

Comparison Chart: SNAP Standard and High-Density Digital Modules

The following table compares standard and high-density SNAP digital I/O modules.

Item	High-Density SNAP Digital Modules			Standard SNAP Digital Modules		
Number of points on module	32			4		
Isolation and fusing	Input and output modules: The module is divided into four groups of eight points. Groups are isolated from each other, but points within a group are not isolated from each other. Groups must be externally fused.			Input modules: Each point is optically isolated from other points on the module. Most output modules: Points are not isolated from each other. Points share a common fuse.		
Status LEDs	None; use the handheld OptoTerminal-G20 for module diagnostics and commissioning, or connect module to an optional breakout rack.			One for each point, located on top of module.		
Polling time from I/O processor to module (affects turn-on and turn-off determination)	6–8 ms typical; time varies based on the SNAP I/O processor (brain or on-the-rack controller), processor configuration, and Ethernet host communication activity.			6–8 ms typical; time varies based on the SNAP I/O processor (brain or on-the-rack controller), processor configuration, and Ethernet host communication activity.		
Module turn-on/off time	Input module: 6 ms Output modules: 100 usec			Varies by module. Examples: • SNAP-IDC5-FAST: 25 usec • SNAP-IDC5: 5 ms turn-on, 15 ms turn-off		
Latching	Yes			Yes		
Counting on digital input modules	Counting occurs on the module; no configuration is required.* Counting is available with any compatible I/O processor, including analog/simple digital (SNAP-PAC-R2, SNAP-UP1-M64, and SNAP-ENET-S64). Counting speed: 0–50 Hz @ 50% duty cycle			High-speed counting occurs on the SNAP I/O processor and can be configured for any point. (High-speed counting is not available on digital-only or analog/simple digital processors.) Counting speed varies based on the processor and the speed of the module. Example: B3000 serial brain with SNAP-IDC5-FAST: up to 20 KHz SNAP Ethernet-based brain with SNAP-IDC5-FAST: up to 10 KHz		
Individual point names	No. ioControl strategy commands generally use bitmasks to read or write to points on a high-density digital module.			Yes. ioControl strategy commands refer to each digital point on a module by name.		
Placement on rack	Place anywhere on analog/digital racks, even in slots marked “Analog Only.”			Place in first eight slots only on analog/digital racks. Place anywhere on digital-only racks.		
Racks and Processors	Compatible?	Max. Modules	Max. Points	Compatible?	Max. Modules	Max. Points
B-series racks with SNAP-UP1-ADS and SNAP-B3000-ENET	Yes	16	512	Yes	8	32
M-series racks with SNAP-PAC-R1	Yes	16	512	Yes	8	32
M-series racks with SNAP-PAC-R2, SNAP-UP1-M64, and SNAP-ENET-S64	Yes	16	512	Yes	16	64
SNAP-D64RS rack with SNAP-UP1-D64 and SNAP-ENET-D64	No	--	--	Yes	16	64

* Notes on HDD counting: The module uses a 16-bit counter, but the processor used with the module accumulates counts to 32 bits by periodically getting and clearing the module's counts and adding to current values. Update time varies based on number of modules and Ethernet communication demands.