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OPTO 22

DATA SHEET



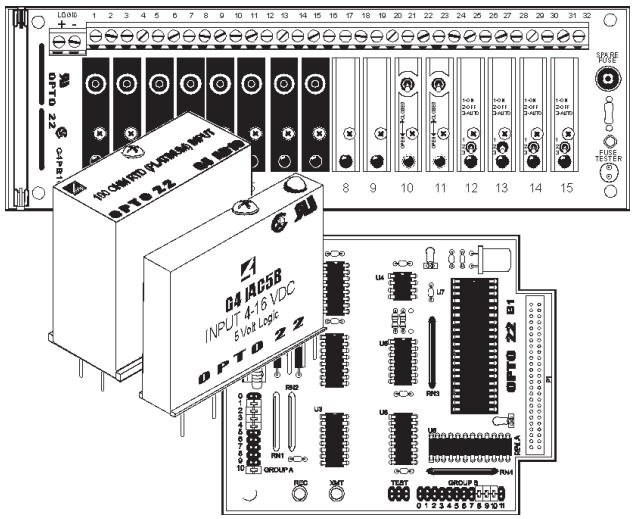
Form 1165-010313

## G4 I/O Control Systems

Control systems using Opto 22 G4 I/O hardware and software are in place worldwide in a variety of industrial automation applications. This data sheet helps you determine the combination of G4 I/O equipment you need for the following applications:

- **Direct, high-speed control of hundreds of digital I/O points,** without using an Opto 22 brain.
- **Distributed control of up to 4,096 digital and/or analog I/O points,** using Opto 22 serial brains and one RS-485 link.
- **High-speed control of up to 512 digital and/or analog I/O points,** using Opto 22 Pamux brains.

In the table below, match your I/O application with the appropriate combination of Opto 22 G4 I/O hardware and software. Sample equipment configurations are shown on pages two and three of this data sheet.



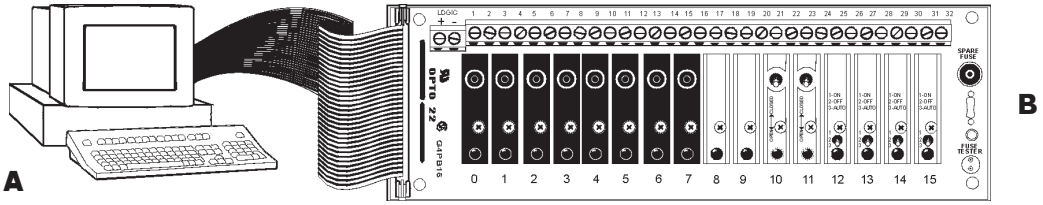

| *If Your I/O Application Requires…* | *Use This Combination of G4-Series Equipment…* | | | |
|---|---|---|---|---|
| | **Software and Adapter Card** | **Rack(s)** | **I/O Modules** | **Brain(s)** |
| • **Direct, high-speed control** of hundreds of digital I/O points. (Use the PCI-AC5 adapter card for high-speed control.) | • *PCI-AC5 and AC5 Toolkit* software (available free from Opto 22; 32-bit Windows only).<br>• One of the following adapter cards: [1]<br>- G4AC5<br>- PCI-AC5 | Digital:<br>• G4PB8<br>• G4PB16<br>• G4PB24 | Any G4-series digital I/O modules. | (none required) |
| • **Serial control** (via brain) of multiple digital and/or analog I/O points.<br>• **Support for up to 256 I/O units,** for a total of 4,096 I/O points on one 4,000 ft. (1,200 m.) RS-485 data link. | • *OptoDriver Toolkit* software (32-bit Windows only).<br>• RS-485 port for serial connection to brain using one of the following adapter cards:<br>- AC422AT - AC37<br>- AC24AT - AC7A/B | Digital:<br>• G4PB8H<br>• G4PB16H<br>Analog:<br>• PB4AH<br>• PB8AH<br>• PB16AH | Any G4-series digital I/O modules.<br>Any G1-series (or "standard") analog I/O modules. | • B1 or B100 for digital rack.<br>• B2 or B200 for analog rack. |
| • **High-speed control** (via brain) of multiple digital and/or analog I/O points.<br>• **Access to up to 512 I/O points,** located up to 500 ft. (150 m.) away, per adapter card. | • *ISA Pamux Toolkit* or *PCI Pamux Toolkit* software (available free from Opto 22; 32-bit Windows only).<br>• One of the following adapter cards: [2]<br>- AC28<br>- PCI-AC28 | Digital:<br>• G4PB8H<br>• G4PB16H<br>• G4PB32H<br>Analog:<br>• PB4AH<br>• PB8AH<br>• PB16AH | Any G4-series digital I/O modules.<br>Any G1-series (or "standard") analog I/O modules. [3] | • B4 for G4PB32H digital rack only.<br>• B5 for G4PB8H and G4PB16H digital racks.<br>• B6 for analog rack. |

