Description

For your convenience, you can purchase fuses for classic, 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.

Fuses, clips, and holders are listed at right. The tables that follow 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 (909-695-3095).

- For modules—see page 1.
- For racks—see page 2.
- For other Opto 22 products—see page 4.

Part Number	Description
FUSE.125	1/8-amp fuse for standard analog I/O channel loop source
FUSE01	1-amp fuse for standard digital logic power
FUSE02	2-amp fuse for standard analog logic power and some 32-channel digital logic power
FUSE05	5-amp fuse for standard digital output modules
FUSEG4	4-amp fuse for G4 digital modules
FUSE01G4	1-amp fuse for G4 digital rack logic power and brick regulator
G4 FUSE CLIP	Pack of 10 fuse clips for G4 products
SNAP-FUSE1AB	Pack of 25 1-amp fuses for SNAP racks and power supplies
SNAP-FUSE2AB	Pack of 25 2-amp fast-acting fuses for SNAP-PS5-24DC power supplies
SNAP-FUSE4AB	Pack of 25 4-amp fuses for SNAP racks and modules
SNAP-FUSE10AB	Pack of 25 10-amp fuses for SNAP-IT TMS modem
SNAP-MODFUSEHLDRB	Pack of 10 fuse holders for the 4-amp fuses used with SNAP products

Fuses for Opto 22 Modules

Opto 22 PN	Description	Fuse
AD3	4 to 20 mA Input	FUSE.125
DA3	4 to 20 mA Output	FUSE.125
DA8	0 to 20 mA Output	FUSE.125
G4HDAR,BSC	G4HDAR for Bethlehem Steel	FUSE01G4
G4IAC5M	G4 AC Input with Fuse Millar	FUSEG4
G4IDC5GFAST	G4 DC Input with Fuse Millar	FUSEG4
G4IDC5M	G4 DC Input with Fuse Millar	FUSEG4
G4IDC5WF	G4 DC Input Module with Fuse	FUSEG4
G4OAC15	G4 AC Output 12-140 VAC, 15 VDC Logic	FUSEG4
G4OAC15A	G4 AC Output 24-280 VAC, 15 VDC Logic	FUSEG4
G4OAC24	G4 AC Output 12-140 VAC, 24 VDC Logic	FUSEG4
G4OAC24A	G4 AC Output 24-280 VAC, 24 VDC Logic	FUSEG4
G4OAC24A,WEIDMU	G4 AC Output Module Weidmuller	FUSEG4
G4OAC24ADC	G4 AC Output	FUSEG4
G4OAC24AFC	G4OAC24A with Fuse Clip	FUSEG4
G4OAC24FC	G4OAC24 with Fuse Clip	FUSEG4
G4OAC5	G4 AC Output 12-140 VAC, 5 VDC Logic	FUSEG4
G4OAC5A	G4 AC Output 24-280 VAC, 5 VDC Logic	FUSEG4
G4OAC5A5	G4 AC Output, 24-280 VAC, 5 VDC Logic, NC	FUSEG4
G4OAC5A5FM	G4 AC Output 24-280 VAC, 5 VDC Logic , NC, FM	FUSEG4
G4OAC5ADC	G4 AC Output	FUSEG4
G4OAC5AFC-ABB	G4 AC Output ABB-no.2005ap2	FUSEG4
G4OAC5AFM	G4 AC Output 24-280 VAC, 5 VDC Logic, Factory Mutual Approved	FUSEG4
G4OAC5AMA	G4 AC Output 24-280 VAC, 5 VDC Logic with HOA/SW	FUSEG4
G4OAC5FM	G4 AC Output 12-140 VAC, 5 VDC Logic, FM Approved	FUSEG4

