

Ge ACOUSTO-OPTIC MODULATOR

Germanium AOM for High-Power, 5.5 μm Applications

PRODUCT DATASHEET

An acousto-optic modulator for use at 5.5 μm wavelength, ideal for extra-cavity modulation or power control of high power CO 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 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

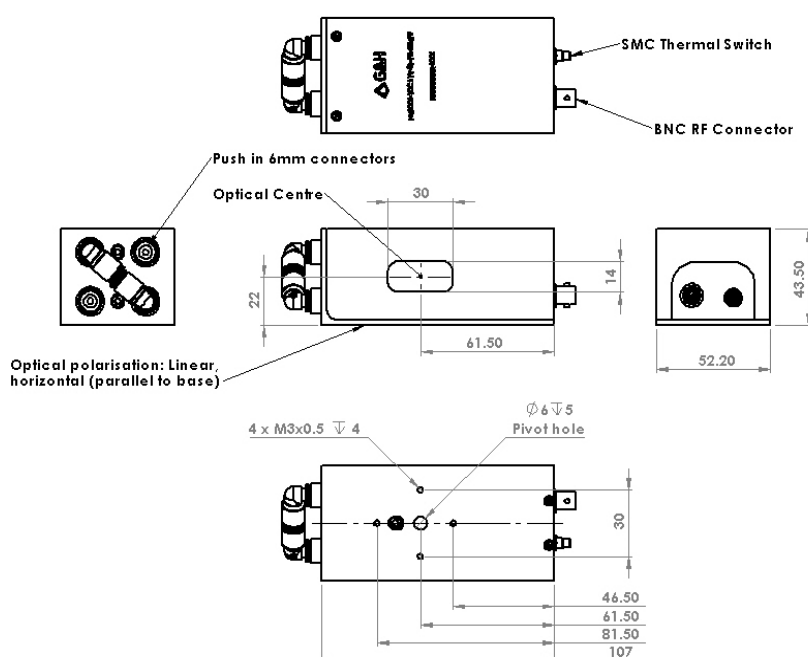
Applications

- Industrial (material processing)
 - Glass processing (cutting, drilling, welding)
 - PCB via drilling
 - Marking and engraving
 - Multi-layer polymer film cutting
 - Ceramic cutting and drilling

General Specifications

Device:	AO Modulator
Interaction material:	Germanium
Wavelength:	5.5 μm
Maximum recommended optical power density:	30 W/mm ²
AR coating reflectivity:	< 0.2% per surface (< 0.5% - 5.25-5.75 μm)
Transmission:	> 98%
Frequency:	40.68 MHz
Optical polarization:	Linear, horizontal (parallel to base)
Active aperture:	9.6 mm
Acoustic mode:	Compressional
Rise-time (10-90%):	120 ns/mm
Separation angle:	41 mrad
Diffraction efficiency:	$\geq 90\%$
RF Power:	Typ. 50 W
Housing:	Refer to drawing
Recommended RF Driver:	HP041-60ADG-A10

Device schematic



Ordering information

Order code

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①	Operating frequency	40.68 MHz	60 MHz
	Code	41	60
②	Active aperture	7 mm	9.6 mm
	Code	7	10
③	Water connector	6 mm OD straight push fit	
	Code	P	

Also see Datasheet IWDS051 for details of our Ge-AOM's for 9.4 μm and 10.6 μm lasers.