

Product Overview

Based on TeO₂, these modulators/shifters use the slow shear mode interaction and hence one can benefit from its large active aperture, large separation angle, high diffraction efficiency as well as the low RF power consumption. Common applications include bio photonics, interferometry and many others.



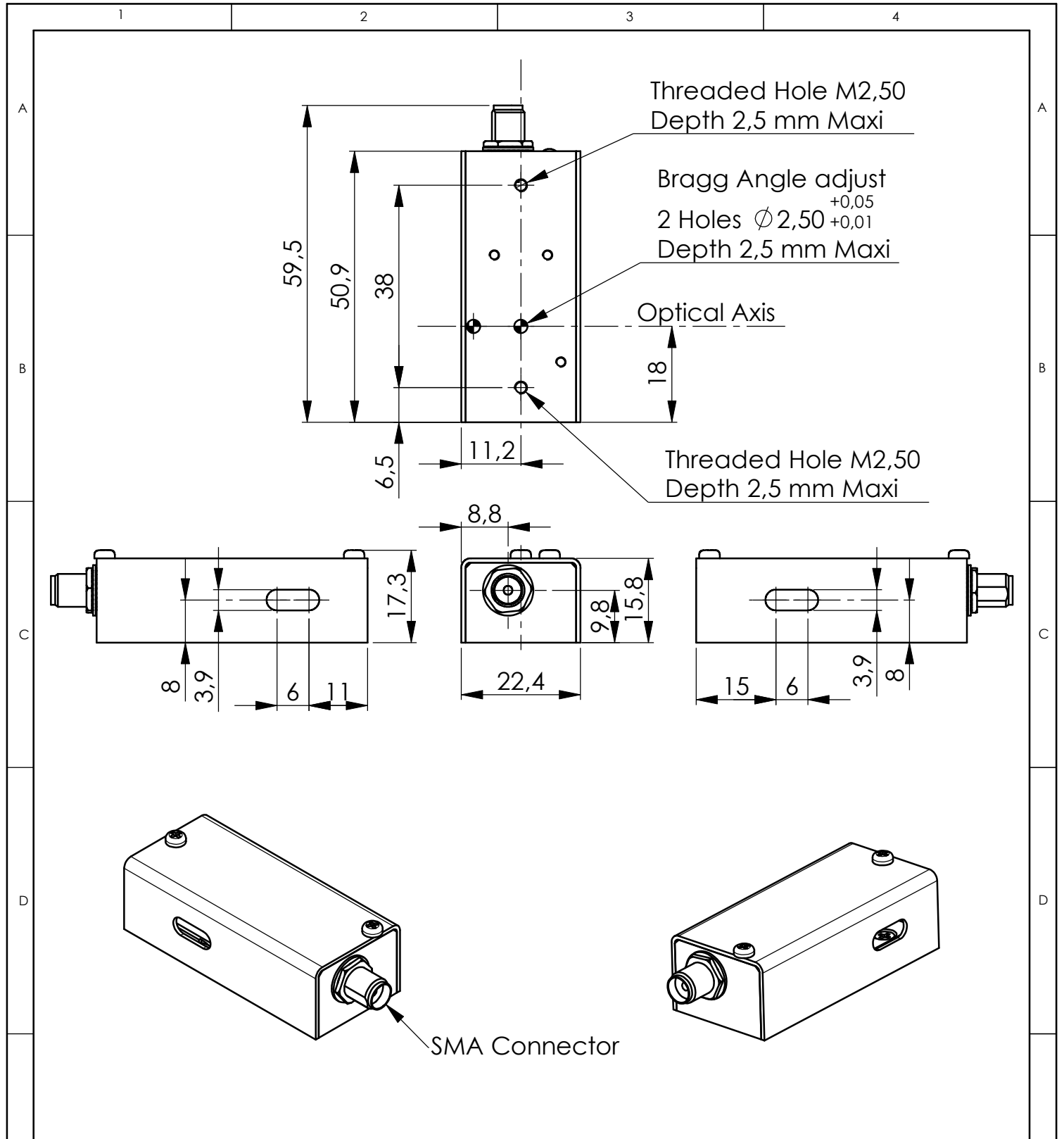
Features


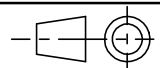
- Large active aperture & separation angle.
- Linear polarization.
- High diffraction efficiency.
- Low RF power consumption.

| | Units | Min | Nom | Max |
|---|-------------------|--------------------------------|---------|-----|
| Material-Acoustic mode-Velocity | | TeO ₂ [S] – 650 m/s | | |
| Optical Wavelength range (AR coated) (λ) | nm | 458 | - | 670 |
| Carrier Frequency / Frequency shift | MHz | +/-110 | | |
| Transmission | % | 95 | 98 | |
| Input / Output Polarization | | Linear/Polarization flip ≈90° | | |
| Active Aperture | mm ² | 3 x 3 | | |
| Beam diameter (1/e ²)(φ) | mm | 0.5 | | 2.5 |
| Rise/fall time (T _r) | μs | 0.5 | | 2.5 |
| Analog Amplitude Modulation Bandwidth (-3dB) (F _{-3dB}) | kHz | | | 960 |
| Separation Angle (0-1) | mrd | 77 | | 113 |
| Static Extinction Ratio | dB | 30 | | |
| *Diffraction Efficiency (η) | % | 85 | 90 | |
| Max optical power density | W/mm ² | | 5 | |
| Input impedance | Ω | | 50 | |
| V.S.W.R. | | | < 1.2:1 | |
| RF Power (P) | W | | 0.15 | 1 |
| Connector | | SMA female | | |
| Size | mm ³ | 50.9 x 22.4 x 17.3 | | |
| Weight | g | | 50 | |
| Packaging | | IN PRO 050 | | |
| Operating Temperature (non condensing) | °C | +10 | +25 | +40 |
| Storage Temperature (non condensing) | °C | -40 | | +65 |
| RoHS Compliance | | | Yes | |

* Diffraction efficiency is beam diameter and wavelength dependent.

$$T_r = 0.66 \frac{\phi}{v} \quad * \quad F_{-3dB} = \frac{0.48}{T_r} \quad * \quad \Delta\theta = \frac{\lambda F}{v} \quad * \quad \frac{P_1}{P_2} = \frac{\lambda_1}{\lambda_2}$$



| | | | |
|--|--------------|--|--------------------------------|
| B | 31/01/07 | E.D | Mise en page |
| A | 28/03/06 | A.A | Plan initial / Initial Drawing |
| Index | Date | Auteur Author | Modifications |
| Conception Design | E.D | PLAN D'INTERFACE / OUTLINE DRAWING Référence / Reference IN-PRO-050 | |
| Vérification Checking | L.F | | |
| Tolérance Tolerance | ISO 2768mK | | |
| Echelle Scale | 1:1 |  OPTO-ELECTRONIC A.A. SA OPTO-ELECTRONIQUE DIVISION 18, rue Nicolas Appert F-91898 ORSAY tel : 08 11 09 76 76 fax : 01 76 91 50 31 | |
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