

DTSX-xx – DTSXY-xx

AO DEFLECTORS (1-axis or 2-axis)

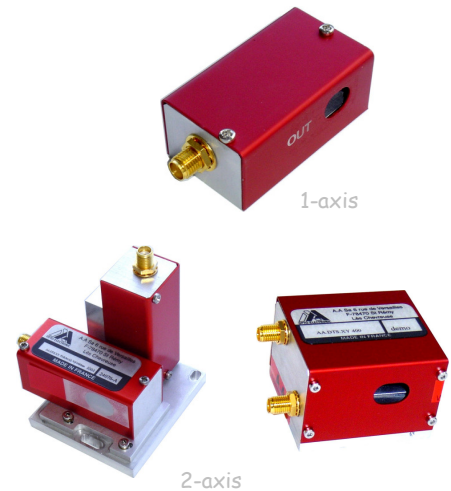
Product Overview

These deflectors offer a typical resolution of 250 dots to 400 dots with a circular input laser beam from 4.2 up to 6.7 mm ($1/e^2$). The main advantage is the large scan angle which can reach up to 3 degrees in the visible range. Associated to an adapted driver, this device can also be used as a frequency shifter.

They are available in 1-axis or 2-axis (see pictures on the right). Some common applications are laser scanning systems, optical tweezing, biomedical diagnostics and many other scientific applications.

Features

- Large active aperture
- Linear polarization
- Large scan angle
- High resolution



Access to your operating manual



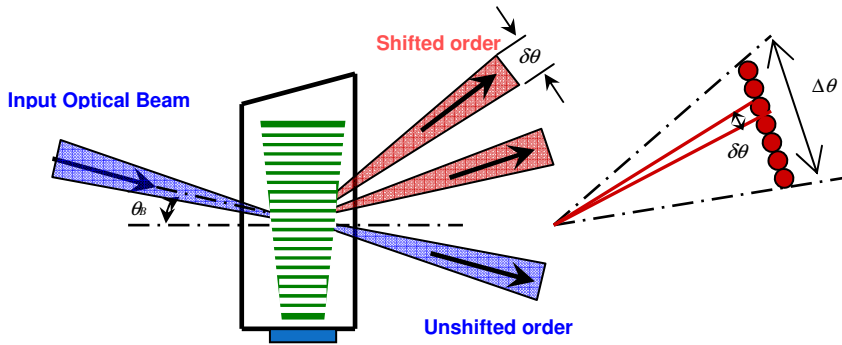
Technical Specifications

Parameter	DTSX (1-axis)	DTSXY (2-axis)
Material-Acoustic mode-Velocity	TeO ₂ - [S] - 650 m/s	
Optical Wavelength range (AR coated)	Designed for a single wavelength on request in [350-1600 nm] Standard: 405, 442, 458, 478, 488, 532, 633, 670, 780, 820, 980, 1064, 1550 nm	
Optical Transmission	> 95 % per axis	
Input / Output Polarization	Linear / Polarization flip 90° per axis	
Active Aperture	4.5 x 4.5 mm ² (Versions DTSX250/DTSXY250) 7.5 x 7.5 mm ² (Versions DTSX400/DTSXY400)	
Carrier Frequency / Frequency shift	Wavelength dependent	
Frequency range	50 MHz @VIS 30 MHz @1064 nm	
Scan angle	41 mrd @532 nm 49 mrd @1064 nm	
Static Extinction Ratio	> 33 dB	
Acces Time	6.5 μs with 4.2 mm beam diameter 10.3 μs with 6.7 mm beam diameter	
Resolution (N)	250 per axis @ 532 nm with 4.2 mm beam diameter 400 per axis @ 532 nm with 6.7 mm beam diameter	
Diffraction Efficiency (TEM ₀₀ beam, M ² ≤ 1.1)	> 70 % (1 axis)	> 50 % (2axis)
Max optical power density	5 W/mm ² @ 532 nm > 10W/mm ² @1064 nm	
Input impedance	Nom 50 Ω	
V.S.W.R.	Nom < 2:1	
RF Power / Connector	VIS : ≤ 1 W / SMA IR / 1064 : ≤ 2 W / SMA	
Size / Weight	(LxH) 48.5 x 27.6 x 20.8 / 60 g INPRO 163	INPRO 161
Operating Temperature (non condensing)	+10 to +40 Non condensing	
Storage Temperature	-20 to +50 Non condensing	

