

Ge ACOUSTO-OPTIC MODULATOR

Germanium AOM for High-Power, 5.5 μ m Applications

I-M0XX-XC11B76-P5-GH105

An acousto-optic modulator for use at 5.5 μ m 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 (AR) 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

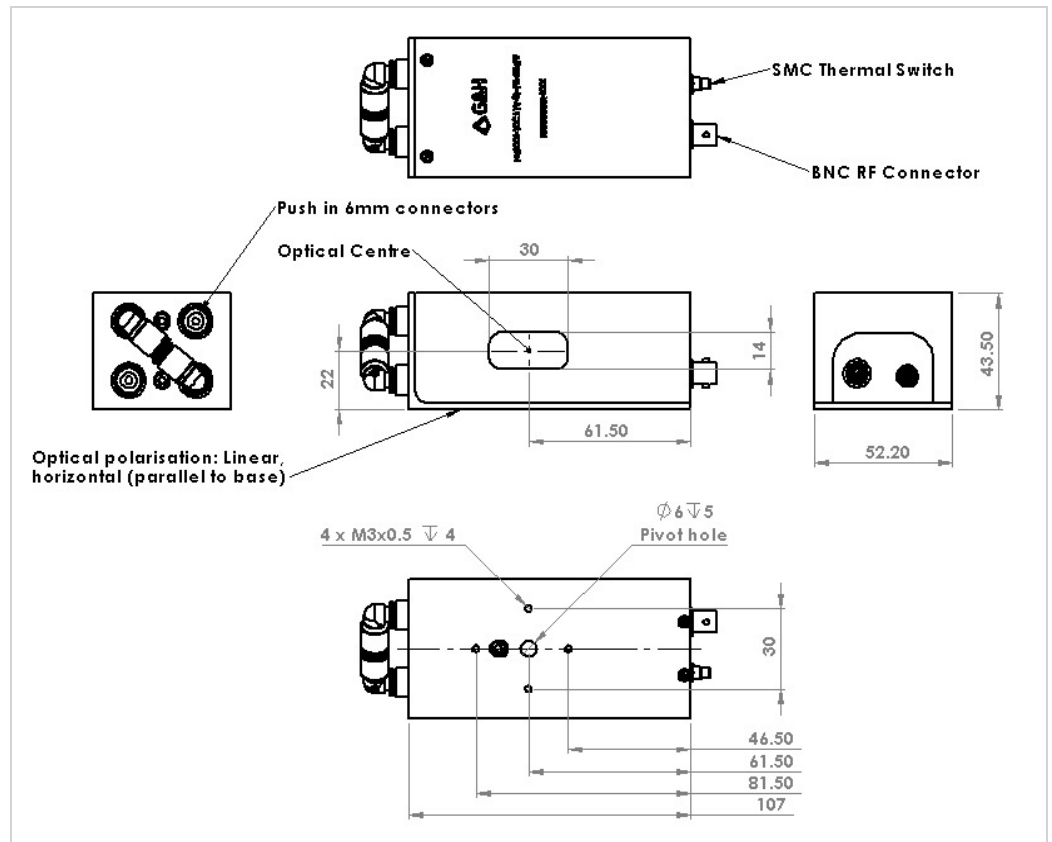
- Industrial (material processing)
 - Glass processing (cutting, drilling, welding)
 - PCB via drilling
 - Marking and engraving
 - Film cutting
 - Ceramic cutting and drilling

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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 or 60 MHz |
| Optical polarisation: | Linear, Horizontal (parallel to base) |
| Active aperture: | Up to 9.6 mm |
| Acoustic mode: | Compressional |
| Rise-time (10-90%): | 120 ns/mm |
| Separation angle: | 41 mrad at 40.68 MHz or 60 mrad at 60 MHz |
| Diffraction efficiency: | ≥ 90 % |
| RF Power: | Max 50 W |
| Housing: | Refer to drawing |
| Recommended RF Driver: | HP0xx-50ADG-A10 |

Device schematic



Ordering code

I - M 0 **x x** - **x x** C 1 1 B 7 6 - **P** 5 - G H 1 0 5

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| Code | Active aperture | Code | Active aperture | Code | Water connector |
|------|-----------------|------|-----------------|------|---------------------------|
| 41 | 40.68MHz | 7 | 7 mm | P | 6 mm OD straight push fit |
| 60 | 60MHz | 10 | 9.6 mm | | |

For further information

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