

These products are obsolete.

G4 DIGITAL 16-CHANNEL DC INPUT INTEGRAL RACK

Features

- > 16 optically-isolated inputs
- > Small footprint design, resulting in reduced mounting space
- > 4,000 V_{rms} optical isolation
- > Compatible with Optomux® B1, Pamux® B5, and Mystic® B100 brain boards
- > Operating temperature: -30° C to 70° C

DESCRIPTION

NOTE: These products are obsolete. and no longer available.

The G4PB16J and G4PB16K DC input racks provide 16 channels of optically-isolated inputs for sensing on/off DC voltage levels by a B1, B5, or B100 brain board, or any ISA bus-compatible computer with an Opto 22 G4AC5 adapter card. Their compact size and design yields a substantial space and cost savings over other 16-channel I/O boards. All input channels are identical on each board and are ideal for applications that need to monitor several 4-16 VDC signals (model G4PB16J) or 16-28 VDC signals (model G4PB16K). On-board LED indicators display each channel's on/off status.

Typical applications for the integrated DC input racks include sensing the presence or absence of voltage from sources such as BCD devices, TTL level devices, thumbwheel switches, and barcode readers. Control connections are easily made to a 50-pin header connector. Barrier strips with screw terminals provide the field and rack power connections. The logic supply is fused with a 1A fuse.

The G4D32RS is a low-cost, high-I/O-capacity digital unit for the Opto 22 family of PC-based control products. Each I/O unit offers flexible, single-point, on/off control and latching for up to 32 digital I/O points. An easily accessible mounting rack makes field wiring simple to install. Communication connections are attached to a 3-wire terminal block and seamlessly integrate with other RS-485 remote brain boards, bricks, and modular controller systems. An onboard regulator ensures power protection to the modules and provides a regulated voltage source.

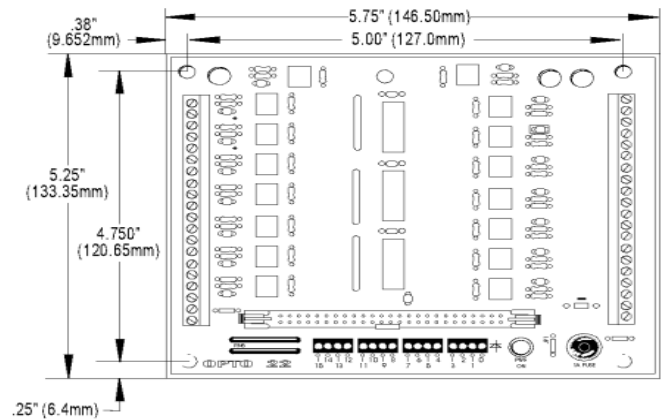
G4D32RS programming is accomplished with OptoControl or Cyrano, Opto 22's intuitive flowchart-based languages, or using a host computer and Opto 22's MysticWare software driver with the software language of your choice.



G4PB16J

MOUNTING

Mount the G4PB16J/K in an enclosure or to a panel using the mounting standoffs shown in the figure.



Part Numbers

Part	Description
G4PB16J [Obsolete]	[Obsolete] G4 DC Input 4-16 VDC 16-channel Integral Rack
G4PB16K [Obsolete]	[Obsolete] G4 DC Input 16-28 VDC 16-channel Integral Rack

SPECIFICATIONS

Table 1: General Specifications	Units	G4PB16J [Obsolete]	G4PB16K [Obsolete]
Input line voltage	VDC	4–16	16–28
Input current:			
@ Minimum voltage range	mA @ VDC	3.3, 4	3.4, 16
@ Maximum voltage range	mA @ VDC	16, 16	6.3, 28
Isolation:	VRMS		
Input-to-output	Continuous	4,000	4,000
Channel-to-channel	VRMS	300	300
Input-to-output capacitance	pF/channel	8	8
Turn-on-time	ms	2.5	3
Turn-off-time	ms	3.5	4.5
Logic supply voltage	VDC	4.5–6	4.5–6
Logic supply current	mA @ VDC	190, 5	190, 5
Temperature:			
Operating	° C	-30 to +70	-30 to +70
Storage	° C	-30 to +85	-30 to +85
Agency Approvals		UL, CE, CSA, RoHS, DFARS; UKCA	UL, CE, CSA, RoHS, DFARS; UKCA