Options / On request

APERTURE
WAVELENGTH

COMPACT HOUSING FOR DTSXY – INPRO 180

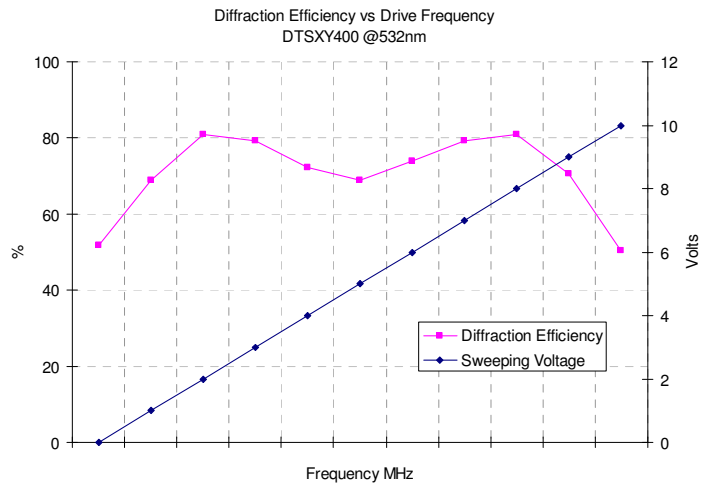
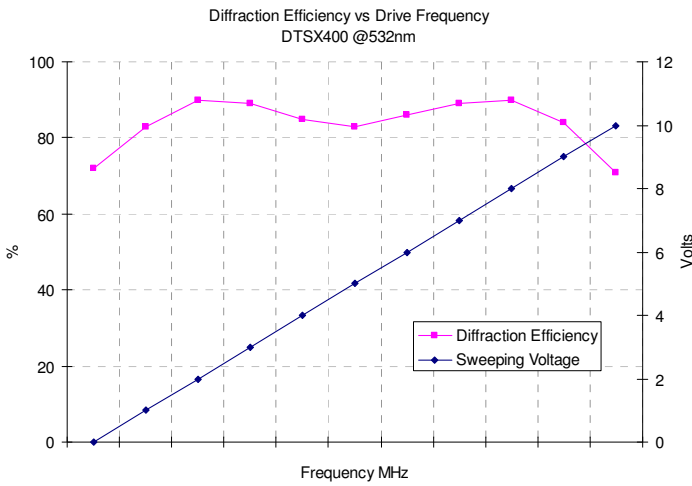


$$N = T_a \times \Delta f$$

$$N = \frac{\Delta \theta}{\delta \theta}$$

$$T_a = \frac{\phi}{V}$$

ΔF : RF frequency range
 λ : Wavelength of laser beam
 $\Delta \theta$: Scan Angle
 V : Acoustic velocity
 N : number of resolvable points