Opto 22 PN	Description	Fuse
G4OAC5MA	G4 AC Output 12-140 VAC, 5 VDC Logic with HOA/SW	FUSEG4
G4ODC15	G4 DC Output 5-60 VDC, 15 VDC Logic	FUSEG4
G4ODC24	G4 DC Output 5-60 VDC, 24 VDC Logic	FUSEG4
G4ODC24,WEIDMULLER	G4ODC24 Private Label for Weidmuller	FUSEG4
G4ODC24A	G4 DC Output 5-200 VDC, 24 VDC Logic	FUSEG4
G4ODC24AFC	G4ODC24A with Fuse Clip	FUSEG4
G4ODC24FC	G4ODC24 with Fuse Clip	FUSEG4
G4ODC5, WEIDMULLER	G4ODC5 Private Label for Weid	FUSEG4
G4ODC5	G4 DC Output 5-60 VDC, 5 VDC Logic	FUSEG4
G4ODC5,ELEC-TROC	EC-ODC060-3	FUSEG4
G4ODC5,KENT	ABB Instrumentation 2005ap10100a	FUSEG4
G4ODC5A	G4 DC Output 5-200 VDC, 5 VDC Logic	FUSEG4
G4ODC5A,ELECTRO	EC-ODC200-1	FUSEG4
G4ODC5A,KENT	ABB Instrumentation 2005ap10110a	FUSEG4
G4ODC5AFM	G4 DC Output 5-200 VDC, 5 VDC Logic, FM Approved	FUSEG4
G4ODC5FM	G4 DC Output 5-60 VDC, 5 VDC Logic, FM Approved	FUSEG4
G4ODC5MA	G4 DC Output 5-60 VDC, 5 VDC Logic with HOA/SW	FUSEG4
G4ODC5R	G4 Reed Relay Output, 5 VDC Logic	FUSE01G4
G4ODC5R5	G4 Reed Relay Output, 5 VDC Logic, NC	FUSE01G4
G4ODC5R5FM	G4 Reed Relay Output, 5 VDC Logic, NC, FM Approved	FUSE01G4
G4ODC5RFM	G4 Reed Relay Output, 5 VDC Logic, FM Approved	FUSE01G4
G4ODC5RFR	G4 Reed Relay Fr-epoxy	FUSE01G4

Opto 22 PN	Description	Fuse
SNAP-OAC5	4-channel AC Output 12-280 VAC, 5 VDC Logic	SNAP-FUSE4AB
SNAP-ODC5ASNK	SNAP DC Output Reed Relay	SNAP-FUSE4AB
SNAP-ODC5SNKFM	4 Channel DC Output 5-60 Logic Sinking	SNAP-FUSE4AB
SNAP-ODC5SNK	4-channel DC Output 5-60 VDC, 5 VDC Logic Sink	SNAP-FUSE4AB
SNAP-ODC5SRC	4-channel DC Output 5-60 VDC, 5 VDC Logic Source	SNAP-FUSE4AB
SNAP-ODC5SRCFM	4-channel DC Output 5-60 VDC, 5 VDC FM Logic Source	SNAP-FUSE4AB
SNAP-ODC5SRC-T	4-channel DC Output Transient Protect	SNAP-FUSE4AB

Fuses for Opto 22 Racks

Opto 22 PN	Description	Fuse
G4PB16	G4 16-channel I/O Module Rack	FUSEG4
G4PB16H	G4 16-channel Rack with Header Connector	FUSE01 (logic) FUSEG4 (I/O)
G4PB16HC	G4 16-channel Rack with Header Connector and Extra Terminal Strip	FUSE01 (logic) FUSEG4 (I/O)
G4PB16I	G4 16-channel I/O Module Rack Isolated Control	FUSEG4
G4PB16J	G4 DC Input 4-16 VDC 16-channel Integral	FUSE01G4
G4PB16K	G4 DC Input 16-28 VDC 16-channel Integral	FUSE01G4
G4PB16L	G4 DC Output 5-60 VDC 16-channel Integral	FUSE01G4
G4PB16T	G4 16-channel I/O Module Rack Extra Terminal Strip	FUSEG4
G4PB24	G4 24-channel I/O Module Rack	FUSEG4
G4PB32DEC	G4 32-channel I/O Module Rack	FUSEG4

Dimension and specifications are subject to change. All products and/or company names throughout this data sheet are generally trademarks or registered trademarks of their respective companies.

