Gooch & Housego
ENABLING PHOTONIC TECHNOLOGIES

Ge AOM RF DRIVER

125 WATT GERMANIUM ACOUSTO-OPTIC MODULATOR DRIVER

The HP041-125ADG-A10 RF driver provides up to 125 Watt output power at 40.68 MHz signal frequency. The driver can be operated with modulation frequencies (analogue and digital) up to 1 MHz. An operation scheme (page 3) illustrates the interaction of the two modulation signals in detail.

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

- RF output power up to 125 Watt
- Copper water-cooling path
- Constant output power design
- High SWR and overheat safety shutdown
- Compact casing, fully shielded (EMC)

Applications:

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

Technical Data

Device:	AO Modulator
Supply voltage	+24 VDC
Supply current	max. 12.5 A @ 125 W RF output power
Maximum RF output power (adjustable) * Adjustment range	> 15 W/mm² < 1 ... >125 Watt
Output impedance	nom. 50 Ω
Frequency accuracy	< ±30 ppm
RF ON / OFF ratio	> 50 dB
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
Digital modulation Impedance Level	4.7 kΩ (pull-up) High = ≥ 3V ... 5V (= RF on) Low = 0 ... < 2V (= RF off)
Maximum modulation frequency (digital and analogue)	1 [MHz]
RF output frequency	40.68 [MHz]
Harmonics distortion *	< -30 [dBc]
Analogue modulation RF rise time / fall time (10 ... 90%) *	< 80 [ns]
Digital modulation RF rise time / fall time (10 ... 90%) *	< 80 [ns]

* into 50 Ω load

Connectors, Cooling, Dimensions, Weight

RF output connector	BNC female
Control connector	D-Sub 25-pole, female for pin assignment refer to section Control Connector, page 4
Power Supply Cords red (or yellow) black (or violet)	2x 750±50 mm H07V-K 1.5 mm² + Vs (24 VDC) CGND (case ground)
Cooling Flow rate	Water cooling Cooling block material: Copper, 2 x G 1/4" thread fitted with 6mm push in connectors More than 1 litre/minute at less than 25˚C
Dimensions [mm]	200 x 100 x 52.5 (length x width x height)
Weight	1470 grams

Environmental Conditions

Warm up time	10 minutes for optimum stability
Operating case temperature	< +50°C, safety shutdown at ≈55°C
Storage temperature	-20°C ... +65°C, non condensing

Absolute Maximum Ratings

Supply voltage max.	+26 VDC
Analogue modulation Voltage range @ 0 ... +10 V	-0.5 V ... +11 V
Digital modulation Level	-0.5 V ... +5.5 V
Maximum operating temperature	+55°C heat sink / base plate temperature

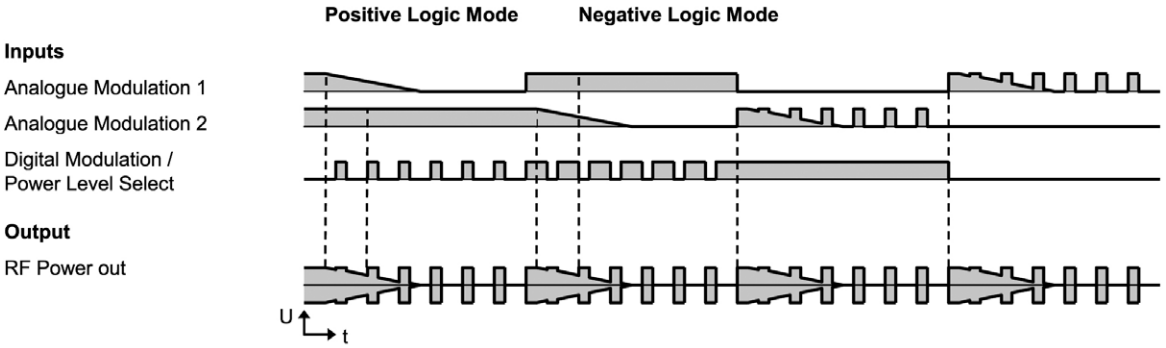
Control Connector

D-Sub 25-pole, female

Pin assignment
Any signals refer to chassis ground (CGND) unless denoted differently.

