

**DESCRIPTION**

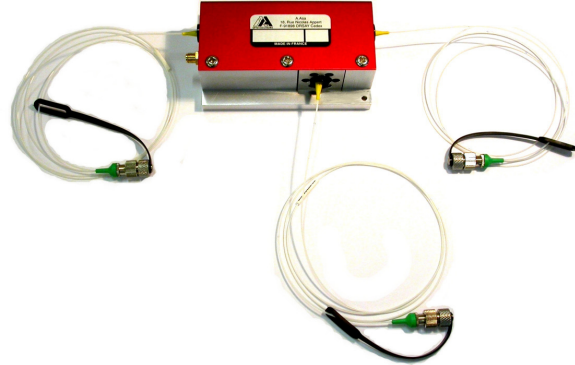
This fiber pigtailed modulator is dedicated to IR lasers such as 1300, 1550 nm.

**FEATURES**

- 0<sup>th</sup> and 1<sup>st</sup> orders fiber pigtailed
- Polarization Maintaining or Single Mode fiber
- FC/APC or Super FC/PC connector
- High extinction ratio

**APPLICATIONS**

- Fast optical shutter
- Frequency shifter @ 110 MHz +/- 6 MHz
- Pulse Picking
- Q-switch (fiber laser)
- OTDR
- Heterodyne detection



Parameter	Unit	Rating	Conditions
Material-Acoustic mode-Velocity		TeO <sub>2</sub> - [L] - 4200 m/s	
Optical Wavelength range	nm	Single wavelength in [1300..1600]	
Input / Output Polarization		Random / Random with SM fiber Linear / Linear with PM fiber	
Polarization Dependence Losses	dB	< 0.5	
AO Light Frequency shift	MHz	« +1 » order : + 110	
Total Insertion Losses	dB	Order 1 : < 4    Nom 3 Order 0 : < 2.5    Nom 2	Including transmission through the crystal, diffraction efficiency and coupling losses
Extinction Ratio	dB	Order 1 : > 45    Nom 50 Order 0 : > 10	
Rise / Fall time	ns	≤ 25	
Fiber type		Single Mode SMF-28 Or Polarization Maintaining	Input / Output
Fiber connector		FC/APC	
Fiber jacket		900 μm Hytrel tubing	
Pigtail length	m	1	
Max Input Laser power	W	0.5 or 5	CW
Input impedance	Ω	Nom 50	
V.S.W.R.		Nom < 1.2/1	
RF Power / Connector	W	≤ 2.5 / SMA	
Size / Weight	mm <sup>3</sup>	(LxHxh) 100 x 65 x 39 mm <sup>3</sup> / 300 g	IN PRO 137
Operating Temperature	°C	+10 to +40	Non condensing
Storage Temperature	°C	-40 to +50	Non condensing

**Options / On request**

FIBER JACKET	<input checked="" type="checkbox"/> PVC 3 mm	<input checked="" type="checkbox"/> Stainless steel 3 mm
FIBER CONNECTOR	<input checked="" type="checkbox"/> Super FC/PC	<input checked="" type="checkbox"/> SMA
PIGTAIL LENGTH	<input checked="" type="checkbox"/> 2 m	<input checked="" type="checkbox"/> Other
FREQUENCY SHIFT	<input checked="" type="checkbox"/> « - » 110 MHz	

# HOW TO DETERMINE THE REFERENCE OF YOUR MODEL:

## MT110-IIR25-3FIO-SM0.5-J1-A-s(-)

### FIBER TYPE

- **SM** Single Mode
- **PM** Polarization Maintaining

### MAX LASER INPUT POWER CW

- **0.5** 500 mW
- **5** 5 W

### FIBER JACKET

- **J1** 900  $\mu$ m Hytrel tubing
- **J3V** 3 mm PVC
- **J3S** 3 mm stainless steel

