

# Standard AC Output Modules

## Features

- Rugged construction
- 4000 volts of optical isolation between the field devices and the control logic (transient)
- Zero voltage turn-on and zero current turn-off



OAC5 Module

## Description

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

With the exception of the OAC5A5 module, all AC output modules are equivalent to a single pole, single throw, normally open contact (FORM A, SPST-NO, Make). The OAC5A5 is equivalent to a single pole, single throw, normally closed contact (FORM B, SPST-NC, Break). All AC output modules feature zero voltage turn-on and zero current turn-off.

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

- Relays
- Solenoids
- Motor starters
- Heaters
- Lamps or indicators

## Part Numbers

| Part    | Description                                               |
|---------|-----------------------------------------------------------|
| OAC5    | AC Output 12–140 VAC, 5 VDC Logic                         |
| OAC5A   | AC Output 24–280 VAC, 5 VDC Logic                         |
| OAC5H*  | AC Output 24–280 VAC, 5 VDC Logic, higher current rating  |
| OAC5A5  | AC Output 24–280 VAC, 5 VDC Logic, NC                     |
| OAC15   | AC Output 12–140 VAC, 15 VDC Logic                        |
| OAC15A  | AC Output 24–280 VAC, 15 VDC Logic                        |
| OAC24   | AC Output 12–140 VAC, 24 VDC Logic                        |
| OAC24A  | AC Output 24–280 VAC, 24 VDC Logic                        |
| OAC24H* | AC Output 24–280 VAC, 24 VDC Logic, higher current rating |

\* Not UL approved

# Standard AC Output Modules

## Specifications

### General

|                                                |                                                                               |
|------------------------------------------------|-------------------------------------------------------------------------------|
| One Cycle Surge                                | 80 amps peak                                                                  |
| Peak Repetitive Voltage                        | 500 Volts                                                                     |
| Operating Ambient Temperature                  | -30 to 70 °C                                                                  |
| Isolation, Input-to-Output (Transient)         | 4,000 Vrms                                                                    |
| Minimum Load Current                           | 20 milliamps                                                                  |
| Operating Frequency                            | 25–65 Hz                                                                      |
| Turn-on Time                                   | 1/2 cycle maximum-zero voltage                                                |
| Turn-off Time                                  | 1/2 cycle maximum-zero current                                                |
| DV/DT - Off-State                              | 200 volts/microseconds                                                        |
| DV/DT - Commutating                            | Snubbed for rated 0.5 power factor load                                       |
| Output Voltage Drop Maximum Peak               | 1.6 volts                                                                     |
| Off-State Leakage<br>@ Nominal Voltage - 60 Hz | 5 milliamps rms<br>2.5 milliamps rms for OAC5A OAC15A,<br>and OAC24A @120 VAC |

### Module Specifications

|                                                                                            | Units | OAC5   | OAC5A  | OAC5H  | OAC5A5<br>(NC) | OAC15 <sup>3</sup> | OAC15A <sup>3</sup> | OAC24 <sup>3</sup> | OAC24A <sup>3</sup> | OAC24H <sup>3</sup> |
|--------------------------------------------------------------------------------------------|-------|--------|--------|--------|----------------|--------------------|---------------------|--------------------|---------------------|---------------------|
| Line Voltage - Nominal                                                                     | VAC   | 120    | 240    | 240    | 120/240        | 120                | 240                 | 120                | 240                 | 240                 |
| Operating Voltage Range                                                                    | VAC   | 12–140 | 24–280 | 24–280 | 24–280         | 12–140             | 24–280              | 12–140             | 24–280              | 24–280              |
| Current Rating<br>@ 45 °C Ambient                                                          | amps  | 3      | 3      | 4      | 3              | 3                  | 3                   | 3                  | 3                   | 4                   |
| @ 70 °C Ambient                                                                            | amps  | 2      | 2      | 2      | 2              | 2                  | 2                   | 2                  | 2                   | 2                   |
| UL Motor Load Rating                                                                       | amps  | 1.5    | 1.5    | -- *   | 1.5            | 1.5                | 1.5                 | 1.5                | 1.5                 | -- <sup>1</sup>     |
| Logic Voltage - Nominal                                                                    | VDC   | 5      | 5      | 5      | 5              | 15                 | 15                  | 24                 | 24                  | 24                  |
| Logic Voltage Range (Vcc) <sup>2</sup>                                                     | VDC   | 2.5–8  | 2.5–8  | 2.5–8  | 2.5–8          | 9–16               | 9–16                | 18–32              | 18–32               | 18–32               |
| Logic Pickup Voltage <sup>1</sup>                                                          | VDC   | 2.5    | 2.5    | 2.5    | 2.5            | 9                  | 9                   | 18                 | 18                  | 18                  |
| Logic Dropout Voltage                                                                      | VDC   | 1      | 1      | 1      | 1              | 1                  | 1                   | 1                  | 1                   | 1                   |
| Logic Input Current-@ Normal<br>Logic Voltage (I <sub>out</sub> in schematic dia-<br>gram) | mA    | 12     | 12     | 12     | 12             | 15                 | 15                  | 18                 | 18                  | 18                  |
| Control Resistance<br>(R <sub>c</sub> in schematic diagram)                                | Ohms  | 220    | 220    | 220    | 220            | 1K                 | 1K                  | 2.2K               | 2.2K                | 2.2K                |

