

ODC5R REED RELAY DIGITAL OUTPUT MODULE

Description

The ODC5R is a Form A mechanical relay I/O module. This module was designed for low-voltage DC loads that are purely resistive (no inrush current).

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 this module. If you are considering using this module for any application other than low-voltage purely resistive loads, see the detailed notes and rating curve in the data sheet, and call Pre-sales Engineering for specific guidance.



ODC5R

Part Numbers

Part	Description
ODC5R	Reed Relay Output, 5VDC Logic

SPECIFICATIONS

Item	Description
Contact type	Form A SPST-normally open
Line Voltage - Range	0–100 VDC 0–130 VAC (see Note)
Current Rating	0.5 Amps Switching (see Note)
Contact Rating	10 VA (see Note)
Switching current	0.5 amperes maximum ¹
Carry current	1.5 amps maximum
Contact on-resistance	200 milliohms
Turn-on time	500 microseconds
Turn-off time	500 microseconds
Contact bounce	250 microseconds
Mechanical life	5 x 10 ⁶ cycles
Logic voltage range	4.8–6 volts
Logic dropout voltage	0.8 volts
Logic input current @ Normal logic voltage	14 milliamperes
Isolation voltage Input-to-output	1500 VDC
Temperature Operating	0 to 70 °C
Agency Approvals	UL, CE, RoHS; UKCA

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

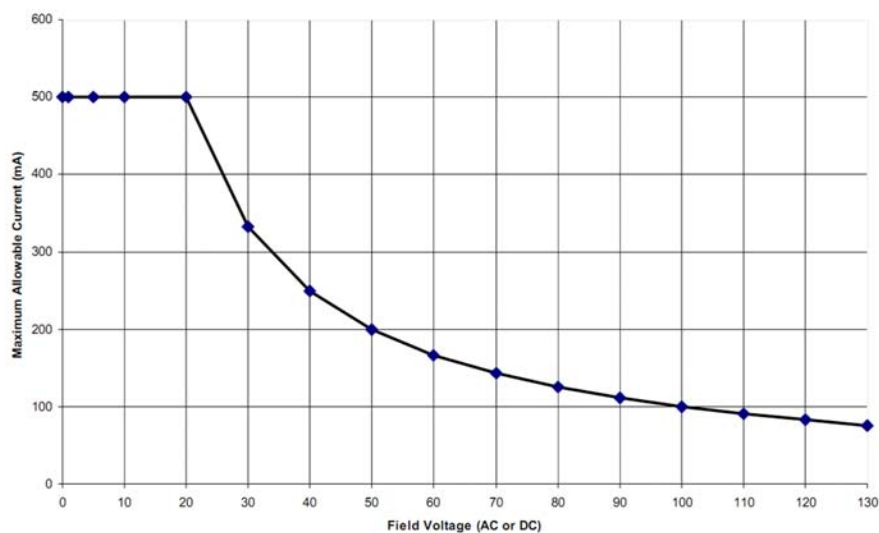
Current Limit at
Key Voltages

V	mA
5	500
12	500
24	416
100 ¹	100
120	83
130 ²	76

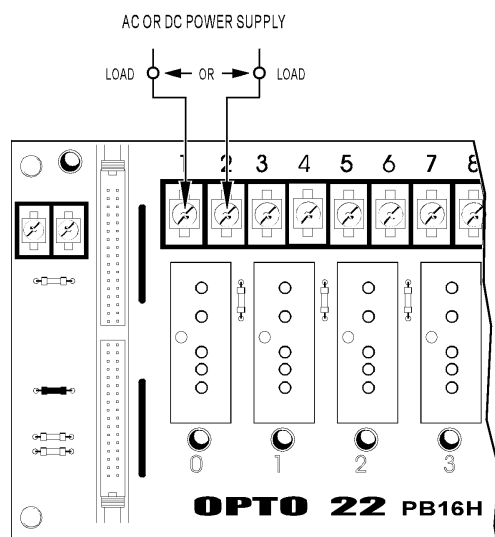
¹ Maximum DC voltage is 100 VDC

² Maximum AC voltage is 130 VAC

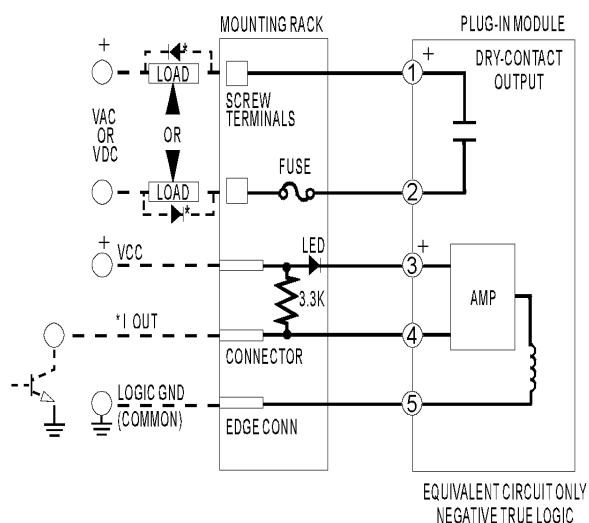
10 VA RATING FOR REED RELAY (DRY CONTACT) MODULES



CONNECTIONS



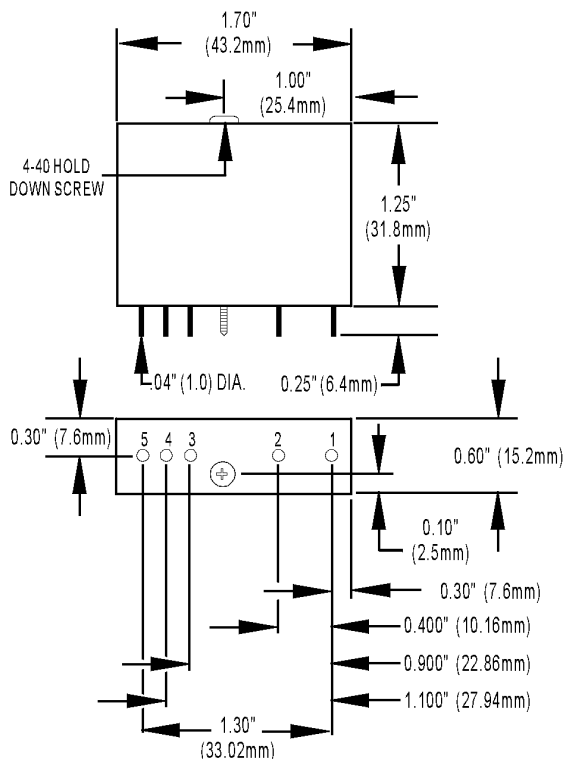
SCHEMATICS



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

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

DIMENSIONS



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 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
- 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.

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