

G4 DIGITAL DC OUTPUT MODULES

Features

- > 4000 volts optical isolation (transient)
- > Built-in LED status indicator
- > Logic levels of 5, 15, and 24 VDC
- > Removable fuse
- > Ability to withstand one-second surge of 5 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)



G4ODC5

DESCRIPTION

Opto 22's G4 DC output modules are used to control or switch DC loads. Each module provides up to 4000 volts of optical isolation (transient) between field devices and control logic.

The G4ODC5MA is a special module featuring a manual-on/manualoff/automatic switch, ideal for diagnostic testing of control applications.

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

Compatible with Raspberry Pi

The following G4 digital DC output modules can be used with the Digital I/O Carrier Board for Raspberry Pi® (part number OPTO-P1-40P) to monitor and control industrial devices with your Raspberry Pi:

- G4ODC5
- G4ODC5A
- G4ODC5MA

Part Numbers

Part	Description
G4ODC5*	G4 DC Output 5–60 VDC, 5 VDC Logic
G4ODC5FM	G4 DC Output 5–60 VDC, 5 VDC Logic, Factory Mutual approved
G4ODC5A*	G4 DC Output 5–200 VDC, 5 VDC Logic
G4ODC5AFM	G4 DC Output 5–200 VDC, 5 VDC Logic, Factory Mutual approved
G4ODC5MA*	G4 DC Output 5–60 VDC, 5 VDC Logic with Manual/Auto Switch
G4ODC15	G4 DC Output 5–60 VDC, 15 VDC Logic
G4ODC24	G4 DC Output 5–60 VDC, 24 VDC Logic
G4ODC24A	G4 DC Output 5–200 VDC, 24 VDC Logic

* Compatible with Raspberry Pi

Raspberry Pi® is a trademark of the Raspberry Pi Foundation.

SPECIFICATIONS

	Units	G4ODC5* G4ODC5FM**	G4ODC5A* G4ODC5AFM**	G4ODC5MA*	G4ODC15***	G4ODC24***	G4ODC24A***
Maximum line voltage	VDC	60	200	60	60	60	200
Output voltage range	VDC	5–60	5–200	5–60	5–60	5–60	5–200
Key feature	—	—	—	Diagnostic switch	—	—	—
Current rating: At 45 °C ambient At 70 °C ambient	A A	3 2	1 0.55	3 2	3 2	3 2	1 0.55
Isolation input-to-out-put (transient): 1 ms 1 minute	volts	4000 1500	4000 1500	4000 1500	4000 1500	4000 1500	4000 1500
Off-state leakage at maximum voltage	mA	1	1	1	1	1	1
Control resistance (R _c in schematic)	W	220	220	220	1 K	2.2 K	2.2 K
One-second surge	A	5	5	5	5	5	5
Turn-on time	micro-seconds	100	100	100	100	100	100
Turn-off time	micro-seconds	750	750	750	750	750	750
Output voltage drop maximum peak	V	1.6	1.6	1.6	1.6	1.6	1.6
Nominal logic voltage	VDC	5	5	5	15	24	24
Logic voltage range	VDC	4–8	4–8	4–8	10.5–16	19.5–32	19.5–32
Logic pickup voltage	VDC	4	4	4	10.5	19.5	19.5
Logic dropout voltage	VDC	1	1	1	1	1	1
Logic input current at nominal logic voltage	mA	12	12	12	15	18	18
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	-3- to +70 -30 to +85

