

OPTO 22

DATA SHEET

Form 253-990215

I/O MODULE

G4 DIGITAL

DC INPUT

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Description

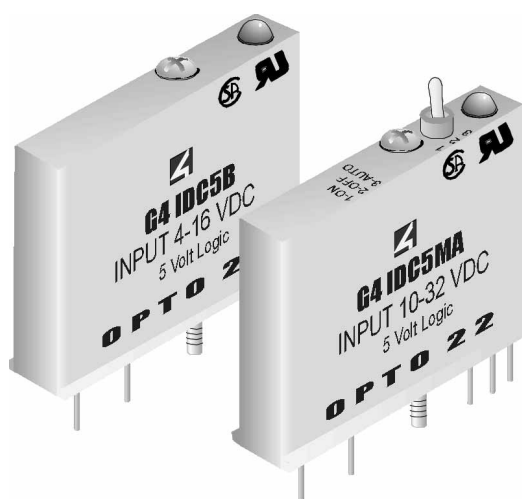
Opto 22's G4 DC input modules are used to detect on/off DC voltage levels. Each module provides up to 4,000 V_{rms} of optical-isolation between field inputs and the logic output of the circuit.

All DC input modules except the G4IDC5K and G4IDC5D are designed with filtering on the input and a hysteresis amplifier, providing high noise rejection and transient-free, "clean" switching. The G4IDC5K is a fast-switching module used to detect signals produced by photoelectric switches and TTL devices. The low-cost G4IDC5D is used for data acquisition.

The G4IDC5MA is a special module featuring a manual-on/manual-off/automatic switch, ideal for diagnostic testing of control applications.

Typical applications for DC input modules include sensing the presence or absence of voltage, and sensing contact closure from sources such as proximity switches, limit switches, selector switches, push buttons, photoelectric switches, and TTL-compatible devices.

Part Number	Description
G4IDC5	G4 DC Input 10-32 VDC, 5 VDC Logic
G4IDC5B	G4 DC Input 4-16 VDC, 5 VDC Logic High Speed
G4IDC5D	G4 DC Input 2.5-28 VDC, 5 VDC Logic
G4IDC5G	G4 DC Input 35-60 VDC, 5 VDC Logic
G4IDC5K	G4 DC Input 2.5-16 VDC, 5 VDC Logic Very High Speed
G4IDC5MA	G4 DC Input 10-32 VDC, 5 VDC Logic With Manual/Auto Switch
G4IDC15	G4 DC Input 10-32 VDC, 15 VDC Logic
G4IDC24	G4 DC Input 10-32 VDC, 24 VDC Logic



Features

- 4,000 V_{rms} optical isolation
- Built-in LED status indicator
- Small footprint design, reducing mounting space by approximately 50 percent
- Built-in filtering for transient suppression and noise rejection
- Operating temperature: -30° C to 70° C
- UL recognized, CSA certified, CE approved
- Passes NEMA Showering Arc Test (ICS 2-230)
- Meets IEEE Surge Withstand Specification (IEEE-472)

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Dimension and specifications are subject to change. All products and/or company names throughout this data sheet are generally trademarks or registered trademarks of their respective companies.

Specifications

	Units	G4IDC5	G4IDC5B	G4IDC5D	G4IDC5G
Input voltage range	VDC VAC	10-32 12-32	4-16 4-16	2.5-28 ---	35-60 35-60
Key feature		---	Higher speed	High speed	---
Input current at maximum line	mA	25	45	30	6
Isolation input-to-output	V _{rms}	4,000	4,000	4,000	4,000
Turn-on time	ms	5	0.05	1	10
Turn-off time	ms	5	.1	1.5	10
Input allowed for off-state	mA, V	1, 3	.7, 1	.2, 1	.7, 7
Nominal output supply voltage	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 at nominal logic voltage	mA	12	12	12	12
Input resistance (R ₁ in schematic)	Ω	1.5K	300	900	10K
Control resistance (R _c in schematic)	Ω	220	220	470	220
Output voltage drop	V @ 50 mA	.4	.4	.4	.4
Output current (sinking)	mA	50	50	50	50
Output leakage with no input	μA @ 30 VDC	100	100	10	100
Transistor	V breakdown	30	30	30	30
Temperature: Operating Storage	°C °C	-30 to +70 -30 to +85	-30 to +70 -30 to +85	-30 to +70 -30 to +85	-30 to +70 -30 to +85

Specifications (CONT.)

