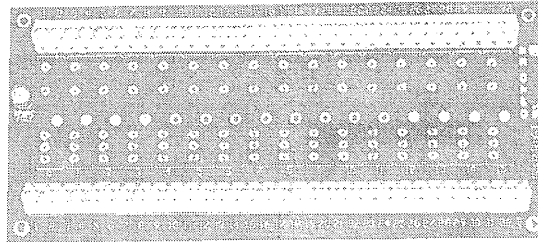


PRODUCT DATA

OPTO 22

ISOLATED 16-CHANNEL DIGITAL I/O MOUNTING RACK

MODEL G4PB16I



DESCRIPTION

The G4PB16I mounting rack can accommodate 16 Generation 4 digital I/O modules. The G4PB16I I/O mounting rack uses screw terminals on both the field and control connectors. The G4PB16I can be wired with output modules as either positive true or negative true logic on the control side. The G4 input modules operate with negative true logic only.

GENERATION 4™

High Density
I/O Module

FEATURES

- ◆ Requires Minimum Panel Space
- ◆ Spare Fuse On Board
- ◆ UL Recognized
- ◆ CSA Certified
- ◆ Screw Terminals on Both Control and Field Connections
- ◆ Output Modules can be Wired as Negative True or Positive True Logic

SPECIFICATIONS

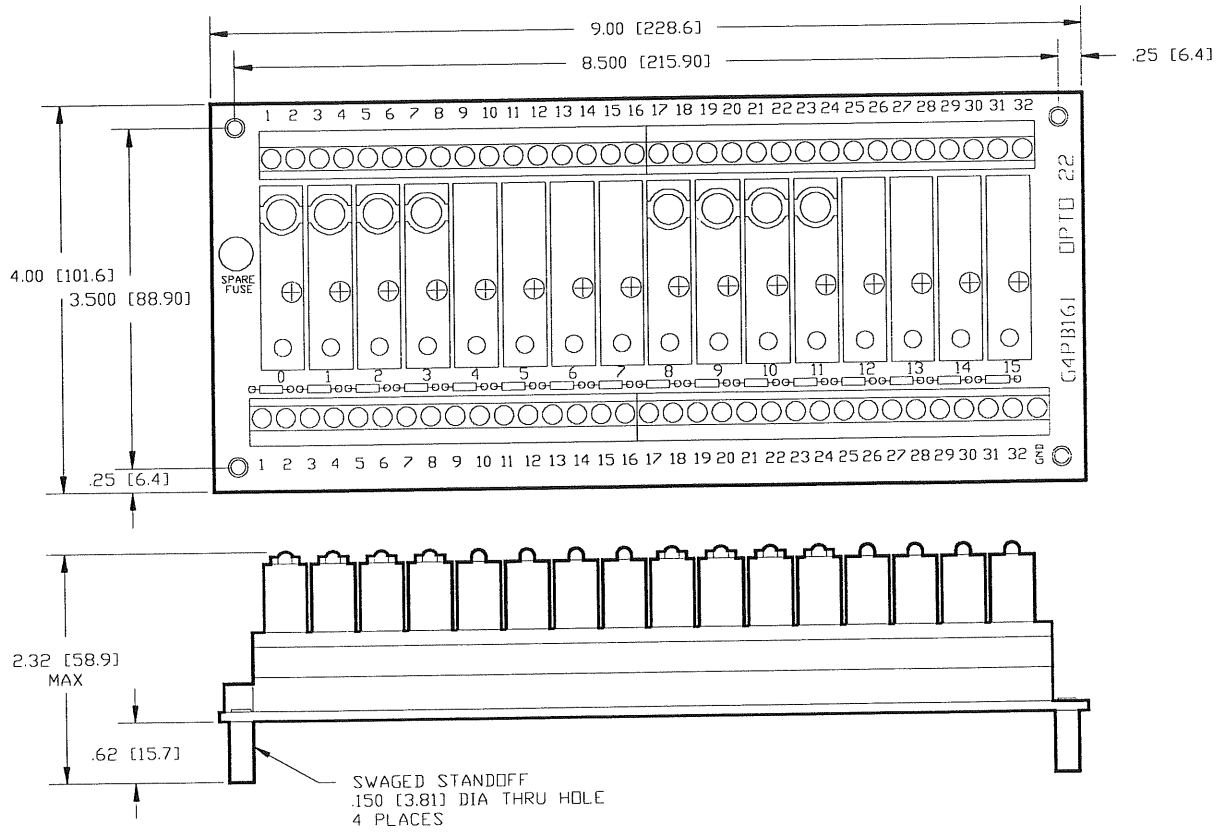
Operating Temperature:
0° C to 70° C
95% Relative Humidity
Non-condensing