Table 2: Channel Positions and Field Terminals		
Module Position	Control (Header Connector)	Field (Terminal Strip)
0	47	-0 and +0
1	45	-1 and -1
2	43	-2 and +2
3	41	-3 and +3
4	39	-4 and +4
5	37	-5 and +5
6	35	-6 and +6
7	33	-7 and +7
8	31	-8 and +8
9	29	-9 and +9
10	27	-10 and +10
11	25	-11 and +11
12	23	-12 and +12
13	21	-13 and +13
14	19	-14 and +14
15	17	-15 and +15

Even pins on the control connector are connected by etch to 5V return.

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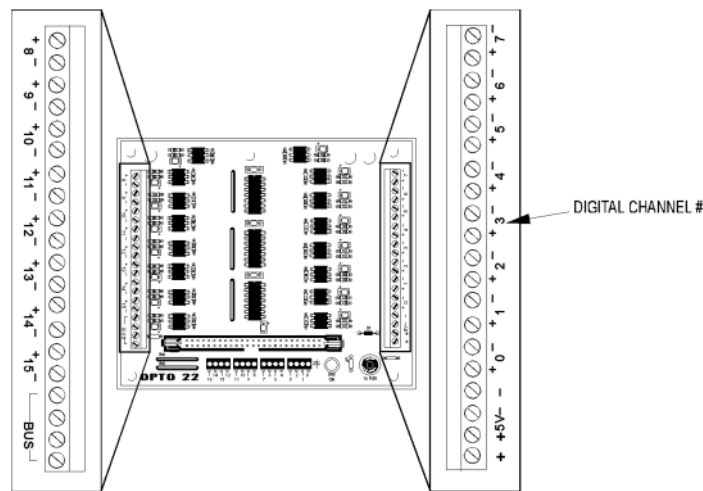
CONNECTIONS

CONNECTING FIELD WIRING

Caution: TURN OFF POWER to the G4PB16J/K before connecting or removing field wiring.

The figure below shows the location of the field wiring terminals on the G4PB16J/K mounting racks and the layout of the terminal points as they relate to each channel. Field wiring terminals accept up to 10 AWG wire. Refer to the figures on page 4 for schematics of the mounting racks.

Each channel has a positive (+) and negative (-) terminal. Connect the positive wire from your field device to the channel's positive terminal, and then connect the negative wire to the negative terminal. Table 1 on the following page lists the channel numbers, their respective field terminals, and pinouts to the header connector.



BUS TERMINALS

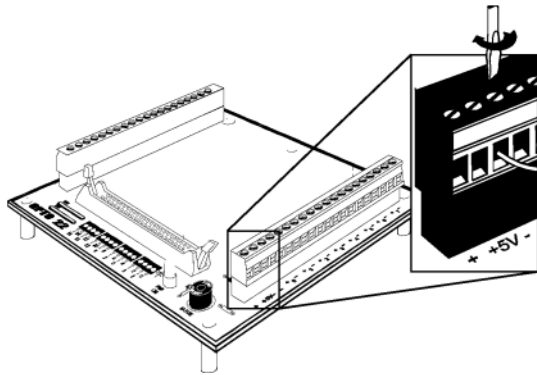
The four terminals labeled "BUS" are tied together and are not electrically connected to anything else on the mounting rack. They may be used to provide additional terminals for bussing power, ground, or a common connection to multiple channels on the mounting rack.

CONNECTIONS (CONTINUED)

