G4 DIGITAL DRY CONTACT OUTPUT MODULES

Features

- Used to switch low-voltage resistive loads
- Contact resistance of 200 milliohms maximum
- Mechanical life of 5 million cycles
- Coil 5 VDC at 14 mA
- Operating temperature: -30 °C to 70 °C
- CE approved
- Passes NEMA Showering Arc Test (ICS 2-230)
- Meets IEEE Surge Withstand Specification (IEEE-472)

G4 Dry Contact Output Modules

DESCRIPTION

Opto 22's G4 family of modules includes two dry-contact, low-contact-resistance DC output modules, the G4ODC5R and the G4ODC5R5.

- The **G4ODC5R** is a single-pole, single-throw, normally open mechanical relay (Form A, SPST-NO).
- The **G4ODC5R5** is a single-pole, single-throw, normally closed mechanical relay (Form B, SPST-NC).

Factory Mutual-approved versions of these modules are also available.

Typical applications for these modules include analog signal and communication line multiplexing.

Because of their low 10 VA rating, these modules are not recommended for inductive or capacitive loads (even very small loads), because the inrush current is likely to exceed the 10 VA rating.

IMPORTANT: Applications using 120 VAC are typically NOT suited to these modules. If you are considering using one of these modules for any application other than low-voltage purely resistive loads, see the detailed notes and rating curve on page 2, and call Pre-sales Engineering for specific guidance.

Part Numbers

Part	Description
G4ODC5R	G4 Dry Contact Output, 5 VDC Logic, Normally Open
G4ODC5RFM	G4 Dry Contact Output, 5 VDC Logic, Normally Open, Factory Mutual Approved
G4ODC5R5	G4 Dry Contact Output, 5 VDC Logic, Normally Closed
G4ODC5R5FM	G4 Dry Contact Output, 5 VDC Logic, Normally Closed, Factory Mutual Approved

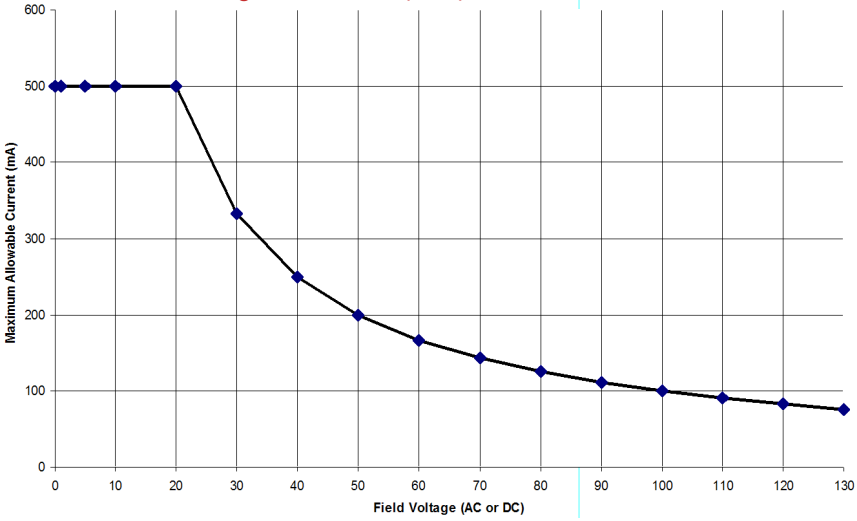
SPECIFICATIONS

	Units	G4ODC5R G4ODC5RFM*	G4ODC5R5 G4ODC5R5FM*
Contact form		Form A SPST mechanical relay	Form B SPST mechanical relay
Normal position		Open	Closed
Contact rating	VA	10	10
Maximum switching voltage (see NOTE)	VDC	100	100
	VAC	130	130
Maximum switching current	A	0.5 (see NOTE)	0.5 (see NOTE)
Contact resistance	Milliohms	200	200
Turn-on time	microseconds	500	500
Turn-off time	microseconds	500	500
Contact bounce	microseconds	250	250
Mechanical life	cycles	5 million	5 million
Logic voltage range	VDC	4.8–6	4.8–6
Logic OFF voltage range	VDC	0.0–0.8	0.0–0.8
Logic ON voltage range	VDC	3.8–6	3.8–6
Indeterminate range	VDC	0.8–3.8	0.8–3.8
Logic input current at nominal logic voltage	milliamps	14	14
Isolation voltage (transient) input-to-output	VDC	1,500	1,500
Ambient temperature: Operating Storage	 °C °C	 0 to 70 -60 to +105	 0 to 70 -60 to +105

*Part numbers ending in FM are Factory Mutual approved.