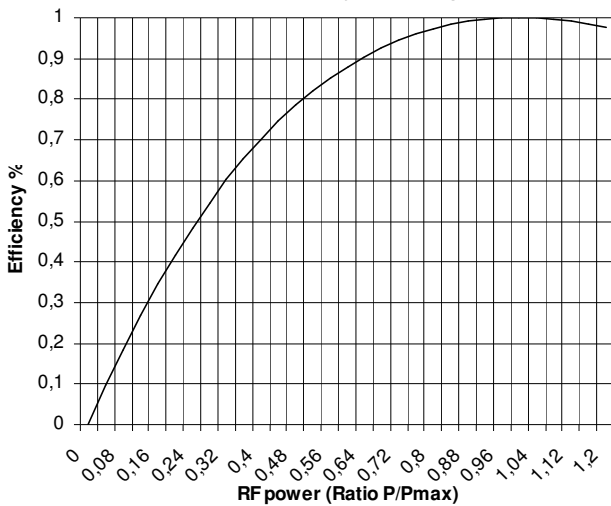
### FREQUENCY SHIFT

- **s(-)** Negative

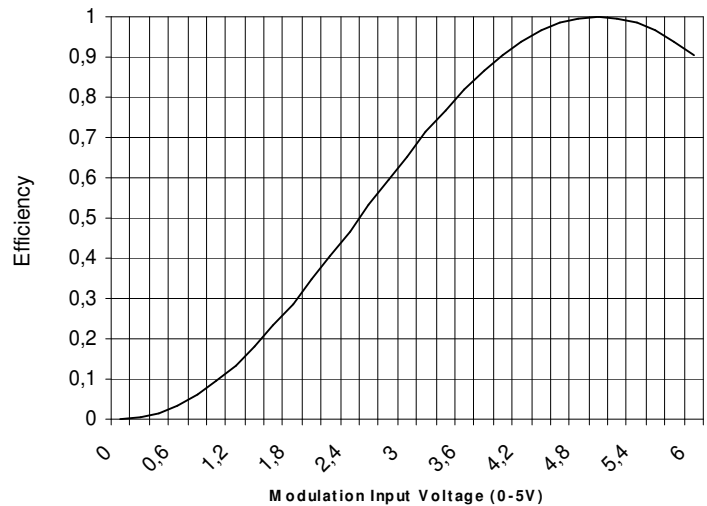
### FIBER CONNECTOR

- **A** FC/APC
- **S** Super FC/PC
- **S905** SMA-905

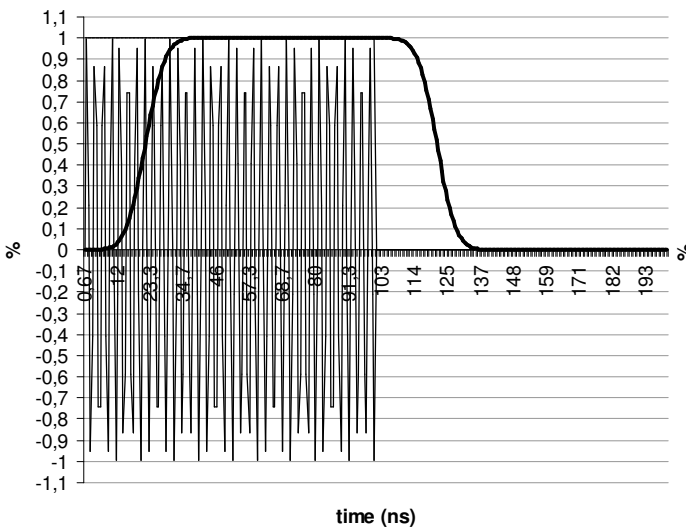
Relative Diffraction Efficiency versus RF power



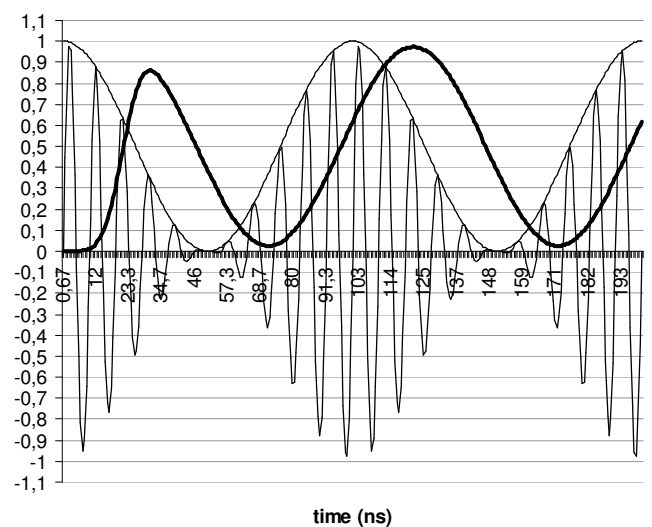
Relative Diffraction Efficiency response versus input voltage (Video In 5 V)

