

## Product Overview

These free space modulators operate at 110MHz and at various wavelength ranges covering the 450-700 nm and 700-1100 nm. The intended application can be amplitude modulation as well as frequency shifting (fixed and variable).



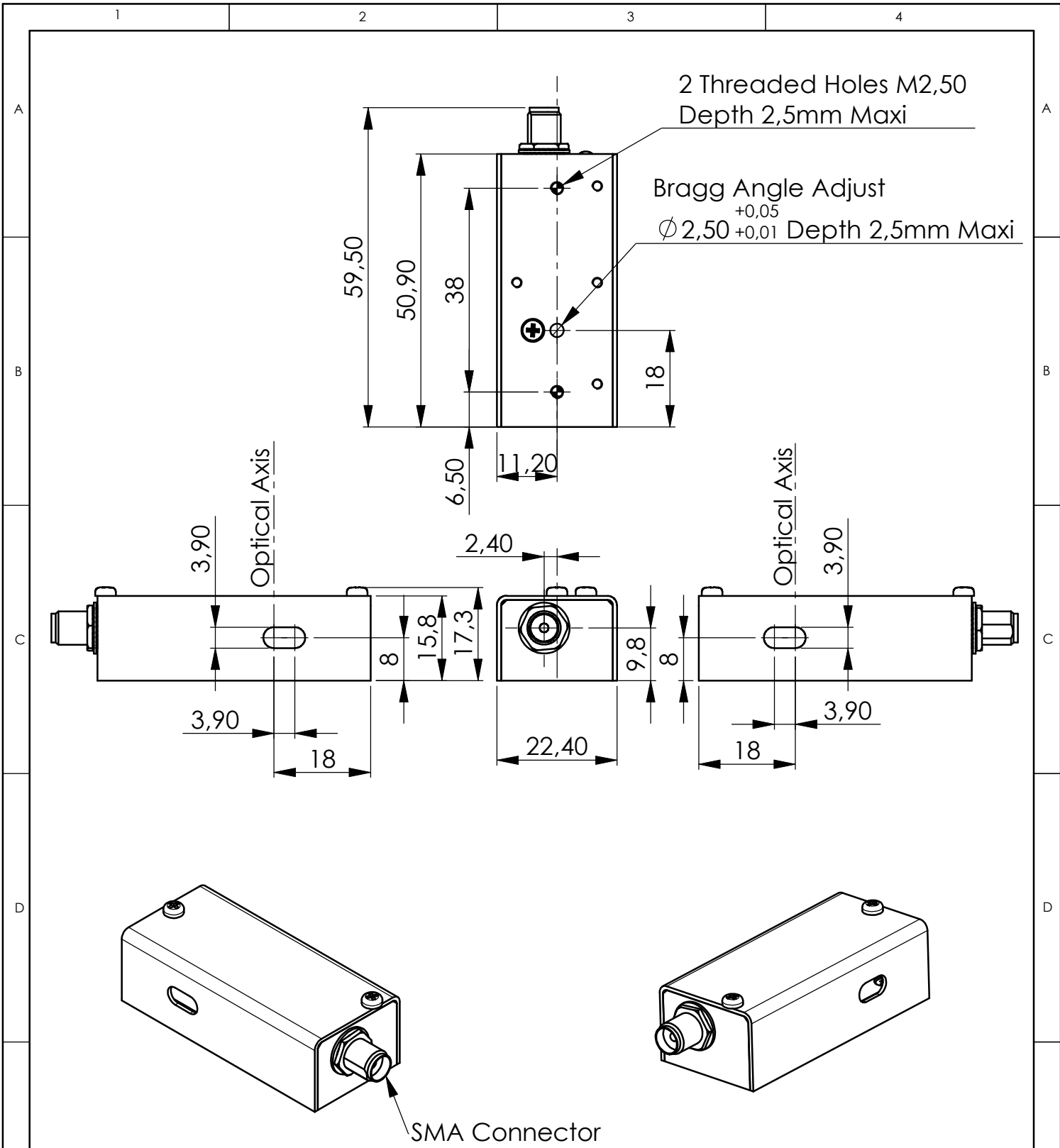
## Features

- Small rise time
- Linear polarization
- High diffraction efficiency

		Units	Min	Nom	Max
Material-Acoustic mode-Velocity			TeO2 [L] – 4200 m/s		
Optical Wavelength range (AR coated) (λ)	VIS	nm	450		700
	IR		700		1100
Carrier Frequency / Frequency shift		MHz	+/-110		
Transmission		%	95	98	
Input / Output Polarization			Linear / Linear		
Active Aperture		mm <sup>2</sup>	1.5 x 2		
Beam diameter (1/e <sup>2</sup> )(φ)		mm	0.5		1.2
Rise/fall time (T <sub>r</sub> )		ns	80		192
Analog Amplitude Modulation Bandwidth (-3dB) (F <sub>-3dB</sub> )		MHz			6
Separation Angle (0-1)	VIS	mrd	11.8		18.3
	IR		18.3		28.8
Static Extinction Ratio		dB	30		
*Diffraction Efficiency (η)		%	85		
Optical power density (CW)	VIS	W/mm <sup>2</sup>			5
	IR				10
Input impedance		Ω		50	
V.S.W.R.				< 1.2:1	
RF Power (P)	VIS	W			1,2
	IR				2,2
Size		mm <sup>3</sup>	50.9 x 22.4 x 17.3		
Weight		g		50	
Packaging			IN PRO 005		
Operating Temperature (non condensing)		°C	+10	+25	+40
Storage Temperature (non condensing)		°C	-40		+65
RoHS Compliance			Yes		
OPTION MT110-B50A1.5-xx			Frequency range 110+/-25MHz, Efficiency typ >60% over full range		

\*Beam diameter and wavelength dependent.

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



B	18/12/06	E.D	Reprise mise en plan
A	15/10/03	F.C	Plan initial / Initial Drawing
Index	Date	Auteur Author	Modifications
Conception Design	E.D	<b>PLAN D'INTERFACE / OUTLINE DRAWING</b>	
Vérification Checking	L.F		
Tolérance Tolerance	ISO 2768mK	Référence / Reference  <b>IN-PRO-005</b>	
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**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