Opto 22 PN	Description	Fuse
G4PB32H	G4 32-channel Rack with Header Connector for B4 Brain	FUSE02 (logic) FUSEG4 (I/O)
G4PB32JY-IN	G4 32 Point Rack Inputs JYC-systems	FUSE01G4 (logic) FUSEG4 (I/O)
G4PB32JY-OUT	G4 32 Point Rack JYC-systems	FUSE01G4 (logic) FUSEG4 (I/O)
G4PB4	G4 4-channel I/O Module Rack	FUSEG4
G4PB4R	G4 4-channel Output Module Rack	FUSEG4
G4PB8	G4 8-channel I/O Module Rack	FUSEG4
G4PB8H	G4 8-channel Rack with Header Connector	FUSE01 (logic) FUSEG4 (I/O)
G4PB16FB1	Foxboro G4PB16 Single Wetting	FUSE01 (logic) FUSEG4 (I/O)
G4PB16FB2	Foxboro G4PB16 Dual Wetting	FUSE01 (logic) FUSEG4 (I/O)
PB16A	16-channel I/O Module Rack	FUSE05
PB16C	16-channel I/O Module Rack Extra Terminal Strip	FUSE05
PB16H	16-channel Rack with Header Connector	FUSE01 (logic) FUSE05 (I/O)
PB16HC	16-channel Rack with Header Connector and Extra Terminal Strip	FUSE01 (logic) FUSE05 (I/O)
PB16HQ	Quad 4-module Position Rack	FUSE01 (logic) FUSE05 (I/O)
PB16J	DC Input 4-16 VDC 16-channel Integral	FUSE01
PB16K	DC Input 16-28 VDC 16-channel Integral	FUSE01
PB16L	DC Output 5-60 VDC 16-channel Integral	FUSE01
PB16P1	Pamux 1	FUSE01 (logic) FUSE05 (I/O)
PB16T	16-channel I/O Module Rack	FUSE05
PB24	24-channel I/O Module Rack	FUSE01 (logic) FUSE05 (I/O)
PB24HQ	Quad 6-module Position Rack with Header Connector	FUSE01 (logic) FUSE05 (I/O)
PB24Q	Quad 6-module Position Rack	FUSE01 (logic) FUSE05 (I/O)
PB32DEC	Quad 8-module Position Rack	FUSE01 (logic) FUSE05 (I/O)
PB32HQ	Quad 8-module Rack with Header Connector for B4 Brain	FUSE01 (logic) FUSE05 (I/O)
PB32P2	Pamux 2	FUSE02 (logic) FUSE05 (I/O)
PB4	4-channel I/O Module Rack	FUSE05
PB4H	4-channel Rack with header Connector	FUSE01 (logic) FUSE05 (I/O)
PB4R	4-channel Output Module Rack	FUSE05
PB8	8-channel I/O Module Rack	FUSE05
PB8H	8-channel Rack with Header Connector	FUSE05
SNAP-B12M	12-module Rack	SNAP-FUSE4AB
SNAP-B12MC	12-module Rack with Extra Terminal Block for Field Wiring	SNAP-FUSE4AB
SNAP-B12MC-P	12-module Rack with Extra Terminal Block for Field Wiring, Pluggable	SNAP-FUSE4AB
SNAP-B16M	16-module Rack	SNAP-FUSE4AB
SNAP-B16MC	16-module Rack with Extra Terminal Block for Field Wiring	SNAP-FUSE4AB
SNAP-B16MC-P	16-module Rack with Extra Terminal Block for Field Wiring, Pluggable	SNAP-FUSE4AB
SNAP-B16MC-SF1	16-module Smart 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 Extra Terminal Block for Field Wiring	SNAP-FUSE4AB

