

OPTO 22

I/O MODULES G4 ANALOG TPO

DATA SHEET

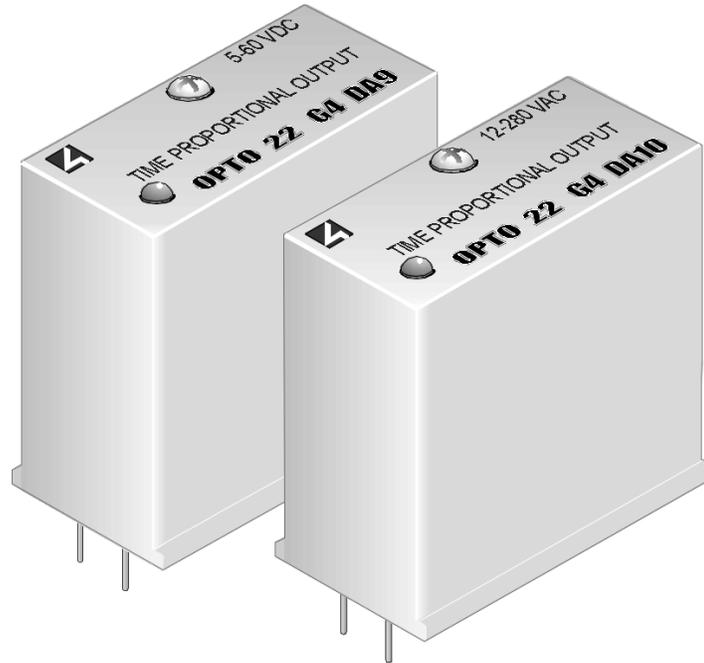
page 1/2

Form 570-240627

Description

The G4DA9 and G4DA10 time proportional output (TPO) modules provide digital control from a Mystic Analog brick or Modular controller. Each module is optically-isolated to 4,000 volts from field devices and features point-to-point electrical isolation. The analog modules mount on any Brick or Modular controller, and are held in place with a captive screw. Modules switch either 5 - 60 VDC (for the G4DA9) or 12 - 280 VAC (for the G4DA10) and together with a power SSR, are ideal for controlling heater circuits.

Part Numbers	Description
G4DA9	Timed Proportional DC Output
G4DA10	Timed Proportional AC Output



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page 2/2

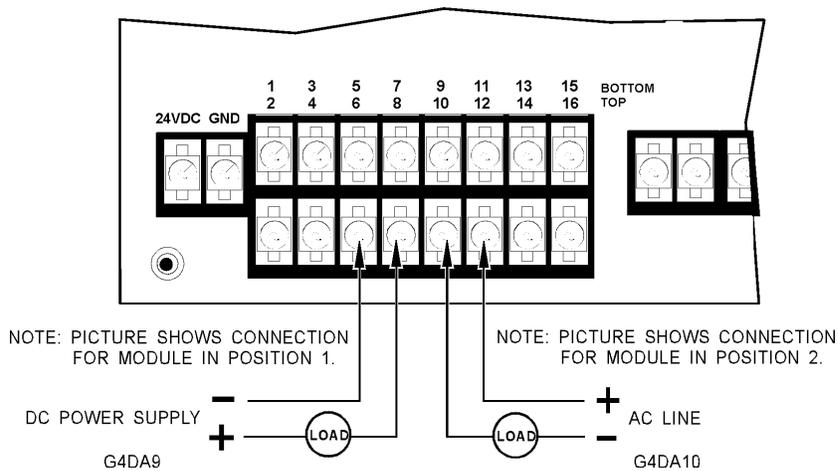
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G4DA9 AND G4DA10

Specifications

	G4DA9	G4DA10
Ambient Temperature Operating Storage	0° C to 70° C - 25° C to 85° C	0° C to 70° C - 25° C to 85° C
Isolation Input-to-Output	4,000 Vrms	4,000 Vrms
Turn-on Time	50 ms	Half cycle AC waveform
Turn-off Time	50 ms	Half cycle AC waveform
Output Voltage Drop Maximum Peak	1.6 V	1.6 V
Operating Voltage Range	5 - 60 VDC	12 - 280 VAC
Current Rating at 45° C Ambient at 70° C Ambient	0.5 A 0.3 A	0.5 A 0.3 A
Surge Rating	1 A for 1 second	80 A (peak) for 1 cycle
Off-State Leakage at Maximum Voltage	1 mA at 60 VDC	3 mA at 280 VAC
Period	2.048 seconds to 8.7 minutes 4.096 seconds default	2.048 seconds to 8.7 minutes 4.096 seconds default
Resolution	12-bit Each bit = Period/4096 1 millisecond/bit default	12-bit Each bit = Period/4096 1 millisecond/bit default
Power Requirements	5 V at 25 mA	5 V at 25 mA

Connections



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 even write an IEC 61131-3 compliant control program to run on groov RIO, using CODESYS. 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
- Multiple OPC UA server options
- 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.

