I/O MODULES
G4
ANALOG VOLTAGE INPUT

OPTO 22

DATA SHEET

Form 601-050809

Part Number	Description
G4AD25	0 to 100 Volt AC/DC Input

Description

The G4AD25 module provides a single channel of transformer and optically-isolated analog-to-digital conversion. The nominal input range is 0 to 100 volts AC or DC with an over range capability to 263 volts. The G4AD25 module can survive to 500 volts peak applied directly across its inputs. The G4AD25 may be used to monitor 120/240 volt AC/DC and 12/24/48 volt AC/DC system voltage. The module plugs into an Opto 22 Modular controller or an analog brick and is secured by a captive screw. The field connections are made through four contacts to the terminal strip located on the brick base or controller I/O board.

NOTE: Any system using analog sensors and input modules should be calibrated annually for analog signals. To do so, use OptoControl commands "Calculate and Set Analog Offset" and "Calculate and Set Analog Gain."

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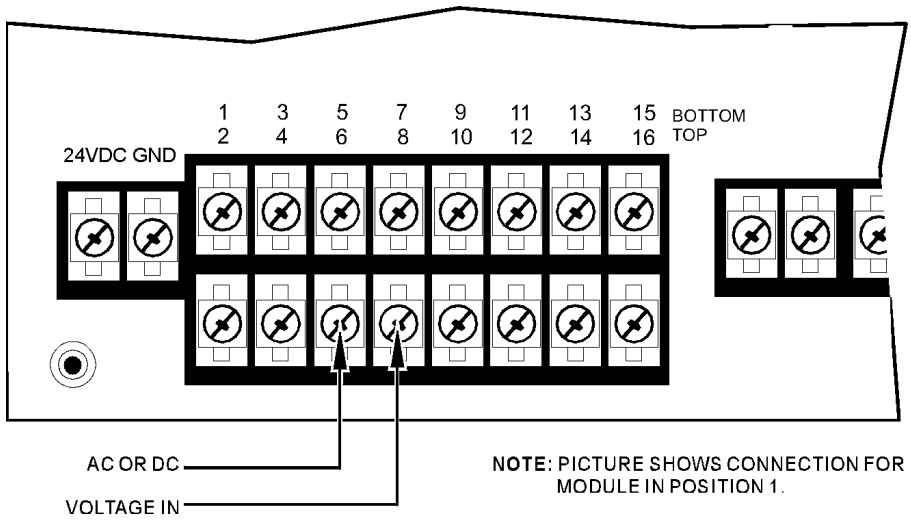
Specifications

G4AD25 Specifications

Nominal Input Range	0 to 100 V true rms AC/DC
Input Over Range	100 V to 263 V
Resolution	24.4 mV from 0 to 100 V 48.8 mV from 100 to 200 V 97.7 mV from 200 to 263.7 V
Input Response Time	5% of scale change 5 Volts/millisecond 63.2% of scale change 63.2 Volts/200 milliseconds 99.9% of scale change 99 Volts/1200 milliseconds
DC Common Mode Rejection	-120 dB
AC Common Mode Rejection	-120 dB @ 60 Hz
Maximum Operating Common Mode Voltage	750 VDC or peak AC
Input vs Output Zero Scale (1,920 Hz) Full Scale (9,600 Hz)	 0 V 100 V
Accuracy	0.5 V (0.5%)
DC Reversal	± 0.3 V (0.3%)
Power Requirements	24 VDC (± 0.5 V) @ 40 mA logic supply 5.5 V maximum @ 15 mA
Input Resistance Differential Common Mode	 1 MΩ 1,000 MΩ
Ambient Temperature Operating Storage	 0° to 70° C -25° to 85° C

Connections

G4AD25 Connections



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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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