNAP-PAC-S2 support DTR and DCD signals and bidirectional flow control on RTS and CTS. The port on SNAP-PAC-R1 and -R2 supports DTR and CD signals, and bidirectional flow control on RTS and CTS.
- f SoftPAC includes Status Read, Status Write, and Scratch Pad areas of the memory map.
- g Models manufactured before August 2007 and S1s with serial numbers 625653 and lower have user-replaceable backup batteries. See original user guide.
- h Function of Flash memory is implemented via a file; size is limited only by available disk space.
- i Units with serial numbers lower than 500,000 have an 8–24 VDC input voltage rating. *Verify voltage on the unit's faceplate before applying power.*
- k Higher requirement applies to -W models.
- m I/O features vary by model. For details, see form 1677, [SNAP PAC Controller and Brain Comparison Chart](#).
- n SNAP-PAC-R1-Bs, and SNAP-PAC-R1s with serial numbers lower than 600,000, are limited to eight 4-channel digital modules per rack.