

These products are obsolete.

OBsolete G4 DIGITAL AC OUTPUT MODULES TECHNICAL NOTE

This technical note contains information you may need about obsolete G4 AC digital output modules you’re still using. Included are part numbers, descriptions, specifications, wiring diagrams, and dimensional drawings. In most cases, these parts have been removed from data sheets because we no longer sell them.

This document includes information on the following obsolete G4 Digital AC Output modules :

| Part | Description |
|------------|---|
| G4OAC5FM | G4 AC Output 12–140 VAC, 5 VDC Logic |
| G4OAC5AFM | G4 AC Output 24–280 VAC, 5 VDC Logic |
| G4OAC5A5FM | G4 AC Output 24–280 VAC, 5 VDC Logic NC |

Note: Part numbers ending in FM were Factory Mutual approved prior to 2024.

- Specifications begin on [page 3](#)
- Dimensions begin on [page 4](#).
- Schematics begin on [page 4](#).

For Help

As always, if you are using Opto 22 products and cannot find the help you need in this technical note, contact Opto 22 Product Support. Product support is free.

Phone: 800-TEK-OPTO
(800-835-6786 toll-free in the U.S. and Canada)
951-695-3080
Monday through Friday,
7 a.m. to 5 p.m. Pacific Time

NOTE: Email messages and phone calls to Opto 22 Product Support are grouped together and answered in the order received.

Email: support@opto22.com

Opto 22 website: www.opto22.com

When calling for technical support, be prepared to provide a complete description of your hardware and operating system to the Product Support engineer.

This information should include:

- accessories installed
- type of power supply
- types of I/O modules and racks used
- third-party devices installed
- how the system is wired



G4 DIGITAL AC OUTPUT MODULES

Note: FM parts are no longer available, please contact Pre-Sales Engineering for more information.

For information about current G4 Digital AC Output Modules, see form 0252, G4 Digital AC Output Modules, Data Sheet.

Opto 22's G4 AC output modules are used to control or switch AC loads. Each module provides up to 4000 volts of optical isolation (transient) between field outputs and the control side of the circuit, and each features zero voltage turn-on and zero current turn-off.

All AC output modules are equivalent to single-pole, single-throw, normally open contacts (Form A, SPST-NO) except the G4OAC5A5, which is equivalent to a single-pole, single-throw, normally closed contact (Form B, SPST-NC).

Each module is equipped with a 4 amp fast-blow fuse. The fuse breaking capacity is 40 amps at 250 VAC. Current should be limited to prevent the short circuit current from exceeding the rated breaking capacity of the fuse.

Typical applications for AC output modules include switching loads such as AC relays, solenoids, motor starters, heaters, lamps, and indicators.

The G4OAC5MA and the G4OAC5AMA are special modules featuring a manual-on/manual-off/automatic switch, ideal for diagnostic testing of control applications.

Compatible with Raspberry Pi

The following G4 digital AC 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:

- G4OAC5
- G4OAC5A
- G4OAC5A5
- G4OAC5MA
- G4OAC5AMA

Raspberry Pi® is a trademark of the Raspberry Pi Foundation.

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SPECIFICATIONS

| | Units | G4OAC5FM** | G4OAC5AFM** | G4OAC5A5FM** |
|--|-------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Nominal line voltage | VAC | 120 | 120/240 | 120/240 |
| Output voltage range | VAC | 12–140 | 24–280 | 24–280 |
| Key feature | — | — | — | Normally closed |
| Current rating: | | | | |
| At 45 °C ambient | A | 3 | 3 | 3 |
| At 70 °C ambient | A | 2 | 2 | 2 |
| UL Motor Load Rating | A | 1.5 | 1.5 | 1.5 |
| Isolation input-to-output (transient): | | | | |
| 1 ms | volts | 4000 | 4000 | 4000 |
| 1 minute | | 1500 | 1500 | 1500 |
| Off-state leakage at nominal voltage (60 Hz) | mA _{RMS} | 5 | 1.25/2.5 | 1.25/2.5 |
| Nominal logic voltage | VDC | 5 | 5 | 5 |
| Logic voltage range | VDC | 4–8 | 4–8 | 4–8 |
| Logic pickup voltage | VDC | 4 | 4 | 4 |
| Logic dropout voltage | VDC | 1 | 1 | 1 |
| Logic input current at nominal logic voltage | mA | 12 | 12 | 12 |
| Control resistance (Rc in schematic) | ohms | 220 | 220 | 220 |
| One-cycle surge | A peak | 80 | 80 | 80 |
| Turn-on time @ 60 Hz | milliseconds | ≤8.3*** | ≤8.3*** | ≤8.3*** |
| Turn-off time @ 60 Hz | milliseconds | ≤8.3**** | ≤8.3**** | ≤8.3**** |
| Peak repetitive voltage | VAC | 500 | 500 | 500 |
| Minimum load current | mA | 20 | 20 | 20 |
| Output voltage drop maximum peak | V | 1.6 | 1.6 | 1.6 |
| Operating frequency | Hz | 25–65 | 25–65 | 25–65 |
| dV/dT-off-state | V/micro-seconds | 200 | 200 | 200 |
| dV/dT-commutating | -- | snubbed for 0.5 power factor load | snubbed for 0.5 power factor load | snubbed for 0.5 power factor load |
| Temperature | | | | |
| Operating: | °C | -30 to +70 | -30 to +70 | -30 to +70 |
| Storage: | °C | -30 to +85 | -30 to +85 | -30 to +85 |
| Agency Approvals | | UL, CE, CSA; UKCA | UL, CE, CSA; UKCA | CE, CSA; UKCA |

