The following table compares SNAP PAC controllers using minimum version 10.0 firmware and 10.0 PAC Project software.

		SNAP PAC Controllers							
		Software	Standalone		Rack-mounted				
		SoftPAC	SNAP-PAC-S1 SNAP-PAC-S1-FM[o]	SNAP-PAC-S2	SNAP-PAC-R1 (GEN2)	SNAP-PAC-R1 (Earlier)	SNAP-PAC-R1-FM[o]	SNAP-PAC-R1-B[o]	SNAP-PAC-R2[o] SNAP-PAC-R2-FM[o]
Maximum PAC Control charts running at once (plus default host task)		64	32	32	32	16		16	16
Communication	Ethernet (UDP/IP, 10/100 Mbps)	●	●	●	●			●	●
	Two independent Ethernet network interfaces	[b]	●	●	●			●	●
	Number of RS-485 serial ports	[c]	1	4[d]					
	Number of RS-232 serial ports		2	4[d]	1			1	1
Protocols	EtherNet/IP™ (Allen-Bradley® RSLogix® systems, others)		●	●	●			●	●
	Modbus®/TCP (slave)		●	●	●			●	●
	OPC driver support	●	●	●	●			●	●
	RESTful API		●	●	●			●	●
	HTTP/HTTPS		●	●	●			●	●
	OptoMMP memory-mapped protocol	●[e]	●	●	●			●	●
	SNMP (network management)		●	●	●			●	●
	FTP server, file system		●	●	●			●	●
	FTP client	●	●	●	●			●	●
	Email (SMTP client with authentication and attachments)	●	●	●	●			●	●
Supports Node-RED via SNAP-PAC nodes and RESTful API			●	●	●			●	●
Direct access to hard drive & network drives (Dropbox®, etc.)		●							
Real-time clock		[b]	●	●	●			●	●
Backup battery (recharges when controller has power)[f]			●	●	●			●	●
Physical RAM RAM available for Strategy Non-volatile or Battery-backed RAM Flash memory User file storage space		[b] 64 MB 8 MB [g] [b]	32 MB 16 MB 8 MB 16 MB ~2.5 MB		16 MB (256 MB for GEN2) 5 MB (64 MB for GEN2) 2 MB 8 MB (16 MB for GEN2) ~2 MB (~30 MB for GEN2)				
Removable data storage (microSD card slot)		[b]	32 GB max.[h]		32 GB max.[h]				
32-bit processor		[b]	●	●	●			●	●
Floating-point unit (FPU)		[b]	●	●	●			●	●
Compatible I/O units[a]	SNAP PAC EB	●	●	●	●			●	●
	SNAP PAC SB		●	●					
	groov EPIC	●	●	●	●			●	●
	groov RIO	●	●	●	●			●	●

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	SNAP PAC Controllers								
	Software	Standalone		Rack-mounted					
	SoftPAC	SNAP-PAC-S1 SNAP-PAC-S1-FM[o]	SNAP-PAC-S2	SNAP-PAC-R1 (GEN2)	SNAP-PAC-R1 (Earlier)	SNAP-PAC-R1-FM[o]	SNAP-PAC-R1-B[o]	SNAP-PAC-R2[o] SNAP-PAC-R2-FM[o]	
Combination controller and I/O processor[m]	n/a	n/a			●		●	●	
Mounts on SNAP PAC I/O mounting rack					●			●	
Mounts on SNAP B-series I/O mounting rack							●		
Maximum number of modules allowed on largest rack: Any mix of 16 digital, 16 analog, and 8 serial					●[n]		●[n]	●	
Power requirements	b	8–32 VDC[i] 10 W–11.3 W max		5.0 to 5.2 VDC @ 1.2–1.5 A					
Operating Temperature in degrees C Storage Temperature in degrees C	b	-20 to 60 -40 to 85		-20 to 60 -40 to 85					
Humidity (non-condensing)	b	0–95%		0–95%					

[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 SoftPAC 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] SoftPAC includes Status Read, Status Write, and Scratch Pad areas of the memory map.

[f] Models manufactured before August 2007 and S1s with serial numbers 625653 and lower have non-rechargeable 3-volt CR2032 Lithium battery.

[g] Function of Flash memory is implemented via a file; size is limited only by available disk space.

[h] For SNAP-PAC-R1 (GEN2): Requires firmware R10.5g or higher and loader R6.0d. It does not support lower versions.
For SNAP-PAC-R1 (Earlier), SNAP-PAC-R1-FM, SNAP-PAC-R1-B, SNAP-PAC-R2, and SNAP-PAC-R2-FM: Requires firmware R9.4a or higher and loader R6.1a or higher for 32 GB capacity; lower versions limited to 2 GB.

[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.*

[m] I/O features vary by model. For details, see form 1677, *SNAP PAC Controller and Brain Comparison Chart*.

[n] For SNAP-PAC-R1s with serial numbers lower than 600,000 and all SNAP-PAC-R1-Bs: 4-channel digital modules are limited to eight per rack and they must be in slots 0-7.

[o] OBSOLETE product, please contact Pre-Sales Engineering for more information.

OPTO 22 • www.opto22.com
43044 Business Park Dr. Temecula, CA 92590-3614

SALES • sales@opto22.com
800-321-6786 • 1-951-695-3000

SUPPORT • support@opto22.com
800-835-6786 • 1-951-695-3080

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