

# Standard DC Output Modules

## Features

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

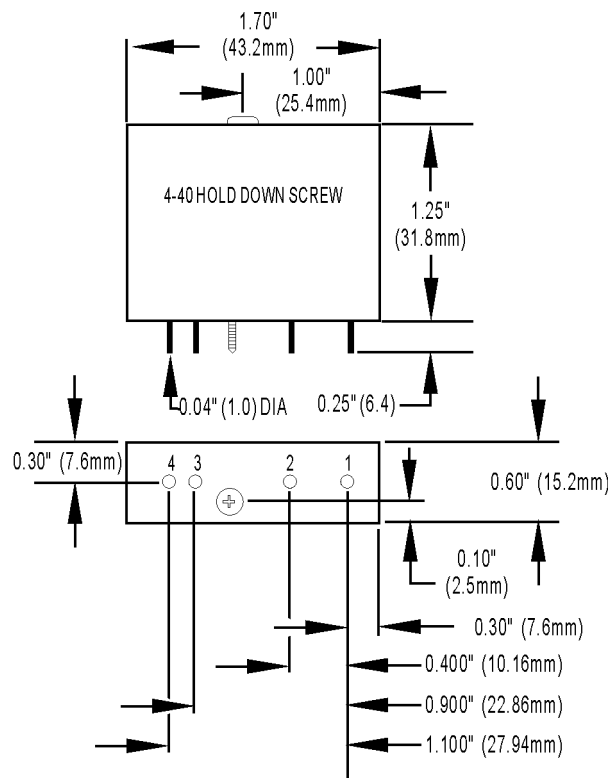
## Description

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

## Dimensions, All Models



ODC5 Module

## 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

# Standard DC Output Modules

## Specifications

### General Specifications

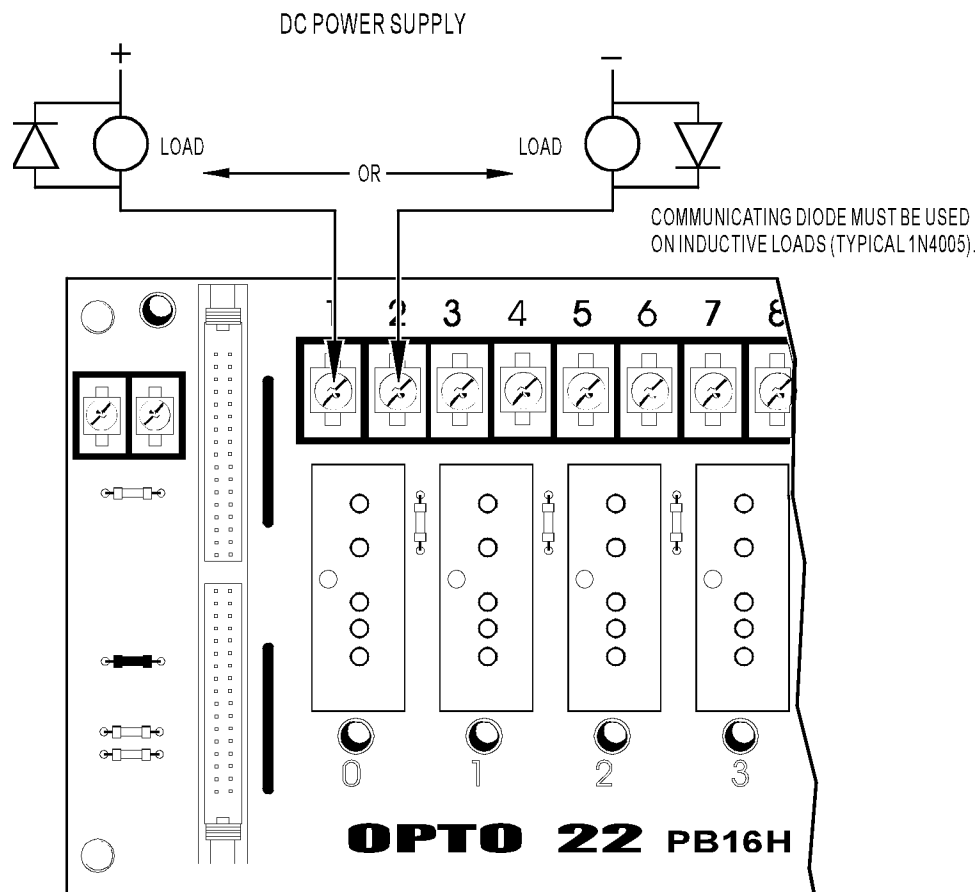
One-second Surge	5 A
Operating Ambient Temperature	-30 °C to 70 °C
Isolation, Input-to-Output (Transient)	4000 volts
Turn-on Time	100 µs
Turn-off Time	750 µs
Output Voltage Drop Maximum Peak	1.6 volts

