## SNAP DIGITAL INPUT MODULES

## Features

> Four channels per module
> 4,000-volt transient isolation
> Convenient pluggable wiring terminals
> Channel-specific LEDs
$>$ UL and CE approved
> Accepts 22 to 14 AWG wire
> Factory Mutual approved (part numbers ending in FM)

## DESCRIPTION

This data sheet covers SNAP digital input modules with four channels. For modules with 16 or 32 channels, see form 1556, the SNAP High-Density Digital Modules Data Sheet.

Opto 22 SNAP I/O 4-channel 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 4-channel 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 switch closure (SNAP-IDC5-SW) or opening (SNAP-IDC5-SW-NC).

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

SNAP racks use a retention rail locking system. Use two 4-40 by $1 / 2$-inch standard machine screws to hold each module in position on the SNAP rack.

## 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-IDC5-FAST | SNAP 4-channel high-speed 2.5-16 VDC input, 5 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-IDC5-HT | SNAP 4-channel 15-32 VDC leakage-tolerant input, 5 VDC logic |
| SNAP-IDC5MA | SNAP 4-channel isolated 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-pack |

SNAP digital input modules are compatible with all SNAP PAC brains and rack-mounted controllers, including Wired+Wireless ${ }^{\text {m" }}$.

Notes for legacy hardware: These modules can also be used with SNAP Ultimate, SNAP Ethernet, and SNAP Simple brains, and with other SNAP brains such as the serial B3000 and the B3000HA. They also mount on B-series, M-series, and D-series 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

## Specifications: AC Input Modules

|  | SNAP-IAC5 | SNAP-IAC5A | SNAP-IAC5MA |
| :---: | :---: | :---: | :---: |
| Key Feature | -- | -- | Diagnostic switches |
| Wire size | 22 to 14 AWG | 22 to 14 AWG | 22 to 14 AWG |
| Torque, hold-down screws | $4 \mathrm{in}-\mathrm{lb}$ (0.45 N-m) | $4 \mathrm{in}-\mathrm{lb}$ (0.45 N-m) | $4 \mathrm{in}-\mathrm{lb}$ (0.45 N-m) |
| Torque, connector screws | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) |
| Field Side Ratings (each channel) |  |  |  |
| Nominal Input Voltage | 120 VAC/VDC | 240 VAC/VDC | 120 VAC/VDC |
| Channel-to-channel isolation | 300 VAC <br> (1,500 V transient) | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \text { V transient }) \end{aligned}$ | $\begin{aligned} & 300 \mathrm{VAC} \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ |
| 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) <br> @ 2 mA sinking 2.7 V min. (off) @ 400 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking 2.7 V min. (off) @ 400 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking 2.7 V min. (off) <br> @ 400 mA sourcing |
| Logic Supply Voltage* | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ |
| Logic Supply Current | 50 mA maximum | 50 mA maximum | 50 mA maximum |
| Negative True Logic Output Drive | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL | TTL 74 Series = 1 UL <br> TTL 74LS Series $=5$ UL | TTL 74 Series $=1$ UL <br> 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 to Logic | 4,000 volts (transient) | 4,000 volts (transient) | 4,000 volts (transient) |
| Temperature | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$, operating $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$, storage | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$, operating $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$, storage | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$, operating $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$, storage |
| Agency Approvals | UL, CE, CSA, RoHS, DFARS | UL, CE, CSA, RoHS, DFARS | UL, CE, RoHS, DFARS |
| Warranty | Lifetime | Lifetime | 30 months |

[^0]
## SPECIFICATIONS: DC INPUT MODULES

See page 6 for SNAP-IDC5-SW and SNAP-IDC5-SW-NC specifications and wiring.

