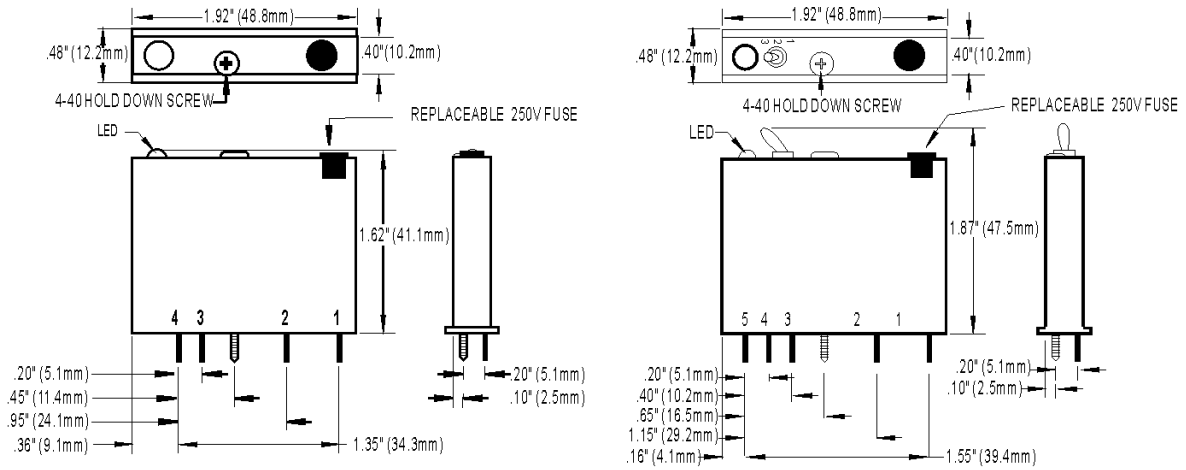
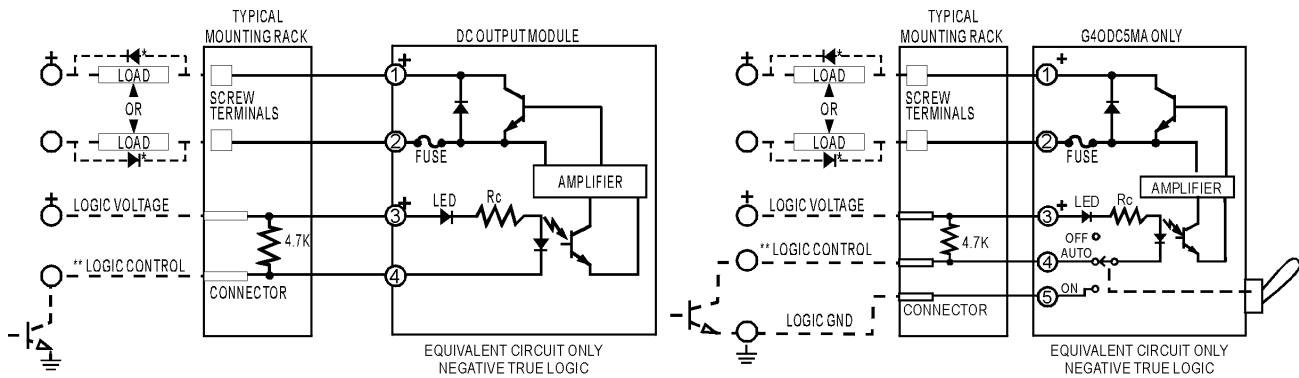


Dimensions—DC Output Modules



Schematics—DC Output Modules



* Commutation diode must be used on inductive loads. Typically, use diode IN4005.
 ** Control line is compatible with totem pole or tri-state output device.

DIGITAL AC OUTPUT MODULES



Description

Opto 22's G4 AC output modules are used to control or switch AC loads. Each module provides up to 4,000 volts of optical isolation between field outputs and the control side of the circuit, and each features zero voltage turn-on and zero current turn-off. All AC output modules are equivalent to single-pole, single-throw, normally open contacts (Form A, SPST-NO) except the G4OAC5A5, which is equivalent to a single-pole, single-throw, normally closed contact (Form B, SPST-NC).

The G4OAC5MA and the G4OAC5AMA are special modules featuring a manual-on/manual-off/automatic switch, ideal for diagnostic testing of control applications.

Typical applications for AC output modules include switching loads such as AC relays, solenoids, motor starters, heaters, lamps, and indicators. All digital AC output modules include a built-in LED status indicator.

