

Form 682-051011

### Description

Opto 22 G4LAX and G4RAX analog expansion bricks each allow up to eight additional Opto 22 G4 analog I/O modules to be used with Opto 22 G4A8L and G4A8R analog bricks.

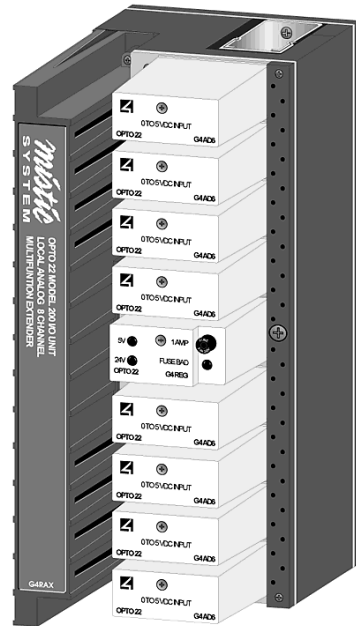
The G4LAX expansion brick is used with the local G4A8L analog brick, and the G4RAX expansion brick is used with the remote G4A8R analog brick.

### Installation

1. Turn off power if necessary.
2. Disassemble the G4LAX or G4RAX expansion brick and attach the base of the unit to the mounting surface.
2. Connect field and power wiring to the base of the expansion brick. For specific wiring information refer to Opto 22 form 595, the *mistic 200 Systems Installation Guide*.
3. Install the rack for I/O modules in the expansion brick. This rack also holds the G4REG regulator.
4. Install the G4 I/O modules and G4REG regulator on the expansion brick's rack.
5. Install the brick's expansion board in the slot next to the I/O module rack. For the G4LAX, install the G4EXL expansion board. For the G4RAX, install the G4EXR expansion board.
6. Connect an I/O bus cable to the I/O bus connector on the G4EXL or G4EXR expansion board.
  - G4EXL—Connect a local I/O bus cable to the 34-pin local I/O bus connector.
  - G4EXR—Connect a remote I/O bus cable to the 10-pin remote I/O bus connector.
7. Connect the 20-pin expansion cable between the G4EXL or G4EXR board on the expansion rack and the brain board on the G4A8L or G4A8R analog brick.
8. Attach the expansion card cover for the G4LAX or G4RAX.
9. Apply power.

Part Number	Description
G4LAX	Local analog I/O expansion brick
G4RAX	Remote analog I/O expansion brick

**G4RAX Expansion Brick**  
(G4 I/O modules not included)



### Specifications

Item	Specification
Power Requirements	24 VDC $\pm$ 0.5 VDC at 65 mA (without G4 I/O modules)

### **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.



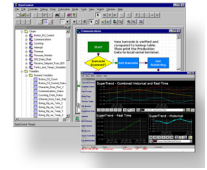
### **M2M Systems**

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](http://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](http://www.opto22.com)
- [nvio.opto22.com](http://nvio.opto22.com)
- [www.internetio.com](http://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.