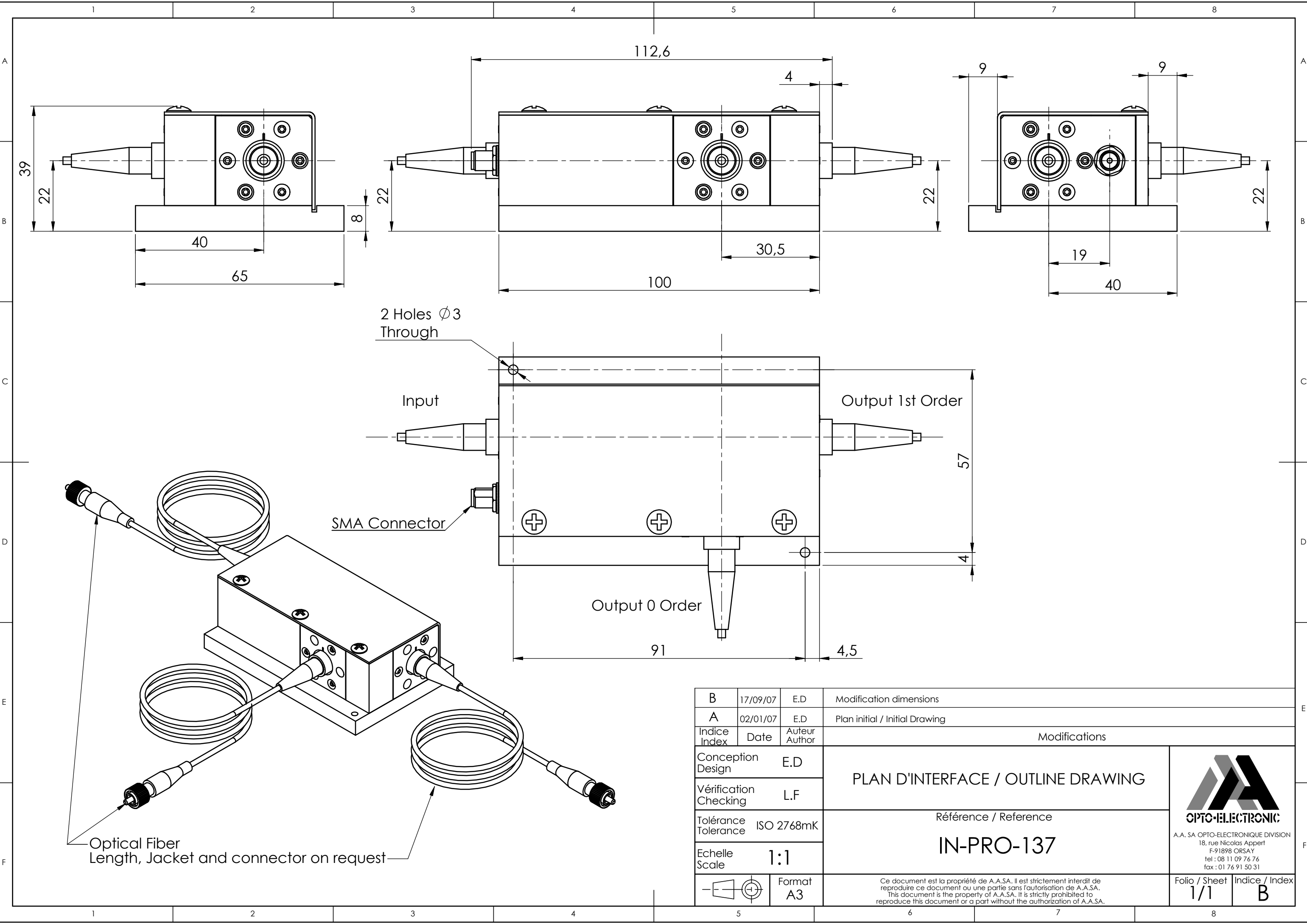


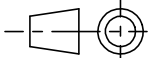
AOM temporal response



AOM temporal response





B	17/09/07	E.D	Modification dimensions
A	02/01/07	E.D	Plan initial / Initial Drawing
Indice 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	
Echelle Scale	1:1	<b>IN-PRO-137</b>	
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		Folio / Sheet 1/1	Indice / Index B



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