Specifications—AC Output Modules

	Units	G4OAC5* G4OAC5FM** [OBSOLETE]	G4OAC5A* G4OAC5AFM** [OBSOLETE]	G4OAC5A5* G4OAC5A5FM** [OBSOLETE]	G4OAC5MA*	G4OAC5AMA*
Nominal line voltage	VAC	120	120/240	120/240	120	120/240
Output voltage range	VAC	12–140	24–280	24–280	12–140	24–280
Key feature	—	—	—	Normally closed	Diagnostic switch	Diagnostic switch
Current rating:						
At 45 °C ambient	A	3	3	3	3	3
At 70 °C ambient	A	2	2	2	2	2
UL Motor Load Rating	A	1.5	1.5	1.5	1.5	1.5
Isolation input-to-output (transient):						
1 ms	volts	4000	4000	4000	4000	4000
1 minute		1500	1500	1500	1500	1500
Off-state leakage at nominal voltage (60 Hz)	mA _{RMS}	5	1.25/2.5	1.25/2.5	5	1.25/2.5
Nominal logic voltage	VDC	5	5	5	5	5
Logic voltage range	VDC	4–8	4–8	4–8	4–8	4–8
Logic pickup voltage	VDC	4	4	4	4	4
Logic dropout voltage	VDC	1	1	1	1	1
Logic input current at nominal logic voltage	mA	12	12	12	12	12
Control resistance (Rc in schematic)	ohms	220	220	220	220	220
One-cycle surge	A peak	80	80	80	80	80
Turn-on time @ 60 Hz	milliseconds	≤8.3***	≤8.3***	≤8.3***	≤8.3***	≤8.3***
Turn-off time @ 60 Hz	milliseconds	≤8.3****	≤8.3****	≤8.3****	≤8.3****	≤8.3****
Peak repetitive voltage	VAC	500	500	500	500	500
Minimum load current	mA	20	20	20	20	20
Output voltage drop maximum peak	V	1.6	1.6	1.6	1.6	1.6
Operating frequency	Hz	25–65	25–65	25–65	25–65	25–65
dV/dT-off-state	V/micro-seconds	200	200	200	200	200
dV/dT-commutating	--	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load
Temperature						
Operating:	°C	-30 to +70	-30 to +70	-30 to +70	-30 to +70	-30 to +70
Storage:	°C	-30 to +85	-30 to +85	-30 to +85	-30 to +85	-30 to +85
Agency Approvals		UL, CE, CSA; UKCA	UL, CE, CSA; UKCA	CE, CSA; UKCA	UL, CE, CSA; UKCA	UL, CE, CSA; RoHS; UKCA

* Compatible with Raspberry Pi

** Obsolete, these parts are no longer available, please contact Pre-Sales Engineering for more information.

*** One-half cycle maximum. Module turns on at the zero volt crossing of the AC sine wave.

**** One-half cycle maximum. Module turns off at the zero current crossing of the AC sine wave.

Specifications—AC Output Modules (continued)