Interface Connectors:

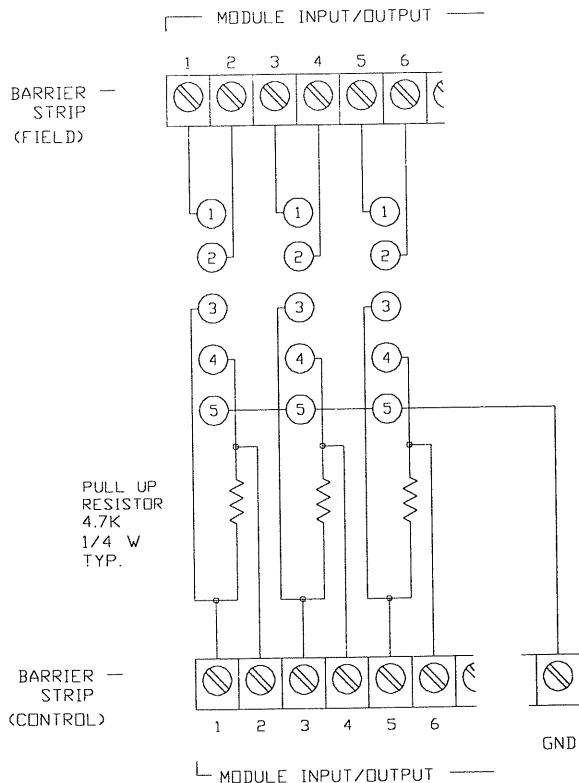
<i>Field</i>	Screw-type Terminal Strip Accommodates up to 10 AWG Wire
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<i>Control</i>	Screw-type Terminal Strip Accommodates up to 10 AWG Wire
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DIMENSIONS