CONNECTING POWER TO THE G4PB16J/K

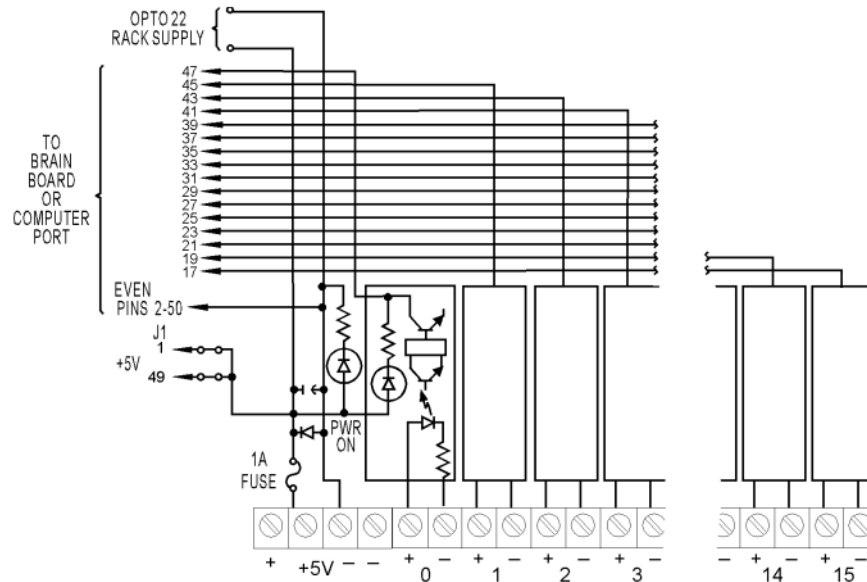
The G4PB16J/K racks require 190 mA at 5 VDC. These requirements are in addition to the power required by a brain board if you are using one.

Follow the instructions below to wire power to the mounting rack.



1. Verify that the power supply is turned off.
2. Make sure all power supply terminal block connections are completely open by turning the screws counter clockwise.
3. Prepare each power supply wire, being careful not to strip back the insulation too far.
4. Refer to the figure above and insert the power supply's +5V wire into one of the "+" terminals and the power supply's "-" wire into one of the "-" (GND) terminals.
5. Tighten each wire by turning the power terminal screw clockwise. Make sure the terminal block is clamping the wire and not the insulation.

SCHEMATICS



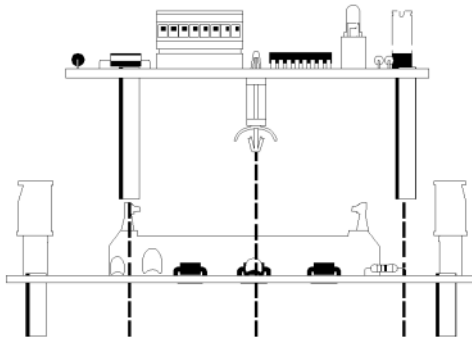
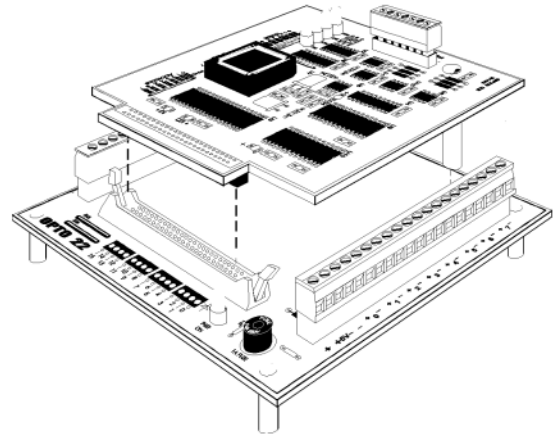
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ASSEMBLY ATTACHING A BRAIN BOARD OR PC CONNECTION

The G4PB16J/K boards work with B1, B5, or B100 brain boards. They can also be controlled directly by an IBM PC using an Opto 22 G4AC5 adapter card and a 50-pin ribbon cable.

Align the brain board or cable header connector with the header connector on the G4PB16J/K board as shown below. If you are connecting a 50-pin ribbon cable, the connector keys should match up. Firmly press the header connectors together until the locking tabs clamp down on the brain board or cable.



If you are attaching a B100 to a G4PB16J/K mounting rack, you must first attach a plastic, removable standoff to the brain board as shown in the figure above. Continue by installing the brain board to the mounting rack as described above and as shown in the figure to the left.

LED INDICATORS

The figure to the right shows the LEDs found on the G4PB16J/K mounting racks. Three LED indicator groups on the mounting racks are used to indicate the status of each channel. A lit LED indicates the channel is on. An unlit LED indicates the channel is off.

A separate "PWR ON" LED is used to indicate that power is applied to the mounting rack. A lit LED indicates power is on. An unlit LED indicates power is off. The G4PB16L rack also has a "FUSE TESTER" LED indicator. A lit LED indicates the fuse inserted in the "FUSE TEST" fuse socket is good. An unlit LED indicates the fuse is bad and should not be used.