|  | SNAP-IDC5 | SNAP-IDC5D | SNAP-IDC5G | SNAP-IDC5-HT |
| :---: | :---: | :---: | :---: | :---: |
| Key Feature | -- | -- | -- | Leakage-tolerant |
| Wire size | 22 to 14 AWG | 22 to 14 AWG | 22 to 14 AWG | 22 to 14 AWG |
| Torque, hold-down screws | $4 \mathrm{in}-\mathrm{lb}$ (0.45 N-m) | 4 in -lb ( $0.45 \mathrm{~N}-\mathrm{m}$ ) | 4 in -lb (0.45 N-m) | $4 \mathrm{in-lb}(0.45 \mathrm{~N}-\mathrm{m})$ |
| Torque, connector screws | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) |
| Field Side Ratings (each channel) |  |  |  |  |
| Nominal Input Voltage | 24 VAC/VDC | 5 VDC | 48 VAC/VDC | 24 VAC/VDC |
| Channel-to-channel isolation | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \text { V transient }) \end{aligned}$ | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ | 300 VAC $(1,500 \mathrm{~V}$ transient) | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ |
| Input Voltage Range | 10-32 VAC/VDC | 2.5-28 VDC | 35-75 VAC/VDC | 15-32 VAC/VDC |
| Turn-on Voltage | 10 VAC/VDC | 2.5 VDC | 35 VAC/VDC | 15 VAC/VDC |
| Turn-off Voltage | 3 VAC/VDC | 1 VDC | 7 VAC/VDC | $8 \mathrm{VAC/VDC}$ |
| Input Resistance | 15 K ohms (nominal) | 3 K ohms (nominal) | 64 K ohms (nominal) | 3 K ohms (nominal) |
| Logic Side Ratings |  |  |  |  |
| Logic Output Voltage | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing |
| Logic Supply Voltage*** | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ |
| Logic Supply Current | 50 mA maximum | 50 mA maximum | 50 mA maximum | 50 mA maximum |
| Negative True Logic Output Drive | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL |
| Module Ratings |  |  |  |  |
| Number of Channels Per Module | 4 | 4 | 4 | 4 |
| Turn-on Time | 5 msec | 1 msec | 5 msec | 20 msec |
| Turn-off Time | 15 msec | 1 msec | 15 msec | 25 msec |
| Optical Isolation <br> (Field Side to Logic Side) | 4,000 volts (transient) | 4,000 volts (transient) | 4,000 volts (transient) | 4,000 volts (transient) |
| Temperature | -20 to $70^{\circ} \mathrm{C}$, operating <br> -40 to $85^{\circ} \mathrm{C}$, storage | -20 to $70^{\circ} \mathrm{C}$, operating <br> -40 to $85^{\circ} \mathrm{C}$, storage | -20 to $70^{\circ} \mathrm{C}$, operating <br> -40 to $85^{\circ} \mathrm{C}$, storage | -20 to $70^{\circ} \mathrm{C}$, operating <br> -40 to $85^{\circ} \mathrm{C}$, storage |
| Agency Approvals | UL, CE, CSA, RoHS, DFARS | UL, CE, CSA, RoHS, DFARS | UL, CE, RoHS, DFARS | CE, RoHS, DFARS |
| Warranty | Lifetime | Lifetime | Lifetime | Lifetime |

[^1]
## SPECIFICATIONS: DC INPUT MODULES (CONTINUED)

See page 6 for SNAP-IDC5-SW and SNAP-IDC5-SW-NC specifications and wiring.)

|  | SNAP-IDC5-FAST* | SNAP-IDC5-FAST-A** | SNAP-IDC5MA |
| :---: | :---: | :---: | :---: |
| Key Feature | High-speed | High-speed | Diagnostic switches |
| Wire size | 22 to 14 AWG | 22 to 14 AWG | 22 to 14 AWG |
| Torque, hold-down screws | $4 \mathrm{in}-\mathrm{lb}$ ( $0.45 \mathrm{~N}-\mathrm{m}$ ) | $4 \mathrm{in-lb}$ ( $0.45 \mathrm{~N}-\mathrm{m}$ ) | $4 \mathrm{in-lb}$ ( $0.45 \mathrm{~N}-\mathrm{m}$ ) |
| Torque, connector screws | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) |
| Field Side Ratings (each channel) |  |  |  |
| Nominal Input Voltage | 5 VDC | 28 VDC | 24 VAC/VDC |
| Channel-to-channel isolation | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \text { V transient }) \end{aligned}$ |
| Input Voltage Range | 2.5-16 VDC | 18-32 VDC | 10-32 VAC/VDC |
| Turn-on Voltage | 2.5 VDC | 18 VDC | 10 VAC/VDC |
| Turn-off Voltage | 1 VDC | 5 VDC | 3 VAC/VDC |
| Input Resistance | 440 ohms (nominal) | 8 K ohms (nominal) | 15 K ohms (nominal) |
| Logic Side Ratings |  |  |  |
| Logic Output Voltage | $<0.5 \mathrm{~V}$ max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing | $<0.5 \mathrm{~V}$ max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing | $<0.5 \mathrm{~V}$ max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 400 mA sourcing |
| Logic Supply Voltage*** | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ |
| Logic Supply Current | 50 mA maximum | 50 mA maximum | 50 mA maximum |
| Negative True Logic Output Drive | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL | TTL 74 Series $=1$ UL <br> TTL 74LS Series $=5$ UL |
| Module Ratings |  |  |  |
| Number of Channels Per Module | 4 | 4 | 4 |
| Turn-on Time | $0.025 \mathrm{msec}^{*}$ | $0.025 \mathrm{msec}^{* *}$ | 5 msec |
| Turn-off Time | $0.025 \mathrm{msec}^{*}$ | 0.025 msec** | 15 msec |
| Optical Isolation <br> (Field Side to Logic Side) | 4,000 volts (transient) | 4,000 volts (transient) | 4,000 volts (transient) |
| Temperature | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$, operating $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$, storage | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$, operating $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$, storage | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$, operating $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$, storage |
| Agency Approvals | UL, CE, ATEX, FM, CSA, RoHS, DFARS | UL, CE, CSA, RoHS, DFARS | CE, RoHS, DFARS |
| Warranty | Lifetime | Lifetime | 30 months |

