# **FUSES**

### Features

- > Reliable replacements for fuses used in Opto 22 products
- > Convenient multi-packs

### DESCRIPTION

For your convenience, you can purchase replacement fuses for *groov* EPIC, G1, G4, and SNAP racks, modules, power supplies, and other Opto 22 products.

Fuses can also be purchased from other manufacturers, such as Littelfuse or Wickmann.

Part numbers for fuses, clips, and holders are listed in the table at right.

NOTE: Fuses are sold in convenient packs of 5, 10, or 25. If you have ordered a part number such as FUSE. 125 in the past, you should now order FUSE. 125B. The fuse is the same; the "B" at the end of the part number indicates a pack of 10.

The tables on the following pages list Opto 22 products in alphabetical order and show the fuse to use with each one. If your part number is not listed, contact Opto 22 Inside Sales (951-695-3000).

For modules—see page 2.

For racks—see page 3.

For other Opto 22 products—see page 5.

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#### **Replacement Fuses**

#### **Part Numbers**

| Part                 | Description   |
|----------------------|---|
| FUSE.125B            | Pack of 10 1/8-amp fuses for standard analog I/O channel loop source                                      |
| FUSE01B              | Pack of 10 1-amp fuses for standard digital logic power   |
| FUSE02B              | Pack of 10 2-amp fuses for standard<br>analog logic power and some 32-chan-<br>nel<br>digital logic power |
| FUSE05B              | Pack of 10 5-amp fuses for standard digital output modules  |
| FUSEG4B              | Pack of 10 4-amp fuses for G4 digital modules   |
| FUSE01G4B            | Pack of 10 1-amp fuses for G4 digital rack logic power and brick regulator                                |
| G4 FUSE CLIP         | Pack of 10 fuse clips for G4 products   |
| GRV-EPIC-PSAC-FUSE-B | Pack of 5 2-amp 250 V slow fuses for<br>the GRV-EPIC-PSAC power supply                                    |
| GRV-EPIC-PSDC-FUSE-B | Pack of 5 4-amp 250 V slow fuses for<br>the GRV-EPIC-PSDC power converter                                 |
| GRV-EPIC-PSPT-FUSE-B | Pack of 5 10-amp 125 V fast fuses for<br>the GRV-EPIC-PSPT power adapter                                  |
| SNAP-FUSE1AB         | Pack of 25 1-amp fuses for SNAP racks<br>and power supplies   |
| SNAP-FUSE1AC         | Pack of 25 1-amp fuses for breakout racks   |
| SNAP-FUSE2AB         | Pack of 25 2-amp fast-acting fuses for<br>SNAP-PS5-24DC power supplies                                    |
| SNAP-FUSE4AB         | Pack of 25 4-amp fuses for SNAP racks and modules   |
| SNAP-FUSE7.5AB       | Pack of 25 7.5-amp fuses for SNAP<br>M-series and SNAP PAC racks  |
| SNAP-FUSE10AB        | Pack of 25 10-amp fuses for SNAP-IT<br>TMS modem  |
| SNAP-MODFUSEHLDRB    | Pack of 10 fuse holders for the 4-amp<br>fuses used with SNAP products                                    |



