

# 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—AC Modules

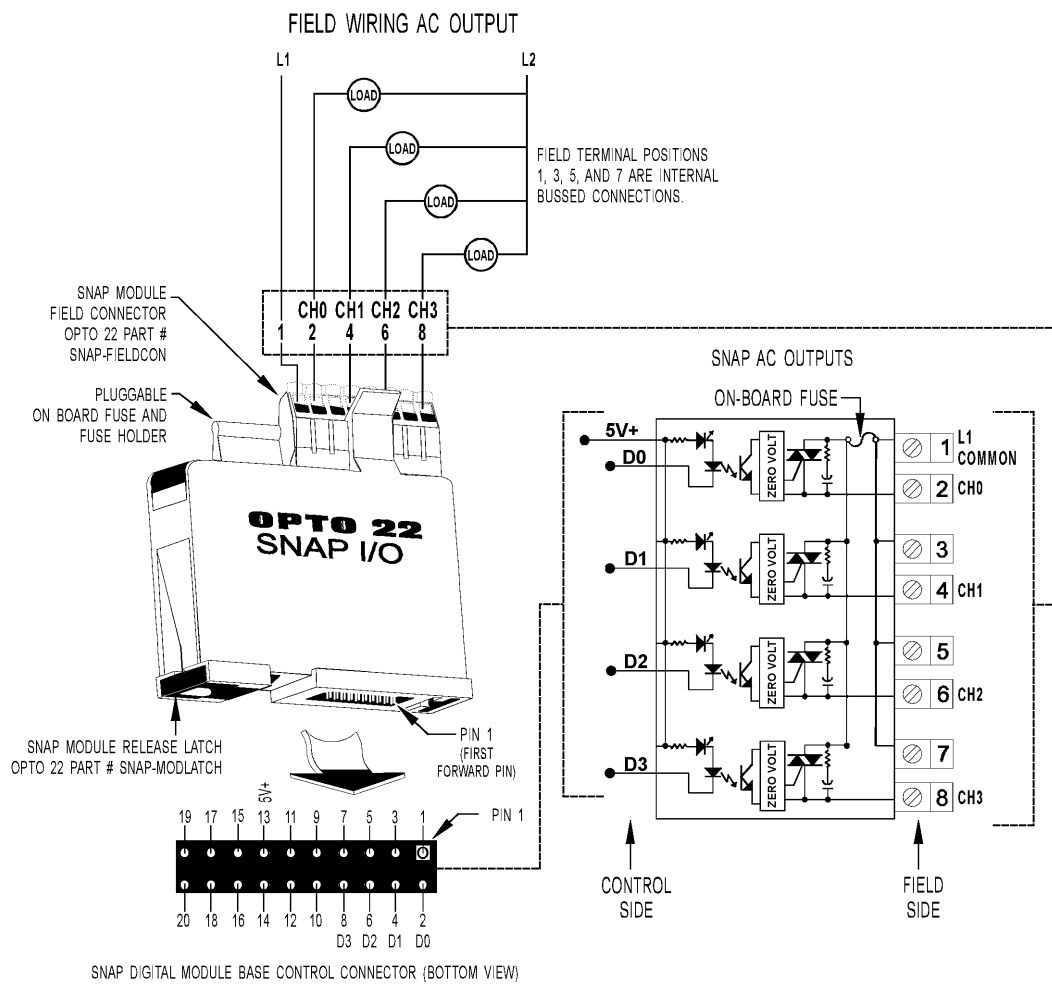
	SNAP-OAC5	SNAP-OAC5MA	SNAP-OAC5-i
Key Feature	--	Diagnostic switches Four isolated channels	Four isolated channels
<b>Field Side Ratings (each channel)</b>			
Line Voltage - Maximum	250 VAC	250 VAC	250 VAC
Line Voltage - Nominal	120/240 VAC	120/240 VAC	120/240 VAC
Current Rating 0 °C to 70 °C Ambient	3 amps per module	3 amps per module	3 amps per module
One Cycle Surge	80 amps peak (50/60 Hz)	80 amps peak (50/60 Hz)	80 amps peak (50/60 Hz)
Minimum Load Current	20 mA	20 mA	20 mA
Output Voltage Drop	1.6 volts max. @ 0.75 amps	1.6 volts max. @ 0.75 amps	1.6 volts max. @ 0.75 amps
Off-state Leakage at Nominal Voltage - 60 Hz	2.5 mA @ 240 VAC 1.25 mA @ 120 VAC	2.5 mA @ 240 VAC 1.25 mA @ 120 VAC	2.5 mA @ 240 VAC 1.25 mA @ 120 VAC
Peak Blocking Voltage	500 V	500 V	500 V
Operating Frequency	25–65 Hz	25–65 Hz	25–65 Hz
dV/ dt - Off-state	200 volts/msec	200 volts/msec	200 volts/msec
dV/ dt - Commutating	Snubbed for rated 0.5 power factor load	Snubbed for rated 0.5 power factor load	Snubbed for rated 0.5 power factor load
Fuse (Common to all Channels)	250 VAC - 4A 5x20 mm Fast-acting Bell Fuse Part No. BEL 5HF4 Opto 22 Part No. 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	300 VAC (1500 V transient)	300 VAC (1500 V transient)
<b>Logic Side Ratings</b>			
Pickup Voltage	4 V @ 5.5 mA	4 V @ 5.5 mA	4 V @ 5.5 mA
Dropout Voltage	1 VDC	1 VDC	1 VDC
Control Resistance	220 ohms	220 ohms	220 ohms
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
<b>Module Ratings</b>			
Number of Channels Per Module	4	4	4
Turn-on Time	0.5 cycle maximum (zero volts crossover)	0.5 cycle maximum (zero volts crossover)	0.5 cycle maximum (zero volts crossover)
Turn-off Time	0.5 cycle maximum (zero current crossover)	0.5 cycle maximum (zero current crossover)	0.5 cycle maximum (zero current crossover)
Isolation (Field Side to Logic Side)	4,000 volts (transient)	4,000 volts (transient)	4,000 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