SCHEMATIC

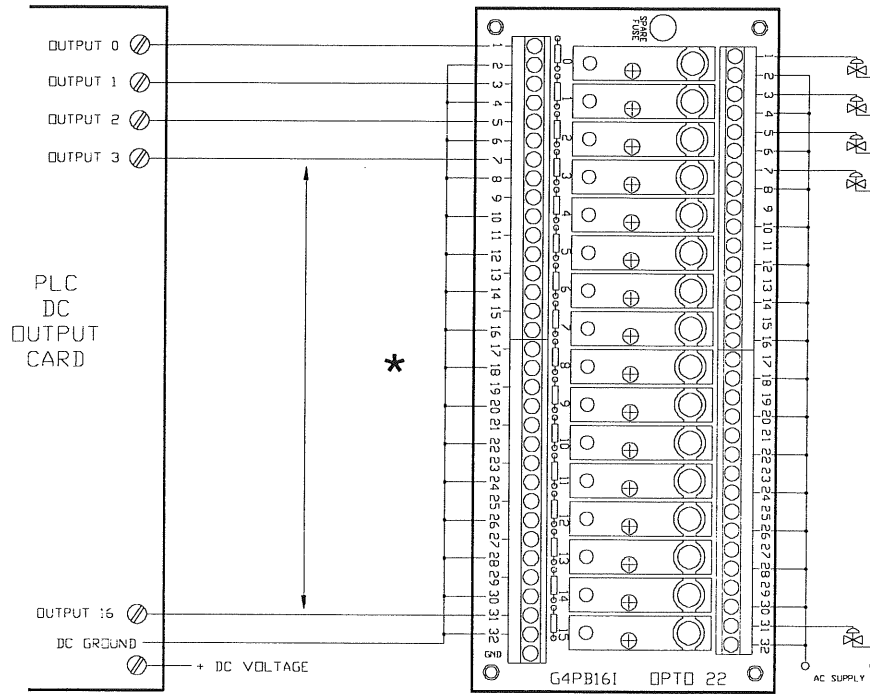


MODULE POSITION	CONTROL (Terminal Strip)	FIELD (Terminal Strip)
0	1 & 2	1 & 2
1	3 & 4	3 & 4
2	5 & 6	5 & 6
3	7 & 8	7 & 8
4	9 & 10	9 & 10
5	11 & 12	11 & 12
6	13 & 14	13 & 14
7	15 & 16	15 & 16
8	17 & 18	17 & 18
9	19 & 20	19 & 20
10	21 & 22	21 & 22
11	23 & 24	23 & 24
12	25 & 26	25 & 26
13	27 & 28	27 & 28
14	29 & 30	29 & 30
15	31 & 32	31 & 32

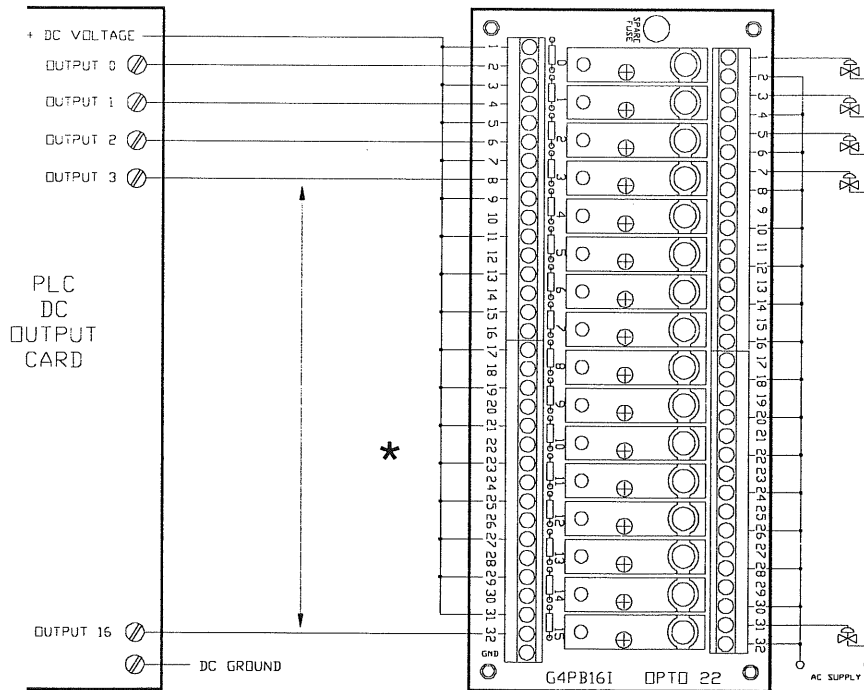
NOTES:

1. Input modules and ODC5R require connection of power supply ground to control side GND terminal.
2. Input modules and ODC5R require connection of odd numbered control side terminal to +VCC.
3. At each module position on the field terminal strip, the lower number is always connected to pin 1 of the I/O module.

APPLICATION EXAMPLES

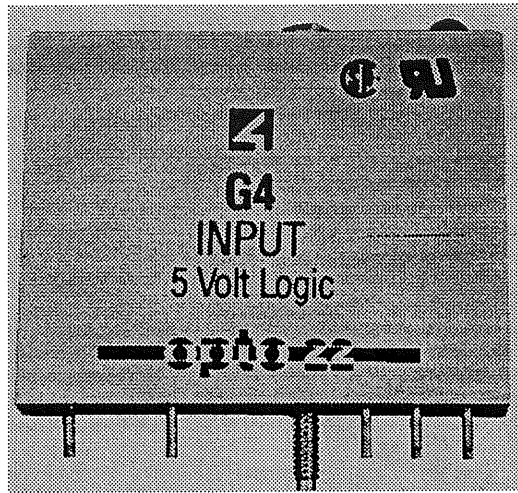


Positive True Logic Connection to PLC



Negative True Logic Connection to PLC

* This wiring can be done using G4STRAP.