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# FUSES FOR OPTO 22 MODULES

|                         |   | Euro      |
|-------------------------|---|-----------|
| Opto 22 PN              | Description   | Fuse      |
| AD3                     | 4 to 20 mA Input                                    | FUSE.125B |
| DA3                     | 4 to 20 mA Output                                   | FUSE.125B |
| DA8                     | 0 to 20 mA Output                                   | FUSE.125B |
| G4HDAR,BSC              | G4HDAR for Bethlehem Steel                          | FUSE01G4B |
| G4IAC5M                 | G4 AC Input with Fuse Millar                        | FUSEG4B   |
| G4IDC5GFAST             | G4 DC Input with Fuse Millar                        | FUSEG4B   |
| G4IDC5M                 | G4 DC Input with Fuse Millar                        | FUSEG4B   |
| G4IDC5WF                | G4 DC Input Module with Fuse                        | FUSEG4B   |
| G4OAC15                 | G4 AC Output 12–140 VAC,<br>15 VDC Logic            | FUSEG4B   |
| G4OAC15A                | G4 AC Output 24–280 VAC,<br>15 VDC Logic            | FUSEG4B   |
| G4OAC24                 | G4 AC Output 12–140 VAC,<br>24 VDC Logic            | FUSEG4B   |
| G4OAC24A                | G4 AC Output 24–280 VAC,<br>24 VDC Logic            | FUSEG4B   |
| G4OAC24A,<br>WEIDMULLER | G4 AC Output Module Weid-<br>muller                 | FUSEG4B   |
| G4OAC24ADC              | G4 AC Output  | FUSEG4B   |
| G4OAC24AFC              | G4OAC24A with Fuse Clip                             | FUSEG4B   |
| G4OAC24FC               | G4OAC24 with Fuse Clip                              | FUSEG4B   |
| G4OAC5                  | G4 AC Output 12–140 VAC,<br>5 VDC Logic             | FUSEG4B   |
| G4OAC5A                 | G4 AC Output 24–280 VAC,<br>5 VDC Logic             | FUSEG4B   |
| G4OAC5A5                | G4 AC Output, 24–280 VAC,<br>5 VDC Logic, NC        | FUSEG4B   |
| G4OAC5A5FM*             | G4 AC Output 24–280 VAC,<br>5 VDC Logic NC          | FUSEG4B   |
| G4OAC5ADC               | G4 AC Output  | FUSEG4B   |
| G4OAC5AFC-ABB           | G4 AC Output<br>ABB-no.2005ap2                      | FUSEG4B   |
| G4OAC5AFM*              | G4 AC Output 24–280 VAC,<br>5 VDC Logic             | FUSEG4B   |
| G4OAC5AMA               | G4 AC Output 24–280 VAC,<br>5 VDC Logic with HOA/SW | FUSEG4B   |
| G4OAC5FM*               | G4 AC Output 12–140 VAC,<br>5 VDC Logic             | FUSEG4B   |
| G4OAC5MA                | G4 AC Output 12–140 VAC,<br>5 VDC Logic with HOA/SW | FUSEG4B   |
| G4ODC15                 | G4 DC Output 5–60 VDC,<br>15 VDC Logic              | FUSEG4B   |
| G4ODC24                 | G4 DC Output 5–60 VDC,<br>24 VDC Logic              | FUSEG4B   |
|                         |   |           |

| Opto 22 PN             | Description   | Fuse             |
|------------------------|---|------------------|
| G4ODC24,<br>WEIDMULLER | G4ODC24 Private Label for Weidmuller                | FUSEG4B          |
| G4ODC24A               | G4 DC Output 5–200 VDC,<br>24 VDC Logic             | FUSEG4B          |
| G4ODC24AFC             | G4ODC24A with Fuse Clip                             | FUSEG4B          |
| G4ODC24FC              | G4ODC24 with Fuse Clip                              | FUSEG4B          |
| G4ODC5,<br>WEIDMULLER  | G4ODC5 Private Label for Weidmuller                 | FUSEG4B          |
| G4ODC5                 | G4 DC Output 5–60 VDC,<br>5 VDC Logic               | FUSEG4B          |
| G4ODC5,<br>ELECTROC    | EC-ODC060-3   | FUSEG4B          |
| G4ODC5,KENT            | ABB Instrumentation<br>2005ap10100a                 | FUSEG4B          |
| G4ODC5A                | G4 DC Output 5–200 VDC,<br>5 VDC Logic              | FUSEG4B          |
| G4ODC5A,<br>ELECTRO    | EC-ODC200-1   | FUSEG4B          |
| G4ODC5A,<br>KENT       | ABB Instrumentation<br>2005ap10110a                 | FUSEG4B          |
| G4ODC5AFM*             | G4 DC Output 5–200 VDC,<br>5 VDC Logic              | FUSEG4B          |
| G4ODC5F*               | G4 DC Output 5–60 VDC,<br>5 VDC Logic               | FUSEG4B          |
| G4ODC5MA               | G4 DC Output 5–60 VDC,<br>5 VDC Logic with HOA/SW   | FUSEG4B          |
| G4ODC5R                | G4 Reed Relay Output, 5 VDC Logic                   | FUSE01G4B        |
| G4ODC5R5               | G4 Reed Relay Output, 5 VDC Logic, NC               | FUSE01G4B        |
| G4ODC5R5FM*            | G4 Reed Relay Output, 5 VDC Logic, NC               | FUSE01G4B        |
| G4ODC5RFM*             | G4 Reed Relay Output, 5 VDC Logic,                  | FUSE01G4B        |
| G4ODC5RFR              | G4 Reed Relay Fr-epoxy                              | FUSE01G4B        |
| SNAP-OAC5              | 4-channel AC Output 12–280<br>VAC, 5 VDC Logic      | SNAP-FUSE<br>4AB |
| SNAP-ODC5ASNK          | SNAP DC Output Reed Relay                           | SNAP-FUSE<br>4AB |
| SNAP-ODC5SNKFM*        | 4 Channel DC Output 5–60<br>Logic Sinking           | SNAP-FUSE<br>4AB |
| SNAP-ODC5SNK           | 4-channel DC Output 5–60<br>VDC, 5 VDC Logic Sink   | SNAP-FUSE<br>4AB |
| SNAP-ODC5SRC           | 4-channel DC Output 5–60<br>VDC, 5 VDC Logic Source | SNAP-FUSE<br>4AB |
| SNAP-ODC5SRCFM*        | 4-channel DC Output 5–60<br>VDC, 5 VDC Logic Source | SNAP-FUSE<br>4AB |
| SNAP-ODC5SRC-T         | 4-channel DC Output<br>Transient Protect            | SNAP-FUSE<br>4AB |