	Units	G4IDC5K	G4IDC5MA	G4IDC15	G4IDC24
Input voltage range	VDC VAC	2.5-16 ---	10-32 12-32	10-32 12-32	10-32 12-32
Key feature		Highest speed	Diagnostic switch	---	---
Input current at maximum line	mA	30	25	25	25
Isolation input-to-output	Vrms	4,000	4,000	4,000	4,000
Turn-on time	ms	.025*	5	5	5
Turn-off time	ms	.025*	5	5	5
Input allowed for off-state	mA, V	.2, 1	1, 3	1, 3	1, 3
Nominal output supply voltage	VDC	5	5	15	24
Output supply voltage range	VDC	4.5-6	4.5-6	12-18	20-30
Output supply current at nominal logic voltage	mA	12	12	15	18
Input resistance (R1 in schematic)	Ω	500	1.5K	1.5K	1.5K
Control resistance (Rc in schematic)	Ω	220	220	1K	2.2K
Output voltage drop	V @ 50 mA	.4	.4	.4	.4
Output current (sinking)	mA	50	50	50	50
Output leakage with no input	μ A @ 30 VDC	100	100	100	100
Transistor	V breakdown	30	30	30	30
Temperature:	$^{\circ}$ C $^{\circ}$ F	-30 to +70 -30 to +85	-30 to +70 -30 to +85	-30 to +70 -30 to +85	-30 to +70 -30 to +85

*At 5Vp-p square wave input, 50% duty cycle.

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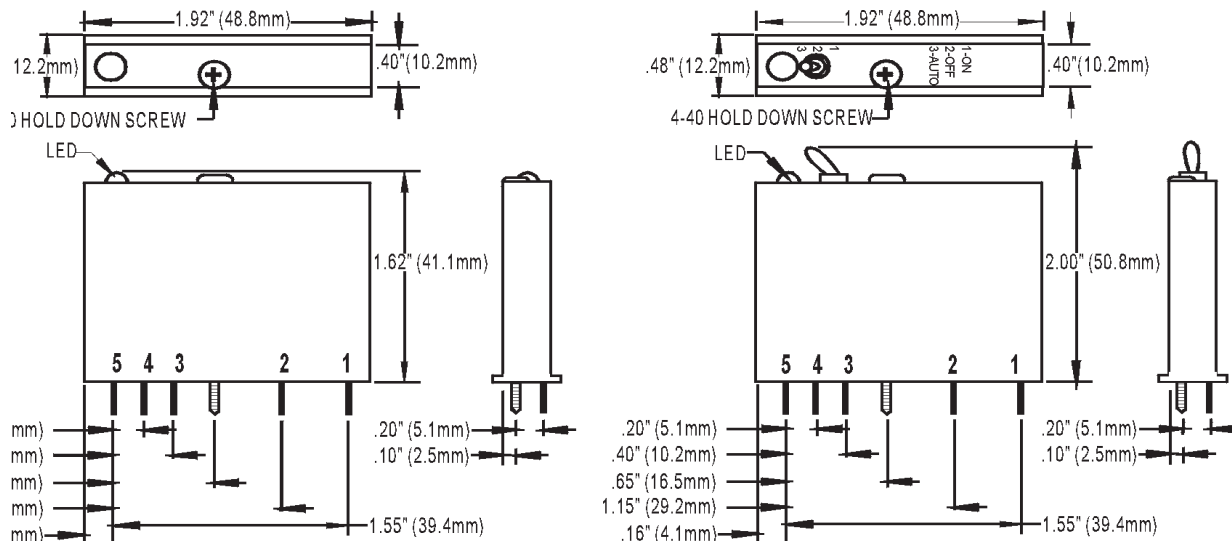
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Dimensions



Schematics