DESCRIPTION

DC input modules are used for sensing ON/OFF DC voltage levels. All DC input modules with the exception of the G4IDC5K and the G4IDC5D are designed with filtering on the input of a hysteresis amplifier for high noise rejection and transient free "clean" switching.

The G4IDC5K module is a fast switching input module for signals produced by photoelectric switches or TTL level devices. The G4IDC5D is a low cost, DC only, input module for use in data acquisition applications.

Each module provides up to 4000 V_{rms} of optical isolation between the field inputs and the output side of the circuit.

Typical uses and applications include sensing the presence or absence of voltage or sensing contact closures from sources such as:

- Proximity Switches
- Limit Switches
- Selector Switches
- Push Buttons
- Photoelectric Switches
- TTL Compatible Devices

FEATURES

- ◆ 4000 VAC Optical Isolation
- ◆ UL Recognized
- ◆ CSA Certified
- ◆ 5, 15 and 24 VDC Logic Levels
- ◆ Built-in LED Status Indicator
- ◆ Passes NEMA Showering Arc Test [ICS 2-230]
- ◆ Meets IEEE Surge Withstand Specification [IEEE-472]

GENERATION 4™

ORDERING GUIDE

LINE VOLTAGE VDC	LOGIC VOLTAGE	PART NUMBER
10 - 32	5	G4IDC5
2.5 - 16	5	G4IDC5K
2.5 - 28	5	G4IDC5D
4 - 16	5	G4IDC5B
35 - 60	5	G4IDC5G
90 - 140	5	G4IAC5
180 - 280	5	G4IAC5A
10 - 32	15	G4IDC15
90 - 140	15	G4IAC15
180 - 280	15	G4IAC15A
10 - 32	24	G4IDC24
90 - 140	24	G4IAC24

SPECIFICATIONS

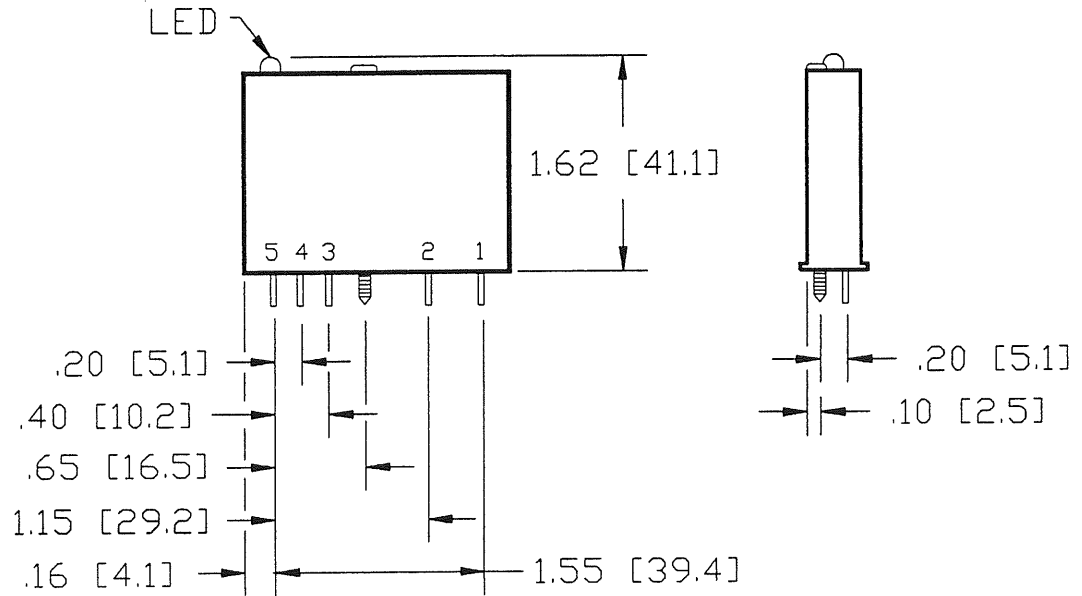
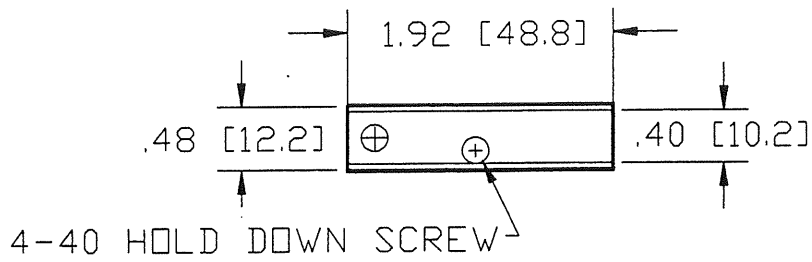
GENERAL / APPLIES TO ALL MODELS