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# FUSES FOR OPTO 22 RACKS

| Opto 22 PN   | Description  | Fuse                                  |
|--------------|--|---------------------------------------|
| G4PB16       | G4 16-channel I/O<br>Module Rack   | FUSEG4B                               |
| G4PB16H      | G4 16-channel Rack<br>with Header Connec-<br>tor                               | FUSE01B (logic)<br>FUSEG4B (I/O)      |
| G4PB16HC     | G4 16-channel Rack<br>with Header Connec-<br>tor and Extra Termi-<br>nal Strip | FUSE01B (logic)<br>FUSEG4B (I/O)      |
| G4PB16I      | G4 16-channel I/O<br>Module Rack Iso-<br>lated Control                         | FUSEG4B                               |
| G4PB16J      | G4 DC Input 4–16<br>VDC 16-channel<br>Integral                                 | FUSE01G4B                             |
| G4PB16K      | G4 DC Input 16–28<br>VDC<br>16-channel Integral                                | FUSE01G4B                             |
| G4PB16L      | G4 DC Output 5–60<br>VDC<br>16-channel Integral                                | FUSE01G4B                             |
| G4PB16T      | G4 16-channel I/O<br>Module Rack Extra<br>Terminal Strip                       | FUSEG4B                               |
| G4PB24       | G4 24-channel I/O<br>Module Rack   | FUSEG4B                               |
| G4PB32DEC    | G4 32-channel I/O<br>Module Rack   | FUSEG4B                               |
| G4PB32H      | G4 32-channel Rack<br>with Header Connec-<br>tor for B4 Brain                  | FUSE02B (logic)<br>FUSEG4B (I/O)      |
| G4PB32JY-IN  | G4 32 Point Rack<br>Inputs JYC-systems   | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O) |
| G4PB32JY-OUT | G4 32 Point Rack<br>JYC-systems  | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O) |
| G4PB4        | G4 4-channel I/O<br>Module Rack  | FUSEG4B                               |
| G4PB4R       | G4 4-channel Output<br>Module Rack   | FUSEG4B                               |
| G4PB8        | G4 8-channel I/O<br>Module Rack  | FUSEG4B                               |
| G4PB8H       | G4 8-channel Rack<br>with Header Connec-<br>tor                                | FUSE01B (logic)<br>FUSEG4B (I/O)      |
| G4PB16FB1    | Foxboro G4PB16<br>Single Wetting   | FUSE01B (logic)<br>FUSEG4B (I/O)      |
|              |  |                                       |