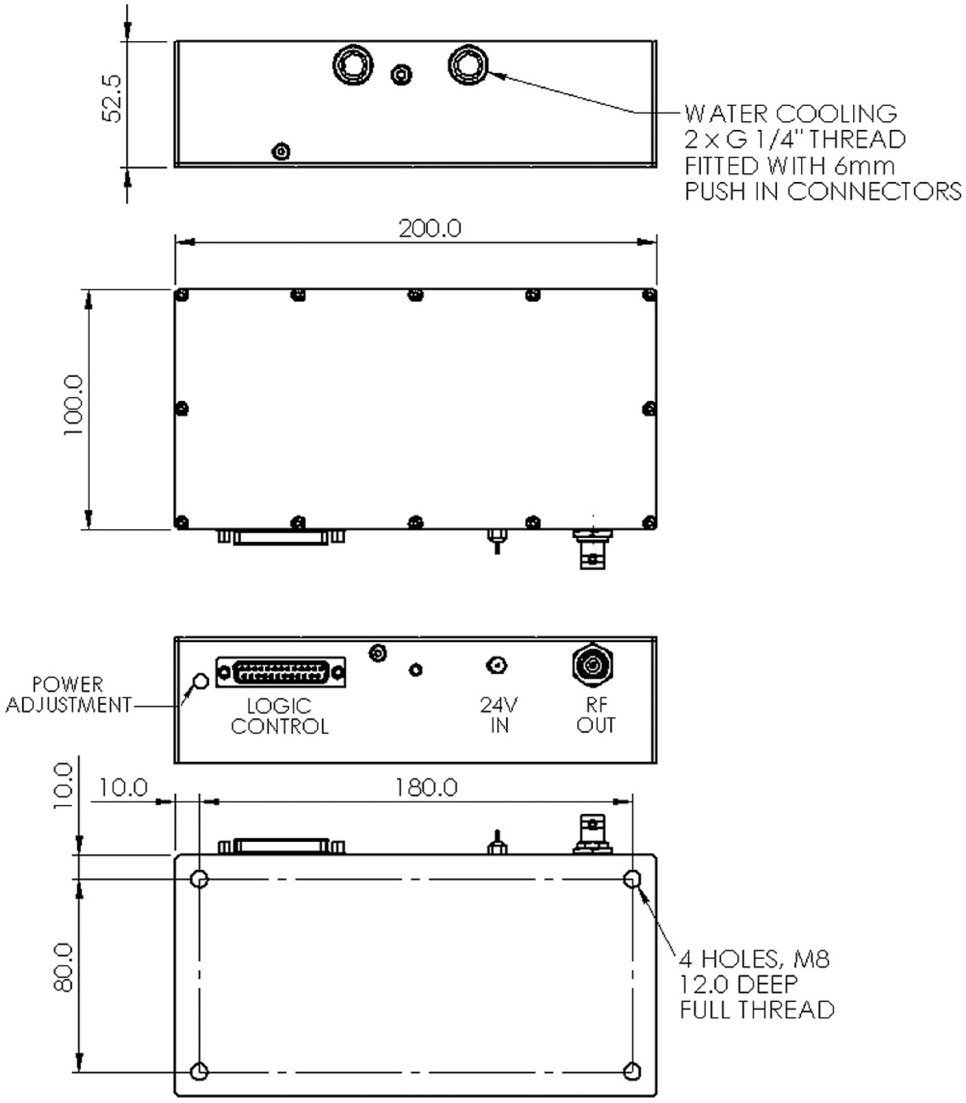
Pin 1	RF ON status (out)	Pin 10	Modulation Ground (MGND)
Pin 2	SWR fault indication (out)	Pin 11	Analogue modulation 2 (ref. MGND)
Pin 3	Driver temperature fault indication (out)	Pin 12	Analogue modulation 1 (ref. MGND)
Pin 4	Reset SWR fault / Init (in)	Pin 13	Power Level Select (ref. MGND) LOW →select Analogue Mod. 1 HIGH →select Analogue Mod. 2
Pin 5	Interlock 2 fault indication (out)	Pin 14...22	Chassis ground (CGND)
Pin 6	Interlock 2 (in)	Pin 23...24	Modulation Ground (MGND)
Pin 7	Interlock 1 (in)	Pin 25	not connected
Pin 8	Interlock 1 fault indication (out)		
Pin 9	Driver temperature monitor (out)		

Operation Scheme of Analogue and Digital Modulation



Outline Drawings

Dimensions in mm



Ordering Information:

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