Opto 22 PN	Description	Fuse
SNAP-B8MC-P	8-module Rack with Extra Terminal Block for Field Wiring, Pluggable	SNAP-FUSE4AB
SNAP-D12M	12-module Rack	SNAP-FUSE1AB
SNAP-D12MC	12-module Rack with Extra Terminal Block for Field Wiring	SNAP-FUSE1AB
SNAP-D12MC-P	12-module Rack with Extra Terminal Block for Field Wiring, Pluggable	SNAP-FUSE1AB
SNAP-D4M	4-module Rack	SNAP-FUSE1AB
SNAP-D4MC	4-module Rack with Extra Terminal Block for Field Wiring	SNAP-FUSE1AB
SNAP-D4MC-P	4-module Rack with Extra Terminal Block for Field Wiring, Pluggable	SNAP-FUSE1AB
SNAP-D6M	6-module Rack	SNAP-FUSE1AB
SNAP-D6MC	6-module Rack with Extra Terminal Block for Field Wiring	SNAP-FUSE1AB
SNAP-D6MC-P	6-module Rack with Extra Terminal Block for Field Wiring, Pluggable	SNAP-FUSE1AB
SNAP-D64RS	SNAP 64-point Digital Rack	SNAP-FUSE4AB
SNAP-D8M	8-module Rack	SNAP-FUSE1AB
SNAP-D8MC	8-module Rack with Extra Terminal Block for Field Wiring	SNAP-FUSE1AB
SNAP-D8MC-P	8-module Rack with Extra Terminal Block for Field Wiring, Pluggable	SNAP-FUSE1AB

Fuses for Other Opto 22 Products

Opto 22 PN	Description	Fuse
BUNNMASTER	Bunn Master System	FUSE01G4
CATTRON-FUSE	Two 5 A Fuses	FUSE05
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 Multifunction I/O Unit Mistic Protocol	FUSE01G4
G4A8P	Mistic 100 8-pt Analog Brick	FUSE01G4
G4A8R	Remote Analog 8-channel Multifunction I/O Unit Mistic Protocol	FUSE01G4
G4D16L	Local Digital 16 Channel Multifunction I/O Unit Mistic Protocol	FUSE01G4
G4D16LS	Local Digital 16 Channel I/O Unit Mistic Protocol	FUSE01G4
G4D16P	Mistic 100 Digital Brick	FUSE01G4
G4D16R	Remote Digital 16-channel Multifunction I/O Unit Mistic Protocol	FUSE01G4
G4D32RS	Remote Digital 32-channel I/O Unit Mistic Protocol	FUSE01G4
G4HDAL	Local Analog 32-channel High Resolution Multifunction I/O Unit Mistic Protocol	FUSE01G4
G4HDALB	High Density Analog Local Brain	FUSE01G4
G4HDAR	Remote Analog 32-channel High Resolution Multifunction I/O Unit Mistic Protocol	FUSE01G4
G4HDARB	High Density Analog Remote Brain	FUSE01G4
G4HDML	G4 High Density Motion Local	FUSEG4
G4HDMR	G4 High Density Motion Remote	FUSEG4
G4IOL	Local Panel Interface Mistic Protocol	FUSE01G4 (logic) FUSEG4 (I/O)
G4IOP	Mistic 100 I/O Cable Adapter	FUSE01G4 (logic) FUSEG4 (I/O)

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Opto 22 PN	Description	Fuse
G4IOR	Remote Panel Interface Mistic Protocol	FUSE01G4 (logic) FUSEG4 (I/O)
G4IOR-NS	G4IOR with No Switches	FUSE01G4 (logic) FUSEG4 (I/O)
G4IOR-S	Remote Panel Interface Sealed Switches	FUSE01G4 (logic) FUSEG4 (I/O)
G4LC32	Opto 22 Classic Controller	FUSE01G4
G4LC32ISA-LT	Opto 22 ISA Lite Controller	FUSE01G4
G4LC32ISA SER	ISA Serial Adapter for G4LC32ISA	FUSEG4
G4OAC5,KENT	ABB Instrumentation 2005ap10120a	FUSEG4
G4OAC5A, KENT	ABB Instrumentation 2005ap10130a	FUSEG4
G4OAC5A-11, ELEC	EC-OAC240-3	FUSEG4
G4OAC5A5, KENT	ABB Instrumentation 2005ap10140a	FUSEG4
G4OAX	Optomux Analog Extender	FUSE01G4
G4RAX	Remote Analog 8-channel I/O Unit Extender	FUSE01G4

