

# Isolated Input/Output Modules

These high quality screw terminals are designed for easy field wiring. All digital modules connect to our digital multi-I/O connectors. All analog modules connect to our analog multi-I/O connectors. Dimensions shown below exclude DIN-rail base. Operating temperature: 0° to 60°C. Storage Temperature: -20° to 80°C.

## Solid State Relays AC&DC (Digital)



- PC-37D** 8ch Solid State Opto-22 Relay  
107.5(W) x 108.5(L) x 28(H) mm
- PC-37E** 16ch Solid State Opto-22 Relay  
with 16ch DIG O/P &  
16ch DIG I/P Connectors  
107.5(W) x 214.5(L) x 28(H) mm
- PC-37F** 24ch Solid State Opto-22 Relay  
107.5(W) x 318.5(L) x 28(H) mm  
Each relay requires 5V@18mA



## G4 Carrier Boards (Digital)



- PC-51-8** 8ch Carrier Board for (8x)  
Opto-22 DIG I/O Modules  
107.5(W) x 125(L) x 48(H) mm
  - PC-51-16\*** 16ch Carrier Board for (16x)  
Opto-22 DIG I/O Modules with  
6ch DIG O/P & 16ch DIG I/P Conn
  - PC-51-24\*** 24ch Carrier Board for (24x)  
Opto-22 DIG I/O Modules  
For use with Opto-22 Modules  
(see below)
- Onboard Fuse Tester



## MP Series Solid State Relays

| AC MODEL Number | NOMINAL AC Line Voltage | NOMINAL Current Rating | 1 cycle Surge (Amps) Peak | Nom Signal I/P Resistance (Ohms) | Signal Pick-up Voltage (24 Allowed) | Signal Drop-out Voltage | Peak Repetitive Voltage Max | Max O/P Voltage Drop | Off-State Leakage mA Max | Operating Voltage Range (Volts AC) | I2t Rating t=8.3 (ms) | qjc* °C/Watt |
|-----------------|-------------------------|------------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------|-----------------------------|----------------------|--------------------------|------------------------------------|-----------------------|--------------|
| MP120D2         | 120                     | 2 Amps                 | 20                        | 1000                             | 3 VDC                               | 1 VDC                   | 600                         | 1.6 volts            | 5 mA                     | 12-140                             | 2                     | 20           |
| MP120D4         | 120                     | 4 Amps                 | 85                        | 1000                             | 3 VDC                               | 1 VDC                   | 600                         | 1.6 volts            | 5 mA                     | 12-140                             | 30                    | 6.5          |
| MP240D2         | 240                     | 2 Amps                 | 20                        | 1000                             | 3 VDC                               | 1 VDC                   | 600                         | 1.6 volts            | 5 mA                     | 24-280                             | 2                     | 20           |
| MP240D4         | 240                     | 4 Amps                 | 85                        | 1000                             | 3 VDC                               | 1 VDC                   | 600                         | 1.6 volts            | 5 mA                     | 24-280                             | 30                    | 6.5          |
| MP380D4         | 380                     | 4 Amps                 | 85                        | 1000                             | 3 VDC                               | 1 VDC                   | 800                         | 1.6 volts            | 5 mA                     | 24-420                             | 30                    | 6.5          |

| DC MODEL Number | Operating Voltage Range | Forward Voltage Drop | Nominal Current Rating | Off-State Blocking | Signal Pick-up Voltage (24 Allowed) | Signal Drop-out Voltage | Signal Input Impedance | 1 Second Surge | Operating Temp Range | Isolation Voltage | Off-State Leakage | qjc* = Thermal resistance junction to base. Max junction temp is 110°C |
|-----------------|-------------------------|----------------------|------------------------|--------------------|-------------------------------------|-------------------------|------------------------|----------------|----------------------|-------------------|-------------------|--|
| DC60MP          | 5-60 VDC                | 1.5V @ 3A            | 3 amps                 | 60 VDC             | 3 VDC                               | 1 VDC                   | 1000 ohms              | 5 amps         | 40-100°C             | 4000Vrms          | 1mA max           |  |
| DC200MP         | 5-200 VDC               | 1.5V @ 1A            | 1 amp                  | 250 VDC            | 3VDC                                | 1 VDC                   | 1000 ohms              | 2 amps         | 40-100°C             | 4000Vrms          | 1mA max           |  |

## G4 Series Opto-22 Industry Standard Digital I/O Modules

### DC INPUT

Used to detect on/off DC voltage levels. All DC input modules except the G4IDC5K and G4IDC5D are designed with filtering on the input and a hysteresis amplifier, providing high noise rejection and transient-free, "clean" switching. The G4IDC5K is a fast-switching module used to detect signals produced by photoelectric switches and TTL devices. The low-cost G4IDC5D is used for data acquisition. The G4IDC5MA is a special module featuring a manual-on/manual-off/automatic switch, ideal for diagnostic testing of control applications. Typical applications: Sensing the presence of voltage, and sensing contact closure from sources such as proximity switches, limit switches, selector switches, push buttons, photoelectric switches, and TTL-compatible devices.

