

SNAP Digital Input Modules

Features

- Four channels per module
- 4,000-volt transient isolation
- Convenient pluggable wiring terminals
- Channel-specific LEDs
- Operating temperature: 0 to 70 °C
- UL and CE approved
- Accepts up to 14 AWG wire
- Factory Mutual approved (part numbers ending in FM)



SNAP Digital Input Modules

Description

Opto 22 SNAP I/O digital input modules are part of the SNAP PAC System. Optical isolation on these modules provides 4,000 volts of transient (4000 V for 1 ms) protection for sensitive control electronics from industrial field signals. Digital input modules can sense either AC or DC signals.

All SNAP digital modules have removable top-mounted connectors to provide easy access for field wiring, and all operate on 5 VDC control logic. Each digital module features integral channel-specific LEDs for convenient troubleshooting and maintenance. Each module is factory tested twice and is UL and CE approved. In addition, part numbers ending in FM are Factory Mutual approved.

SNAP input modules are used to sense the on or off status for AC or DC voltages from such sources as proximity switches, push buttons, or auxiliary contacts. The SNAP-IDC5G is ideal for detecting 48 VDC in telecom applications. The SNAP-IDC5-HT is designed for sensors that have a high leakage current.

The SNAP-IDC5-SW and SNAP-IDC5-SW-NC modules supply power to an external dry contact switch and sense

Part Numbers

Part	Description
SNAP-IAC5	SNAP 4-channel 90–140 VAC input, 5 VDC logic
SNAP-IAC5A	SNAP 4-channel 180–280 VAC input, 5 VDC logic
SNAP-IAC5MA*	SNAP 4-channel isolated 90–140 VAC/VDC input, 5 VDC logic, with manual/auto switches
SNAP-IAC5FM	SNAP 4-channel 90–140 VAC/VDC input, 5 VDC logic, Factory Mutual approved
SNAP-IAC5AFM	SNAP 4-channel 180–280 VAC input, 5 VDC logic, Factory Mutual approved
SNAP-IDC5	SNAP 4-channel 10–32 VDC input, 5 VDC logic
SNAP-IDC5D	SNAP 4-channel 2.5–28 VDC input, 5 VDC logic
SNAP-IDC5FAST	SNAP 4-channel high-speed 2.5–16 VDC input, VDC logic
SNAP-IDC5-FAST-A*	SNAP 4-channel high-speed 18–32 VDC input, 5 VDC logic
SNAP-IDC5G*	SNAP 4-channel 35–75 VAC/DC input, 5 VDC logic
SNAP-IDC5AF	SNAP 4-channel high-speed 75–140 VDC input, 5 VDC logic
SNAP-IDC5GF	SNAP 4-channel high-speed 35–75 VDC input, 5 VDC logic
SNAP-IDC5HT	SNAP 4-channel 15–32 VDC leakage-tolerant input, 5 VDC logic
SNAP-IDC5MA	SNAP 4-channel isolated high-speed 10–32 VAC/VDC input, 5 VDC logic, with manual/auto switches
SNAP-IDC5-SW*	SNAP 4-channel switch status input, normally open
SNAP-IDC5-SW-NC*	SNAP 4-channel switch status input, normally closed
SNAP-IDC5FM	SNAP 4-channel 10–32 VDC input, 5 VDC logic, Factory Mutual approved
SNAP-IDC5DFM	SNAP 4-channel 2.5–28 VDC input, 5 VDC logic
SNAP-RETN4	SNAP 4-module retention rail (OEM)
SNAP-RETN4B	SNAP 4-module retention rail, 25-pack (OEM)
SNAP-RETN6	SNAP 6-module retention rail (OEM)
SNAP-RETN6B	SNAP 6-module retention rail, 25-pack (OEM)
SNAP-FUSE4AB	SNAP 4-amp fuse, 25-pac

* UL approval pending

switch closure (SNAP-IDC5-SW) or opening (SNAP-IDC5-SW-NC).

SNAP-IAC5MA and SNAP-IDC5MA are special modules featuring manual-on/manual-off/automatic switches, ideal for diagnostic testing of control applications. The switches override input from field devices, so you can quickly determine whether a problem lies in the application or in the device.

Notes for legacy hardware: SNAP digital input modules are also compatible with SNAP Ultimate, SNAP Ethernet, and SNAP Simple brains, as well as other SNAP brains such as the serial B3000 and the

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B3000HA. These modules can be used on B-series, M-series, and D-series mounting racks.

Wiring Options

For easier, faster wiring of field devices to input modules, see the *SNAP TEX Cables and Breakout Boards Data Sheet*, form #1756. Each SNAP TEX cable snaps into the top of the module and terminates at the breakout board with 18-gauge, color-coded flying leads, already stripped and ready for wiring. Breakout boards offer optional fusing, fuse-blown indicators, and bussed power to loads.

