

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 (continued)

	SNAP-ODC5MA	SNAP-ODC5-i	SNAP-ODC5A-i	SNAP-ODC5ASNK
Key Feature	Diagnostic switches Four isolated channels	Four isolated channels	Four isolated channels	Load sinking
Field Side Ratings (each channel)				
Line Voltage - Range	5–60 VDC	5–60 VDC	5–200 VDC	5–200 VDC
Line Voltage - Nominal	5–48 VDC	5–48 VDC	5–200 VDC	5–200 VDC
Current Rating 0 °C to 70 °C Ambient	2 amps per module 0.5 amps per channel	3 amps per module	3 amps per module	3 amps per module
Surge Current	1.5 amps peak for 1 second	5 amps peak for 1 second	5 amps peak for 1 second	5 amps peak for 1 second
Minimum Load	20 mA	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	1.6 volts max. @ 0.75 amps
Off-state Leakage	1 mA @ 60 VDC	1 mA @ 60 VDC	1 mA @ 200 VDC	1 mA @ 200 VDC
Peak Blocking Voltage	60 VDC	60 VDC	200 VDC	200 VDC
Fuse (Common to all Channels)	Has four isolated channels. User must provide own fusing.	Has four isolated channels. User must provide own fusing.	Has four isolated channels. User must provide own fusing.	250 VAC - 4A 5x20 mm Fast-acting Bell Fuse Part No. BEL 5HF4 Opto 22 Part No. SNAP-4A
Channel-to-channel isolation	300 VAC (1500 V transient)	300 VAC (1500 V transient)	300 VAC (1500 V transient)	Not applicable
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	100 usec	100 usec
Turn-off Time	750 usec	750 usec	750 usec	750 usec
Isolation (Field Side to Logic Side)	4,000 volts (transient)	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	0 ° to 70 °C, operating -30 ° to 85 °C, storage

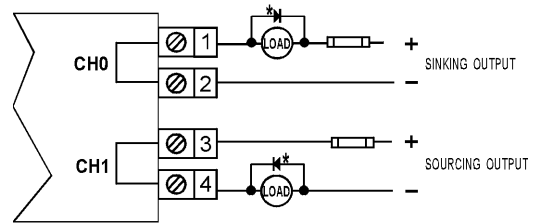
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Schematics

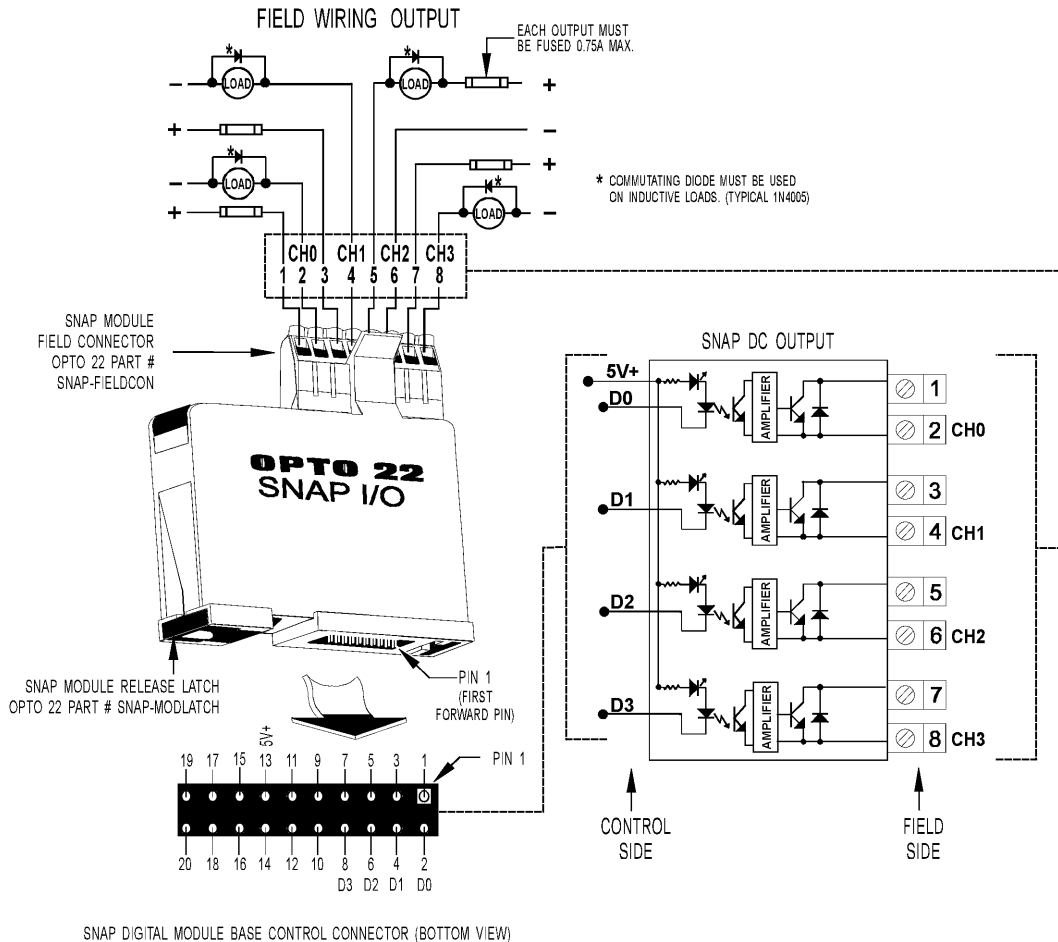
SNAP-ODC5-i and SNAP-ODC5A-i Isolated Output Module