DTS XY 250 532

Number of Axes

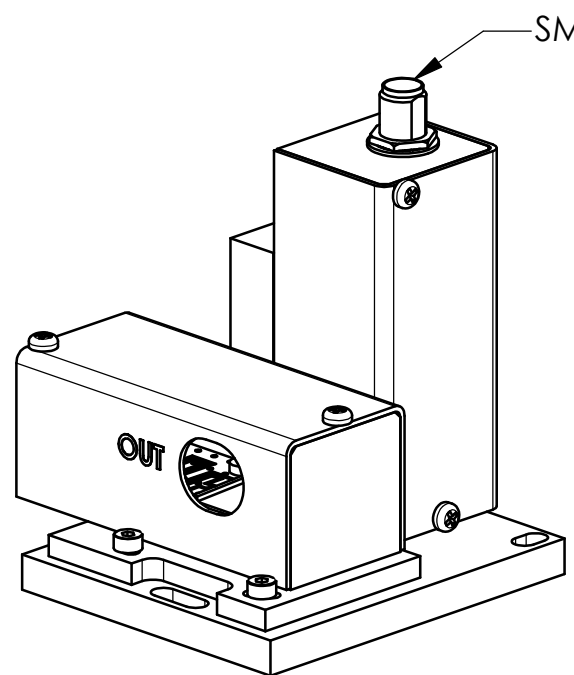
- X : One axis
- XY: Two axis

Wavelength

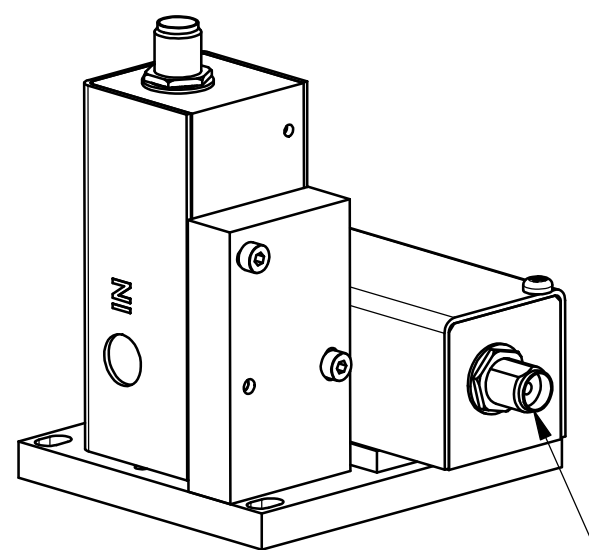
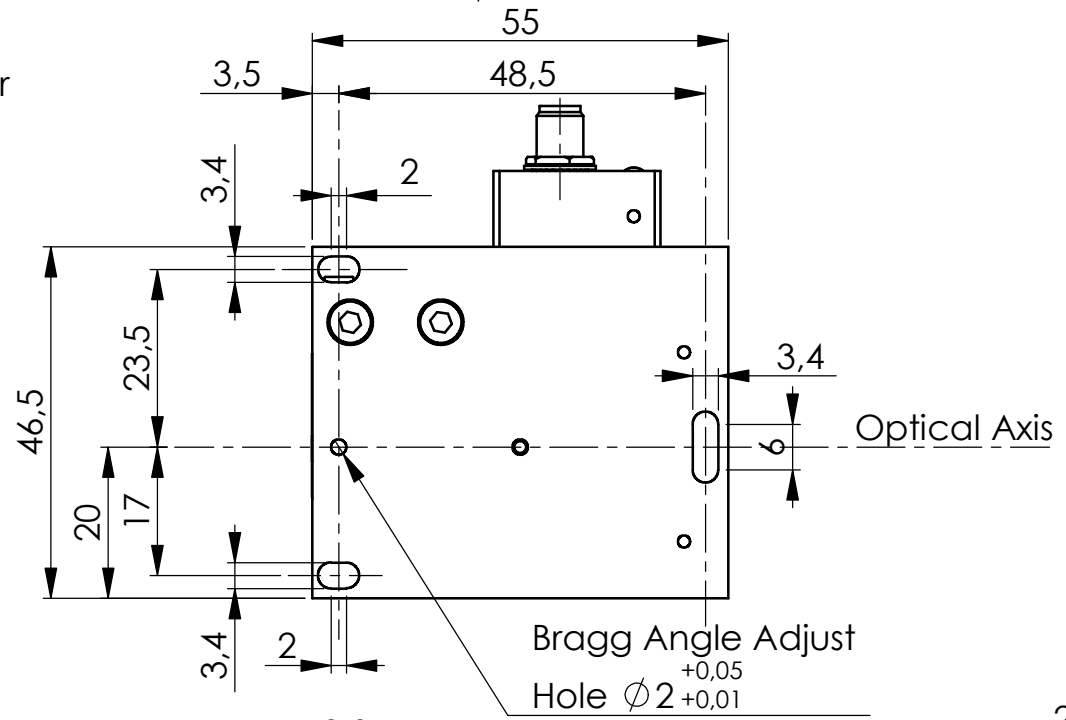
- Standard (nm): 442, 458, 478, 488, 532, 633, 670, 780, 820, 1064