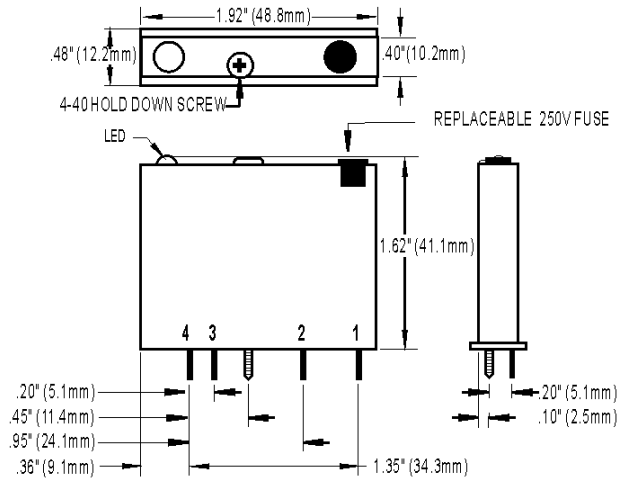
* Compatible with Raspberry Pi

** Part numbers ending in FM are Factory Mutual approved

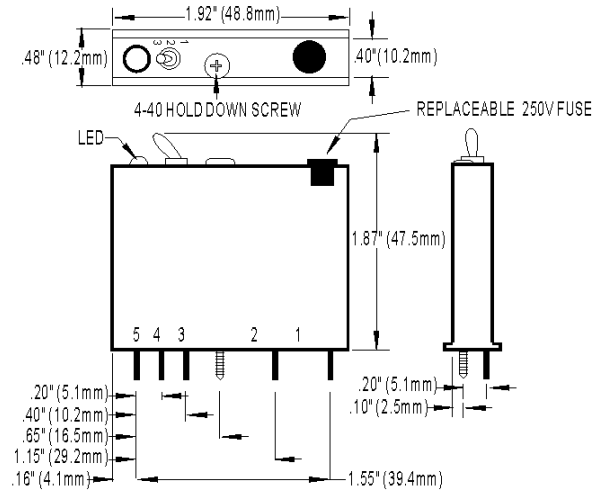
*** Not for use with Opto 22 brains

DIMENSIONS

All Models Except MA

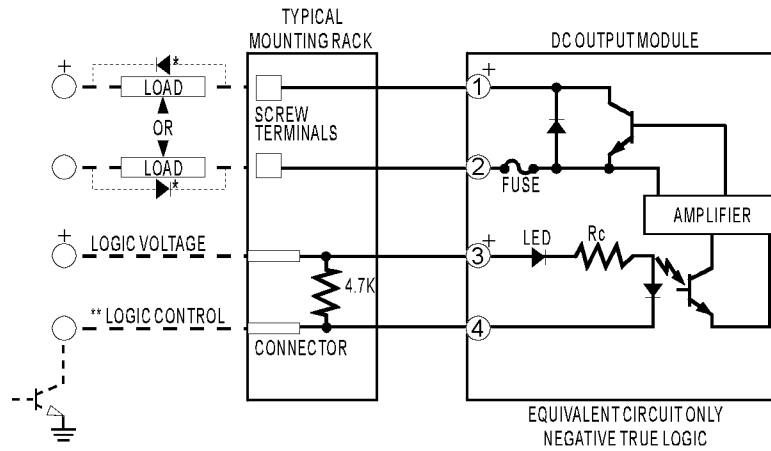


MA Models



SCHEMATICS

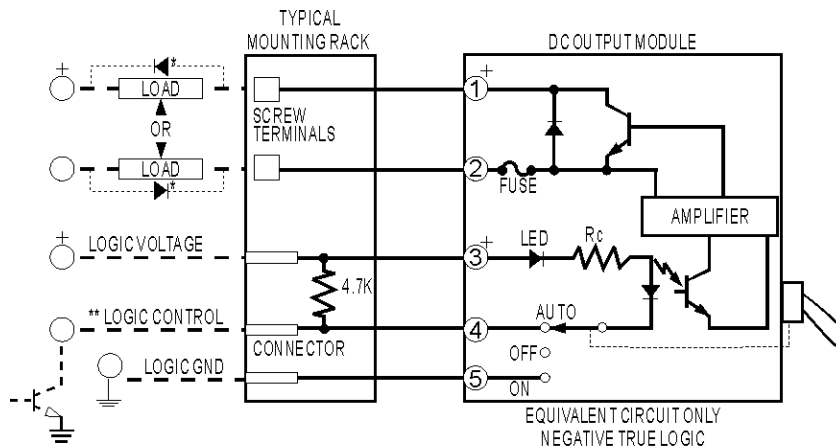
All Models Except MA



* Commutation diode must be used on inductive loads. Typically, use diode IN4005.

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

MA Models



* Commutation diode must be used on inductive loads. Typically, use diode IN4005.

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

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.