Part Number	Description
SNAP-ODC5-i	4-channel isolated DC output 5–60 VDC, 5 VDC logic
SNAP-ODC5A-i	4-channel isolated DC output 5–200 VDC, 5 VDC logic
SNAP-ODC5-iFM	4-channel isolated DC output 5–60 VDC, 5 VDC logic, Factory Mutual approved
SNAP-ODC5A-iFM	4-channel isolated DC output 5–200 VDC, 5 VDC logic, Factory Mutual approved

TYPICAL WIRING EXAMPLES



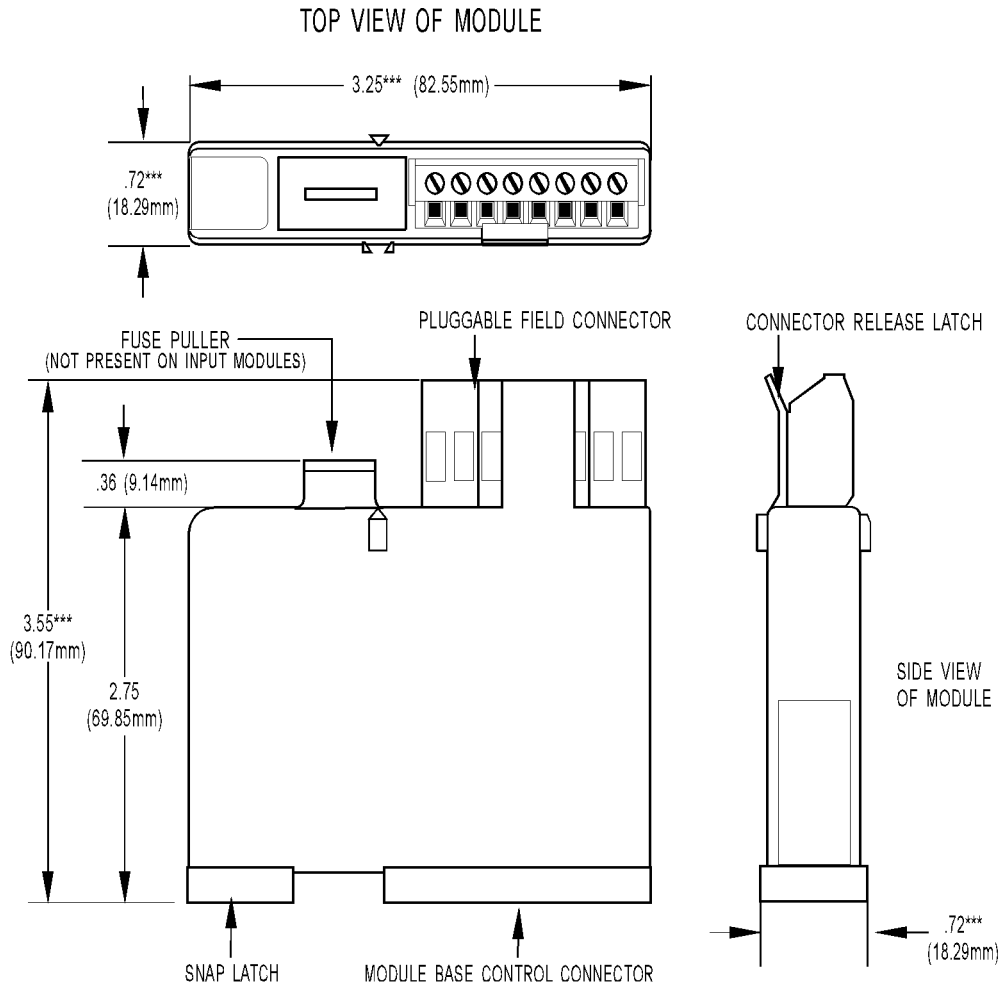
* COMMUTATING DIODE MUST BE USED ON INDUCTIVE LOADS. (TYPICAL 1N4005)



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

