

DESCRIPTION

This solid-state AOTF is an electronically tunable bandpass filter for UV-Low Visible range. It uses the acousto-optic interaction inside an anisotropic medium (TeO₂-S). It allows to select and transmit several wavelengths from an incoming laser source.

The main advantage of this technique is the total absence of any moving part which leads to a reliable, stable and fast technique for wavelength tuning. The RF frequency applied on the AOTF transducer controls the transmitted (filtered in 1st order) wavelength. A complete spectrum analysis can be done by varying the frequency corresponding to the wavelength range. The RF amplitude level applied on the transducer allows to adjust the transmitted (filtered) light intensity level. This is a unique feature that can provide the AOTF. It is fast (several μ s), accurate and procures high extinction ratio.

FEATURES

- **Multiline operation**
- High colinearity in 1st order
- 405 nm operation
- High separation angle between orders 0-1
- Temperature stabilized
- High power stability / Pointing stability

APPLICATIONS

- Fast optical shutter
- Confocal Microscopy
- Life Science Imaging



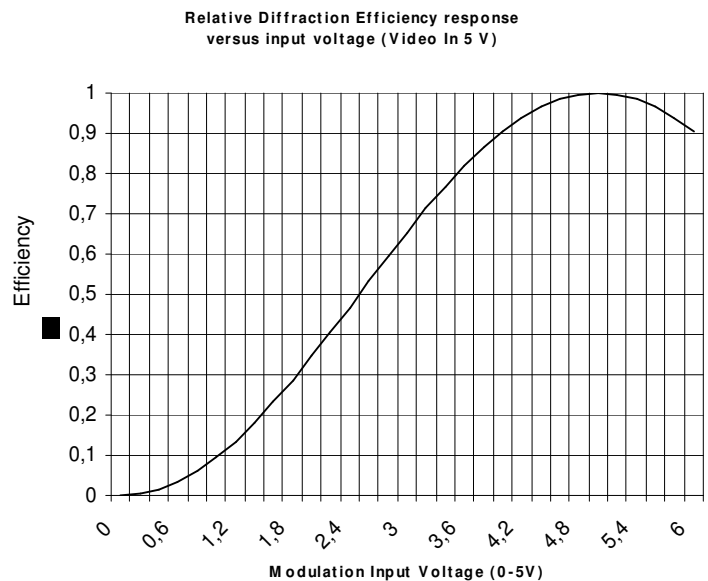
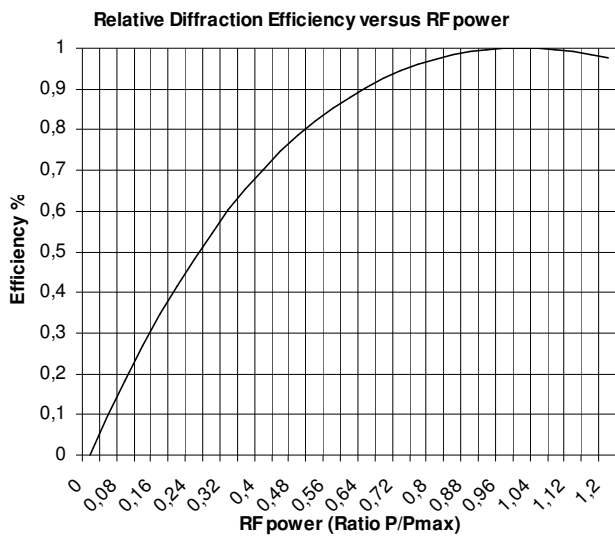
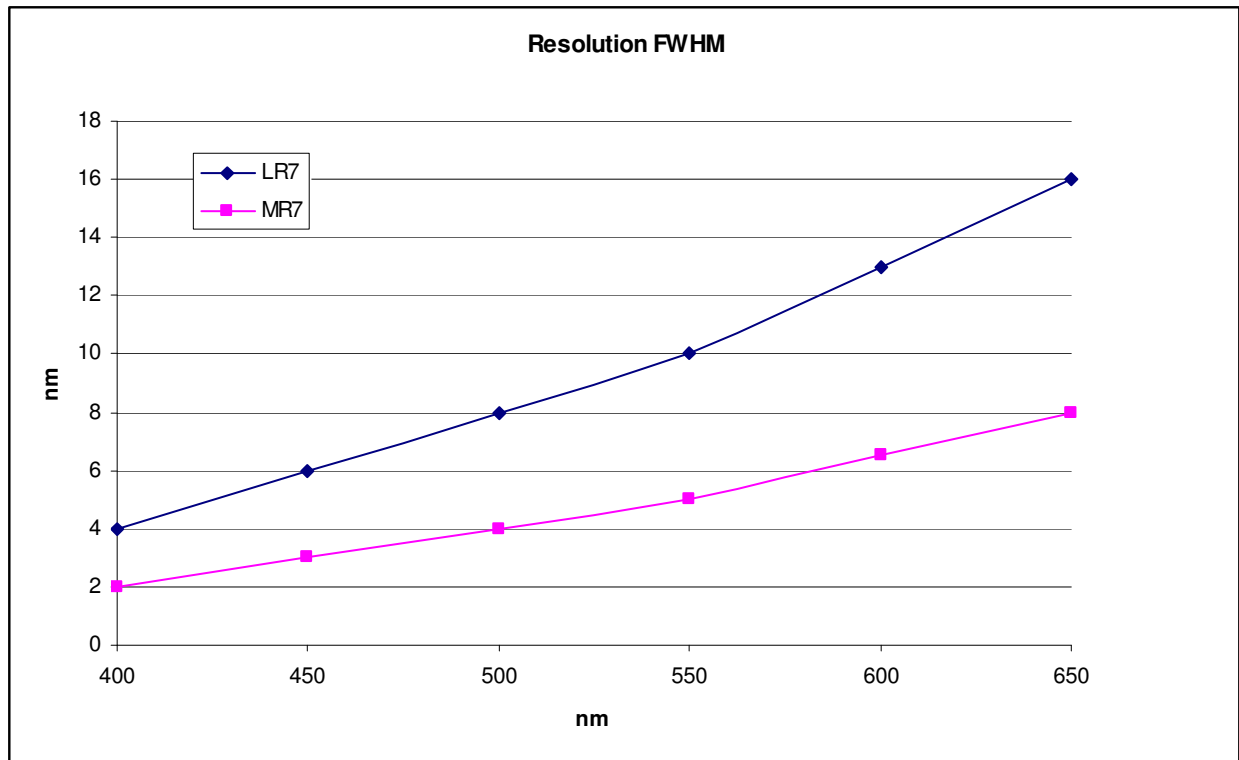
Parameter	Unit	AOTFnC-400.650-LR7-TN	AOTFnC-400.650-MR7-TN	Conditions
Material-Acoustic mode-Velocity		TeO ₂ - [S] - 660 m/s		
Number of Laser lines		Up to 2	Up to 4	Independently or Simultaneously
Optical Wavelength range	nm	400 – 650		
Transmission	%	> 90		
Input / Output Polarization		Linear \perp - Linear //		
Drive Frequency	MHz	74 – 158		
Active Aperture	mm ²	3 x 3		Beam diameter \leq 2.5 mm
Diffraction efficiency	%	> 90		Per line
Optical Extinction Ratio	dB	> 50		
Rise / Fall time	μ s/mm	1		
Total Field of View (FOV)	Degree	2		
Separation angle	Degree	\geq 4		Between 0 th and 1 st orders
Chromatic colinearity	mrd	\leq 0.3		Nom 0.2 mrd over 400-650nm
Spectral Resolution (FWHM)	nm	Nom 4-16	Nom 2-8	
Temperature Stabilization		Type TN		
Max laser power density	W/mm ²	5		
Input impedance	Ω	50		
V.S.W.R.		Nom < 1.2/1		
RF Power per line / Connectors	W	< 0.5	< 0.3	SMA (RF) / SMC
Size / Weight	mm ³	(Lxlxh) 70 x 36.6 x 35.8 / 75 g		IN PRO 151
Operating Temperature	$^{\circ}$ C	+10 to +40		Non condensing

