

SNAP Digital Output Modules

Features

- Four channels per module
- Convenient pluggable wiring terminals; accepts up to 14 AWG wire
- Powered by a single 5-volt supply
- Channel-specific LEDs
- Operating temperature: 0 to 70 °C
- UL and CE approved (most modules); Factory Mutual approved (part numbers ending in FM)



SNAP Digital Output Modules

Description

Opto 22 SNAP I/O digital output modules are part of the SNAP PAC System.

Customers can choose from AC or DC models. Optical isolation on all solid-state modules provides 4,000 volts of transient (4000 V for 1 ms) protection for sensitive control electronics from industrial field signals.

All SNAP digital modules have removable top-mounted connectors to provide easy access for field wiring. 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 before shipment, and most modules are UL and CE approved. In addition, part numbers ending in FM are Factory Mutual approved.

SNAP output modules are used to switch up to four separate AC or DC loads. Output modules that are fused use a standard fuse with a convenient handle for easy replacement. DC outputs are available in either a source or sink configuration. AC outputs are zero voltage turn on and zero current turn off for transient-free switching.

The dry contact modules allow switching of low power signals where signal integrity must be maintained, or where

Part Numbers

Part	Description	See pages
SNAP-OAC5	SNAP 4-channel 12–250 VAC output, 5 VDC logic	3, 5
SNAP-OAC5MA	SNAP 4-channel isolated 12–250 VAC output, 5 VDC logic with manual/auto switches	3, 6
SNAP-OAC5FM	SNAP 4-channel 12–250 VAC output, 5 VDC logic	4, 5
SNAP-OAC5-i	SNAP 4-channel isolated 12–250 VAC output, 5 VDC logic	3, 7
SNAP-OAC5-iFM	SNAP 4-channel isolated 12–250 VAC output, 5 VDC logic	4, 7
SNAP-ODC5SRC	SNAP 4-channel 5–60 VDC output, 5 VDC logic source	8, 12
SNAP-ODC5SRCFM	SNAP 4-channel 5–60 VDC output, 5 VDC logic source	10, 12
SNAP-ODC5SNK	SNAP 4-channel 5–60 VDC output, 5 VDC logic sink	8, 13
SNAP-ODC5SNKFM	SNAP 4-channel 5–60 VDC output, 5 VDC logic sink	10, 13
SNAP-ODC5ASNK	SNAP 4-channel 5–200 VDC output, 5 VDC logic sink	9, 13
SNAP-ODC5R*	SNAP 4-channel dry contact output, normally open	8, 14
SNAP-ODC5RFM*	SNAP 4-channel dry contact output, normally open	10, 14
SNAP-ODC5R5*	SNAP 4-channel dry contact output, normally closed	8, 14
SNAP-ODC5R5FM*	SNAP 4-channel dry contact output, normally closed	10, 14
SNAP-ODC5MA	SNAP 4-channel isolated 5–60 VDC output, 5 VDC logic with manual/auto switches	9, 15
SNAP-ODC5-i	SNAP 4-channel isolated 5–60 VDC output, 5 VDC logic	9, 16
SNAP-ODC5-iFM	SNAP 4-channel isolated 5–60 VDC output, 5 VDC logic	11, 16
SNAP-ODC5A-i	SNAP 4-channel isolated 5–200 VDC output, 5 VDC logic	9, 16
SNAP-ODC5A-iFM	SNAP 4-channel isolated 5–200 VDC output, 5 VDC logic	11, 16
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-MODFUSEH	SNAP digital output module fuse holder, 10-pack	-----

