I/O MODULE
G4 DIGITAL
AC OUTPUT

OPTO 22

DATA SHEET

Form 252-011128

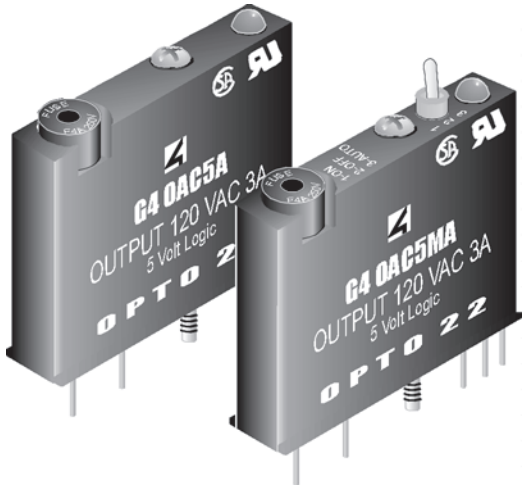
Part Number	Description
G4OAC5	G4 AC Output 12-140 VAC, 5 VDC Logic
G4OAC5A	G4 AC Output 24-280 VAC, 5 VDC Logic
G4OAC5A5	G4 AC Output 24-280 VAC, 5 VDC Logic NC
G4OAC5MA	G4 AC Output 12-140 VAC, 5 VDC Logic With Manual/Auto Switch
G4OAC5AMA	G4 AC Output 24-280 VAC, 5 VDC Logic With Manual/Auto Switch
G4OAC15	G4 AC Output 12-140 VAC, 15 VDC Logic
G4OAC15A	G4 AC Output 24-280 VAC, 15 VDC Logic
G4OAC24	G4 AC Output 12-140 VAC, 24 VDC Logic
G4OAC24A	G4 AC Output 24-280 VAC, 24 VDC Logic

Description

Opto 22's G4 AC output modules are used to control or switch AC loads. Each module provides up to 4,000 V_{rms} of optical-isolation between field outputs and the control side of the circuit, and each features zero voltage turn-on and zero current turn-off. All AC output modules are equivalent to single-pole, single-throw, normally open contacts (Form A, SPST-NO) except the G4OAC5A5, which is equivalent to a single-pole, single-throw, normally closed contact (Form B, SPST-NC).

The G4OAC5MA and the G4OAC5AMA are special modules featuring a manual-on/manual-off/automatic switch, ideal for diagnostic testing of control applications.

Typical applications for AC output modules include switching loads such as AC relays, solenoids, motor starters, heaters, lamps, and indicators.



Features

- 4,000 V_{rms} optical-isolation
- Built-in LED status indicator
- Logic levels of 5, 15, and 24 VDC
- Removable fuse
- Current rating: 3 amps at 45° C
- UL Motor Load rating: 1.5 amps
- Ability to withstand one-cycle surge of 80 amps
- Operating temperature: -30° C to 70° C
- UL recognized, CSA certified, CE approved
- Passes NEMA Showering Arc Test (ICS 2-230)
- Meets IEEE Surge withstand Specification (IEEE-472)