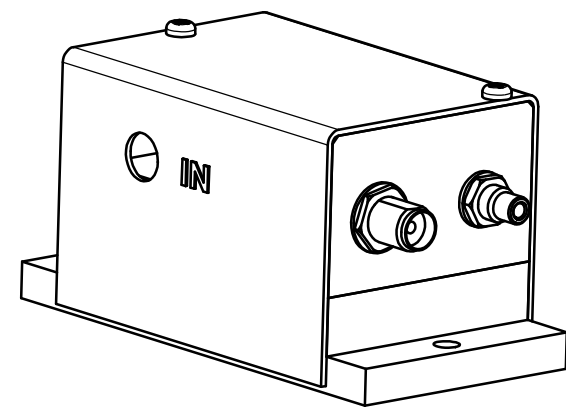
Options / On request

FIBER PIGTAILED VERSION IN IN+OUT
WAVELENGTH RANGE 442-700nm 450-700nm

REFERENCE OF YOUR MODEL: AOTFnC-400.650-L(M)R7-TN

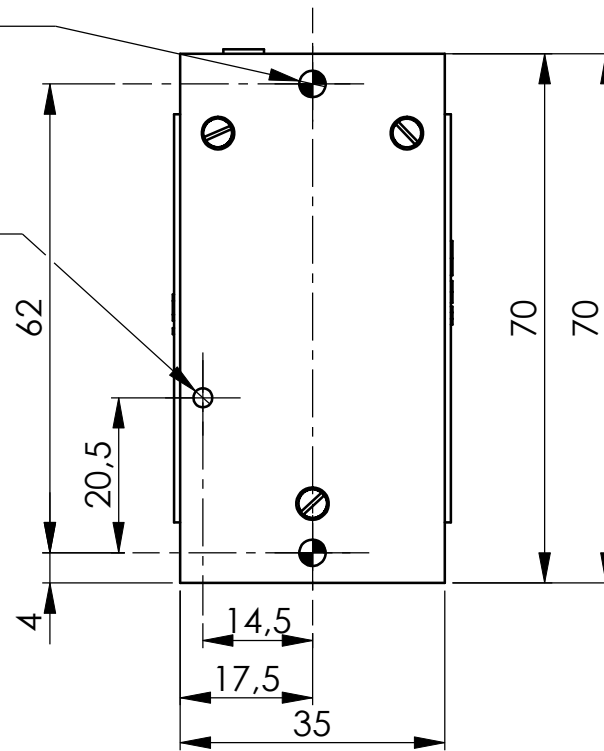
ASSOCIATED RF DRIVER: MDS (Multi Digital Synthesizer)
2 or 4 channels





