新特光电
Sintec Optronics

Ge AOM RF DRIVER

2 X 75 WATT GERMANIUM ACOUSTO-OPTIC MODULATOR DRIVER

The HP040-060-150ADG-A10-2X driver provides up to 150 Watt combined output power and is designed to drive dual frequency germanium acousto-optic modulators.

The driver can be operated with modulation frequencies (analogue and digital) up to 1 MHz for RF amplitude control and up to 5 MHz for drive frequency control.

Water cooling parts made from copper ensures highest standards for corrosion protection.

Optimum EMC shielding and mechanical protection is achieved by an aluminium casing and a conductive surface passivation.

This product conforms to the requirements of the European Union Directive 2011/65/EU of the European Parliament and of the Council on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

Key Features

- Combined RF output power up to 150 Watt
- Constant output power design
- High SWR and Overheat safety shutdown
- Copper cooling parts
- Compact casing, fully shielded (EMC)

Applications:

- Industrial (material processing):
  - PCB via drilling
  - Marking and engraving
  - Micro-perforation

Technical Data

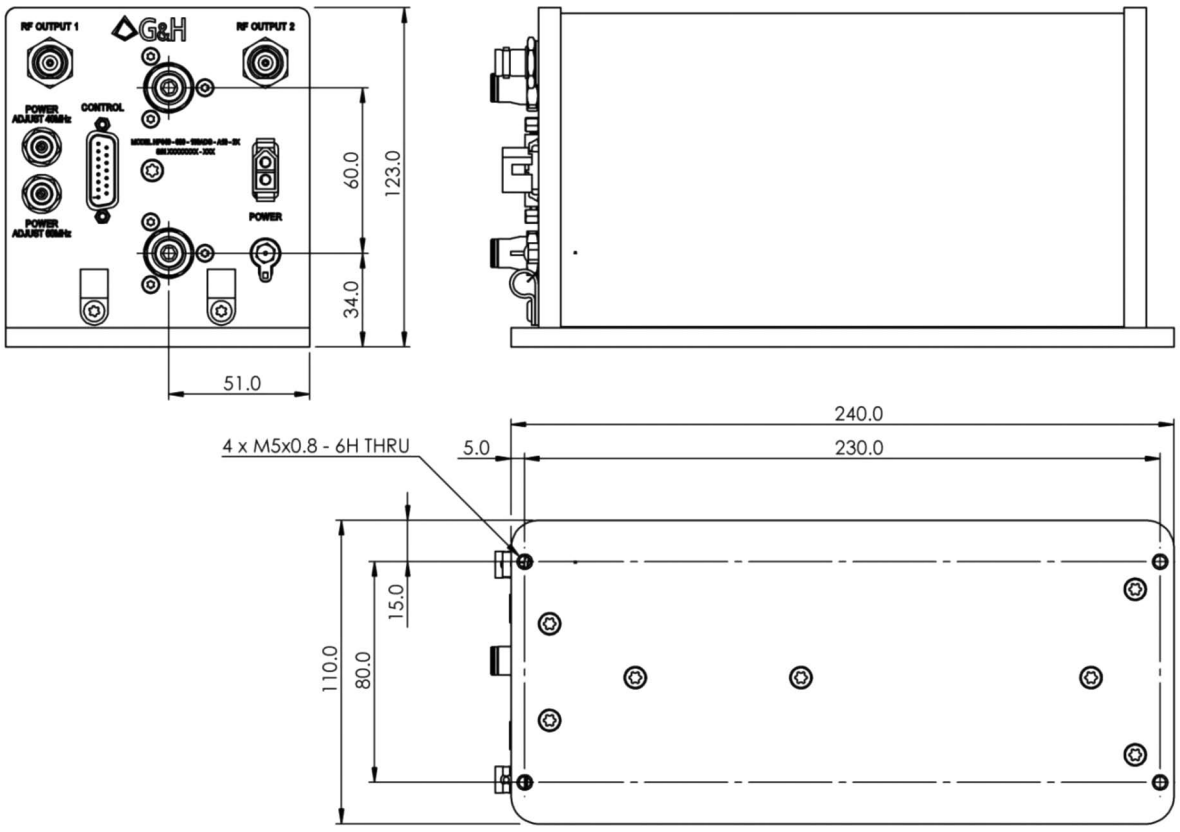
Supply voltage	+24 VDC
Supply current	typ. 15 A @ 150 W RF output power
Number of channels	2
Maximum RF output power (adjustable) * Adjustment range	> 75 Watt CW per channel < 1 ... >75 Watt per channel
Output impedance	nom. 50 Ω
RF output frequency	40 MHz and 60 MHz switchable (RF Signal phase shift between channels at 40 and 60 MHz)
Frequency accuracy	< ±50 ppm
Frequency stability	< ±50 ppm
Extinction ratio	> 40 dB
Harmonics distortion*	< -26 dBc @ 75W per channel
Spurious level *	< -50 dBc
Analogue modulation Impedance Voltage range @ 50 Ω The voltage range corresponds to 0 to 100% of the potentiometer pre-adjusted maximum RF output power.	 600 Ω 0 ... +10 V (0...+5V option)
Digital / Frequency modulation Impedance Level	 4.7 kΩ (pull-up) TTL compatible (V_IL = 0.8V, V_IH = 2.0V) Logic High = RF On / 40MHz Logic Low = RF Off / 60MHz
Maximum modulation frequency (Amplitude – digital and analogue) (Drive frequency)	 1 MHz 5 MHz
Digital / Analogue modulation RF rise time / fall time (10 ... 90%)	 < 100 ns