| Opto 22 PN | Description   | Fuse                             |
|------------|---|----------------------------------|
| G4PB16FB2  | Foxboro G4PB16<br>Dual Wetting  | FUSE01B (logic)<br>FUSEG4B (I/O) |
| PB16A      | 16-channel I/O Mod-<br>ule Rack   | FUSE05B                          |
| PB16AH     | 16-channel Analog<br>Mounting Rack  | FUSE02B                          |
| PB16C      | 16-channel I/O Mod-<br>ule Rack Extra Termi-<br>nal Strip                   | FUSE05B                          |
| PB16H      | 16-channel Rack<br>with Header Connec-<br>tor                               | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB16HC     | 16-channel Rack<br>with Header Connec-<br>tor and Extra Termi-<br>nal Strip | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB16HQ     | Quad 4-module Posi-<br>tion Rack  | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB16J      | DC Input 4–16 VDC<br>16-channel Integral                                    | FUSE01B                          |
| PB16K      | DC Input 16–28 VDC<br>16-channel Integral                                   | FUSE01B                          |
| PB16L      | DC Output 5–60<br>VDC<br>16-channel Integral                                | FUSE01B                          |
| PB16P1     | Pamux 1   | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB16T      | 16-channel I/O Mod-<br>ule Rack   | FUSE05B                          |
| PB24       | 24-channel I/O Mod-<br>ule Rack   | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB24HQ     | Quad 6-module Posi-<br>tion Rack with<br>Header<br>Connector                | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB24Q      | Quad 6-module Posi-<br>tion Rack  | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB32DEC    | Quad 8-module Posi-<br>tion Rack  | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB32HQ     | Quad 8-module Rack<br>with Header Connec-<br>tor for B4 Brain               | FUSE02B (logic)<br>FUSE05B (I/O) |
| PB32P2     | Pamux 2   | FUSE02B (logic)<br>FUSE05B (I/O) |
| PB4        | 4-channel I/O Mod-<br>ule Rack  | FUSE05B                          |
| PB4H       | 4-channel Rack with<br>header Connector                                     | FUSE01B (logic)<br>FUSE05B (I/O) |
| PB4R       | 4-channel Output<br>Module Rack   | FUSE05B                          |



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| Opto 22 PN        | Description   | Fuse         |
|-------------------|---|--------------|
| PB8               | 8-channel I/O Mod-<br>ule Rack  | FUSE05B      |
| PB8H              | 8-channel Rack with<br>Header Connector                                       | FUSE05B      |
| SNAP-AIMA-HDB     | Breakout Board for<br>SNAP-AIMA-32 Ana-<br>log Input Module                   | SNAP-FUSE1AC |
| SNAP-AIMA-HDB-FM* | Breakout Board for<br>SNAP-AIMA-32 Ana-<br>log Input Module                   | SNAP-FUSE1AC |
| SNAP-B12M         | 12-module Rack  | SNAP-FUSE4AB |
| SNAP-B12MC        | 12-module Rack with<br>Extra Terminal Block<br>for Field Wiring               | SNAP-FUSE4AB |
| SNAP-B12MC-P      | 12-module Rack with<br>Extra Terminal Block<br>for Field Wiring,<br>Pluggable | SNAP-FUSE4AB |
| SNAP-B16M         | 16-module Rack  | SNAP-FUSE4AB |
| SNAP-B16MC        | 16-module Rack with<br>Extra Terminal Block<br>for Field Wiring               | SNAP-FUSE4AB |
| SNAP-B16MC-P      | 16-module Rack with<br>Extra Terminal Block<br>for Field Wiring,<br>Pluggable | SNAP-FUSE4AB |
| SNAP-B16MC-SF1    | 16-module Smart<br>Rack for Sputter Film                                      | SNAP-FUSE4AB |
| SNAP-B4M          | 4-module Brain Rack   | SNAP-FUSE4AB |
| SNAP-B8M          | 8-module Rack   | SNAP-FUSE4AB |
| SNAP-B8MC         | 8-module Rack with<br>Extra Terminal Block<br>for Field Wiring                | SNAP-FUSE4AB |
| SNAP-B8MC-P       | 8-module Rack with<br>Extra Terminal Block<br>for Field Wiring,<br>Pluggable  | SNAP-FUSE4AB |
| SNAP-D12M         | 12-module Rack  | SNAP-FUSE1AB |
| SNAP-D12MC        | 12-module Rack with<br>Extra Terminal Block<br>for Field Wiring               | SNAP-FUSE1AB |
| SNAP-D12MC-P      | 12-module Rack with<br>Extra Terminal Block<br>for Field Wiring,<br>Pluggable | SNAP-FUSE1AB |
| SNAP-D4M          | 4-module Rack   | SNAP-FUSE1AB |
| SNAP-D4MC         | 4-module Rack with<br>Extra Terminal Block<br>for Field Wiring                | SNAP-FUSE1AB |