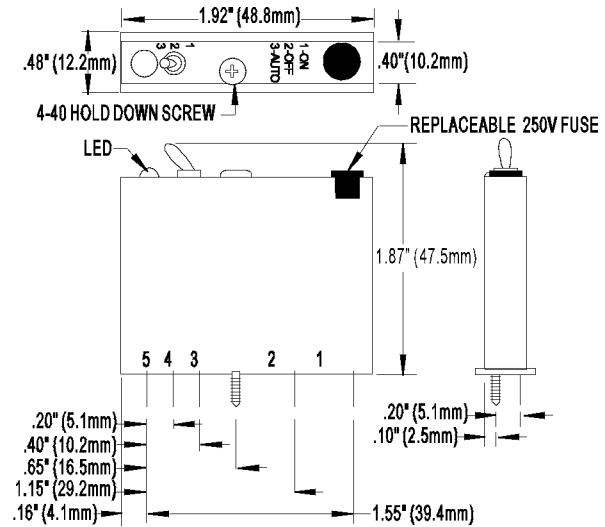
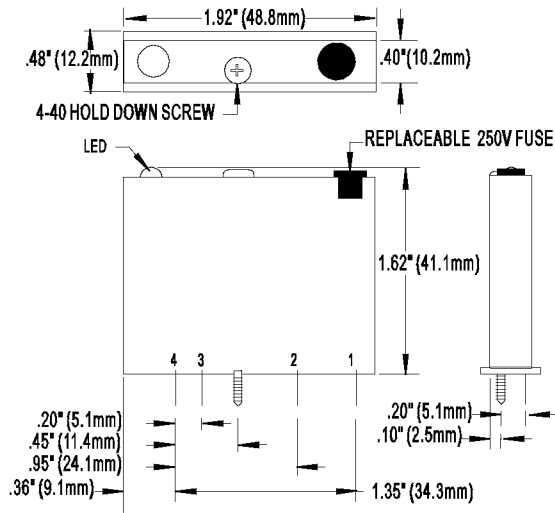
* Compatible with Raspberry Pi

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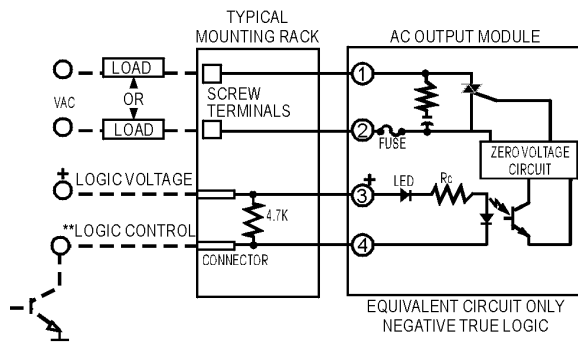
*** One-half cycle maximum. Module turns on at the zero volt crossing of the AC sine wave.

**** One-half cycle maximum. Module turns off at the zero current crossing of the AC sine wave.

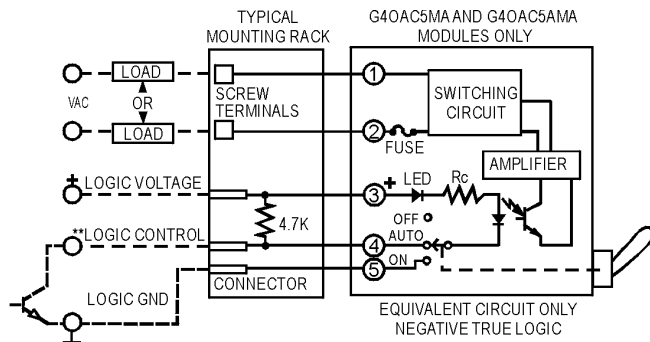
DIMENSIONS



SCHEMATICS



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



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