Operating Ambient Temperature:	- 30° C to 70° C
Isolation Input-to-Output:	4000 V _{rms}
Output Voltage Drop:	0.4 V @ 50 mA
Output Current:	50 mA
Output Leakage with No Input:	100 µA @ 30 VDC
G4IDC5D Only:	10 µA @ 30 VDC
Transistor:	30 V breakdown

	UNITS	G4IDC5	G4IDC5B	G4IDC5K	G4IDC5D
Input Voltage Range:	VDC	10 - 32	4 - 16	2.5 - 16	2.5 - 28
Input Current @ Maximum Line:	mA	25 ^{13.4mA @ 24V}	45	30	30 ^{4.2mA @ 5V}
Turn-on Time:	ms	5	0.05	0.025*	1
Turn-off Time:	ms	5	0.1	0.025*	1.5
Input Allowed for No Output:	mA, V	1, 3	0.7, 1	0.2, 1	0.2, 1
Output Supply Voltage - Nominal:	VDC	5	5	5	5
Output Supply Voltage Range:	VDC	4.5 - 6	4.5 - 6	4.5 - 6	4.5 - 6
Output Supply Current: @ Nominal Logic Voltage	mA	12	12	12	12
Input Resistance: (R1 in Schematic Diagram)	ohms	1.5K	300	500	900
Control Resistance: (Rc in Schematic Diagram)	ohms	220	220	220	470

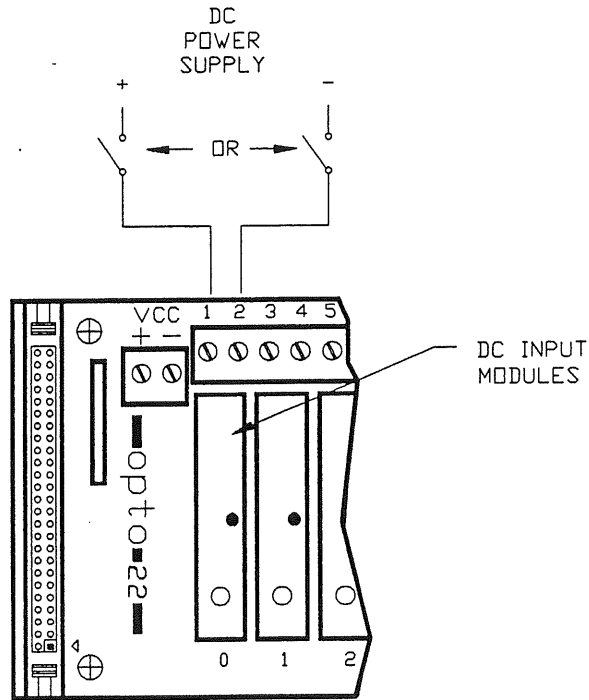
* @ 5V_{p-p} square wave input, 50% duty cycle

