G4 Digital AC Output Modules

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 ℃ to 70 ℃

G4OAC5A and G4OAC5AMA Modules

Description

Opto 22's G4 AC output modules are used to control or switch AC loads. Each module provides up to 4,000 Vrms 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.

Part Numbers

Part	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

Opto 22 • 43044 Business Park Drive • Temecula, CA 92590-3614 • www.opto22.com
SALES 800-321-6786 • 951-695-3000 • FAX 951-695-3095 • sales@opto22.com • SUPPORT 800-835-6786 • 951-695-3080 • FAX 951-695-3017 • support@opto22.com

Specifications

	Units	G4OAC5*	G4OAC5A*	G4OAC5A5*	G4OAC5MA*	G4OAC5AMA*
Nominal line voltage	VAC	120	120/240	120/240	120	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 nominal voltage (60 Hz)	mA_{RMS}	5	1.25/2.5	1.25/2.5	5	1.25/2.5
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)	Ω	220	220	220	220	220
One-cycle surge	A peak	80	80	80	80	80
Turn-on time @ 60 Hz	ms	≤8.3**	≤8.3**	≤8.3**	≤8.3**	≤8.3**
Turn-off time @ 60 Hz	ms	≤8.3***	≤8.3***	≤8.3***	≤8.3***	≤8.3***
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 Operating: Storage:	°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).
** One-half cycle maximum. Module turns on at the zero volt crossing of the AC sine wave.
*** One-half cycle maximum. Module turns off at the zero current crossing of the AC sine wave.
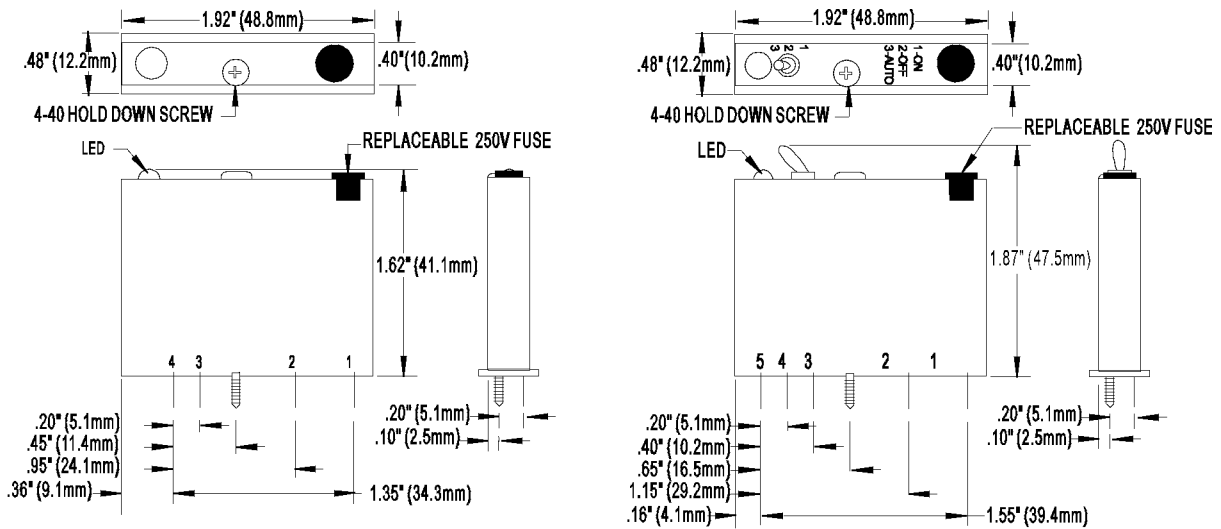
G4 Digital AC Output Modules

Specifications (cont.)

	Units	G4OAC15	G4OAC15A	G4OAC24	G4OAC24A
Nominal line voltage	VAC	120	120/240	120	120/240
Output voltage range	VAC	12–140	24–280	12–140	24–280
Key feature	—	—	—	—	—
Current rating: At 45 °C ambient At 70 °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 nominal voltage (60 Hz)	mA_{RMS}	5	1.25/2.5	5	1.25/2.5
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)	Ω	1K	1K	2.2K	2.2K
One-cycle surge	A peak	80	80	80	80
Turn-on time @ 60 Hz	ms	≤8.3[*]	≤8.3[*]	≤8.3[*]	≤8.3[*]
Turn-off time @ 60 Hz	ms	≤8.3[**]	≤8.3[**]	≤8.3[**]	≤8.3[**]
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 Operating: Storage:	°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