* At $20 \mathrm{kHz}, 5 \mathrm{Vp}-\mathrm{p}$ square wave input, $50 \%$ duty cycle.
** At 20kHz, 28Vp-p square wave input, $50 \%$ duty cycle.
*** When used with an I/O processor (brain or on-the-rack controller), the processor requires 5.0 to 5.2 VDC.


## SPECIFICATIONS: AC AND DC INPUT MODULES (FM MODELS)

|  | SNAP-IAC5FM | SNAP-IAC5AFM | SNAP-IDC5FM | SNAP-IDC5DFM |
| :---: | :---: | :---: | :---: | :---: |
| Key Feature | Factory Mutual approved | Factory Mutual approved | Factory Mutual approved | Factory Mutual approved |
| Wire size | 22 to 14 AWG | 22 to 14 AWG | 22 to 14 AWG | 22 to 14 AWG |
| Torque, hold-down screws | $4 \mathrm{in}-\mathrm{lb}(0.45 \mathrm{~N}-\mathrm{m})$ | $4 \mathrm{in-lb}(0.45 \mathrm{~N}-\mathrm{m})$ | $4 \mathrm{in}-\mathrm{lb}(0.45 \mathrm{~N}-\mathrm{m})$ | $4 \mathrm{in}-\mathrm{lb}(0.45 \mathrm{~N}-\mathrm{m})$ |
| Torque, connector screws | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) | 5.26 in-lb (0.6 N-m) |
| Field Side Ratings (each channel) |  |  |  |  |
| Nominal Input Voltage | 120 VAC/VDC | 240 VAC/ VDC | 24 VAC/VDC | 5 VDC |
| Channel-to-channel isolation | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ | $\begin{aligned} & 300 \text { VAC } \\ & (1,500 \mathrm{~V} \text { transient }) \end{aligned}$ |
| Input Voltage Range | 90-140 VAC/VDC | 180-280 VAC/VDC | 10-32 VAC/VDC | 2.5-28 VDC |
| Turn-on Voltage | 90 VAC/VDC | 180 VAC/VDC | 10 VAC/VDC | 2.5 VDC |
| Turn-off Voltage | 35 VAC/VDC | 35 VAC/VDC | 3 VAC/VDC | 1 VDC |
| Input Resistance | 169 K ohms (nominal) | 305 K ohms (nominal) | 15 K ohms (nominal) | 3 K ohms (nominal) |
| Logic Side Ratings |  |  |  |  |
| Logic Output Voltage | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 400 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 400 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing | <. 5 V max. (on) <br> @ 2 mA sinking <br> 2.7 V min. (off) <br> @ 0.4 mA sourcing |
| Logic Supply Voltage* | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ | $5 \mathrm{VDC} \pm 0.25 \mathrm{VDC}$ |
| Logic Supply Current | 50 mA maximum | 50 mA maximum | 50 mA maximum | 50 mA maximum |
| Negative True Logic Output Drive | TTL 74 Series $=1$ UL <br> TTL 74LS Series=5 UL | TTL 74 Series=1 UL <br> TTL 74LS Series=5 UL | TTL 74 Series=1 UL <br> 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 | 4 |
| Turn-on Time | 30 msec | 30 msec | 5 msec | 1 msec |
| Turn-off Time | 30 msec | 30 msec | 15 msec | 1 msec |
| Optical Isolation (Field Side to Logic Side) | 4,000 volts (transient) | 4,000 volts (transient) | 4,000 volts (transient) | 4,000 volts (transient) |
| Temperature | -20 to $70^{\circ} \mathrm{C}$, operating -40 to $85^{\circ} \mathrm{C}$, storage | -20 to $70^{\circ} \mathrm{C}$, operating -40 to $85^{\circ} \mathrm{C}$, storage | -20 to $70^{\circ} \mathrm{C}$, operating <br> -40 to $85^{\circ} \mathrm{C}$, storage | -20 to $70^{\circ} \mathrm{C}$, operating -40 to $85^{\circ} \mathrm{C}$, storage |
| Agency Approvals | CE, FM, RoHS, DFARS | CE, FM, RoHS, DFARS | CE, FM, RoHS, DFARS | CE, FM, ATEX, RoHS, DFARS |
| Warranty | Lifetime | Lifetime | Lifetime | Lifetime |

