# OPTO 22

## 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.

MADE IN THE
USA

# SPECIFICATIONS

| | Units | G4ODC5*<br>G4ODC5FM** | G4ODC5A*<br>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:<br>At 45 °C ambient<br>At 70 °C ambient | A<br>A | 3<br>2 | 1<br>0.55 | 3<br>2 | 3<br>2 | 3<br>2 | 1<br>0.55 |
| Isolation input-to-output (transient):<br>1 ms<br>1 minute | volts | 4000<br>1500 | 4000<br>1500 | 4000<br>1500 | 4000<br>1500 | 4000<br>1500 | 4000<br>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 | microseconds | 100 | 100 | 100 | 100 | 100 | 100 |
| Turn-off time | microseconds | 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:<br>Operating<br>Storage | °C<br>°C | -30 to +70<br>-30 to +85 | -30 to +70<br>-30 to +85 | -30 to +70<br>-30 to +85 | -30 to +70<br>-30 to +85 | -30 to +70<br>-30 to +85 | -3- to +70<br>-30 to +85 |

* Compatible with Raspberry Pi
** Part numbers ending in FM are Factory Mutual approved
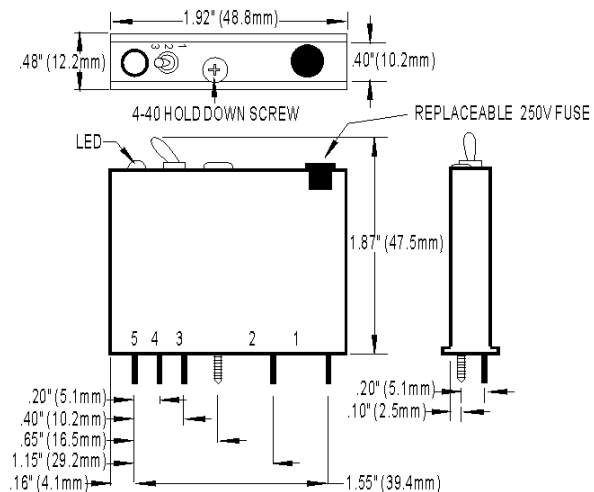*** Not for use with Opto 22 brains

# OPTO 22

## DIMENSIONS
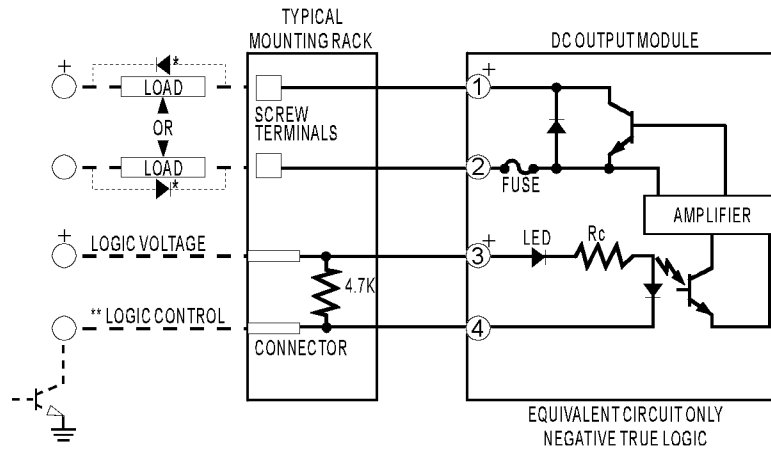
### All Models Except MA



### MA Models
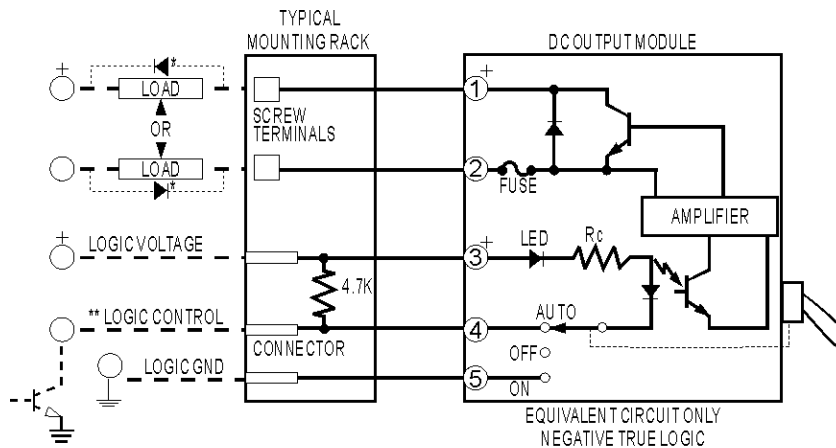
# OPTO 22
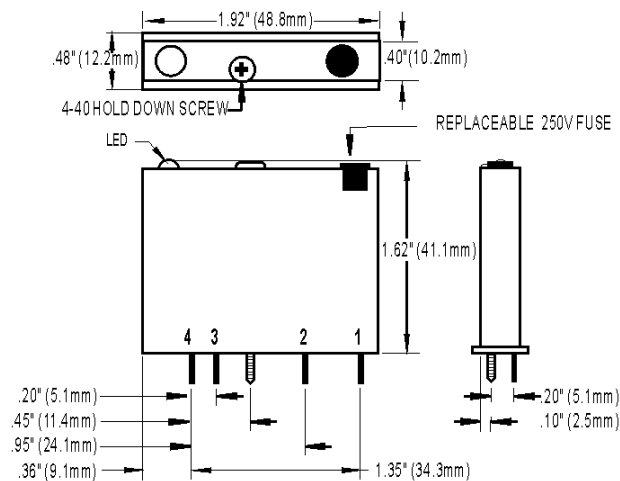
## SCHEMATICS

### 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



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