DIMENSIONS



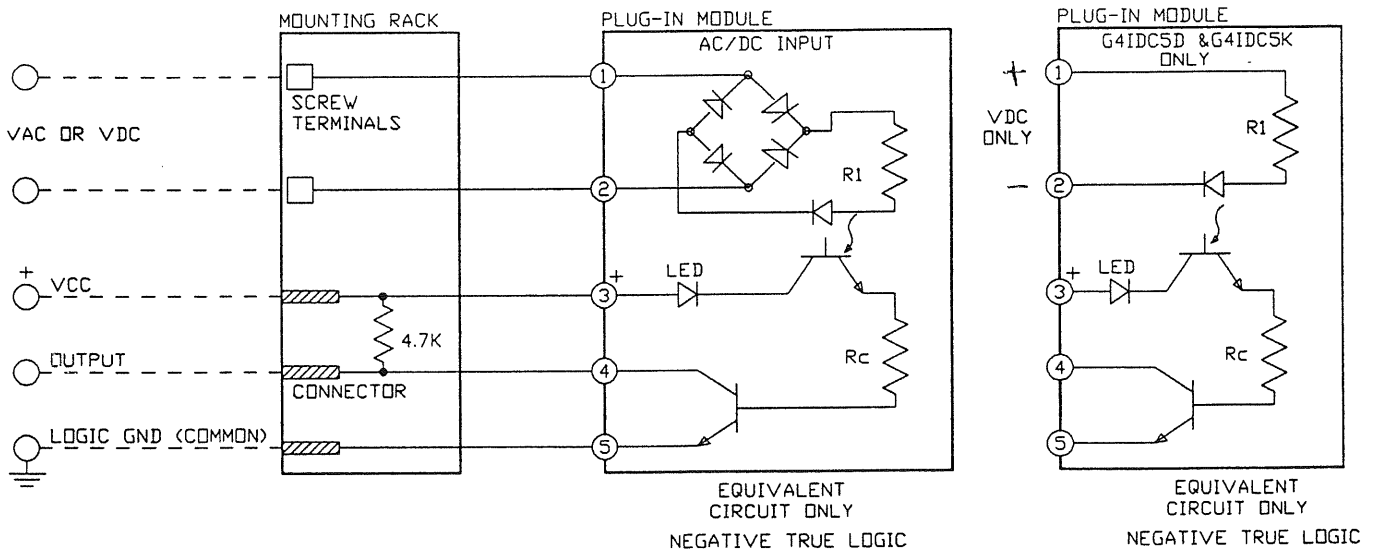
G4IDC5G	G4IDC15	G4IDC24	G4IAC5	G4IAC15	G4IAC24	G4IAC5A	G4IAC15A
35 - 60	10 - 32	10 - 32	90 - 140	90 - 140	90 - 140	180 - 280	180 - 280
6	25	25	11	11	11	4.5	4.5
10	5	5	20	20	20	20	20
10	5	5	20	20	20	20	20
0.7, 7	1, 3	1, 3	3, 45	3, 45	3, 45	0.7, 45	0.7, 45
5	15	24	5	15	24	5	15
4.5 - 6	12 - 18	20 - 30	4.5 - 6	12 - 18	20 - 30	4.5 - 6	12 - 18
12	15	18	12	15	18	12	15
10K	1.5K	1.5K	14K	14K	14K	70K	70K
220	1K	2.2K	220	1K	2.2K	220	1K

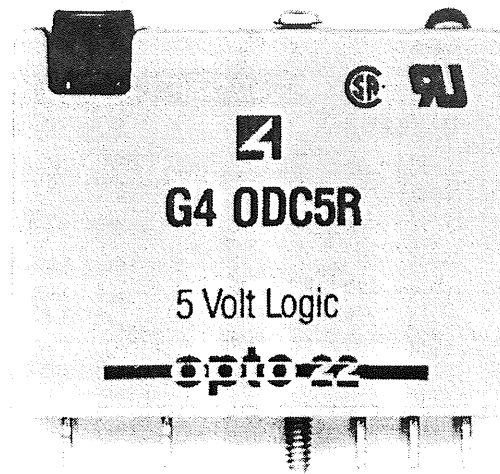
CONNECTION DIAGRAM



WARNING:
DO NOT REMOVE OR INSTALL MODULES
WITH POWER APPLIED.