**1)** Up to four G4AC5 adapter cards can be installed in one PC for up to 96 points of digital I/O. Up to 32 PCI-AC5 adapter cards can be installed in one PC for up to 1,536 points of digital I/O. **2)** Up to four AC28 adapter cards can be installed in one PC for up to 2,048 points of I/O. Up to 32 PCI-AC28 adapter cards can be installed in one PC for up to 16,384 points of I/O. **3)** Older G1-series digital I/O modules can also be used if a B1 or B100 brain is used with a PB4H, PB8H, or PB16H digital rack.

## G4 I/O Control Systems (continued)

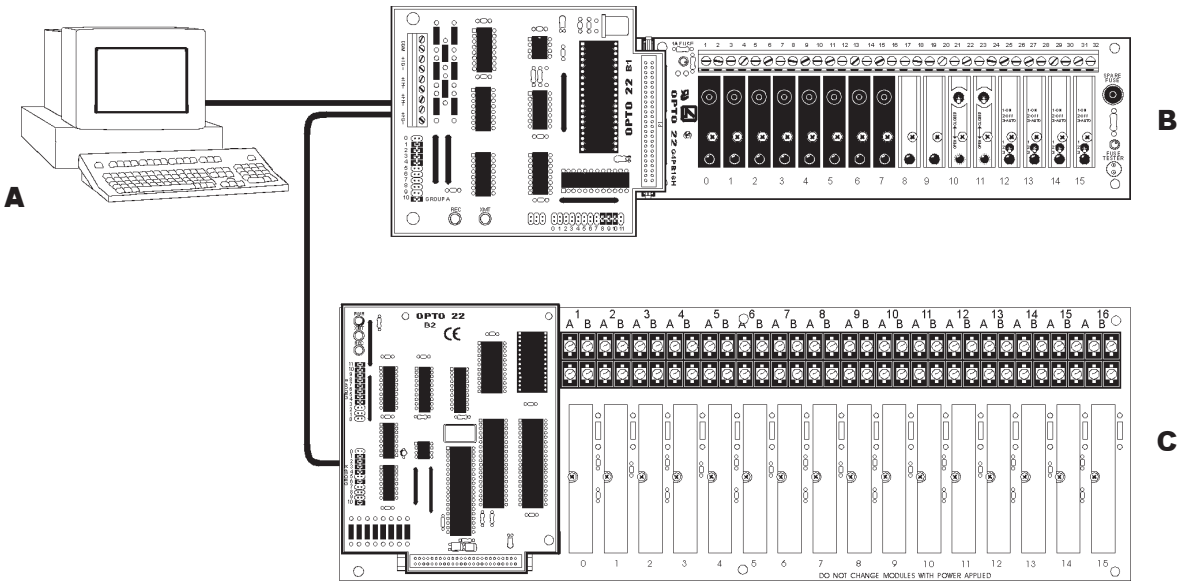
### G4 I/O for Direct Digital Control

This example shows a PC (**A**) using the PCI-AC5 and AC5 Toolkit software and a G4AC5 adapter card connected to a G4PB16 digital rack (**B**) that contains eight input modules and eight output modules.




### G4 I/O for Serial Digital and Analog Control

This example shows a PC (**A**) using the OptoDriver Toolkit software and an AC24AT adapter card connected to a G4PB16H digital rack (**B**) with a B1 brain board and 16 G4 digital I/O modules (eight input and eight output). Also connected to the PC via the RS-485 serial data link is a PB16AH analog rack (**C**) with a B2 brain board and 16 G1-series (or "standard") analog I/O modules.