Opto 22 PN	Description	Fuse
G4RCOMMKIT	Remote Brick Communication Kit	FUSE01G4 (logic) FUSEG4 (I/O)
G4REG	Brick Power Regulation Module	FUSE01G4
LCM4EXTPWR	LCM4 External Power Board	FUSE01
M4SHART	M4 Slave Interface	FUSE01G4
SNAP-IT-PM	Panel-mounted SNAP-IT Monitoring Unit (All Models Including Tower Management Systems)	SNAP-FUSE04AB (rack, modules, modem) SNAP-FUSE10AB (modem)
SNAP-PS24	SNAP Power Supply - Loop Power - 110 VAC To 24 VDC	SNAP-FUSE1AB
SNAP-PS5-24DC	SNAP DC-to-DC Power Supply	SNAP-FUSE2AB
SNAP-PS5	SNAP Power Supply - Single Rack - 110 VAC to 5 VDC	SNAP-FUSE1AB
SNAP-PS5-AT	SNAP Power Supply - (Argonaut)	SNAP-FUSE1AB
TMSDC-DCCON-VERTER	DC-DC Converter for TMS Units	SNAP-FUSE4AB

Products

Opto 22 produces a broad array of reliable, flexible hardware and software products for industrial automation, remote monitoring, enterprise data acquisition, and machine-to-machine (M2M) applications.

SNAP Ethernet Systems

Based on the Internet Protocol (IP), SNAP Ethernet systems offer flexibility in their network connectivity and in the software applications they work with. The physical network may be a wired Ethernet network, a cellular wireless network, or a modem. A wide variety of software applications can exchange data with SNAP Ethernet systems, including:

- Opto 22's own ioProject™ suite of control and HMI software
- Manufacturing resource planning (MRP), enterprise management, and other enterprise systems
- Human-machine interfaces (HMIs)
- Databases
- Email systems
- OPC client software
- Custom applications
- Modbus/TCP software and hardware.

SNAP Ethernet system hardware consists of controllers and I/O units. Controllers provide central control and data distribution. I/O units provide local connection to sensors and equipment.

SNAP OEM Systems

Opto 22 SNAP OEM I/O systems are highly configurable, programmable processors intended for OEMs, IT professionals, and others who need to use custom software with Opto 22 SNAP I/O modules.

Linux® applications running on these systems can read and write to analog, simple digital, and serial I/O points on SNAP I/O modules using easily implemented file-based operations. Applications can be developed using several common development tools and environments, including C or C++, Java, and shell scripts.

M2M Systems

Machine-to-machine (M2M) systems connect your business computer systems to the machines, devices, and environments you want to monitor, control, or collect data from. M2M systems often use wireless cellular communications to link remote facilities to central systems over the Internet, or to provide monitoring and control capability via a cellular phone.

Opto 22's Nvio™ systems include everything you need for M2M—interface and communications hardware, data service plan, and Web portal—in one easy-to-use package. Visit nvio.opto22.com for more information.

Opto 22 Software

Opto 22's ioProject and FactoryFloor® software suites provide full-featured and cost-effective control, HMI, and OPC software to power your Opto 22 hardware. These software applications help you develop control automation solutions, build easy-to-use operator interfaces, and expand your manufacturing systems' connectivity.

Quality

In delivering hardware and software solutions for worldwide device management and control, Opto 22 retains the highest commitment to quality. We do no statistical testing; each product is made in the U.S.A. and is tested twice before leaving our 160,000 square-foot manufacturing facility in Temecula, California. That's why we can guarantee solid-state relays and optically-isolated I/O modules *for life*.

Product Support

Opto 22's Product Support Group offers comprehensive technical support for Opto 22 products. The staff of support engineers represents years of training and experience, and can assist with a variety of project implementation questions. Product support is available in English and Spanish from Monday through Friday, 7 a.m. to 5 p.m. PST.

Opto 22 Web Sites

- www.opto22.com
- nvio.opto22.com
- www.internetio.com (live Internet I/O demo)

Other Resources

- OptoInfo CDs
- Custom integration and development
- Hands-on customer training classes.

About Opto 22

Opto 22 manufactures and develops hardware and software products for industrial automation, remote monitoring, enterprise data acquisition, and machine-to-machine (M2M) applications. Using standard, commercially available Internet, networking, and computer technologies, Opto 22's input/output and control systems allow customers to monitor, control, and acquire data from all of the mechanical, electrical, and electronic assets that are key to their business operations. Opto 22's products and services support automation end users, OEMs, and information technology and operations personnel.

Founded in 1974 and with over 85 million Opto 22-connected devices deployed worldwide, the company has an established reputation for quality and reliability.

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