SCHEMATIC





OPTO 22

DRY CONTACT OUTPUT MODULE SINGLE-CHANNEL PLUG-IN

MODELS:

G4ODC5R
G4ODC5R5

GENERATION 4™

DESCRIPTION

The G4ODC5R is a Form A mechanical relay I/O module and the G4ODC5R5 is a Form B mechanical relay I/O module. Analog signal and communication line multiplexing are examples of ideal applications for these dry-contact, low-contact resistance modules.

FEATURES

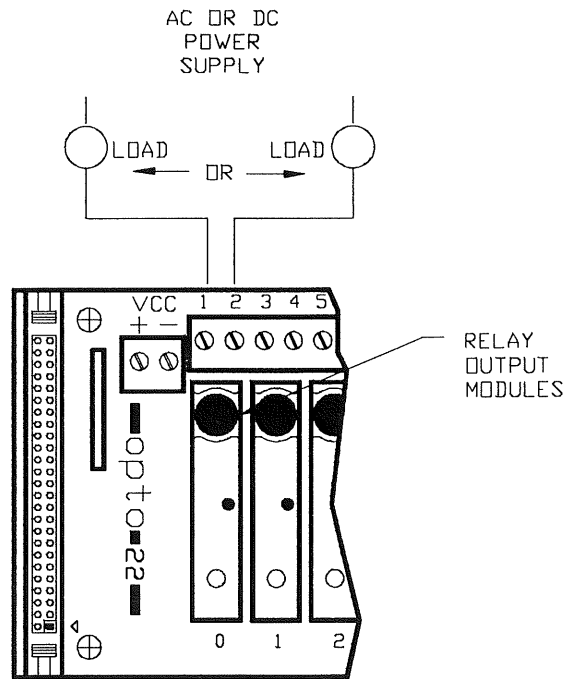
- ◆ G4ODC5R - SPST - Normally Open
- ◆ G4ODC5R5 - SPST - Normally Closed
- ◆ Contact Switching Voltage 100 VDC Maximum or 130 VAC Maximum
- ◆ Contact Switching Current 0.5 A Maximum
- ◆ Contact Resistance 200 m Ω Maximum
- ◆ Life 5 x 10⁶ Cycles
- ◆ Coil 5 VDC at 14 mA
- ◆ Operating Temperature: 0° C to 70° C

SPECIFICATIONS

Contact Form:	G4ODC5R G4ODC5R5	Form A SPST - normally open Form B SPST - normally closed
Contact Rating:		10 VA
Switching Volts:		100 VDC / 130 VAC maximum
Switching Current:		0.5 A maximum
Carry Current:		1.5 A maximum
Contact On - Resistance:		200 mΩ
Turn-on Time:		500 μs
Turn-off Time:		500 μs
Contact Bounce:		250 μs
Mechanical Life:		5 x 10 ⁶ cycles
Logic Voltage Range:		4.8 - 6 V
Logic Pickup Voltage*:		0.8 V
Logic Dropout Voltage*:		3.8 V
Logic Input Current:		14 mA at nominal logic voltage
Isolation Voltage:		1500 VDC input-to-output
Temperature:	Operating Storage	0° C to 70° C - 60° C to 105° C

