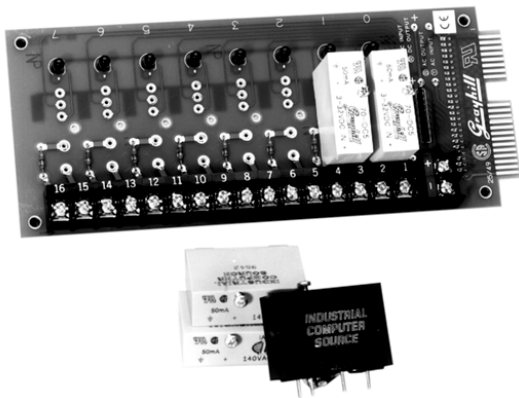


Model Power I/O Modules & Mounting Racks



FEATURES

- **4000VAC Optical Isolation**
- **Transient Protection: Meets the Requirements of IEEE 472, “Surge Withstanding Capability Test”**
- **UL Recognized**
- **CSA Certified**
- **CE Certified**
- **3 Standard Sizes**

DESCRIPTION

Single Point I/O Modules

This line of pluggable input and output modules provide a low cost, versatile method for interconnecting real world analog and digital signals to data acquisition, monitoring, or control systems. All modules provide an optically isolated barrier between sensitive microprocessor or digital logic circuits and field devices. The case color of these modules identify their function. The industry standard for I/O module case color is:

- Digital AC Output Module: Black Case
- Digital DC Output Module: Red Case
- Digital AC Input Module: Yellow Case
- Digital DC Input Module: White Case

Digital Output Modules

Digital output modules are used to switch AC and DC loads such as solenoids, motors, or lamps from logic signal levels. Their inputs are directly compatible with TTL or CMOS interface circuitry. AC output modules have zero voltage turn-on of the load to greatly reduce generated EMI and RFI. They are highly immune to electrical

transients, and have built-in RC snubber networks for increased capability with inductive loads. The DC output modules can operate DC loads over a wide voltage range and have built-in voltage spike protection.

Digital Input Modules

Digital input modules are used to monitor the status of a load or a sensor, such as a limit switch, pressure switch, or temperature switch. The output of these modules is a logic level signal which corresponds to the status of the device being monitored. A high level output signal indicates the load is off (the switch is open). A low level output signal indicates the load is on (the switch is closed). Input modules are designed to give fast, clean switching by providing filtering and hysteresis. Input and output modules are compatible in that the output of one can drive the input of the other.

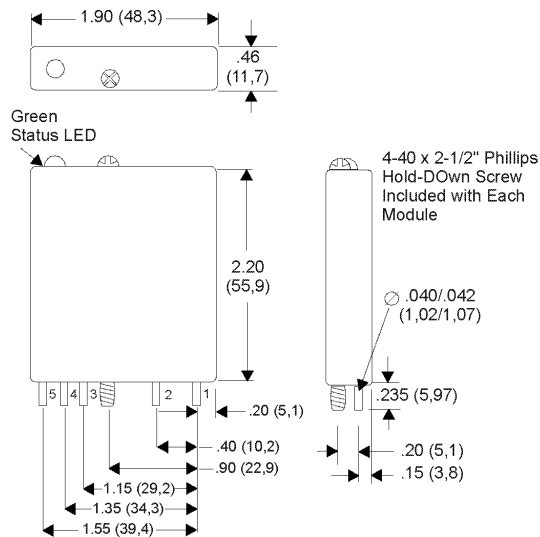


I/O MODULE DIMENSIONS

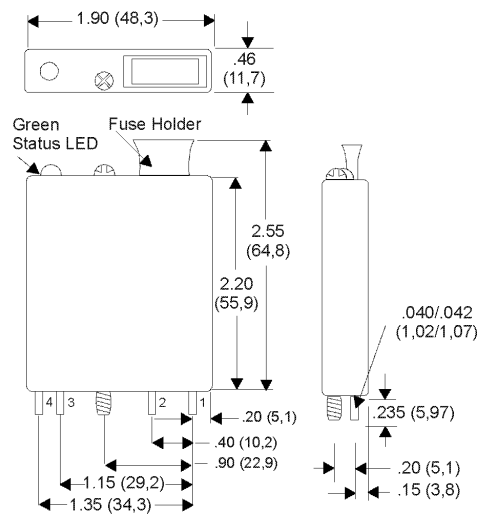
G-Series Modules

Dimensions shown in inches
(and millimeters).
Tolerances are $\pm .010$ (0,25)
unless indicated otherwise.

