

MODEL GE SERIES HIGH POWER ACOUSTO-OPTIC MODULATOR DRIVER

DESCRIPTION

The Model GE series high power acousto-optic modulator drivers include a crystal controlled RF oscillator, fast modulation circuit, and a broadband RF power amplifier in a housing with power supply, RFI line filter, line switch, and fault/interlock circuit. The standard crystal controlled oscillator has a calibration tolerance of 25 ppm. Crystals at other than the specified frequencies can be factory installed. The standard modulation input configuration is analog with a digital input option available. A CW RF output level is adjusted by the front panel level control which inserts a dc offset to the input of the modulation circuit with no modulation input voltage. The class AB broadband amplifier has sufficient bandwidth for pulsed operation. RF output power capability can be up to 100 watts for some models. Configuration options include a front panel user accessible connection between the oscillator and modulation circuit (N) so that an external source frequency can be used in place of the internal crystal oscillator. Also available is an optional front panel connection between the modulation circuit and the RF power amplifier (H) to give the Model GE drivers capability to be used as a stand alone RF power amplifier. The fault/interlock circuit will latch the power supply off when an open circuit condition is present and can be connected to the thermal switch of a Germanium infrared modulator or in a normally closed system interlock circuit.



SPECIFICATIONS

Crystal Oscillator Stability	30 ppm
Input Configuration	Analog (0-1 volt for 0-maximum RF power)
RF Amplifier Operation	Class AB
Rise/Fall Time	30 nsec
Harmonics (at full power)	-20 dBc
Output Mismatch Tolerance	100 percent
Input / Output Impedance	50 ohms
Interlock Input Conditions	Shorted (power supply operational) Open (power supply latched off)
Line Voltage (standard)	115/230 Vac, 50-60 Hz (100 Vac, option J)
Size (inches)(cm)	4.5(11.5) H x 16.0(40.7) D x 5.7(14.5) W

MODEL	<u>GE-4030</u>	<u>GE-4050</u>	<u>GE-8030</u>	<u>GE-9020</u>	<u>GE-11020</u>
Oscillator Frequency ¹	40 MHz	40 MHz	80 MHz	90 MHz	110 MHz
RF Output Power ²	30 watts	50 watts	30 watts	20 watts	20 watts

OPTIONS: D...Inverse digital, input<0.8 volts for RF/on, input>2 volts to 5 volts for RF off, 50 ohm input impedance.
 E...Low level oscillator RF output, +10 dBm level.
 H...Front panel access between modulator circuit and RF power amplifier.
 J...100 Vac for Japan
 N...Front panel access between oscillator and modulator circuit.
 T...Digital input, input<0.8 volts for RF/off, input>2 volts to 5 volts for RF on, 50 ohm input impedance.
 T7...Same as option T (40 dB extinction ratio), but with 70 dB extinction ratio.
 -6...Analog input plus option T (2 inputs), total extinction ratio is 70 dB.

¹Other frequencies are available.

²Other RF power levels are available.