

## STANDARD AC OUTPUT MODULES

### Features

- ▶ Rugged construction
- ▶ 4000 volts of optical isolation between the field devices and the control logic (transient)
- ▶ Zero voltage turn-on and zero current turn-off

### DESCRIPTION

AC output modules are used for controlling or switching AC loads. Each module provides up to 4000 volts (transient) of optical isolation between the field devices and the control logic.

With the exception of the OAC5A5 module, all AC output modules are equivalent to a single pole, single throw, normally open contact (FORM A, SPST-NO, Make). The OAC5A5 is equivalent to a single pole, single throw, normally closed contact (FORM B, SPST-NC, Break). All AC output modules feature zero voltage turn-on and zero current turn-off.

Typical uses and applications for AC output modules include switching the following loads:

- Relays
- Solenoids
- Motor starters
- Heaters
- Lamps or indicators



OAC5 Module

### Part Numbers

Part	Description
OAC5	AC Output 12–140 VAC, 5 VDC Logic
OAC5A	AC Output 24–280 VAC, 5 VDC Logic
OAC5H*	AC Output 24–280 VAC, 5 VDC Logic, higher current rating
OAC5A5	AC Output 24–280 VAC, 5 VDC Logic, NC
OAC15	AC Output 12–140 VAC, 15 VDC Logic
OAC15A	AC Output 24–280 VAC, 15 VDC Logic
OAC24	AC Output 12–140 VAC, 24 VDC Logic
OAC24A	AC Output 24–280 VAC, 24 VDC Logic
OAC24H*	AC Output 24–280 VAC, 24 VDC Logic, higher current rating

\* Not UL approved

## SPECIFICATIONS

### General

One Cycle Surge	80 amps peak
Peak Repetitive Voltage	500 Volts
Operating Ambient Temperature	-30 to 70 °C
Isolation, Input-to-Output (Transient)	4,000 Vrms
Minimum Load Current	20 milliamps
Operating Frequency	25–65 Hz
Turn-on Time	1/2 cycle maximum-zero voltage
Turn-off Time	1/2 cycle maximum-zero current
DV/DT - Off-State	200 volts/microseconds
DV/DT - Commutating	Snubbed for rated 0.5 power factor load
Output Voltage Drop Maximum Peak	1.6 volts
Off-State Leakage @ Nominal Voltage - 60 Hz	5 milliamps rms 2.5 milliamps rms for OAC5A OAC15A, and OAC24A @120 VAC

### Module Specifications

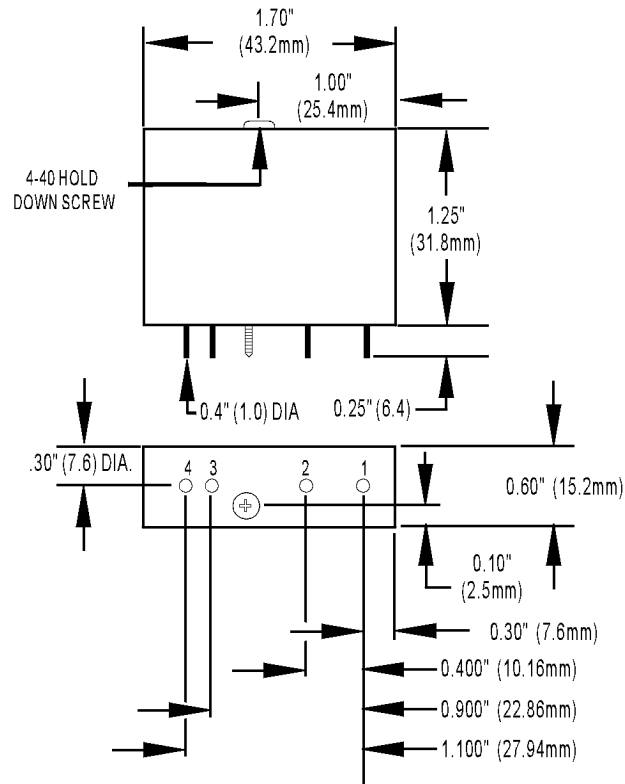
	Units	OAC5	OAC5A	OAC5H	OAC5A5 (NC)	OAC15 <sup>3</sup>	OAC15A <sup>3</sup>	OAC24 <sup>3</sup>	OAC24A <sup>3</sup>	OAC24H <sup>3</sup>
Line Voltage - Nominal	VAC	120	240	240	120/240	120	240	120	240	240
Operating Voltage Range	VAC	12–140	24–280	24–280	24–280	12–140	24–280	12–140	24–280	24–280
Current Rating										
@ 45 °C Ambient	amps	3	3	4	3	3	3	3	3	4
@ 70 °C Ambient	amps	2	2	2	2	2	2	2	2	2
UL Motor Load Rating	amps	1.5	1.5	-- *	1.5	1.5	1.5	1.5	1.5	-- <sup>1</sup>
Logic Voltage - Nominal	VDC	5	5	5	5	15	15	24	24	24
Logic Voltage Range (Vcc) <sup>2</sup>	VDC	2.5–8	2.5–8	2.5–8	2.5–8	9–16	9–16	18–32	18–32	18–32
Logic Pickup Voltage <sup>1</sup>	VDC	2.5	2.5	2.5	2.5	9	9	18	18	18
Logic Dropout Voltage	VDC	1	1	1	1	1	1	1	1	1
Logic Input Current-@ Normal Logic Voltage (I <sub>out</sub> in schematic dia- gram)	mA	12	12	12	12	15	15	18	18	18
Control Resistance (R <sub>c</sub> in schematic diagram)	Ohms	220	220	220	220	1K	1K	2.2K	2.2K	2.2K

