

Ge AOM – SINGLE FREQUENCY

Ge Acousto-Optic Modulator for High-Power, 9.4 or 10.6 μm Applications

PRODUCT DATASHEET

An acousto-optic modulator for use at 9.4 μm or 10.6 μm wavelength, ideal for extra-cavity modulation or power control of high power CO₂ lasers.

Combining optimum grade mono-crystalline germanium, high quality optical finishing, robust anti-reflection coating and high reliability transducer bonding, with novel acoustic management and opto-mechanical design techniques, we have successfully achieved exceptional thermal management whilst maintaining high RF power handling, transmission and diffraction efficiency.

In addition to the specifications indicated, we also offer alternative wavelengths, RF frequencies, active apertures and a wide range of custom housing configurations.

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 (RoHS) in Electrical and Electronic Equipment.

Our scientists and engineers are available to assist in selecting the most appropriate acousto-optic device and RF driver for your application.



Key Features

- High optical power handling
- Low insertion loss
- Excellent pointing stability
- Superior beam quality
- High diffraction efficiency

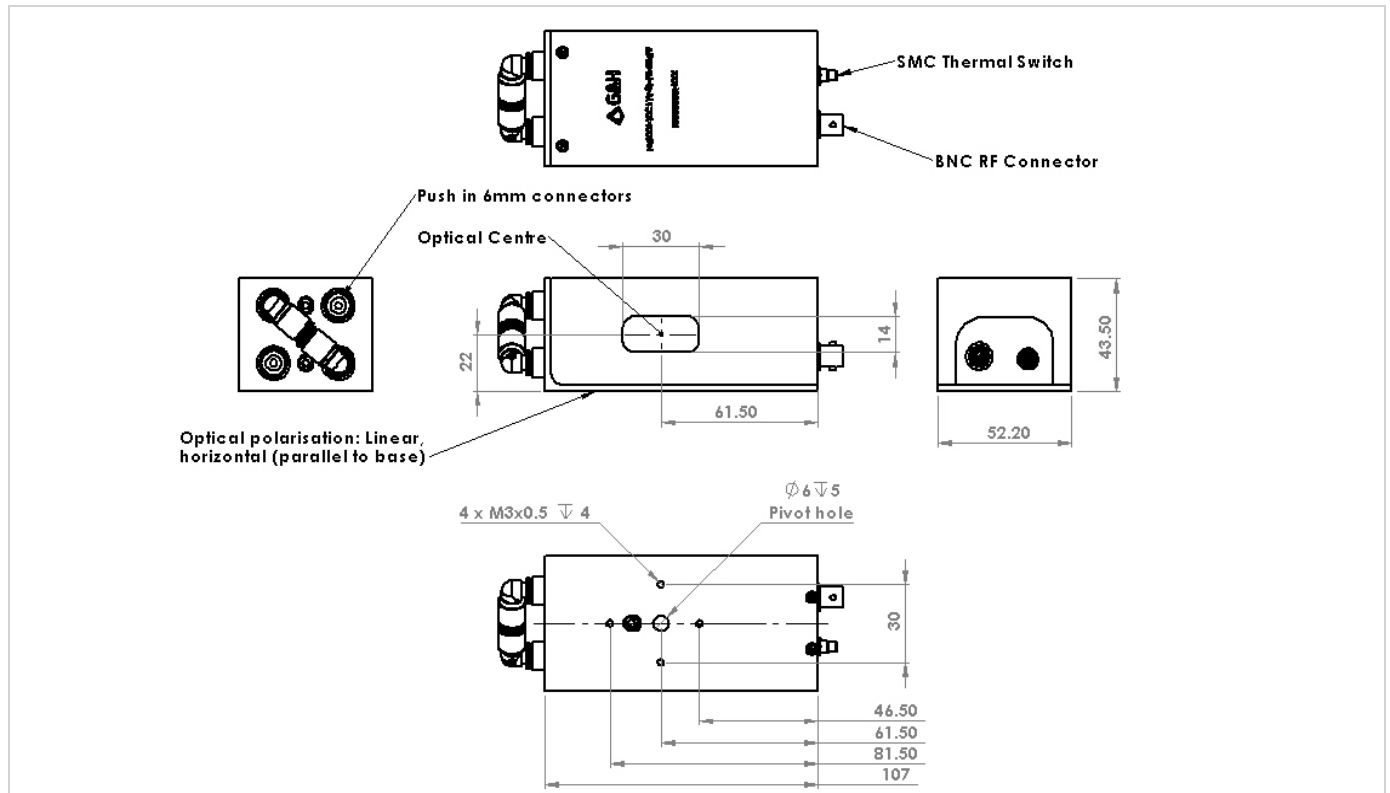
Applications

- Industrial (material processing)
 - PCB via drilling
 - Marking and engraving
 - Multi-layer polymer film cutting
 - Micro-perforation
- Q-switching

General Specifications

Device:	AO Modulator
Interaction material:	Germanium
Wavelength:	9.4 μm or 10.6 μm
Maximum optical power density:	> 15 W/mm ²
AR coating reflectivity:	< 0.2% per surface
Transmission:	> 96.5%
Frequency:	40.68 MHz
Optical polarization:	Linear, horizontal (parallel to base)
Active aperture:	Up to 11.6 mm
Acoustic mode:	Compressional
Rise-time (10 - 90%):	120 ns/mm
Separation angle:	69.5 mrad @ 9.4 μm , 78.4 mrad @ 10.6 μm
Diffraction efficiency:	$\geq 90\%$
RF Power:	Max 120 W
Housing:	Refer to drawing
Recommended RF driver:	HP041-125ADG-A10

Device schematic



GE ACOUSTO-OPTIC MODULATOR - I-M041-XXC11XX-P5-GH77

Ordering information

Order code

I	M	0	4	1	-			C	1	1			-	P	5	-	G	H	7	7
①	Active aperture		3.5 mm		7.0 mm		9.6 mm		11.6 mm											
	Code		3.5		7		9.6		11.6											
②	AR coating		9.4 μm				10.6 μm													
	Code		V41				Q													

Example order code: I-M041-11.6C11V41-P5-GH77 would be used to order an 11.6 mm active aperture device suitable for use with a CO₂ laser operating at 9.4 μm.

Also see Datasheet IWDS053 for details of our Ge-AOM's for 5.5 μm lasers.