*Not UL approved

SNAP Digital Output Modules

Specifications—DC Modules

	SNAP-ODC5SRC	SNAP-ODC5SNK	SNAP-ODC5R	SNAP-ODC5R5
Key Feature	Load sourcing	Load sinking	Dry contact Normally open	Dry contact Normally closed
Field Side Ratings (each channel)				
Line Voltage - Range	5–60 VDC	5–60 VDC	0–100 VDC 0–130 VAC*	0–100 VDC 0–130 VAC*
Line Voltage - Nominal	5–48 VDC	5–48 VDC	--	--
Current Rating 0 °C to 70 °C Ambient	3 amps per module	3 amps per module	0.5 amps switching*	0.5 amps switching*
Surge Current	5 amps peak for 1 second	5 amps peak for 1 second	0.5 amps*	0.5 amps*
Minimum Load	20 mA	20 mA	0 mA	0 mA
Output Voltage Drop	1.6 volts max. @ 0.75 amps	1.6 volts max. @ 0.75 amps	0 volts	0 volts
Off-state Leakage	1 mA @ 60 VDC	1 mA @ 60 VDC	0 mA	0 mA
Peak Blocking Voltage	60 VDC	60 VDC	100 VDC / 130 VAC	100 VDC / 130 VAC
Fuse (Common to all Channels)	250 VAC - 4A 5x20 mm Fast-acting Bell Fuse Part No. BEL 5HF4 Opto 22 Part SNAP-4A	250 VAC - 4A 5x20 mm Fast-acting Bell Fuse Part No. BEL 5HF4 Opto 22 Part SNAP-4A	Has four isolated channels. User must provide own fusing.	Has four isolated channels. User must provide own fusing.
Channel-to-channel isolation	Not applicable	Not applicable	300 VAC (1500 V transient)	300 VAC (1500 V transient)
Logic Side Ratings				
Pickup Voltage	4 V @ 5.5 mA	4 V @ 5.5 mA	4 V @ 5.5 mA	4 V @ 5.5 mA
Dropout Voltage	1 VDC	1 VDC	1 VDC	1 VDC
Control Resistance	220 ohms	220 ohms	220 ohms	220 ohms
Logic Supply Voltage	5 VDC ± 0.25 VDC	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	50 mA maximum
Module Ratings				
Number of Channels Per Module	4	4	4	4
Turn-on Time	100 usec	100 usec	500 usec	500 usec
Turn-off Time	750 usec	750 usec	500 usec	500 usec
Isolation (Field Side to Logic Side)	4,000 volts (transient)	4,000 volts (transient)	1,500 volts (transient)	1,500 volts (transient)
Temperature	0 ° to 70 °C, operating -30 ° to 85 °C, storage	0 ° to 70 °C, operating -30 ° to 85 °C, storage	0 ° to 70 °C, operating -30 ° to 85 °C, storage	0 ° to 70 °C, operating -30 ° to 85 °C, storage

* The power rating of the dry contact module must not exceed 10 VA under steady state or momentary in-rush conditions. For voltages at or below 20 volts, the current limit is 0.5 amps. For voltages above 20 volts, the maximum allowable current is determined by the following equation: $10 \text{ VA} / \text{Voltage} = \text{Current maximum}$. Rating curve is in the data sheet.

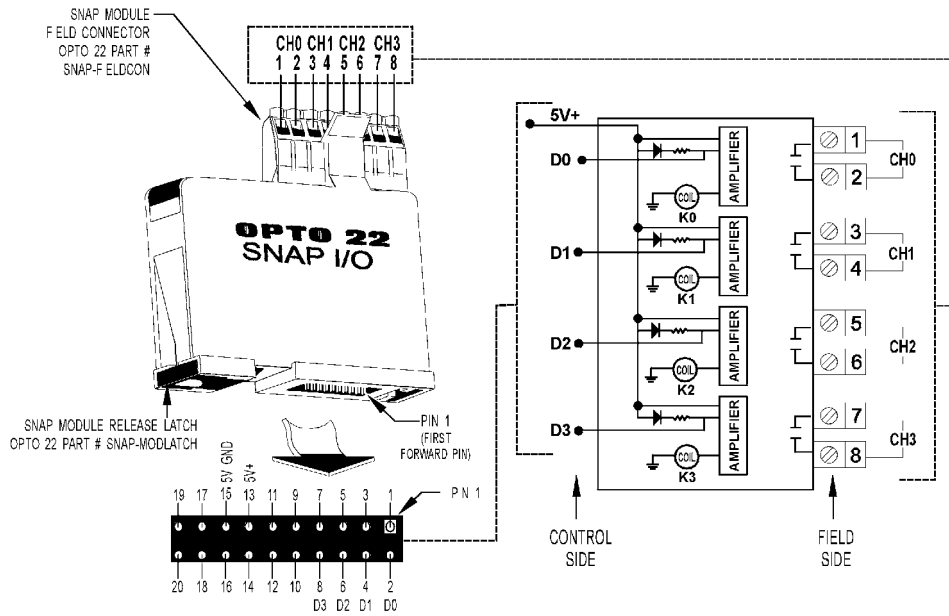
SNAP Digital Output Modules

Schematics

SNAP-ODC5R and SNAP-ODC5R5 Dry Contact Module

Part Number	Description
SNAP-ODC5R	4-channel dry contact output, normally open
SNAP-ODC5R5	4-channel dry contact output, normally closed
SNAP-ODC5RFM	4-channel dry contact output, normally open, Factory Mutual approved
SNAP-ODC5R5FM	4-channel dry contact output, normally closed, Factory Mutual approved