1 Not UL approved

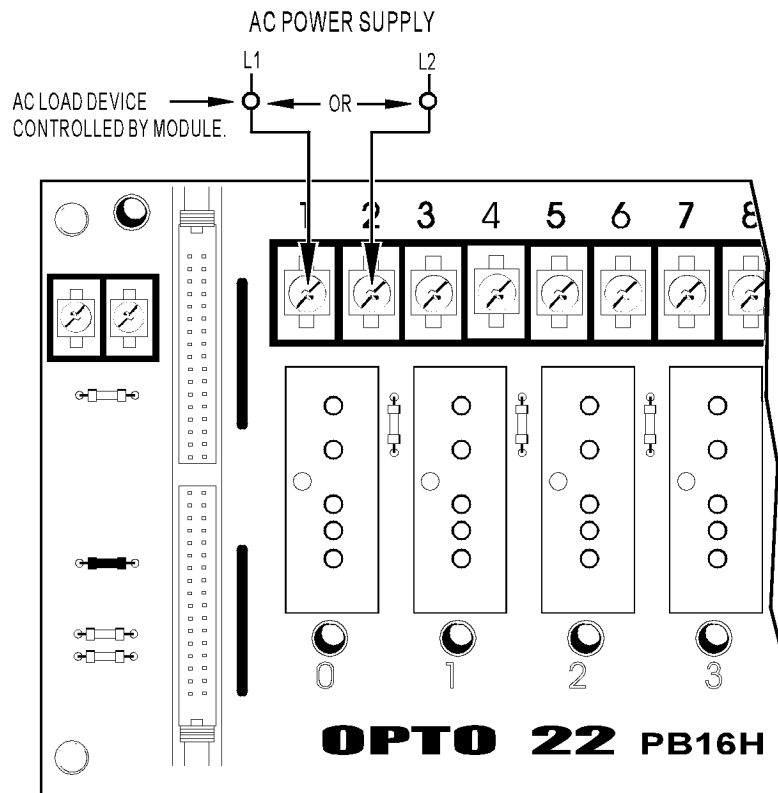
2 Module only

3 Not for use with Opto 22 brains

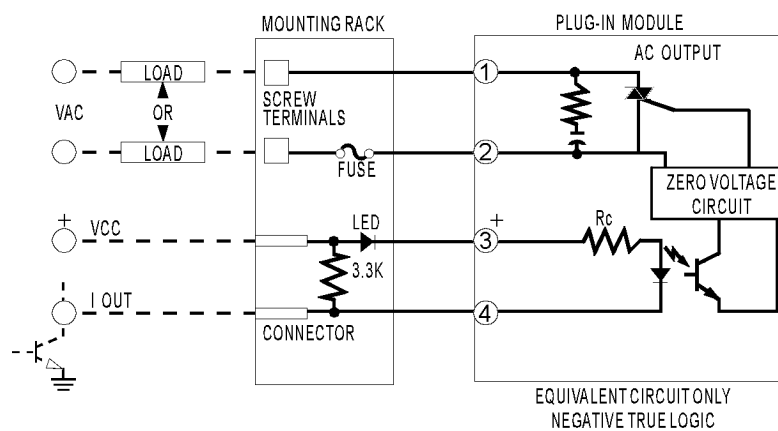
## DIMENSIONS



## CONNECTIONS



## SCHEMATICS



\* SNUBBER circuit must be used on inductive loads.