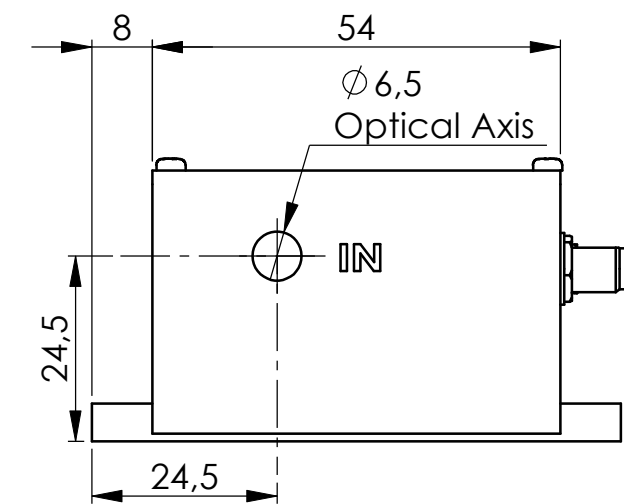
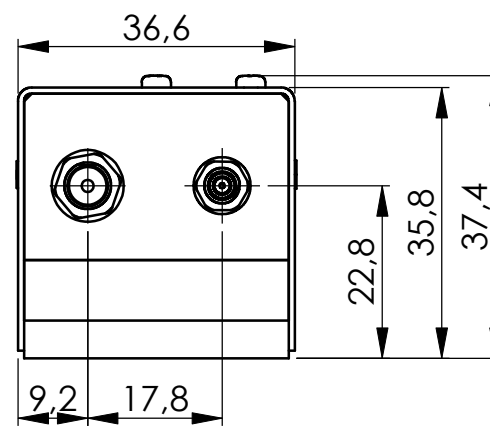
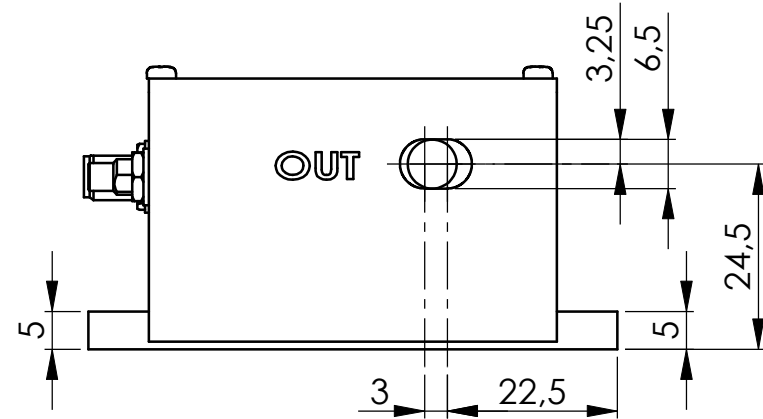
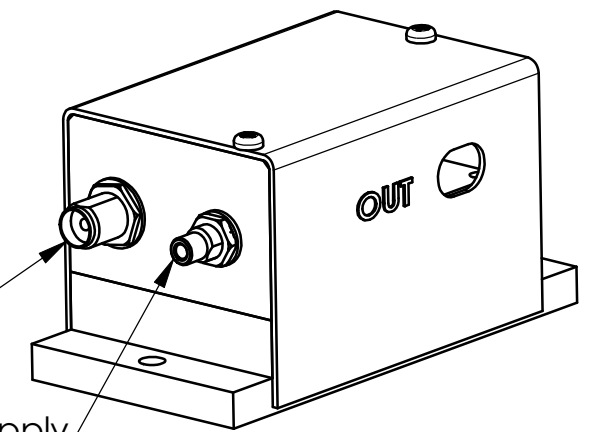
2 Holes $\varnothing 3,5$
Through


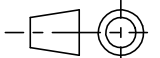
Bragg Angle Adjust
 $\varnothing 2,5^{+0,05}$
 $+0,01$
Depth 5mm Maxi



SMA Connector
RF Input

SMC Connector
Thermal regulation supply



A	15/05/07	E.D	Plan initial / Initial Drawing	
Indice Index	Date	Auteur Author	Modifications	
Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING		 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
Vérification Checking	L.F			
Tolérance Tolerance	ISO 2768mK	Référence / Reference		
Echelle Scale	1:1	IN-PRO-151		
		Format A3	Ce document est la propriété de A.A.S.A. Il est strictement interdit de reproduire ce document ou une partie sans l'autorisation de A.A.S.A. This document is the property of A.A.S.A. It is strictly prohibited to reproduce this document or a part without the authorization of A.A.S.A.	
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