- 4000Vrms optical isolation
- Meets IEEE Surge Withstand Specification (IEEE-472)
- Built-in LED status indicator
- UL recognized, CSA certified, CE approved
- Operating Temperature: -30°C to 70°C
- Passes NEMA Showering Arc Test (ICS 2-230)
- Built-in filtering (transient suppression and noise rejection)

| MODEL    | VDC    | VDC Logic | Note                    |
|----------|--------|-----------|-------------------------|
| G4IDC5   | 10-32  | 5         |                         |
| G4IDC5B  | 4-16   | 5         | High Speed              |
| G4IDC5D  | 2.5-28 | 5         |                         |
| G4IDC5G  | 35-60  | 5         |                         |
| G4IDC5K  | 2.5-16 | 5         | Very High Speed         |
| G4IDC5MA | 10-32  | 5         | with Manual/Auto Switch |

### DC OUTPUT

Used to control or switch DC loads. The G4ODC5MA is a special module featuring a manual-on/manual-off/automatic switch, ideal for diagnostic testing of control applications. Typical applications: Switching loads such as DC relays, solenoids, motor starters, lamps, and indicators.

- 4000Vrms optical isolation
- Meets IEEE Surge Withstand Specification (IEEE-472)
- Built-in LED status indicator
- UL recognized, CSA certified, CE approved
- Operating Temperature: -30°C to 70°C
- Passes NEMA Showering Arc Test (ICS 2-230)
- Removable fuse
- Ability to withstand one-second surge of 5 amps

| MODEL    | VDC   | VDC Logic | Note                    |
|----------|-------|-----------|-------------------------|
| G4ODC5   | 5-60  | 5         |                         |
| G4ODC5A  | 5-200 | 5         |                         |
| G4ODC5MA | 5-60  | 5         | with Manual/Auto Switch |

## DC Reed Relay OUTPUT

Two dry-contact, low-contact-resistance DC output modules, the G4ODC5R and the G4ODC5R5. The G4ODC5R5 is a single-pole, single-throw, normally open mechanical relay. The G4ODC5R5 is a single-pole, single-throw, normally closed mechanical relay. Typical applications: Analog signal and communication line multiplexing.

- Operating Temperature: -30°C to 70°C
- Meets IEEE Surge Withstand Specification (IEEE-472)
- Contact switching current of 0.5 A max
- CE approved
- Contact resistance of 200 mW max
- Passes NEMA Showering Arc Test (ICS 2-230)
- Mechanical life of 5x 10<sup>6</sup> cycles
- Coil 5 VDC at 14mA
- Contact switching voltage of 100VDC or 130VAC max

| MODEL    | Description       | VDC Logic | Note |
|----------|-------------------|-----------|------|
| G4ODC5R  | Reed Relay Output | 5         |      |
| G4ODC5R5 | Reed Relay Output | 5         | NC   |

### AC INPUT

Used to detect on/off AC voltage levels. Typical applications: Sensing the presence of voltage, and sensing contact closure from sources such as proximity switches, limit switches, float switches, selector switches, push buttons, toggle switches, and thermostats.

- 4000Vrms optical isolation
- Meets IEEE Surge Withstand Specification (IEEE-472)
- Built-in LED status indicator
- UL recognized, CSA certified, CE approved
- Operating Temperature: -30°C to 70°C
- Passes NEMA Showering Arc Test (ICS 2-230)
- Built-in filtering (transient suppression and noise rejection)

| MODEL    | VAC     | VDC Logic | Note                    |
|----------|---------|-----------|-------------------------|
| G4IAC5   | 90-140  | 5         |                         |
| G4IAC5A  | 180-280 | 5         |                         |
| G4IAC5MA | 90-140  | 5         | with Manual/Auto Switch |

### AC OUTPUT

Used to control or switch AC loads. Each module features zero voltage turn-on and zero current turn-off. All AC output modules are equivalent to single-pole, single-throw, normally open contacts, except the G4OAC5A5, which is equivalent to a single-pole, single-throw, normally closed contact. **Typical applications:** Switching loads such as AC relays, solenoids, motor starters, heaters, lamps and indicators.

- 4000Vrms optical isolation
- Meets IEEE Surge Withstand Specification (IEEE-472)
- Built-in LED status indicator
- UL recognized, CSA certified, CE approved
- Operating Temperature: -30°C to 70°C
- Passes NEMA Showering Arc Test (ICS 2-230)
- Current rating: 3 amps at 45°C
- Ability to withstand one-cycle surge of 80 amps
- Removable fuse
- Built-in filtering (transient suppression and noise rejection)

| MODEL            | VAC    | VDC Logic | Note                    |
|------------------|--------|-----------|-------------------------|
| G4OAC5           | 12-140 | 5         |                         |
| G4OAC5A          | 24-280 | 5         |                         |
| G4OAC5A5         | 24-280 | 5         | NC                      |
| G4OAC5MA         | 12-140 | 5         | with Manual/Auto Switch |
| G4OAC5AMA 24-280 | 5      |           | with Manual/Auto Switch |