[^2]
## SNAP-IDC5-SW AND SNAP-IDC5-SW-NC MODULES

## Description

The SNAP-IDC5-SW and SNAP-IDC5-SW-NC modules provide four channels of contact status input. Each module supplies 15 volts of power to an external dry contact switch. The SNAP-IDC5-SW senses switch closure; the SNAP-IDC5-SW-NC senses switch opening. Each user-supplied switch is connected with two wires. Because these modules include power for the switch, they are particularly cost-effective when labor costs for wiring external power are high.

Typical switches for use with these modules are switched status sensors (level sensors, pressure indicators, etc.), magnetic reed switches (used on doors or windows for burglar alarms), snap-action micro switches, the auxilliary switches on motor starters, and most relay contacts.

CAUTION: The SNAP-IDC5-SW and SNAP-IDC5-SW-NC inputs are not intended to be used with contacts that are connected to any external user-supplied voltage or currents.


SNAP DIGITAL MODULE BASE CONTROL CONNECTOR (BOTTOM VIEW)

## Specifications

| Field Side Ratings (each channel) |
| :--- |
| Open Circuit Voltage <br> (Switch Open) |
| Short Circuit Current <br> (Switch Closed) |
| Minimum Off Resistance typical |
| Maximum Allowable On <br> Resistance (Wire + Con- <br> tact Resistance) |$\quad 500$ K ohms ohms

## Logic Side Ratings

Logic Output Voltage for SNAP-IDC5-SW (normally open)

Logic Output Voltage for SNAP-IDC5-SW-NC (normally closed)

Maximum Operating Common Mode Voltage (Field Term to Logic Connector)

| Power Requirements | $5 \mathrm{VDC}( \pm 0.25) @ 200 \mathrm{~mA}$ |
| :--- | :--- |
| Module Ratings |  |
| Number of Channels Per <br> Module | 4 |
| Turn-on Time | 5 msec |
| Turn-off Time | 25 msec |
| Channel-to-channel Isola- <br> tion | None |
| Input-to-output Isolation | $1500 \mathrm{~V} \mathrm{AC/DC}$ |
| Wire size | 22 to 14 AWG |
| Torque, hold-down <br> screws | 4 in-lb $(0.45 \mathrm{~N}-\mathrm{m})$ |
| Torque, connector screws | 5.26 in-lb $(0.6 \mathrm{~N}-\mathrm{m})$ |
| Temperature | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}$, operating |
| $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$, storage |  |

## SCHEMATICS

## Most AC and DC Input Modules

See previous page for SNAP-IDC5-SW and SNAP-IDC5-SW-NC wiring diagram.
MA Modules with Manual/Auto Switches (Top View)


SNAP DIGTAL MODULE BASE CONTROL CONNECTOR (BOTTOM VIEM)

## DIMENSIONAL DRAWING

All Modules Except MA


## DIMENSIONAL DRAWING

All MA Modules


## DIMENSIONAL DRAWING

All Models


TOLERANCES

* +/- 0.010"
** + - 0.020 "
*** + - $0.030^{\prime \prime}$
NO * REFERENCE ONLY
IMPORTANT: The mounting rack connector has 24
pins; the module connector has 20 pins. The extra pins on the mounting rack connector prevent misalignment of the module during installation.


## DIMENSIONAL DRAWING

All Models

## SNAP Digital Module Mounted on SNAP Rack




[^0]:    * When used with an I/O processor (brain or on-the-rack controller), the processor requires 5.0 to 5.2 VDC.

[^1]:    * At 20kHz, 5Vp-p square wave input, $50 \%$ duty cycle.
    ${ }^{* *}$ At $20 \mathrm{kHz}, 28 \mathrm{Vp}$-p square wave input, $50 \%$ duty cycle.
    *** When used with an I/O processor (brain or on-the-rack controller), the processor requires 5.0 to 5.2 VDC .

[^2]:    *When used with an I/O processor (brain or on-the-rack controller), the processor requires 5.0 to 5.2 VDC.