## PRODUCTS

Opto 22 develops and manufactures reliable, easy-to-use, open standards-based hardware and software products. Industrial automation, process control, building automation, industrial refrigeration, remote monitoring, data acquisition, and industrial internet of things (IIoT) applications worldwide all rely on Opto 22.

### groov EPIC® System

Opto 22's *groov Edge Programmable Industrial Controller (EPIC) system* gives you an industrially hardened system with guaranteed-for-life I/O, a flexible Linux®-based processor with gateway functions, and software for your automation and IIoT applications.

### groov EPIC I/O

*groov I/O* connects locally to sensors and equipment with up to 24 channels on each I/O module. Modules have a spring-clamp terminal strip, integrated wireway, swing-away cover, and LEDs indicating module health and discrete channel status.

*groov I/O* is hot swappable, UL Hazardous Locations approved, and ATEX compliant.

### groov EPIC Processor

The heart of the system is the *groov EPIC* processor. It handles a wide range of digital, analog, and serial functions for data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

In addition, the EPIC provides secure data communications among physical assets, control systems, software applications, and online services, both on premises and in the cloud.

Configuring and troubleshooting I/O and networking is easier with the EPIC's integrated high-resolution color touchscreen. Authorized users can manage the system locally on the touchscreen or on a monitor connected via the HDMI or USB ports.

### groov EPIC Software

Software included in the *groov EPIC* processor:

- PAC Control engine to run PAC Control and PAC Display
- CODESYS Runtime engine to run IEC61131-3 compliant programs built with CODESYS Development System
- Optional access to the Linux operating system through a secure shell (SSH) to download and run custom applications
- *groov View* for building your own device-independent HMI, viewable on the touchscreen, PCs, and mobile devices
- Node-RED for creating simple logic flows from pre-built nodes
- Ignition Edge® from Inductive Automation®, with OPC-UA drivers to Allen-Bradley®, Siemens®, and other control systems, and MQTT communications with Sparkplug for efficient IIoT data transfer

### groov RIO

*groov RIO* revolutionizes remote I/O by offering a single, compact, PoE-powered industrial package with web-based configuration, commissioning, and flow logic software built in, plus support for multiple OT and IT protocols.

Standing alone, it meets the needs of small, variable I/O count applications, especially those that require data logging or data communications, commonly found in IIoT applications. *groov RIO* can also be used with a Modbus/TCP master or as remote I/O for a *groov EPIC* system.

### Older products

From solid state relays (our first products) to world-famous G4 and SNAP I/O, to SNAP PAC controllers, older Opto 22 products are still supported and still

doing the job at thousands of installations worldwide. You can count on us to give you the reliability and service you expect, now and in the future.



## QUALITY

Founded in 1974, Opto 22 has established a worldwide reputation for high-quality products. All are made in the U.S.A. at our manufacturing facility in Temecula, California.

Because we test each product twice before it leaves our factory rather than testing a sample of each batch, we can afford to guarantee most solid-state relays and optically isolated I/O modules for life.

## FREE PRODUCT SUPPORT

Opto 22's California-based Product Support Group offers free, comprehensive technical support for Opto 22 products from engineers with decades of training and experience. Support is available in English and Spanish by phone or email, Monday–Friday, 7 a.m. to 5 p.m. PST.

Support is always available on our website, including [free online training](#) at OptoU, how-to [videos](#), [user's guides](#), the Opto 22 KnowledgeBase, troubleshooting tips, and [OptoForums](#). In addition, instructor-led, hands-on [Premium Factory Training](#) is available at our Temecula, California headquarters, and you can [register online](#).

## PURCHASING OPTO 22 PRODUCTS

Opto 22 products are sold directly and through a worldwide network of distributors, partners, and system integrators. For more information, contact Opto 22 headquarters at **800-321-6786** (toll-free in the U.S. and Canada) or **+1-951-695-3000**, or visit our website at [www.opto22.com](http://www.opto22.com).