

SNAP Controller Comparison Chart

The following table compares Opto 22 SNAP industrial controllers. Note that this is a comparison of controller capabilities only; system capabilities may be more extensive, depending upon the brain and I/O modules used. Shaded combinations are recommended for new development.

FEATURE		ioProject Basic and Professional 7.x		ioProject Basic 7.x		FactoryFloor (legacy software suite) ¹	
		SNAP-PAC-S1	SNAP-PAC-R1 SNAP-PAC-R2	SNAP-LCE	SNAP Ultimate I/O	SNAP-LCM4 & M4-series	SNAP-LCSX & LCSX-PLUS
Control software	ioControl Professional ² Maximum charts running at once	● 32 plus host task	● 16 plus host task				
	ioControl Basic Maximum charts running at once	● 32 plus host task	● 16 plus host task	● 16 plus host task	● 8 plus host task		
	OptoControl ³ Maximum charts running at once	4	4			● 32 including host task	● 32 including host task
HMI software	ioDisplay Professional ²	●	●			● ⁵	
	ioDisplay Basic	●	●	●	●		
	OptoDisplay ³					●	●
Utility software	ioManager ²	●	●	●	●		
OPC server	OptoOPCServer (OPC 2.0) ²	●	●	●	●	● ⁵	
	OptoServer (OPC 1.0) ³					●	●
Driver toolkit	OptoMMP Communication Toolkit	Scratch Pad	Scratch Pad and I/O (not strategy)	Scratch Pad	Scratch Pad and I/O (not strategy)		
	OptoControl SDK					●	●
I/O unit compatibility	Built-in I/O processor		●		●		
	SNAP-PAC-R1/R2 I/O units	●	●				
	SNAP Ultimate I/O units	●	●	●	●		
	SNAP Ethernet I/O units	●	●	●	●	● ⁵	
	SNAP Simple I/O units	●	●	●	●	● ⁵	
	E1 and E2 I/O units ⁷	●	●	●	●		
	B3000/B100/B200 Serial I/O units	●				●	●
	<i>mistic</i> remote bricks	●				●	●
<i>mistic</i> ARCNET I/O units					● ⁶		
I/O communication	Ethernet (10/100 Mbps)	● (UDP) ⁸	● (UDP) ⁸	● (UDP)	● (UDP)	● (TCP) ⁵	
	Serial (RS-485)	1 port				2 or 4 ports	2 or 4 ports
	ARCNET					● ⁶	

FEATURE		ioProject Basic and Professional 7.x		ioProject Basic 7.x		FactoryFloor (legacy software suite) ¹	
		SNAP-PAC-S1	SNAP-PAC-R1 SNAP-PAC-R2	SNAP-LCE	SNAP Ultimate I/O	SNAP-LCM4 & M4-series	SNAP-LCSX & LCSX-PLUS
Host communication	Ethernet (10/100 Mbps)	● (TCP) ⁸	● (TCP) ⁸	● (TCP)	● (TCP)	● (TCP) ⁴	
	Serial (RS-232)					●	●
	ARCNET					● ⁵	
	PPP (dial-up and radio modem)	● hardware handshaking	● hardware handshaking	●	●		
Serial port for modem use or for direct connection to serial devices using an ioControl strategy		2 RS-232 ports (one with hardware handshaking)	1 port (RS-232 with hardware handshaking)	2 ports (RS-232 only)	1 port (RS-232 only)		
Modbus [®] /TCP		● ⁹	●		●		
FTP server/client, file system		●	●	●	●		
Scratch Pad area for peer-to-peer communication		●	●	●	●		
SNMP (network management)		●	●		●		
Email (SMTP client)		● ⁹	●		●		
Power requirements		8–24 VDC (10 W max.)	5 VDC @ 1.2 A (additional required for I/O modules)	5 VDC @ 1.2 A	5 VDC @ 1.2 A (additional required for I/O modules)	5 VDC @ 2 A (1 A for controller; 1 A for Ethernet adapter card)	5 VDC @ 500 mA
Processor		32-bit Coldfire [®] 5475 with integrated FPU	32-bit Coldfire 5475 with integrated FPU	32-bit ColdFire 5407	32-bit ColdFire 5407	32-bit Motorola [®] 68030 with IEEE floating-point 68882 math coprocessor	32-bit Motorola 68EC020
RAM		32 MB	16 MB	16 MB	16 MB	4 MB	1 MB
Battery-backed RAM		8 MB	2 MB	512 KB	512 KB	4 MB	1 MB
Flash EEPROM		16 MB	8 MB	8 MB	8 MB	2 MB	256 KB
Backup battery		3.6-volt lithium, user replaceable	CR2032, user replaceable	CR2032, user replaceable	CR2032, fixed	3.6-volt lithium, user replaceable	3.6-volt lithium, user replaceable
Real-time clock		●	●	●	●	●	●
Size (inches)		4.05 L x 1.75 W x 4.20 H	3.30 L x 1.82 W x 3.50 H	4.05 L x 1.75 W x 4.20 H	3.30 L x 1.82 W x 3.50 H	6.20 L x 5.80 W x 6.50 H	4.05 L x 1.75 W x 4.20 H
Size (centimeters)		10.29 L x 4.45 W x 10.67 H	8.38 L x 4.62 W x 8.89 H	10.29 L x 4.45 W x 10.67 H	8.38 L x 4.62 W x 8.89 H	15.75 L x 14.73 W x 16.51 H	10.29 L x 4.45 W x 10.67 H
Operating Temperature		0 to 60 °C	0 to 60 °C	0 to 60 °C	0 to 60 °C	0 to 70 °C	0 to 70 °C
Storage Temperature		-40 to 85 °C	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C	-40 to 85 °C
Humidity (non-condensing)		0–95%	0–95%	0–95%	0–95%	5–95%	5–95%

¹ ioProject Basic or Professional is recommended for new development.

² ioControl Professional, ioDisplay Professional, ioManager, and OptoOPCServer are part of the ioProject Professional software suite.

³ OptoControl, OptoDisplay, and OptoServer are part of the FactoryFloor software suite.

⁴ Converts OptoControl strategies to ioControl, using ioControl Professional

⁵ With M4SENET-100 Ethernet adapter card

⁶ With ARCNET adapter card

⁷ Not all Optomux features are supported. See E1/E2 data sheet for details.

⁸ Two Ethernet network interfaces for Ethernet link redundancy or segmenting networks

⁹ Firmware version 7.2 and newer