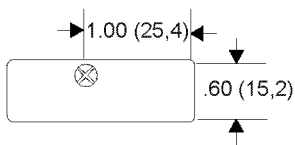
Input Modules



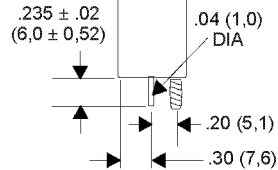
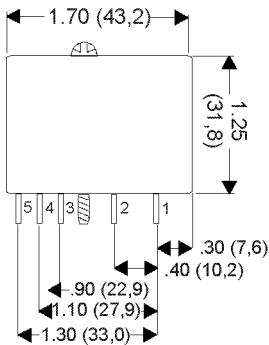
Output Modules



Standard Module



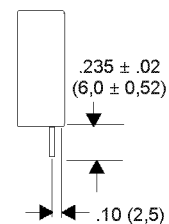
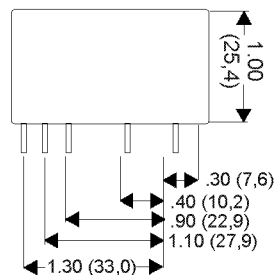
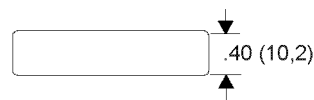
4-40 x 1-1/2" Phillips
Hold-Down Screw
Included with Each
Module



Output
Modules
have only
Terminals
Number 1-4

Terminals are
0.040/.042 DIA.
(4 or 5 places)

Miniature Module



Output
Modules
have only
Terminals
Number 1-4

Terminals are
0.040/.042 DIA.
(4 or 5 places)



SPECIFICATIONS

AC OUTPUT MODULES

Common to All AC Output Modules

Output Specifications

Load Current Range (rms)

0.03 to 3.5A: Standard and G-Series
 0.03 to 3.0A: Small

Maximum Surge Current (peak)

80A @ 60Hz, 1 cycle
 25A @ 60Hz, 60 cycles

Maximum Zero Voltage Offset

8V peak

Static dV/dT

3000V per microsecond, typ
 (measured under open circuit conditions, not to exceed peak blocking voltage).

Turn-On Time (60Hz)

8.3mSec max

Turn-Off Time (60Hz)

8.3mSec max

On State Voltage Drop

1.5V max

Power Dissipation

1.0Watt/Amp typical

Load Power Factor

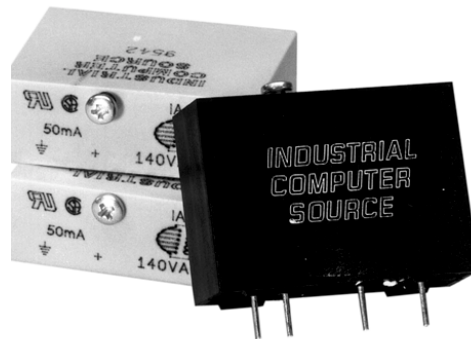
0.4 minimum

Frequency Range

25 to 70Hz

Input to Output Capacitance

6pF typical



SPECIFICATIONS BY PART NUMBER STANDARD & SMALL

Type/Function		Part Number	
Small, Normally Open, Zero Voltage Turn-on		SML-OAC5	SML-OAC5A
Standard, Normally Open, Zero Voltage Turn-On		OAC5	OAC5A
Specification	Units		
Nominal Line Voltage	VAC	120	240
Load Voltage Range	VAC	24-140	24-280
Min Peak Blocking Voltage	Volts	400	600
Max Off-State Leakage @ 60Hz	mA rms	2	4
Nominal Logic Voltage (Vcc)	VDC	5	5
Logic Voltage Range	VDC	2.5-10	2.5-10
Max Logic Supply Current @ Nominal Vcc	mA	16	16
Nominal Input Resistance (Rx)	Ohms	240	240
Drop Out Voltage	VDC	1	1
Maximum Reverse Logic Voltage	VDC	-5	-5



SPECIFICATIONS CONT.