| Opto 22 PN         | Description  | Fuse           |
|--------------------|--|----------------|
| SNAP-D4MC-P        | 4-module Rack with<br>Extra Terminal Block<br>for Field Wiring,<br>Pluggable | SNAP-FUSE1AB   |
| SNAP-D6M           | 6-module Rack  | SNAP-FUSE1AB   |
| SNAP-D6MC          | 6-module Rack with<br>Extra Terminal Block<br>for Field Wiring               | SNAP-FUSE1AB   |
| SNAP-D6MC-P        | 6-module Rack with<br>Extra Terminal Block<br>for Field Wiring,<br>Pluggable | SNAP-FUSE1AB   |
| SNAP-D64RS         | SNAP 64-point Digi-<br>tal Rack  | SNAP-FUSE4AB   |
| SNAP-D8M           | 8-module Rack  | SNAP-FUSE1AB   |
| SNAP-D8MC          | 8-module Rack with<br>Extra Terminal Block<br>for Field Wiring               | SNAP-FUSE1AB   |
| SNAP-D8MC-P        | 8-module Rack with<br>Extra Terminal Block<br>for Field Wiring,<br>Pluggable | SNAP-FUSE1AB   |
| SNAP-IDC-HDB       | Breakout Rack for<br>SNAP 32-channel<br>Digital Input Module                 | SNAP-FUSE1AC   |
| SNAP-IDC-HDB-FM*   | Breakout Rack for<br>SNAP 32-channel<br>Digital Input Module                 | SNAP-FUSE1AC   |
| SNAP-ODC-HDB       | Breakout Rack for<br>SNAP 32-channel<br>Digital Output Mod-<br>ules          | SNAP-FUSE1AC   |
| SNAP-ODC-HDB-FM*   | Breakout Rack for<br>SNAP 32-channel<br>Digital Output Mod-<br>ules          | SNAP-FUSE1AC   |
| SNAP-M16           | 4-module Rack  | SNAP-FUSE7.5AB |
| SNAP-M32           | 8-module Rack  | SNAP-FUSE7.5AB |
| SNAP-M48           | 12-module Rack   | SNAP-FUSE7.5AB |
| SNAP-M64           | 16-module Rack   | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK4      | 4-module Rack  | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK4-FM*  | 4-module Rack  | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK8      | 8-module Rack  | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK8-FM*  | 8-module Rack  | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK12     | 12-module Rack   | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK12-FM* | 12-module Rack   | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK16     | 16-module Rack   | SNAP-FUSE7.5AB |
| SNAP-PAC-RCK16-FM* | 16-module Rack   | SNAP-FUSE7.5AB |



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|-----|---|----|---|
|-----|---|----|---|

| Opto 22 PN      | Description  | Fuse      |
|-----------------|--|-----------|
| SNAP-TEX-FB16-H | 16-channel Breakout<br>Board, Fuses and<br>Bussed Power<br>(120-240 V) | FUSE01G4B |
| SNAP-TEX-FB16-L | 16-channel Breakout<br>Board, Fuses and<br>Bussed Power<br>(12-24 V)   | FUSE01G4B |

\* OBSOLETE product, please contact Pre-Sales Engineering for more information.