Aperture/Resolution

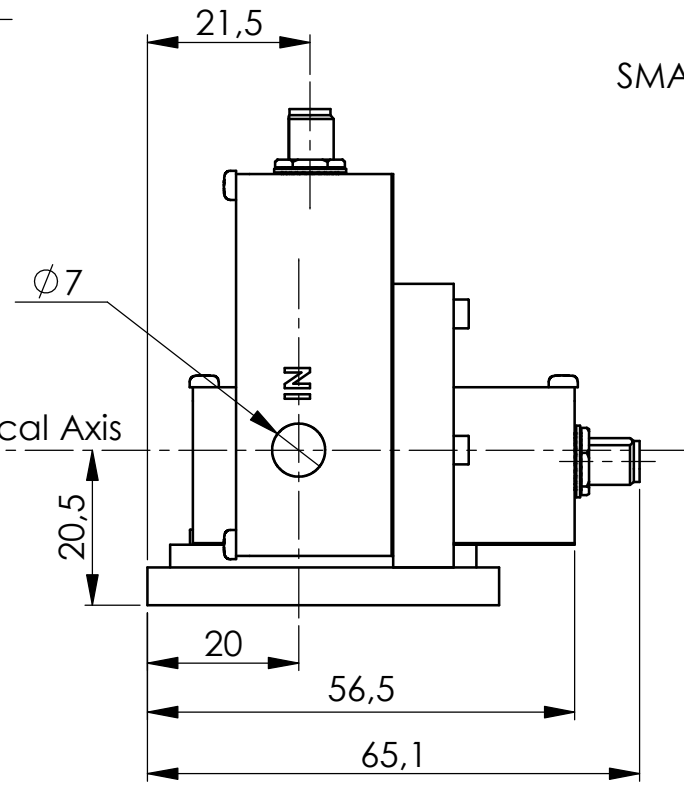
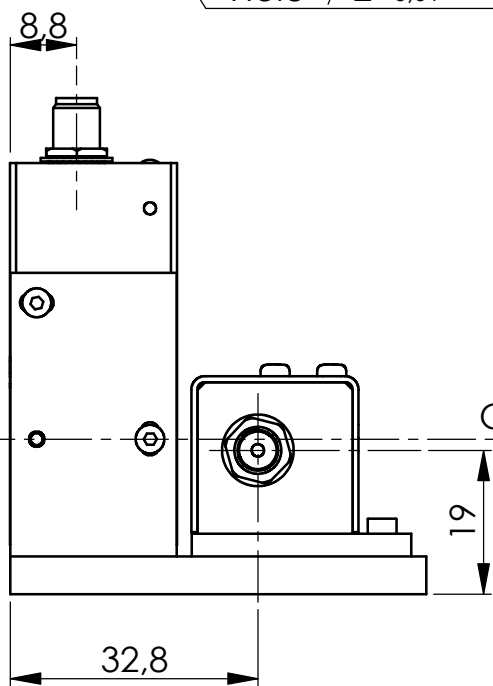
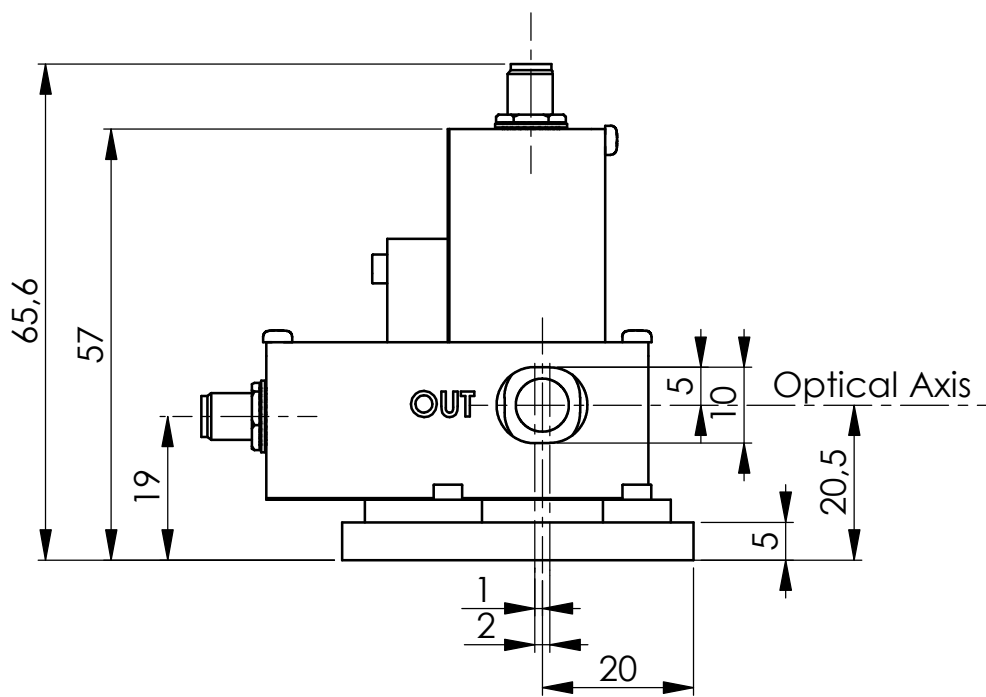
- 250: 4.5 x 4.5 mm²
- 400: 7.5 x 7.5 mm²