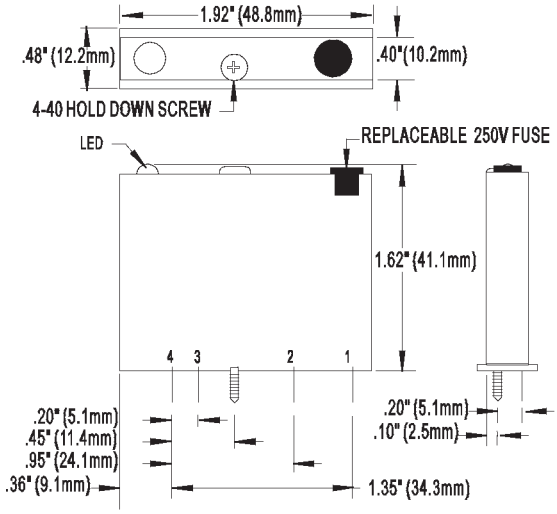
Specifications

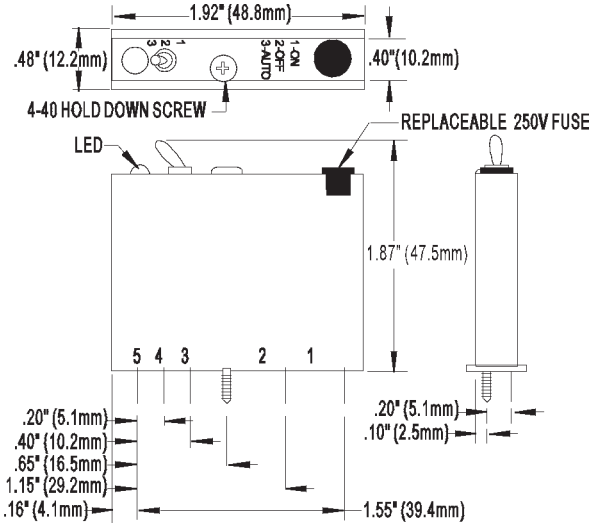
	Units	G4OAC5*	G4OAC5A*	G4OAC5A5*	G4OAC5MA*	G4OAC5AMA*
Nominal Line Voltage	VAC	120	240	120/240	120	240
Output Voltage Range	VAC	12-140	24-280	24-280	12-140	24-280
Key Feature		---	---	Normally closed	Diagnostic switch	Diagnostic switch
Current Rating: At 45° C ambient At 70° C ambient	 A A	 3 2	 3 2	 3 2	 3 2	 3 2
UL Motor Load Rating	A	1.5	1.5	1.5	1.5	1.5
Isolation Input-to-output	V_{rms}	4,000	4,000	4,000	4,000	4,000
Off-state Leakage at Nom. Voltage-60 Hz	mA_{rms}	5	2.5	2.5	5	2.5
Nominal Logic Voltage	VDC	5	5	5	5	5
Logic Voltage Range	VDC	4-8	4-8	4-8	4-8	4-8
Logic Pickup Voltage	VDC	4	4	4	4	4
Logic Dropout Voltage	VDC	1	1	1	1	1
Logic Input Current at Nominal Logic Voltage	mA	12	12	12	12	12
Control Resistance (Rc in schematic)	W	220	220	220	220	220
One-cycle Surge	A peak	80	80	80	80	80
Turn-on Time	µs	1/2 cycle max zero volts	1/2 cycle max zero volts	1/2 cycle max zero volts	1/2 cycle max zero volts	1/2 cycle max zero volts
Turn-off Time	µs	1/2 cycle max zero amps	1/2 cycle max zero amps	1/2 cycle max zero amps	1/2 cycle max zero amps	1/2 cycle max zero amps
Peak Repetitive Voltage	VAC	500	500	500	500	500
Minimum Load Current	mA	20	20	20	20	20
Output Voltage Drop Maximum Peak	V	1.6	1.6	1.6	1.6	1.6
Operating Frequency	Hz	25-65	25-65	25-65	25-65	25-65
dV/dT-off-state	V/µs	200	200	200	200	200
dV/dT-commutating		snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load
Temperature:	 °C °C	 -30 to +70 -30 to +85	 -30 to +70 -30 to +85	 -30 to +70 -30 to +85	 -30 to +70 -30 to +85	 -30 to +70 -30 to +85
* Also available with an FM rating; add FM to the part number (example: G4OAC5FM).						

Specifications

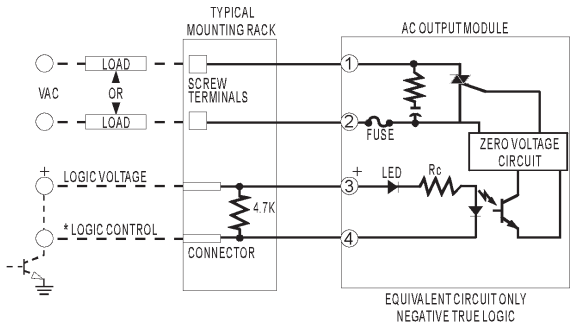
	Units	G4OAC15	G4OAC15A	G4OAC24	G4OAC24A
Nominal Line Voltage	VAC	120	240	120	240
Key Feature		---	---	---	---
Current Rating: At 45° C ambient	A A	3 2	3 2	3 2	3 2
UL Motor Load Rating	A	1.5	1.5	1.5	1.5
Isolation Input-to-output	V_{rms}	4,000	4,000	4,000	4,000
Off-state Leakage at Nom. Voltage-60 Hz	mA_{rms}	5	2.5	5	2.5
Logic Voltage Range	VDC	10.5-16	10.5-16	19.5-32	19.5-32
Logic Pickup Voltage	VDC	10.5	10.5	19.5	19.5
Logic Dropout Voltage	VDC	1	1	1	1
Logic Input Current at Nominal Logic Voltage	mA	15	15	18	18
Control Resistance (Rc in schematic)	W	1K	1K	2.2K	2.2K
One-cycle Surge	A peak	80	80	80	80
Turn-on Time	µs	1/2 cycle max zero volts	1/2 cycle max zero volts	1/2 cycle max zero volts	1/2 cycle max zero volts
Turn-off Time	µs	1/2 cycle max zero amps	1/2 cycle max zero amps	1/2 cycle max zero amps	1/2 cycle max zero amps
Peak Repetitive Voltage	VAC	500	500	500	500
Minimum Load Current	mA	20	20	20	20
Output Voltage Drop Maximum Peak	V	1.6	1.6	1.6	1.6
Operating Frequency	Hz	25-65	25-65	25-65	25-65
dV/dT-off-state	V/µs	200	200	200	200
dV/dT-commutating		snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load
Temperature:	°C °C	-30 to +70 -30 to +85	-30 to +70 -30 to +85	-30 to +70 -30 to +85	-30 to +70 -30 to +85