# SNAP Digital Output Modules

## Schematics

### SNAP-OAC5 Output Module

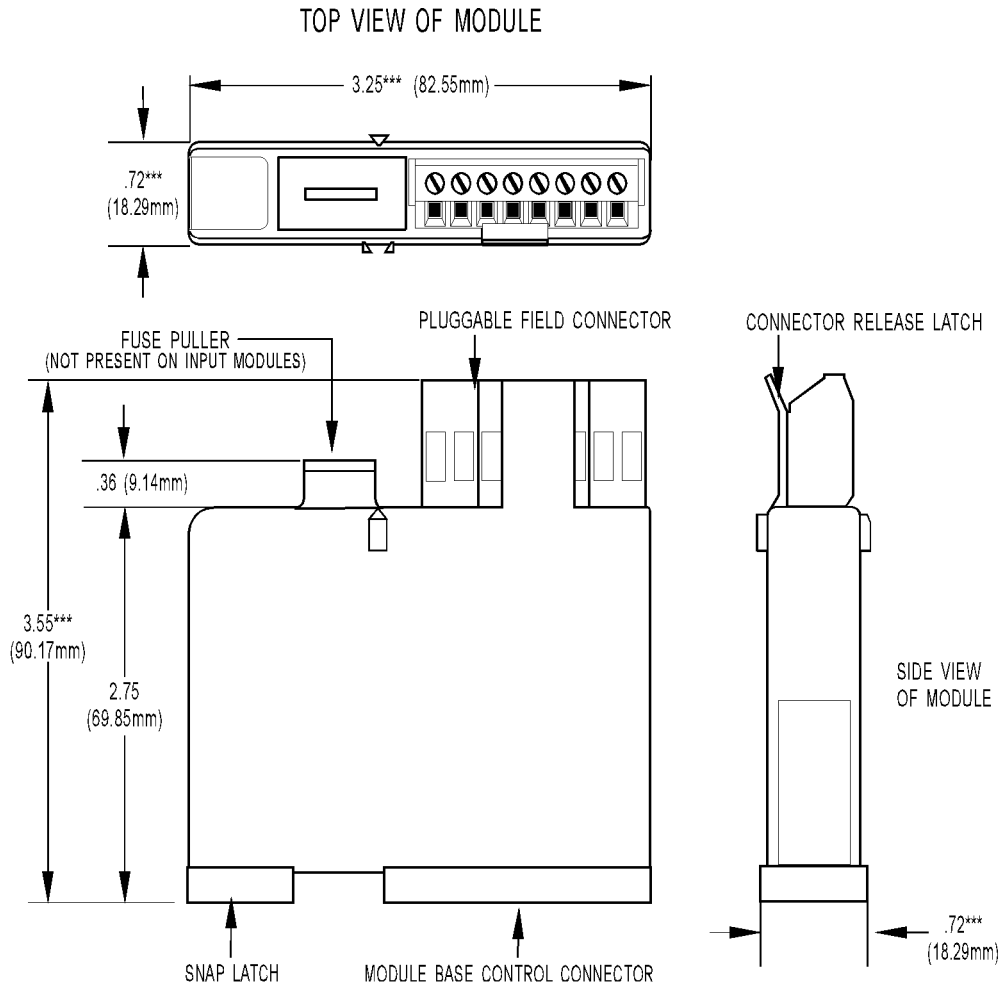
Part Number	Description
SNAP-OAC5	4-channel AC output 12–250 VAC 5 VDC logic
SNAP-OAC5FM	4-channel AC output 12–250 VAC 5 VDC logic, Factory Mutual approved



# 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**