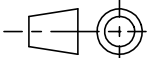


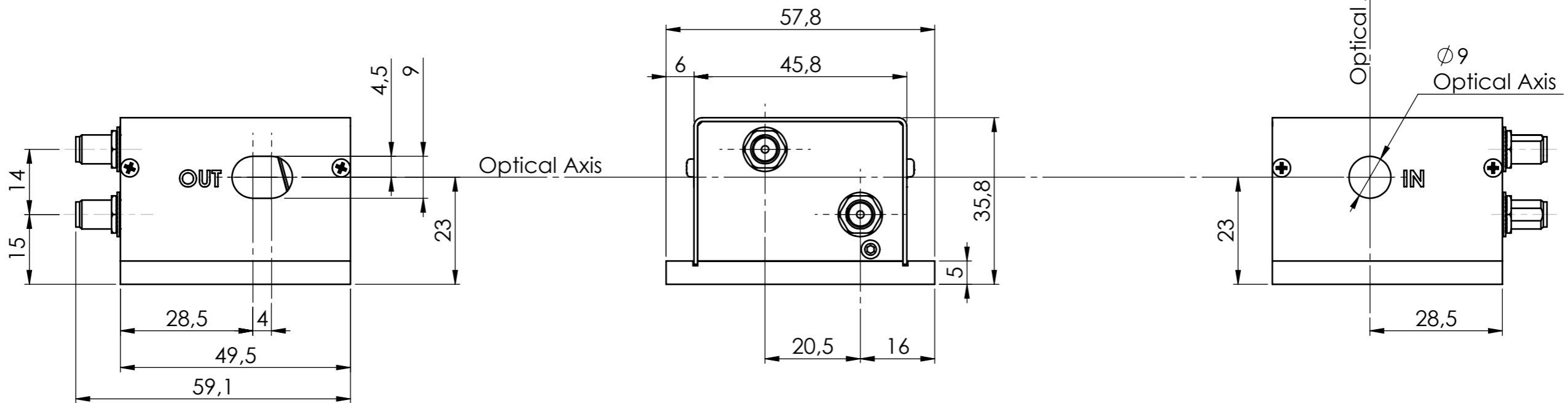
SMA Connector



SMA Connector



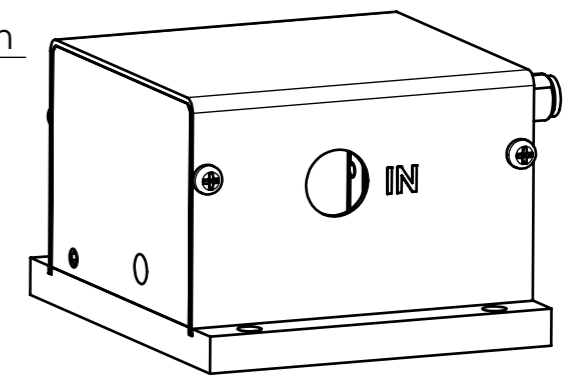
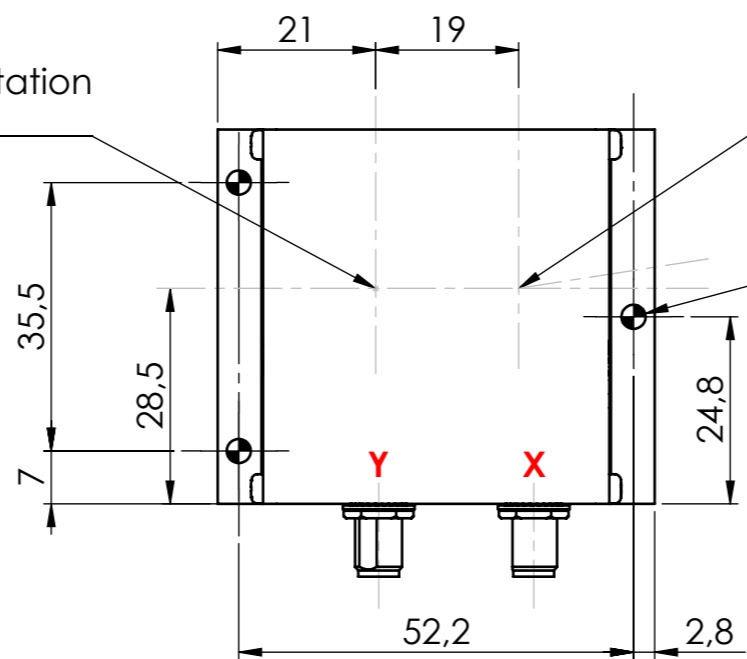
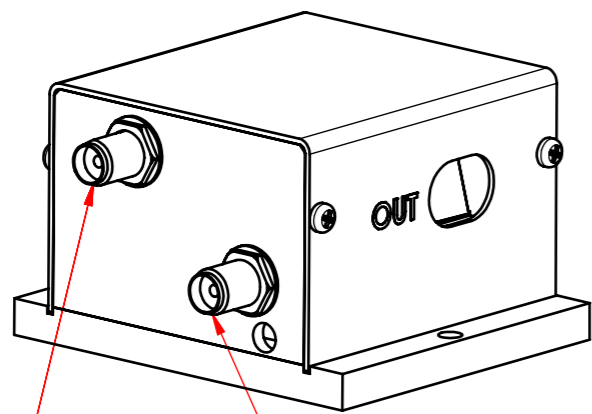
A	23/02/07	E.D	Plan initial / Initial Drawing	
Indice Index	Date	Auteur Author	Modifications	
Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING		 A.A. SA OPTO-ELECTRONIC DIVISION 18, rue Nicolas Appert F-91898 ORSAY tel : 08 11 09 76 76 fax : 01 76 91 50 31
Vérification Checking	L.F			
Tolérance Tolerance	ISO 2768mK	Référence / Reference		
Echelle Scale	1:1	IN-PRO-161		
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Laser beam Rotation
Y Axis

Laser beam Rotation
X Axis


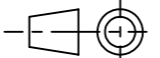
3 Holes $\varnothing 3,2$ Through



SMA Connectors
RF Input Y

SMA Connectors
RF Input X

Indice / Index	Date	Auteur / Author	Modifications	
C	07/01/11	G.M	Gravure X/Y	
B	29/10/07	E.D	Modification traitement / Modification of treatment (Surtec 650 -> Black Anodisation)	
A	03/10/07	E.D	Plan initial / Initial Drawing	

Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING	 A.A. SA OPTO-ELECTRONIC DIVISION 18, rue Nicolas Appert F-91898 ORSAY tel : 08 11 09 76 76 fax : 01 76 91 50 31
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