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

OAC5 Module

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

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

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USA

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SPECIFICATIONS

General

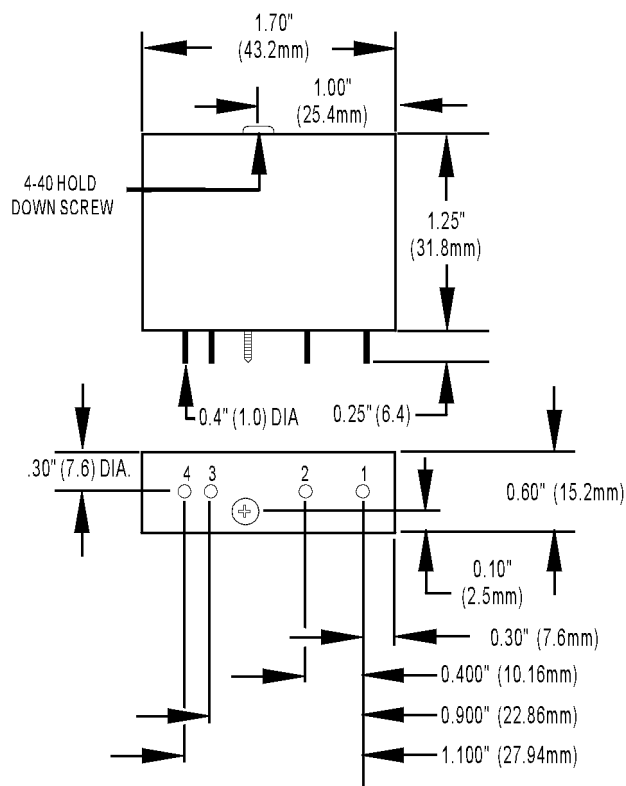|	
One Cycle Surge	80 amps peak
Peak Repetitive Voltage	500 Volts
Operating Ambient Temperature	-30 to 70 °C
Isolation, Input-to-Output (Transient)	4,000 Vrms
Minimum Load Current	20 milliamps
Operating Frequency	25–65 Hz
Turn-on Time	1/2 cycle maximum-zero voltage
Turn-off Time	1/2 cycle maximum-zero 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

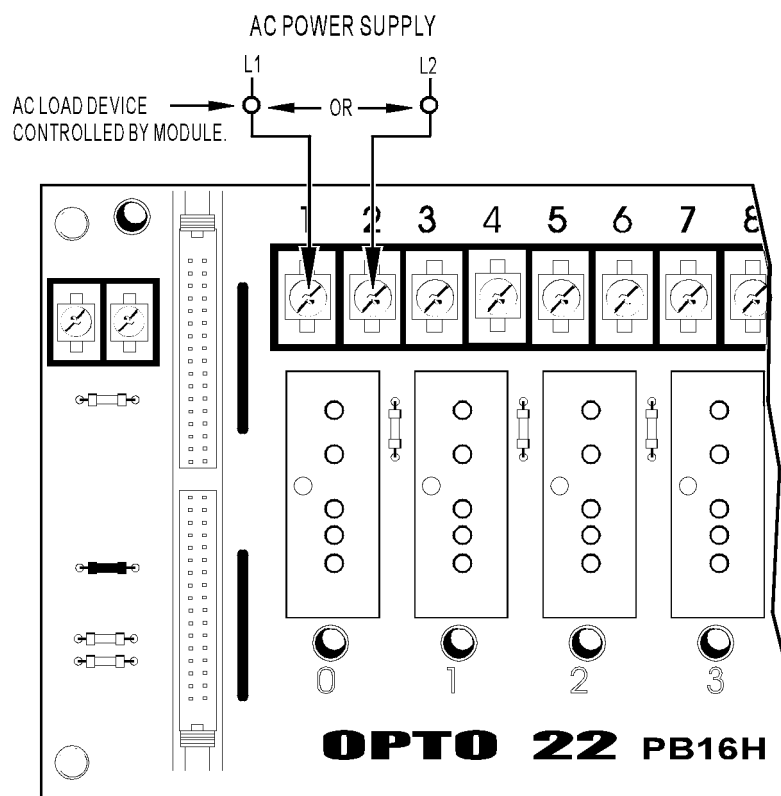|	Units	OAC5	OAC5A	OAC5H	OAC5A5 (NC)	OAC15[3]	OAC15A[3]	OAC24[3]	OAC24A[3]	OAC24H[3]
Line Voltage - Nominal	VAC	120	240	240	120/240	120	240	120	240	240
Operating Voltage Range	VAC	12–140	24–280	24–280	24–280	12–140	24–280	12–140	24–280	24–280
Current Rating @ 45 °C Ambient @ 70 °C Ambient	amps amps	3 2	3 2	4 2	3 2	3 2	3 2	3 2	3 2	4 2
UL Motor Load Rating	amps	1.5	1.5	-- [1]	1.5	1.5	1.5	1.5	1.5	-- [1]
Logic Voltage - Nominal	VDC	5	5	5	5	15	15	24	24	24
Logic Voltage Range (Vcc)[2]	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[1]	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_{out} in schematic diagram)	mA	12	12	12	12	15	15	18	18	18
Control Resistance (R_c in schematic diagram)	Ohms	220	220	220	220	1K	1K	2.2K	2.2K	2.2K
Agency Approvals		UL, CE, CSA, RoHS, UKCA	UL, CE, CSA, RoHS, UKCA	CE, RoHS, UKCA	UL, CE, CSA, RoHS, UKCA	UL, CE, CSA, RoHS, UKCA	UL, CE, CSA, RoHS, UKCA	UL, CE, CSA, RoHS, UKCA	UL, CE, CSA, RoHS, UKCA	CE, CSA, RoHS, UKCA