G MODULES

Type/Function	Part Number		
	G-OAC5	G-OAC5A	
Fusible, Normally Open, Zero Voltage Turn-on			
Specification	Units		
Nominal Line Voltage	VAC	120	240
Load Voltage Range	VAC	24-140	24-280
Min Peak Blocking Voltage	Volts	400	600
Max Off-State Leakage @ 60Hz	mA rms	2	4
Nominal Logic Voltage (Vcc)	VDC	5	5
Logic Voltage Range	VDC	4-8	4-8
Max Logic Supply Current @ Nominal Vcc	mA	20	20
Nominal Input Resistance (Rx)	Ohms	100	100
Minimum Drop Out Voltage	VDC	1	1
Maximum Reverse Logic Voltage	VDC	-5	-5

DC OUTPUT MODULES

Common to All DC Output Modules Output Specifications

Load Current Range

0.02 to 3.5A: Standard & G-Series
0.02 to 3.0A: Small
0.02 to 1.0A: xODC5A

Power Dissipation

1.0Watt/Amp typ.
1.5Watt/Amp typ. (xODC5A)

Surge Current

5A max for 1 second

On State Voltage Drop

1.2V max
1.75V max for xODC5A

Clamping Voltage

80VDC max
360VDC max for xODC5A

Transient Power Dissipation

400Watts @ 1mS non-recurring

Input to Output Capacitance

10pF typical



SPECIFICATIONS CONT.

SPECIFICATIONS BY PART NUMBER STANDARD & SMALL

Type/Function	Units	Part Number	
		SML-ODC5	SML-ODC5A
Small, Normally Open		ODC5	ODC5A
Standard, Normally Open			
Specification	Units		
Nominal Line Voltage	VDC	60	200
Load Voltage Range	VDC	3-60	4-200
Max Off-State Leakage @ 60Hz	mA	1.5	0.01
Max Turn-On Time	mSec	20	75
Max Turn-Off Time	mSec	50	750
Nominal Logic Voltage (Vcc)	VDC	5	5
Logic Voltage Range	VDC	2.5-10	2.5-10
Max Logic Supply Current @ Nominal Vcc	mA	14	18
Nominal Input Resistance (Rx)	Ohms	300	220
Minimum Drop Out Voltage	VDC	1	1
Maximum Reverse Logic Voltage	VDC	-5	-5

G MODULES

Type/Function	Units	Part Number	
		G-ODC5	G-ODC5A
Fusible, Normally Open			
Specification	Units		
Nominal Line Voltage	VDC	60	200
Load Voltage Range	VDC	3-60	4-200
Max Off-State Leakage @ 60Hz	mA rms	2	4
Max Turn-On Time	µSec	20	75
Max Turn-Off Time	µSec	50	750
Nominal Logic Voltage (Vcc)	VDC	5	5
Logic Voltage Range	VDC	4-10	4-10
Max Logic Supply Current @ Nominal Vcc	mA	13	13
Nominal Input Resistance (Rx)	Ohms	150	150
Minimum Drop Out Voltage	VDC	1	1
Maximum Reverse Logic Voltage	VDC	-5	-5



SPECIFICATIONS CONT.

AC INPUT MODULES

Common to All AC Input Modules Output Specifications

Output Current Range

1 to 50mA

Breakdown Voltage

50VDC minimum

Off-State Leakage Current

1 μ A Max

Turn-On Time

20mSec max

Turn-Off Time

20mSec max

On State Voltage Drop

0.45VDC @ 50mA max

Input to Output Capacitance

6pF typical

SPECIFICATIONS BY PART NUMBER STANDARD, SMALL, & G-SERIES

Type/Function		Part Number	
Small		SML-IAC5	SML-IAC5A
Standard		IAC5	IAC5A
G-Series, Status LED		G-IAC5	G-IAC5A
Specification	Units		
Nominal Input Voltage	VAC	120	240
Input Voltage Range	VAC/VDC	90-140	180-280
Input Current @ Max Input V	mA rms	8	6
Nominal Logic Voltage (Vcc)	VDC	5	5
Logic Voltage Range: Std & Small	VDC	3-6	3-6
G-Series	VDC	4.5-6	4.5-6
Max Logic Supply Current @ Nominal Vcc	mA	10	10
Nominal Input Resistance (Rx)	Ohms	22k	60k
Minimum Drop Out V (Output High)	VAC	25	50
Maximum Pickup V (Output Low)	VAC	90	180