Dimensions

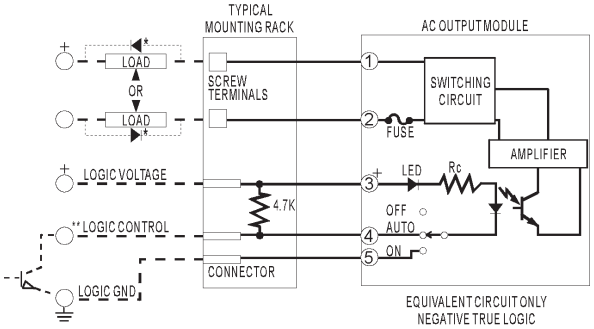




Schematics



* Control line is compatible with totem pole or tri-state output device.



* SNUBBER circuit must be used on inductive loads.
** Control line is compatible with totem pole or tri-state output device.

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Products

Opto 22 produces a broad array of reliable, flexible hardware and software for industrial automation and remote monitoring. Opto 22's diverse and complete product range allows you to buy in at any level, from solid-state relays to fully integrated control systems.

SNAP Ultimate I/O™

The most intelligent and powerful I/O system available, SNAP Ultimate I/O effectively combines I/O, control, networking, and enterprise connectivity into a single cohesive system.

SNAP Ultimate I/O has the ability to communicate *directly* with enterprise systems, eliminating the need for complex middleware and the significant investments associated with it. Software and utilities for use with SNAP Ultimate I/O include ioControl™ flowchart-based control programming software and ioDisplay™, a Windows-based HMI development package.

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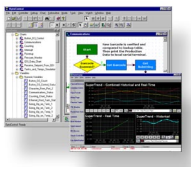
A packaged solution that brings industry-proven SNAP Ethernet technology to your enterprise faster and easier than ever before, SNAP-IT is a Web-enabled hardware appliance that connects environmental, device, and other sensors directly to your enterprise applications. The connected devices can then be controlled and real-time operational data can be collected, monitored, and delivered via a standard Ethernet, wireless LAN, or dial-up network.

Opto 22 FactoryFloor™ Software



FactoryFloor is an integrated suite of industrial control software applications designed to help you develop control automation solutions, build easy-to-use operator interfaces, and expand your manufacturing systems' connectivity.

Other Software and Hardware

Software developer kits (SDKs), diagnostic utilities, support for the Linux operating system, and a full line of SNAP industrial controllers are also available from Opto 22.

Quality

In delivering hardware and software solutions for worldwide device management and control, Opto 22 retains the highest commitment to quality.

We do no statistical testing; each product is made in the U.S.A. and is tested twice before leaving our 160,000 square-foot manufacturing facility in Temecula, California. That's why we can guarantee solid-state relays and all optically-isolated I/O modules *for life*.

Product Support

Opto 22's Product Support Group offers comprehensive technical support for Opto 22 products. The staff of support engineers represents years of training and experience, and can assist with a variety of project implementation questions. Product support is available in English and Spanish from Monday through Friday, 8 a.m. to 5 p.m. Pacific Standard Time.

Opto 22 Web Sites

www.opto22.com
www.ManageTheRealWorld.com
www.internetio.com (live Internet I/O demo)
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Other Resources

- OptoInfo CDs
- Integration support
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- FaxBack service: (800) 474-OPTO

About Opto 22

Founded in 1974, Opto 22 is a leading manufacturer of high-quality hardware and software solutions for connecting real-world devices with computer networks. Customer applications include enterprise management, remote monitoring and control, industrial automation, and data acquisition. Opto 22 was one of the first companies to recognize and implement solutions involving networks, computers, and real-world equipment and devices. More than 65 million devices worldwide are reliably connected to Opto 22 systems.

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