NOTE: The application of the dry contact module must not exceed 10 VA under steady-state or momentary in-rush conditions.
For voltages at or below 20 volts, the current limit is 0.5 amps.
For voltages above 20 volts, the maximum allowable current is determined by the following equation:
Maximum Current = 10 VA / Voltage

10 VA Rating for Reed Relay (Dry Contact) Modules

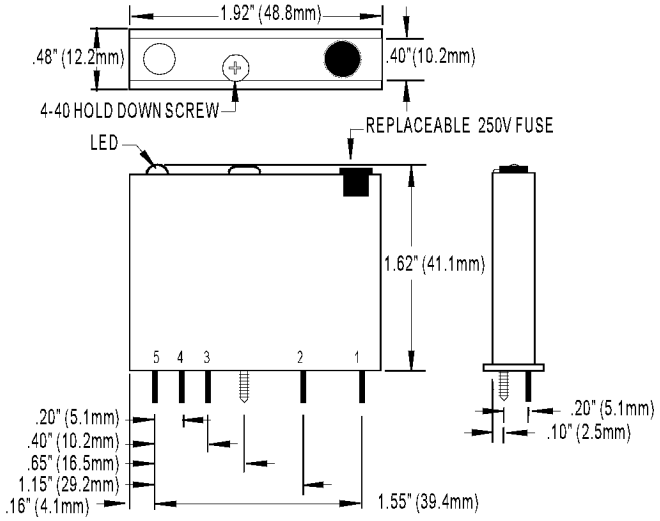


Current Limit at Key Voltages	
V	mA
5	500
12	500
24	416
100[1]	100
120	83
130[2]	76

[1] Maximum DC voltage is 100 VDC.
[2] Maximum AC voltage is 130 VAC.

MADE IN THE USA

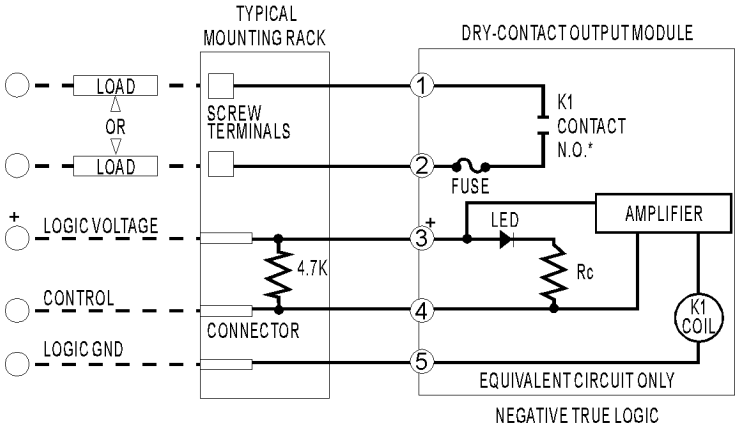
DIMENSIONS



SCHEMATICS

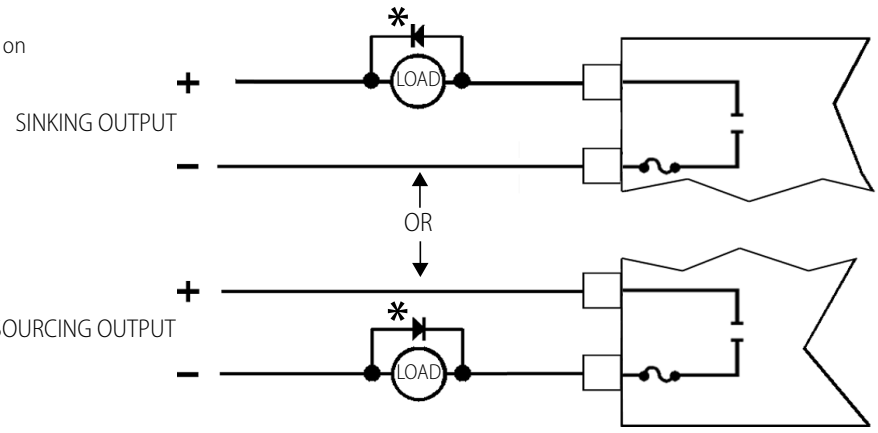
NOTE: Also compatible with Totem Pole or Tri-State Output. Will not plug into G4PB4R mounting rack.

*Normally open for G4ODC5R. Normally closed for G4ODC5R5.



TYPICAL WIRING EXAMPLES

NOTE: Commutating diode* must be used on inductive loads (Typical: 1N4005)



More about Opto 22

OPTO 22

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.

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