## G4 I/O Control Systems (continued)

### G4 I/O for High-Speed Pamux Control

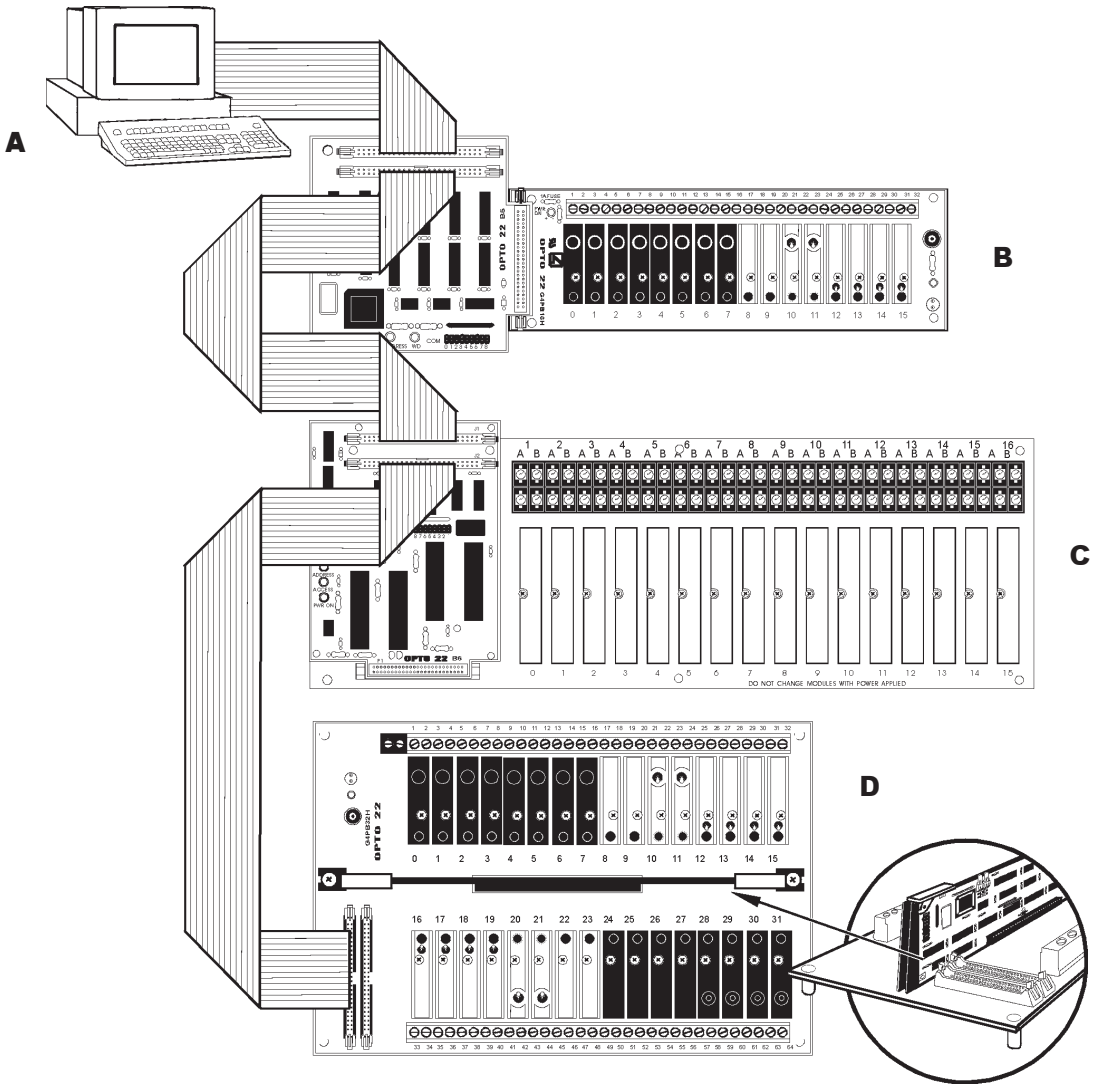
This example shows the following G4 I/O equipment:

**A** A PC using the ISA Pamux Toolkit software and an AC28 adapter card.

**B** A G4PB16H digital rack with a B5 brain board and 16 G4 digital I/O modules (eight input and eight output).

**C** A PB16AH analog rack with a B6 brain board and 16 G1-series (or "standard") analog I/O modules, connected to digital racks **B** and **D** via a high-speed Pamux link.

**D** A G4PB32H digital rack with a B4 brain board (mounted perpendicular to the rack) and 32 G4 digital I/O modules (16 input and 16 output). This rack is connected to the analog rack (**C**) via a high-speed Pamux link.






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