Specifications: AC Input Modules

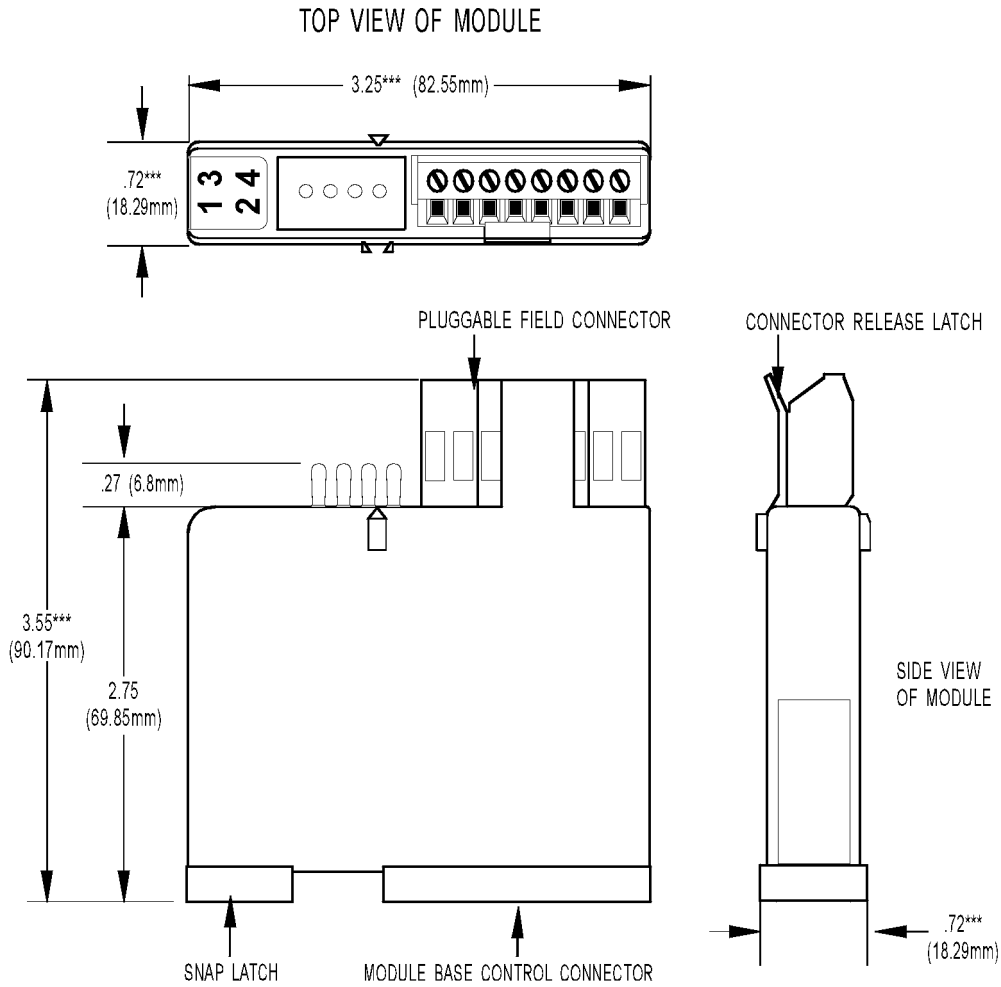
	SNAP-IAC5	SNAP-IAC5A	SNAP-IAC5MA
Key Feature	--	--	Diagnostic switches
Field Side Ratings (each channel)			
Nominal Input Voltage	120 VAC/VDC	240 VAC/VDC	120 VAC/VDC
Channel-to-channel isolation	300 VAC (1,500 V transient)	300 VAC (1,500 V transient)	300 VAC (1,500 V transient)
Input Voltage Range	90–140 VAC/VDC	180–280 VAC/VDC	90–140 VAC/VDC
Turn-on Voltage	90 VAC/VDC	180 VAC/VDC	90 VAC/VDC
Turn-off Voltage	35 VAC/VDC	35 VAC/VDC	35 VAC/VDC
Input Resistance	169 K ohms (nominal)	305 K ohms (nominal)	169 K ohms (nominal)
Logic Side Ratings			
Logic Output Voltage	<.5 V max. (on) @ 2 mA sinking 2.7 V min. (off) @ 400 mA sourcing	<.5 V max. (on) @ 2 mA sinking 2.7 V min. (off) @ 400 mA sourcing	<.5 V max. (on) @ 2 mA sinking 2.7 V min. (off) @ 400 mA sourcing
Logic Supply Voltage*	5 VDC ± 0.25 VDC	5 VDC ± 0.25 VDC	5 VDC ± 0.25 VDC
Logic Supply Current	50 mA maximum	50 mA maximum	50 mA maximum
Negative True Logic Output Drive	TTL 74 Series = 1 UL TTL 74LS Series = 5 UL	TTL 74 Series = 1 UL TTL 74LS Series = 5 UL	TTL 74 Series = 1 UL TTL 74LS Series = 5 UL
Module Ratings			
Number of Channels Per Module	4	4	4
Turn-on Time	30 msec	30 msec	30 msec
Turn-off Time	30 msec	30 msec	30 msec
Optical Isolation Field Side to Logic Side)	4,000 volts (transient)	4,000 volts (transient)	4,000 volts (transient)
Temperature	0 °C to 70 °C, operating -30 °C to 85 °C, storage	0 °C to 70 °C, operating -30 °C to 85 °C, storage	0 °C to 70 °C, operating -30 °C to 85 °C, storage

* When used with an I/O processor (brain or on-the-rack controller), the processor requires 5.0 to 5.2 VDC.

SNAP Digital Input Modules

Dimensional Drawing

All MA Modules



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

SNAP Digital Input Modules

Dimensional Drawing

All Models

SNAP Digital Module Mounted on SNAP Rack