# FUSES FOR OTHER OPTO 22 PRODUCTS

| Opto 22 PN      | Description   | Fuse                                  |
|-----------------|---|---------------------------------------|
| BUNNMASTER      | Bunn Master System  | FUSE01G4B                             |
| CATTRONFUSE     | Two 5 A Fuses   | FUSE05B                               |
| CUBIC-9375-0125 | 8-point Digital Rack Loaded for Cubic   | SNAP-FUSE1AB                          |
| CUBIC-9375-0144 | 8 -point Digital Rack Loaded for Cubic  | SNAP-FUSE1AB                          |
| G4A8L           | Local Analog 8-channel<br>Multifunction I/O Unit Mistic<br>Protocol                     | FUSE01G4B                             |
| G4A8P           | Mistic 100 8-pt Analog Brick  | FUSE01G4B                             |
| G4A8R           | Remote Analog 8-channel<br>Multifunction I/O Unit Mistic<br>Protocol                    | FUSE01G4B                             |
| G4D16L          | Local Digital 16 Channel<br>Multifunction I/O Unit Mistic<br>Protocol                   | FUSE01G4B                             |
| G4D16LS         | Local Digital 16 Channel I/O<br>Unit Mistic Protocol                                    | FUSE01G4B                             |
| G4D16P          | Mistic 100 Digital Brick  | FUSE01G4B                             |
| G4D16R          | Remote Digital 16-channel<br>Multifunction I/O Unit Mistic<br>Protocol                  | FUSE01G4B                             |
| G4D32RS         | Remote Digital 32-channel<br>I/O Unit Mistic Protocol                                   | FUSE01G4B                             |
| G4HDAL          | Local Analog 32-channel<br>High Resolution Multifunc-<br>tion I/O Unit Mistic Protocol  | FUSE01G4B                             |
| G4HDALB         | High Density Analog Local<br>Brain  | FUSE01G4B                             |
| G4HDAR          | Remote Analog 32-channel<br>High Resolution Multifunc-<br>tion I/O Unit Mistic Protocol | FUSE01G4B                             |
| G4HDARB         | High Density Analog Remote<br>Brain   | FUSE01G4B                             |
| G4HDML          | G4 High Density Motion<br>Local   | FUSEG4B                               |
| G4HDMR          | G4 High Density Motion<br>Remote  | FUSEG4B                               |
| G4IOL           | Local Panel Interface Mistic<br>Protocol  | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O) |
| G4IOP           | Mistic 100 I/O Cable Adapter  | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O) |
| G4IOR           | Remote Panel Interface<br>Mistic Protocol   | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O) |

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| Opto 22 PN              | Description  | Fuse   |
|-------------------------|--|--|
| G4IOR-NS                | G4IOR with No Switches   | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O)                                    |
| G4IOR-S                 | Remote Panel Interface<br>Sealed Switches  | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O)                                    |
| G4LC32                  | Opto 22 Classic Controller   | FUSE01G4B  |
| G4LC32ISA-LT            | Opto 22 ISA Lite Controller  | FUSE01G4B  |
| G4LC32ISASER            | ISA Serial Adapter for<br>G4LC32ISA  | FUSEG4B  |
| G4OAC5,KENT             | ABB Instrumentation<br>2005ap10120a  | FUSEG4B  |
| G4OAC5A, KENT           | ABB Instrumentation<br>2005ap10130a  | FUSEG4B  |
| G4OAC5A-11,<br>ELEC     | EC-OAC240-3  | FUSEG4B  |
| G4OAC5A5,<br>KENT       | ABB Instrumentation<br>2005ap10140a  | FUSEG4B  |
| G4OAX                   | Optomux Analog Extender  | FUSE01G4B  |
| G4RAX                   | Remote Analog 8-channel<br>I/O Unit Extender   | FUSE01G4B  |
| G4RCOMMKIT              | Remote Brick Communica-<br>tion Kit  | FUSE01G4B<br>(logic)<br>FUSEG4B (I/O)                                    |
| G4REG                   | Brick Power Regulation<br>Module   | FUSE01G4B  |
| GRV-EPIC-PSAC           | <i>groov</i> EPIC power supply, 100–264 VAC  | GRV-EPIC-PSAC<br>-FUSE-B   |
| GRV-EPIC-PSDC           | <i>groov</i> EPIC power converter, 22–50 VDC input   | GRV-EPIC-PSDC<br>-FUSE-B   |
| GRV-EPIC-PSPT           | <i>groov</i> EPIC pass-through power adapter, 10–15 VDC  | GRV-EPIC-PSPT-<br>FUSE-B   |
| LCM4EXTPWR              | LCM4 External Power Board  | FUSE01   |
| M4SHART                 | M4 Slave Interface   | FUSE01G4B  |
| SNAP-IT-PM              | Panel-mounted SNAP-IT<br>Monitoring Unit (All Models<br>Including Tower Manage-<br>ment Systems) | SNAP-FUSE04A<br>B (rack, modules,<br>modem)<br>SNAP-FUSE10A<br>B (modem) |
| SNAP-PS24               | SNAP Power Supply - Loop<br>Power - 110 VAC To 24 VDC  | SNAP-FUSE1AB   |
| SNAP-PS5-24DC           | SNAP DC-to-DC Power<br>Supply  | SNAP-FUSE2AB   |
| SNAP-PS5                | SNAP Power Supply - Single<br>Rack - 110 VAC to 5 VDC  | SNAP-FUSE1AB   |
| SNAP-PS5-AT             | SNAP Power Supply -<br>(Argonaut)  | SNAP-FUSE1AB   |
| TMSDC-DC CON-<br>VERTER | DC-DC Converter for TMS<br>Units   | SNAP-FUSE4AB   |



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# More about Opto 22

# PRODUCTS

Opto 22 develops and manufactures reliable, easy-to-use, open

standards-based hardware and software products. Industrial automation, process control, remote monitoring, data acquisition, and industrial internet of things (IIoT) applications worldwide all rely on Opto 22.