* into 50 Ω load)

Connectors, Cooling, Dimensions, Weight

RF output connector	2 x BNC female
Control connector	D-Sub 15-pole, male for pin assignment refer to section Input Connectors
Power supply connection	Primary: Molex 03-09-2021 Mating: Molex 03-09-1022 (Shell), 02-09-1104 (Crimp contacts) Secondary: Solder-in style connector or pin polarity assignment refer to section Input Connectors
Cooling	Cooling block material: Copper, 2 x G 1/4" thread fitted with 6mm push in connectors
Flow rate	More than 2 litre/minute at 250C ± 100C
Coolant pressure	< 100 psi (6.9 bar)
Dimensions [mm]	240 x 110 x 123 (length x width x height)
Weight	4 kg

Outline Drawing



Output Indications

Interlock monitor	Interlock ok = Low Interlock fault = High
Driver temperature	Temperature ok = Low Safe temperature exceeded = High
RF status	RF ON = Low RF OFF = High
VSWR	VSWR ok = Low VSWR exceeded = High

Environmental Conditions

Warm up time	5 minutes for optimum stability
Operating case temperature	0°C ... +65°C, non-condensing
Storage temperature	-20°C ... +85°C, non-condensing

Absolute Maximum Ratings

Supply voltage max.	+26 VDC
Analogue modulation Voltage range @ 0 ... +5 V Voltage range @ 0 ... +10 V	 -0.5 V ... +5.5 V -0.5 V ... +11.0 V
Digital modulation Level	 -0.5 V ... +5.5 V
Outputs Voltage range Current sink	 -0.5 V ... +30 V 20 mA

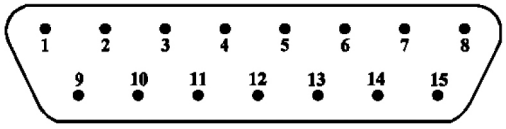
Input Connectors

D-Sub 15-pin, Male

Pin assignment

Any signals refer to ground (GND) unless denoted differently.

The outputs are open-collector type.



Pin 1	Interlock (in)	Pin 9	GND
Pin 2	Interlock fault indicator (out)	Pin 10	GND
Pin 3	Temperature alarm indicator (out)	Pin 11	GND
Pin 4	RF status indicator (out)	Pin 12	GND
Pin 5	VSWR fault indicator (out)	Pin 13	GND
Pin 6	Analogue modulation (in)	Pin 14	GND
Pin 7	Digital modulation (in)	Pin 15	GND
Pin 8	Frequency select (in)		

Power supply connector - Molex 03-09-2021

Pin 1A Vin +24VDC
Pin 2A GND