FIELD WIRING DRY CONTACT OUTPUT

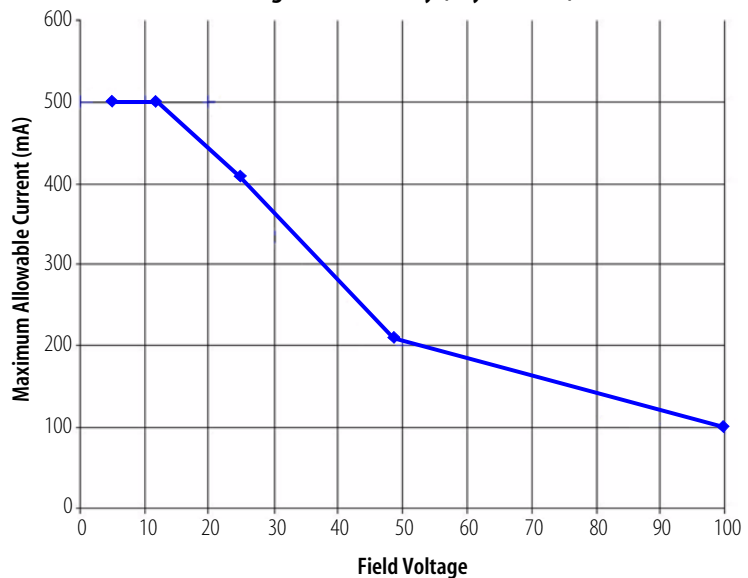


SNAP DIGITAL MODULE BASE CONTROL CONNECTOR (BOTTOM VIEW)

Current Limit at Key Voltages	
VDC	mA
5	500
12	500
24	416
48	206
100 ¹	100

¹ Maximum DC voltage is 100 VDC.

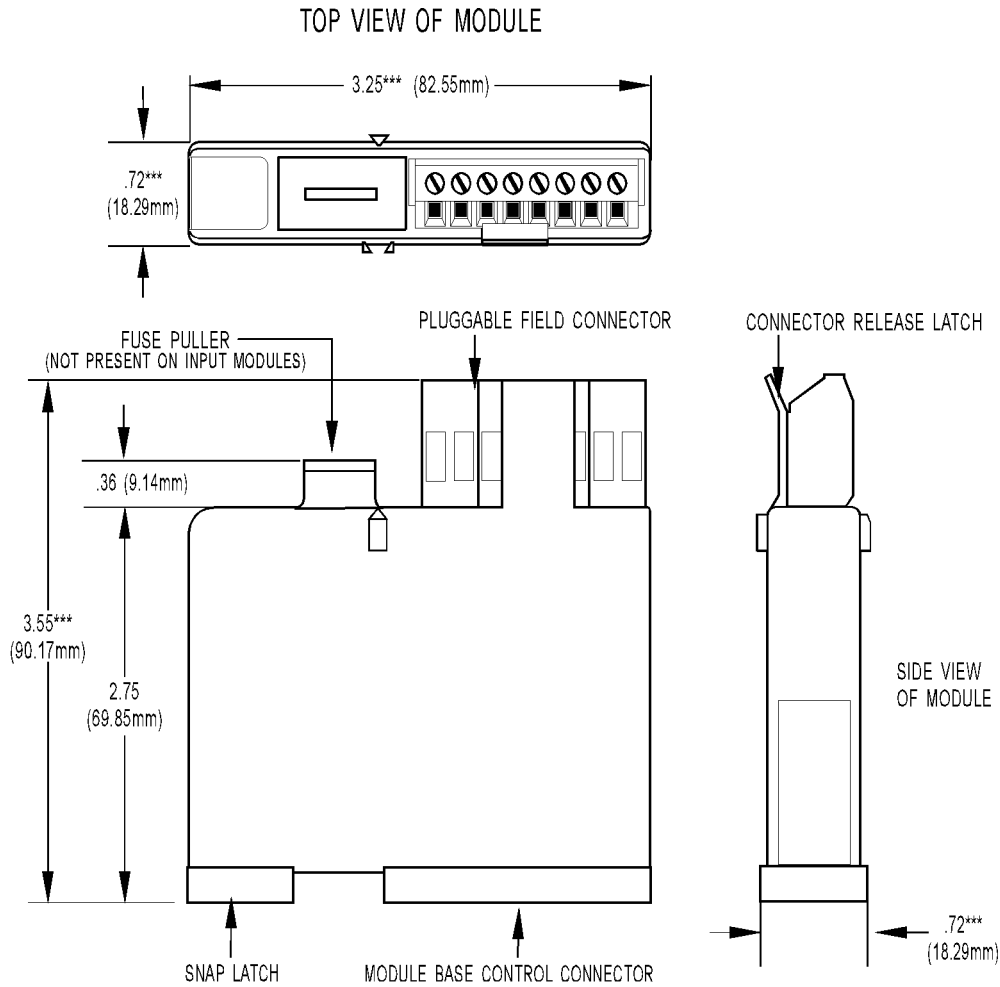
10 VA Rating for Reed Relay (Dry Contact) Modules



SNAP Digital Output Modules

Dimensional Drawing

All Models Except MA



TOLERANCES LEGEND
 * $\pm .010''$ ** $\pm .020''$
 *** $\pm .030''$ **** $\pm .060''$
 NO * REFERENCE ONLY

SNAP Digital Output Modules

Dimensional Drawing

All Models

SNAP Digital Module Mounted on SNAP Rack