### 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 @ 70 °C ambient	Amps Amps	3 2	1 0.55	3 2	1 0.55	3 2	1 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

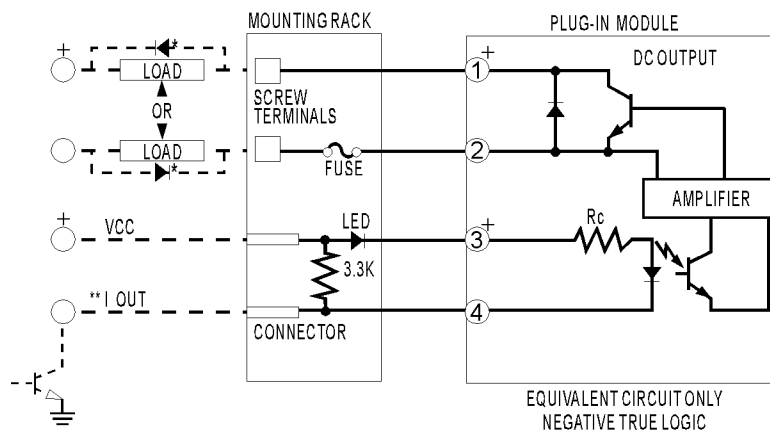
# Standard DC Output Modules

## Connections



## Schematic

### Equivalent Circuit



\* Commutation diode must be used on inductive loads.  
 \*\* Control line is compatible with totem pole or tri-state output device.

# More About Opto 22

## Products

Opto 22 develops and manufactures reliable, flexible, easy-to-use hardware and software products for industrial automation, remote monitoring, and data acquisition applications.

### SNAP PAC System

Designed to simplify the typically complex process of understanding, selecting, buying, and applying an automation system, the SNAP PAC System consists of four integrated components:

- SNAP PAC controllers
- PAC Project™ Software Suite
- SNAP PAC brains
- SNAP I/O™

### SNAP PAC Controllers

Programmable automation controllers (PACs) are multifunctional, multidomain, modular controllers based on open standards and providing an integrated development environment.

Opto 22 has been manufacturing PACs for many years. The latest models include the standalone SNAP PAC S-series and the rack-mounted SNAP PAC R-series. Both handle a wide range of digital, analog, and serial functions and are equally suited to data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

SNAP PACs are based on open Ethernet and Internet Protocol (IP) standards, so you can build or extend a system without the expense and limitations of proprietary networks and protocols.

### PAC Project Software Suite

Opto 22's PAC Project Software Suite provides full-featured and cost-effective control programming, HMI (human machine interface) development and runtime, OPC server, and database connectivity software to power your SNAP PAC System.

These fully integrated software applications share a single tagname database, so the data points you configure in PAC Control™ are immediately available for use in PAC Display™, OptoOPCServer™, and OptoDataLink™. Commands are in plain English; variables and I/O point names are fully descriptive.

PAC Project Basic offers control and HMI tools and is free for download on our website, [www.opto22.com](http://www.opto22.com). PAC Project Professional, available for separate purchase, adds OptoOPCServer, OptoDataLink, options for Ethernet link redundancy or segmented networking, and support for legacy Opto 22 serial *mistic*™ I/O units.

### SNAP PAC Brains

While SNAP PAC controllers provide central control and data distribution, SNAP PAC brains provide distributed intelligence for I/O processing and communications. Brains offer analog, digital, and serial functions, including thermocouple linearization; PID loop control; and optional high-speed digital counting (up to 20 kHz), quadrature counting, TPO, and pulse generation and measurement.

### SNAP I/O

I/O provides the local connection to sensors and equipment. Opto 22 SNAP I/O offers 1 to 32 points of reliable I/O per module, depending on the type of module and your needs. Analog, digital, serial, and special-purpose modules are all mixed on the same mounting rack and controlled by the same processor (SNAP PAC brain or rack-mounted controller).

## Quality

Founded in 1974 and with over 85 million devices sold, 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 do no statistical testing and each part is tested twice before leaving our factory, we can guarantee most solid-state relays and optically isolated I/O modules for life.

## Free Product Support

Opto 22's Product Support Group offers free, comprehensive technical support for Opto 22 products. Our staff of support engineers represents decades of training and experience. Product support is available in English and Spanish, by phone or email, Monday through Friday, 7 a.m. to 5 p.m. PST.

## Free Customer Training

Hands-on training classes for the SNAP PAC System are offered at our headquarters in Temecula, California. Each student has his or her own learning station; classes are limited to nine students. Registration for the free training class is on a first-come, first-served basis. See our website, [www.opto22.com](http://www.opto22.com), for more information or email [training@opto22.com](mailto:training@opto22.com).

## 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 or 951-695-3000, or visit our website at [www.opto22.com](http://www.opto22.com).

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