DC INPUT MODULES

Common to All DC Input Modules Output Specifications

Output Current Range

1 to 50mA

Breakdown Voltage

50VDC min

Off State Leakage Current

1mA max

On State Voltage Drop

0.45VDC @ 50mA max

Input to Output Capacitance

6pF typical

SPECIFICATIONS BY PART NUMBER STANDARD, SMALL, & G-SERIES

Type/Function	Part Number	
Small, Polarized	SML-IDC5	
Standard, Polarized	IDC5	
G-Series, Polarized	G-IDC5	
Specification	Units	
Maximum Input Voltage	VDC	32
Input Voltage Range	VDC	3 - 32
Input Current @ Max Input V	mA rms	18
Max Turn-on Time	µSec	0.20
Max Turn-off Time	µSec	0.40
Nominal Logic Voltage (Vcc)	VDC	5
Logic Voltage Range: Std & Small	VDC	3-6
G-Series	VDC	4.5-6
Max Logic Supply Current @ Nominal Vcc	mA	10
Nominal Input Resistance (Rx)	Ohms	1.8k
Minimum Drop Out V (Output High)	VDC	1
Maximum Pickup V (Output Low)	VDC	3

COMMON TO ALL MODULE TYPES

General Characteristics

Insulation Resistance (Input to Output; Input or Output to Case)

≥10¹⁰ Ohms

Dielectric Strength Input to Output

4000 VAC (rms) minimum

Vibration

20G's peak or .06 double amplitude 10-2000Hz per MIL-STD-202, Method 204, Condition D

Mechanical Shock



half-sine per Mil-STD-202 Method

Storage Temperature

-40 to +125°C

Operating temperature

-40 to +100°C

Materials & Finishes

Terminals

Copper wire, tin plated

Case

Solvent resistant thermoplastic, meets UL94V-0

Potting

High thermal conductive epoxy

ORDERING GUIDE

Input Modules

Standard	Small	G-Series	Color
IAC5	SML-IAC5	G-IAC5	Yellow
IAC5A	SML-IAC5A	G-IAC5A	Yellow
IDC5	SML-IDC5	G-IDC5	White

Output Modules

Standard	Small	G-Series	Color
OAC5	SML-OAC5	G-OAC5	Black
OAC5A	SML-OAC5A	G-OAC5A	Black
ODC5	SML-ODC5	G-ODC5	Red
ODC5A	SML-ODC5A	G-ODC5A	Red

MOUNTING RACKS

Model	Dimensions	Required Cable
Model PB4	3.5" x 4.5" (88.9 x 114.3mm)	N/A
Model PB4-G	3.25" x 4.7" (82.6 x 119.4mm)	N/A
Model PB8	3.5" x 8.0" (88.9 x 203.2mm)	CAB50-x
Model PB8-SML	3.5" x 6.0" (88.9 x 152.4mm)	CAB50-x
Model PB8-G	3.25" x 6.0" (82.6 x 152.4mm)	CAB50A-6
Model PB16A	3.5" x 14.1" (88.9 x 356.9mm)	CAB50-x
Model PB16-SML	3.5" x 10.0" (88.9 x 254mm)	CAB50-x
Model PB16-G	3.25" x 10.0" (82.6 x 254mm)	CAB50A-6
Model PB24	4.5" x 18.8" (114.3 x 476.3mm)	CAB50-x
Model PB24-SML	3.8" x 13.5" (95.3 x 341.6mm)	CAB50-x
Model PB24-G	6.25" x 7.5" (158.8 x 190.5mm)	CAB50A-6

Note: To View Drawings & Electrical Specifications of the Mounting Racks, see Full DataSheet on our WebSite.



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