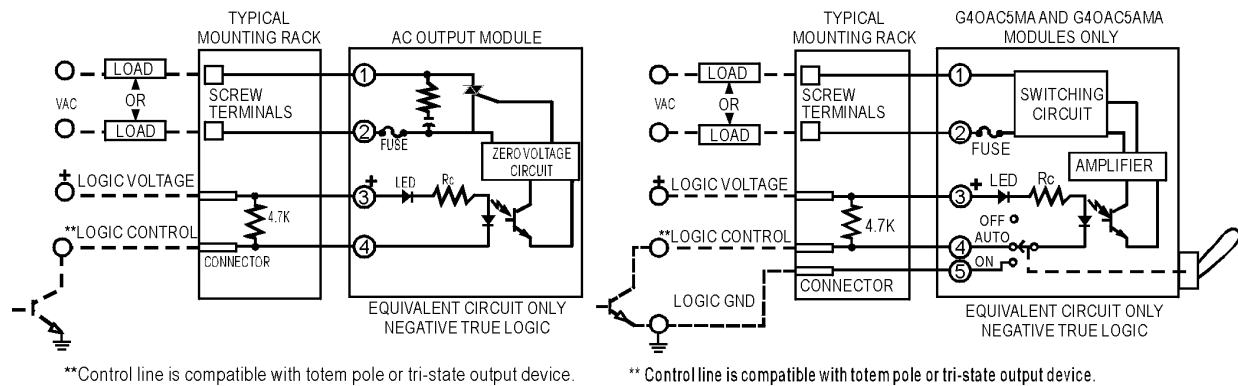* One-half cycle maximum. Module turns on at the zero volt crossing of the AC sine wave.
** One-half cycle maximum. Module turns off at the zero current crossing of the AC sine wave.

Dimensions

Schematics

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

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

Opto 22 • 43044 Business Park Drive • Temecula, CA 92590-3614 • www.opto22.com
SALES 800-321-6786 • 951-695-3000 • FAX 951-695-3095 • sales@opto22.com • **SUPPORT** 800-835-6786 • 951-695-3080 • FAX 951-695-3017 • support@opto22.com
© 2006 Opto 22. All rights reserved. Dimensions and specifications are subject to change. Brand or product names used herein are trademarks or registered trademarks of their respective companies or organizations.

More About Opto 22

Products

Opto 22 develops and manufactures reliable, flexible, easy-to-use hardware and software products for industrial automation, remote monitoring, and data acquisition applications.

SNAP PAC System

Designed to simplify the typically complex process of understanding, selecting, buying, and applying an automation system, the SNAP PAC System consists of four integrated components:

- SNAP PAC controllers
- PAC Project™ Software Suite
- SNAP PAC brains
- SNAP I/O™

SNAP PAC Controllers

Programmable automation controllers (PACs) are multifunctional, multidomain, modular controllers based on open standards and providing an integrated development environment.

Opto 22 has been manufacturing PACs for many years. The latest models include the standalone SNAP PAC S-series and the rack-mounted SNAP PAC R-series. Both handle a wide range of digital, analog, and serial functions and are equally suited to data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

SNAP PACs are based on open Ethernet and Internet Protocol (IP) standards, so you can build or extend a system without the expense and limitations of proprietary networks and protocols.

PAC Project Software Suite

Opto 22's PAC Project Software Suite provides full-featured and cost-effective control programming, HMI (human machine interface) development and runtime, OPC server, and database connectivity software to power your SNAP PAC System.

These fully integrated software applications share a single tagname database, so the data points you configure in PAC Control™ are immediately available for use in PAC Display™, OptoOPCServer™, and OptoDataLink™. Commands are in plain English; variables and I/O point names are fully descriptive.

PAC Project Basic offers control and HMI tools and is free for download on our website, www.opto22.com. PAC Project Professional, available for separate purchase, adds OptoOPCServer, OptoDataLink, options for Ethernet link redundancy or segmented networking, and support for legacy Opto 22 serial *mistic*™ I/O units.

SNAP PAC Brains

While SNAP PAC controllers provide central control and data distribution, SNAP PAC brains provide distributed intelligence for I/O processing and communications. Brains offer analog, digital, and serial functions, including thermocouple linearization; PID loop control; and optional high-speed digital counting (up to 20 kHz), quadrature counting, TPO, and pulse generation and measurement.

SNAP I/O

I/O provides the local connection to sensors and equipment. Opto 22 SNAP I/O offers 1 to 32 points of reliable I/O per module, depending on the type of module and your needs. Analog, digital, serial, and special-purpose modules are all mixed on the same mounting rack and controlled by the same processor (SNAP PAC brain or rack-mounted controller).

Quality

Founded in 1974 and with over 85 million devices sold, 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 do no statistical testing and each part is tested twice before leaving our factory, we can guarantee most solid-state relays and optically isolated I/O modules for life.

Free Product Support

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

Free Customer Training

Hands-on training classes for the SNAP PAC System are offered at our headquarters in Temecula, California. Each student has his or her own learning station; classes are limited to nine students. Registration for the free training class is on a first-come, first-served basis. See our website, www.opto22.com, for more information or email training@opto22.com.

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 or 951-695-3000, or visit our website at www.opto22.com.

www.opto22.com