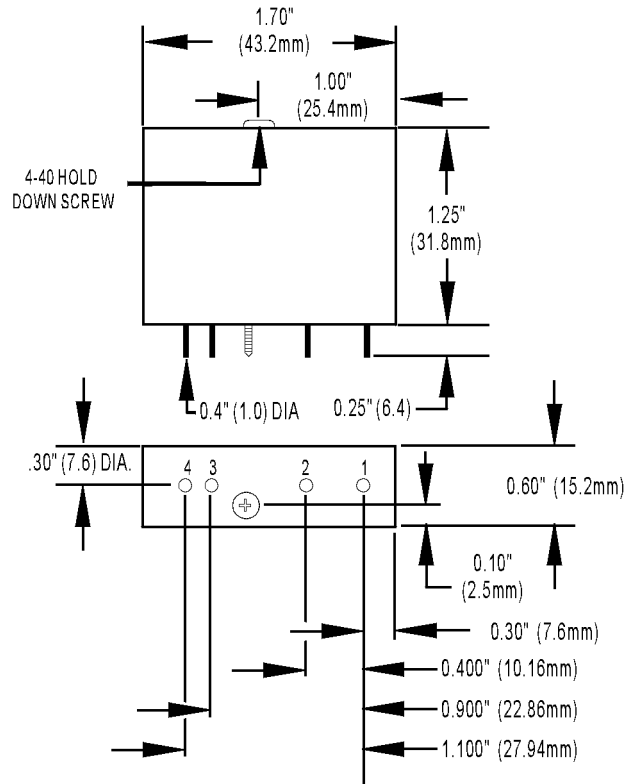
1 Not UL approved

2 Module only

3 Not for use with Opto 22 brains

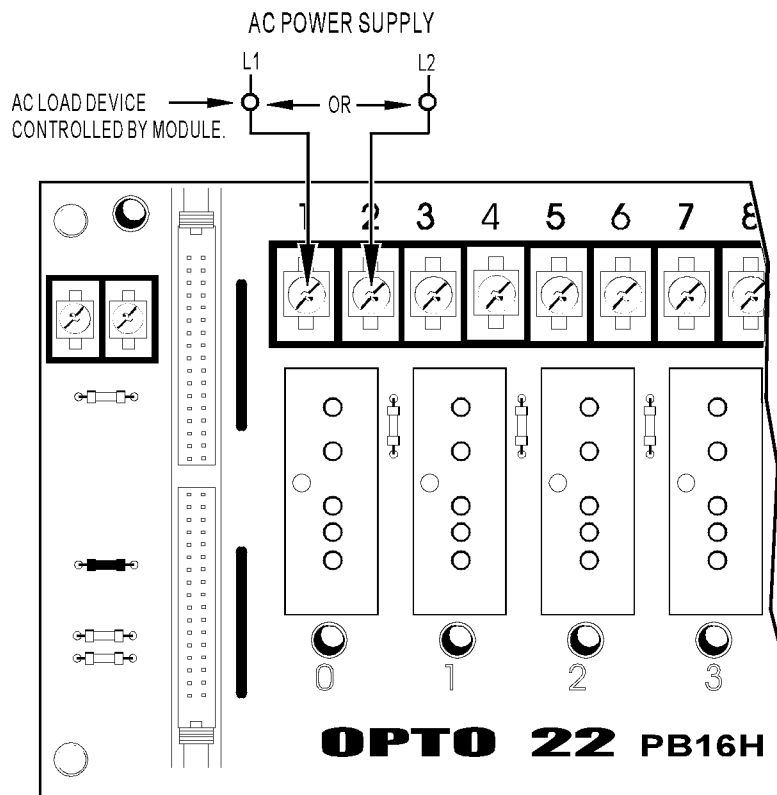
# Standard AC Output Modules

## Dimensions

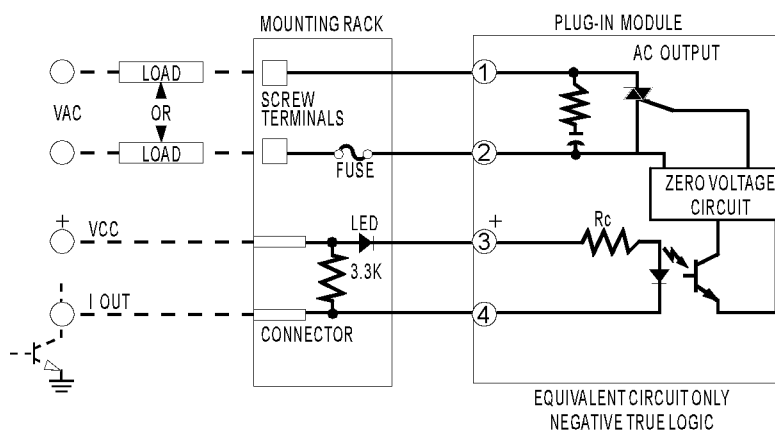


## Standard AC Output Modules

### Connections



### Schematics



\* SNUBBER circuit must be used on inductive loads.