

## Product Overview

These free space modulators have been specially designed for general purposes high speed applications. They are dedicated for IR lasers in the range of 1300-1600 nm. Their carrier frequency of 80 MHz will enable a fix frequency of 80 MHz as well as a variable frequency shift of 80 +/- 21 MHz. In addition, they can be used for intensity modulation with small rise time.



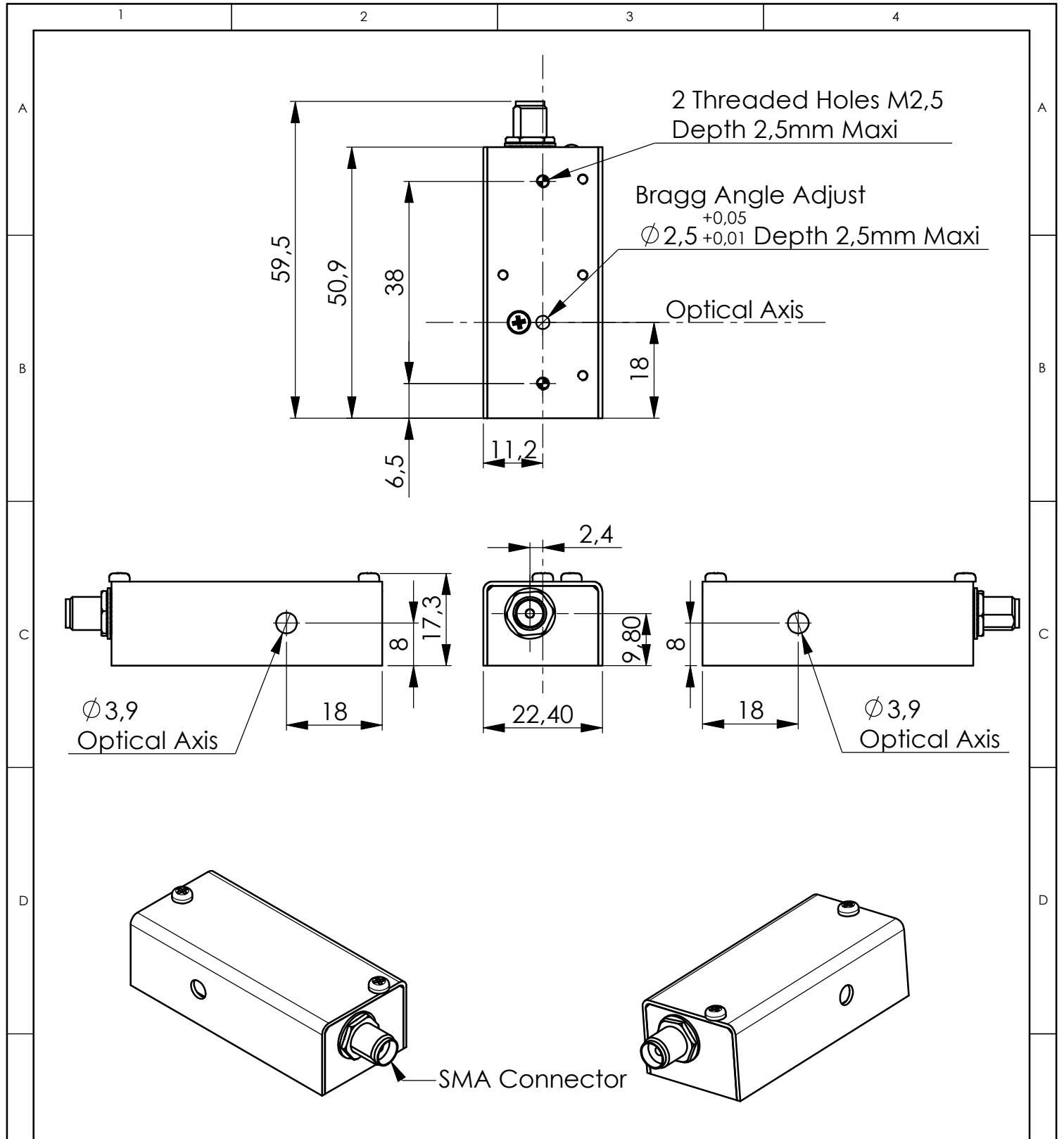
## Features

- Small rise time
- Linear/random polarization
- High diffraction efficiency
- Large RF bandwidth.

	Units	Min	Nom	Max
Material-Acoustic mode-Velocity		TeO2 [L] – 4200 m/s		
Optical Wavelength range ( AR coated) (λ)	nm	1300	1550	1600
Carrier Frequency / Frequency shift	MHz	+/-80		
Transmission	%	95	98	
Input / Output Polarization		Linear / Linear		
Active Aperture	mm <sup>2</sup>	0.7 x 2		
Beam diameter (1/e <sup>2</sup> )(φ)	mm	0.4		0.6
Rise/fall time (T <sub>r</sub> )	ns	64		96
Analog Amplitude Modulation Bandwidth (-3dB) (F <sub>-3dB</sub> )	MHz			7.5
Separation Angle (0-1)	mrd	24.7	29.5	30.5
Static Extinction Ratio	dB	33		
*Diffraction Efficiency (η)	%	70	75	
Optical power density	W/mm <sup>2</sup>			10
Input impedance	Ω		50	
V.S.W.R.			< 1.2:1	
RF Power (P)	W		2.2	2.5
Connector		SMA female		
Size	mm <sup>3</sup>	50.9 x 22.4 x 17.3		
Weight	g		50	
Packaging		IN PRO 004		
Operating Temperature (non condensing)	°C	+10	+25	+40
Storage Temperature (non condensing)	°C	-40		+65
RoHS Compliance		Yes		
OPTION MT80-B42A0.7-1300.1600		Frequency range 80+/-21MHz, Scan angle 15.5mrd @1.55μm, Efficiency >40% over full range		

\* Diffraction efficiency is 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	Mise en page
A	15/10/03	OGB	Plan initial / Initial Drawing
Index	Date	Auteur Author	Modifications
Conception Design	E.D	<b>PLAN D'INTERFACE / OUTLINE DRAWING</b>	
Vérification Checking	E.D		
Tolérance Tolerance	ISO 2768mK	Référence / Reference	
Echelle Scale	1:1	<b>IN-PRO-004</b>	
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