## groov RIO<sup>®</sup>

groov RIO edge I/O offers a single, compact, PoE-powered industrial package with webbased configuration and IIoT software built in, support for multiple OT and IT protocols, and security features like a device firewall, data encryption, and user account control.

Standing alone, groov RIO connects to sensors, equipment, and legacy systems, collecting and securely publishing data from field to cloud. Choose a universal I/O model with thousands of possible field I/O configurations, with or without Ignition from Inductive Automation®, or a RIO EMU energy monitoring unit that reports 64 energy data values from 3-phase loads up to 600 VAC, Delta or Wye.

You can even write an IEC 61131-3 compliant control program to run on groov RIO, using CODESYS. You can also use groov RIO with a Modbus/TCP master or as remote I/O for a groov EPIC system.

# groov EPIC<sup>®</sup> System

### Opto 22's groov Edge Programmable Industrial Controller (EPIC)

system gives you industrially hardened control with a flexible Linux®based processor with gateway functions, guaranteed-for-life I/O, and software for your automation and IIoT applications.

#### groov EPIC Processor

The heart of the system is the groov EPIC processor. It handles a wide range of digital, analog, and serial functions for data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

In addition, the EPIC provides secure data communications among physical assets, control systems, software applications, and online services, both on premises and in the cloud. No industrial PC needed.

Configuring and troubleshooting I/O and networking is easier with the EPIC's integrated high-resolution color touchscreen. Authorized users can manage the system locally on the touchscreen, on a monitor connected via the HDMI or USB ports, or on a PC or mobile device with a web browser.

#### groov EPIC I/O

groov I/O connects locally to sensors and equipment. Modules have a spring-clamp terminal strip, integrated wireway, swing-away cover, and LEDs indicating module health and discrete channel status. groov I/O is hot swappable, UL Hazardous Locations approved, and ATEX compliant.

### groov EPIC Software

The groov EPIC processor comes ready to run the software you need:

- Programming: Choose flowchart-based PAC Control, CODESYS Development System for IEC61131-3 compliant programs, or secure shell access (SSH) to the Linux OS for custom applications
- Node-RED for creating simple IIoT logic flows from pre-built nodes
- Efficient MQTT data communications with string or Sparkplug data formats
- Multiple OPC UA server options
- HMI: groov View to build your own HMI viewable on touchscreen, PCs, and mobile devices; PAC Display for a

Windows HMI; Node-RED dashboard UI

Ignition or Ignition Edge® from Inductive Automation (requires • license purchase) with OPC-UA drivers to Allen-Bradley®, Siemens®, and other control systems, and MQTT communications

### **Older products**

From solid state relays, to world-famous G4 and SNAP I/O, to SNAP PAC controllers, older Opto 22 products are still supported and working hard at thousands of installations worldwide. You can count on us for the reliability and service you expect, now and in the future.

# **OUALITY**

Founded in 1974, 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 test each product twice before it leaves our factory rather than testing a sample of each batch, we can afford to guarantee most solid-state relays and optically isolated I/O modules for life.

# FREE PRODUCT SUPPORT

Opto 22's California-based Product Support Group offers free technical support for Opto 22 products from engineers with decades of training and experience. Support is available in English and Spanish by phone or email, Monday-Friday, 7 a.m. to 5 p.m. PST.

Support is always available on our website, including free online training at OptoU, how-to videos, user's guides, the Opto 22 KnowledgeBase, and OptoForums.

# 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 (toll-free in the U.S. and Canada) or +1-951-695-3000, or visit our website at www.opto22.com.

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| 43044 Business Park Dr. Temecula, CA 92590-3614 | 800-321-6786 • 1-951-695-3000 | 800-835-6786 • 1-951-695-3080 | USA |

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