

## STANDARD DC OUTPUT MODULES

### Features

- > Rugged construction
- > 4000 volts of optical isolation between the field devices and the control logic (transient)

### DESCRIPTION

DC output modules are used for controlling or switching DC loads. Each module provides 4000 volts (transient) of optical isolation between the field devices and the control logic.

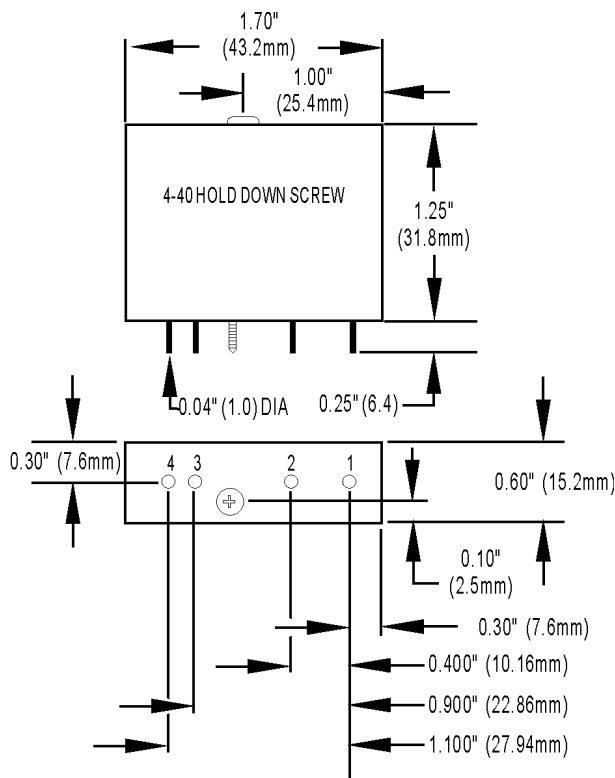
Typical uses and applications for DC output modules include switching the following loads:

- DC relays
- DC solenoids
- DC motor starters
- DC lamps or indicators
- PLC logic



ODC5 Module

### DIMENSIONS, ALL MODELS



### Part Numbers

Part	Description
ODC5	DC Output 5–60 VDC, 5 VDC Logic
ODC5A	DC Output 5–200 VDC, 5 VDC Logic
ODC15	DC Output 5–60 VDC, 15 VDC Logic
ODC15A	DC Output 5–200 VDC, 15 VDC Logic
ODC24	DC Output 5–60 VDC, 24 VDC Logic
ODC24A	DC Output 5–200 VDC, 24 VDC Logic