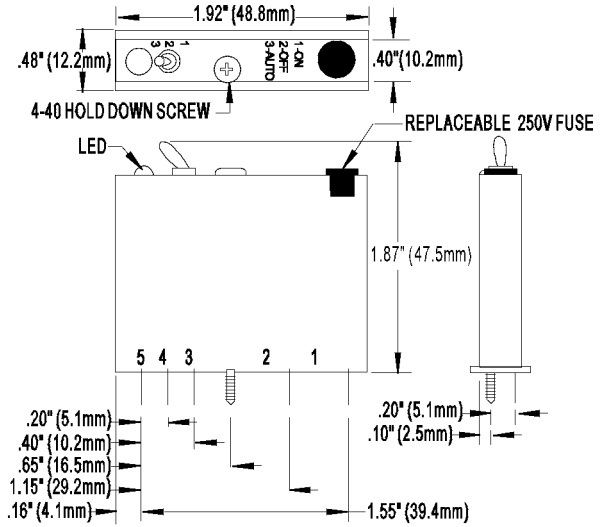
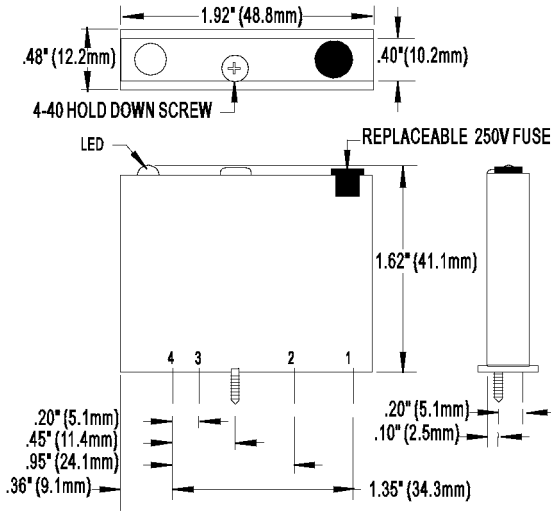
	Units	G4OAC15***	G4OAC15A***	G4OAC24***	G4OAC24A***
Nominal line voltage	VAC	120	120/240	120	120/240
Output voltage range	VAC	12–140	24–280	12–140	24–280
Key feature	—	—	—	—	—
Current rating:					
At 45 °C ambient	A	3	3	3	3
At 70 °C ambient	A	2	2	2	2
UL Motor Load Rating	A	1.5	1.5	1.5	1.5
Isolation input-to-output (transient):					
1 ms	volts	4000	4000	4000	4000
1 minute		1500	1500	1500	1500
Off-state leakage at nominal voltage (60 Hz)	mA _{RMS}	5	1.25/2.5	5	1.25/2.5
Logic voltage range	VDC	10.5–16	10.5–16	19.5–32	19.5–32
Logic pickup voltage	VDC	10.5	10.5	19.5	19.5
Logic dropout voltage	VDC	1	1	1	1
Logic input current at nominal logic voltage	mA	15	15	18	18
Control resistance (R _c in schematic)	ohms	1 K	1 K	2.2 K	2.2 K
One-cycle surge	A peak	80	80	80	80
Turn-on time @ 60 Hz	micro-seconds	≤8.3*	≤8.3*	≤8.3*	≤8.3*
Turn-off time @ 60 Hz	micro-seconds	≤8.3**	≤8.3**	≤8.3**	≤8.3**
Peak repetitive voltage	VAC	500	500	500	500
Minimum load current	mA	20	20	20	20
Output voltage drop maximum peak	V	1.6	1.6	1.6	1.6
Operating frequency	Hz	25–65	25–65	25–65	25–65
dV/dT-off-state	V/micro-second	200	200	200	200
dV/dT-commutating	--	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load	snubbed for 0.5 power factor load
Temperature					
Operating:	°C	-30 to +70	-30 to +70	-30 to +70	-30 to +70
Storage:	°C	-30 to +85	-30 to +85	-30 to +85	-30 to +85
Agency Approvals		UL, CE, CSA; UKCA	UL, CE, CSA; UKCA	UL, CE, CSA; UKCA	UL, CE, CSA; UKCA

* One-half cycle maximum. Module turns on at the zero volt crossing of the AC sine wave.

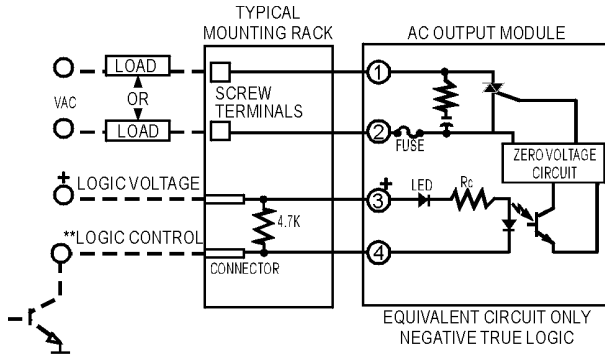
** One-half cycle maximum. Module turns off at the zero current crossing of the AC sine wave.

*** Not for use with Opto 22 brains.

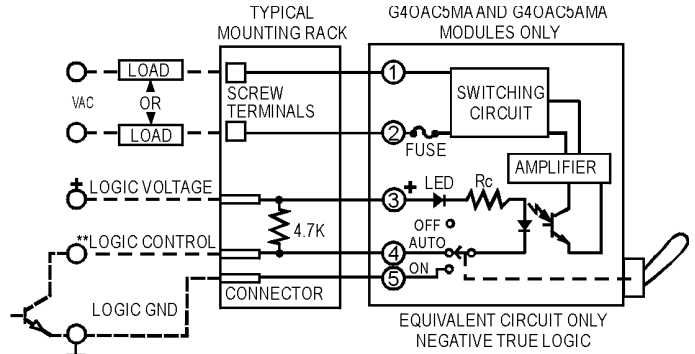
Dimensions—AC Output Modules



Schematics—AC Output Modules



**Control line is compatible with totem pole or tri-state output device.



** Control line is compatible with totem pole or tri-state output device.