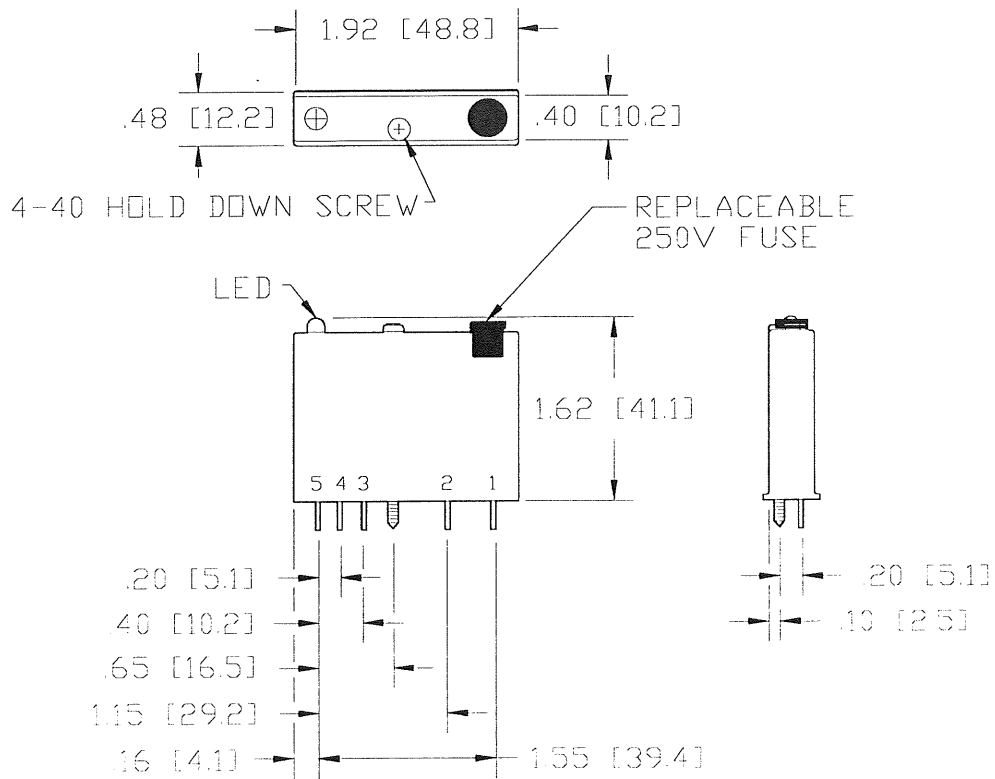
*Pickup and dropout voltages are measured from 5 VDC logic ground.

CONNECTION DIAGRAM

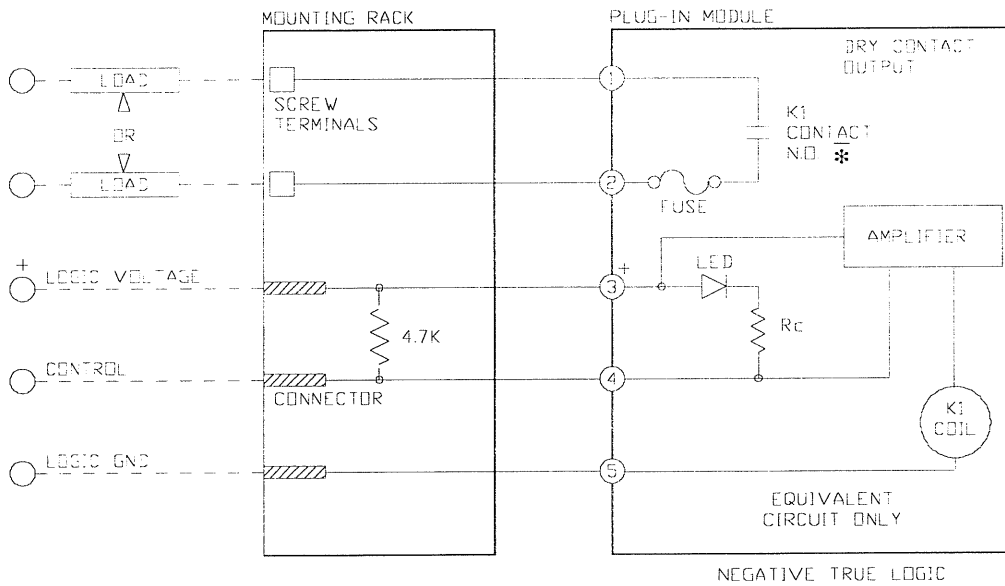


WARNING:
DO NOT REMOVE OR INSTALL MODULES
OR FUSES WITH POWER APPLIED.

DIMENSIONS



SCHEMATIC



Note: Also compatible with Totem Pole or Tri-State Output. Modules will not plug into G4PB4R mounting rack.

* Normally open for G4ODC5R.

Normally closed for G4ODC5R5.