## SPECIFICATIONS

### General Specifications

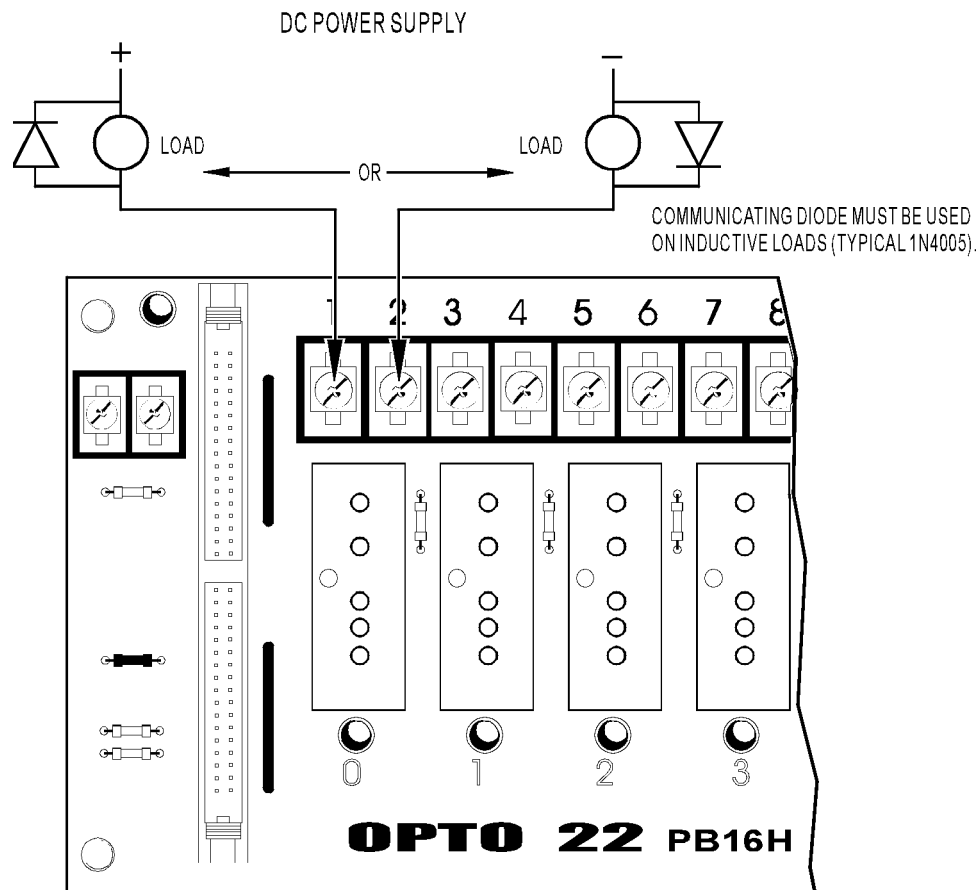
One-second Surge	5 A
Operating Ambient Temperature	-30 °C to 70 °C
Isolation, Input-to-Output (Transient)	4000 volts
Turn-on Time	100 µs
Turn-off Time	750 µs
Output Voltage Drop Maximum Peak	1.6 volts
Agency Approvals	UL, CE, CSA, RoHS; UKCA

### Module Specifications

	UNITS	ODC5	ODC5A	ODC15*	ODC15A*	ODC24*	ODC24A*
Line voltage - max.	VDC	60	200	60	200	60	200
Operating voltage range	VDC	5–60	5–200	5–60	5–200	5–60	5–200
Current rating							
@ 45 °C ambient	Amps	3	1	3	1	3	1
@ 70 °C ambient	Amps	2	0.55	2	0.55	2	0.55
UL Motor Load rating	Amps	1.5	1	1.5	1	1.5	1
Off-state leakage @ max. voltage	mA	1	2	1	2	1	2
Logic voltage - nominal	VDC	5	5	15	15	24	24
Logic voltage range (Vcc)	VDC	2.5–8	2.5–8	9–16	9–16	18–32	18–32
Logic pickup voltage	VDC	2.5	2.5	9	9	18	18
Logic dropout voltage	VDC	1	1	1	1	1	1
Logic input current @ nominal logic voltage	mA	12	12	15	15	18	18
Control resistance (R <sub>c</sub> in schematic diagram)	Ohms	220	220	1K	1K	2.2K	2.2K

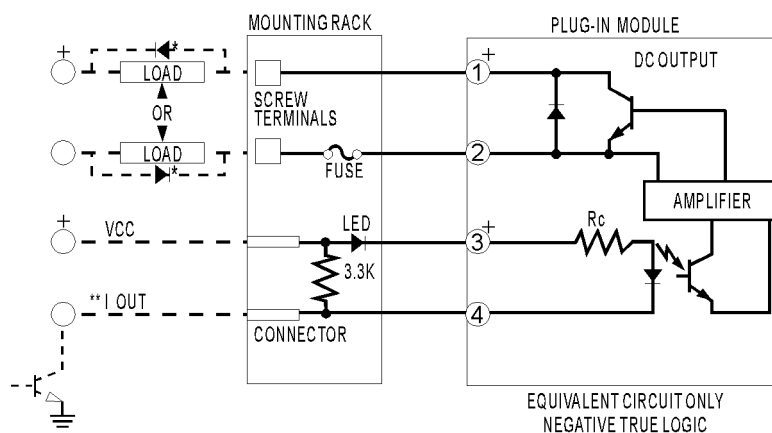
\* Not for use with Opto 22 brains.

## CONNECTIONS



## SCHEMATIC

### Equivalent Circuit



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

\*\*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, 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](http://www.opto22.com).

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