1 Not UL approved
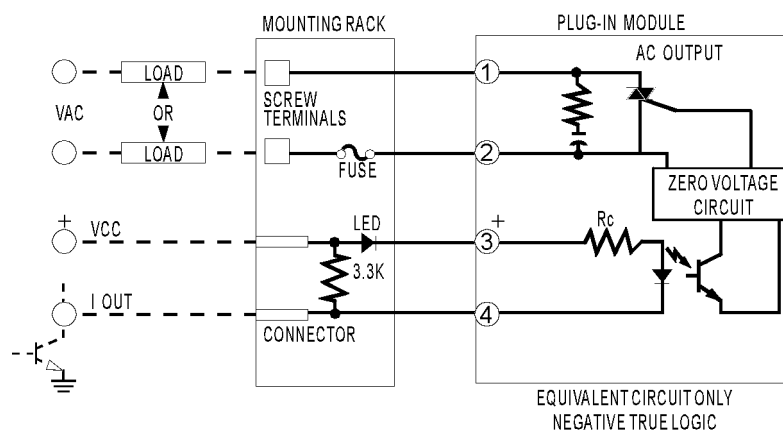2 Module only
3 Not for use with Opto 22 brains

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OPTO 22

DIMENSIONS

CONNECTIONS

SCHEMATICS

* SNUBBER circuit must be used on inductive loads.

MADE IN THE
USA

PRODUCTS

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

groov RIO®

groov RIO edge I/O offers a single, compact, PoE-powered industrial package with web-based configuration and IIoT software built in, support for multiple OT and IT protocols, and security features like a device firewall, data encryption, and user account control.

Standing alone, *groov* RIO connects to sensors, equipment, and legacy systems, collecting and securely publishing data from field to cloud. Choose a universal I/O model with thousands of possible field I/O configurations, with or without Ignition from Inductive Automation®, or a RIO EMU energy monitoring unit that reports 64 energy data values from 3-phase loads up to 600 VAC, Delta or Wye.

You can also use *groov* RIO with a Modbus/TCP master or as remote I/O for a *groov* EPIC system.

groov EPIC® System

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

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. No industrial PC needed.

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, on a monitor connected via the HDMI or USB ports, or on a PC or mobile device with a web browser.

groov EPIC I/O

groov I/O connects locally to sensors and equipment. 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 Software

The *groov* EPIC processor comes ready to run the software you need:

- Programming: Choose flowchart-based PAC Control, CODESYS Development System for IEC61131-3 compliant programs, or secure shell access (SSH) to the Linux OS for custom applications
- Node-RED for creating simple IIoT logic flows from pre-built nodes
- Efficient MQTT data communications with string or Sparkplug data formats
- HMI: *groov* View to build your own HMI viewable on touchscreen, PCs, and mobile devices; PAC Display for a Windows HMI; Node-RED dashboard UI
- Ignition or Ignition Edge® from Inductive Automation (requires license purchase) with OPC-UA drivers to Allen-Bradley®, Siemens®, and other control systems, and MQTT communications

Older products

From solid state relays, to world-famous G4 and SNAP I/O, to SNAP PAC controllers, older Opto 22 products are still supported and working hard at thousands of installations worldwide. You can count on us for 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 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, and OptoForums.

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.

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