DTSX - DTSXY

AO DEFLECTORS 1-axis/2-axis

Product Overview

These high-resolution deflectors operate with Te02 shear mode and hence offers a large scan angle, resolution up to 400 dots and, large aperture up to 7.5 mm. Associated to the appropriate RF driver, this device will provide high precision and accuracy which is required for most application such as optical tweezers, biomedical diagnostics and many others. They are available as 1-axis or 2-axis deflectors.

1-axis


2-axis


2-axis compact

Features

- Large active aperture
- Large scan angle
- High resolution
- High diffraction efficiency

		DTSX (1-axis)	DTSXY (2-axis)
Material-Acoustic mode-Velocity		*TeO2 [S] – 650 m/s*	
Optical Wavelength range (AR coated) (λ)		*Designed for a single wavelength, on request in 405-1550 nm*	
Optical Transmission		*>95 % per axis*	
Input / Output Polarization		*Linear / Polarization flip 90° per axis*	
Active aperture	250 series	*4.5 x 4.5 mm²*	
	400 series	7.5 x 7.5 mm²	
Frequency range (ΔF)		*50 MHz @ 532 nm*	
Scan angle		*49 mrd @ 1064 nm*	*49 mrd² @ 1064 nm*
Static Extinction Ratio		*>33 dB*	
Rise time (Tr)		*1µs/mm*	
Access time (Ta)		*1.5µs/mm*	
Diffraction Efficiency (η)		*>70%*	*> 40%, nom 50%*
Resolution (N)	250 series	*300 @ 633 nm*	*300x300 @ 633 nm*
	400 series	*500 @ 633 nm*	*500x500 @633 nm*
Max Optical power density	532 nm	*5 W/mm²*	
	1064 nm	*10W/mm²*	
Input impedance		*50Ω*	
V.S.W.R.		*<.2:1*	
RF Power (P)	532 nm	*1 W*	
	1064 nm	*2 W*	
Weight		*approx 60 g*	
Packaging		*IN PRO 163*	*IN PRO 161 (Standard)* *IN PRO 180 (Compact)*
Operating Temperature (non condensing)		*+ 10°C to + 40°C non-condensing*	
Storage Temperature (non condensing)		*-20°C to +50°C non-condensing*	
RoHS Compliance		*Yes*	

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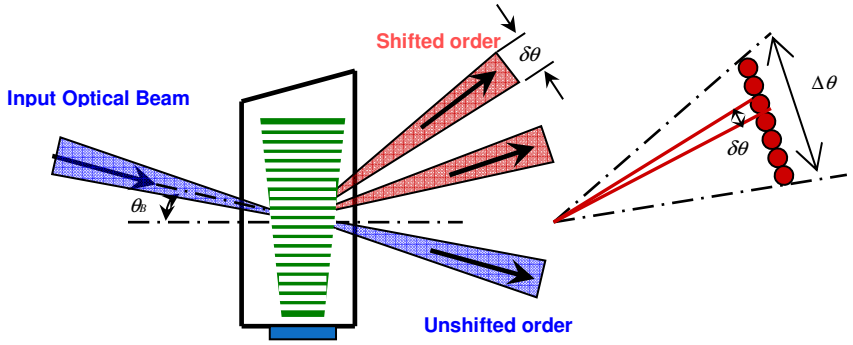
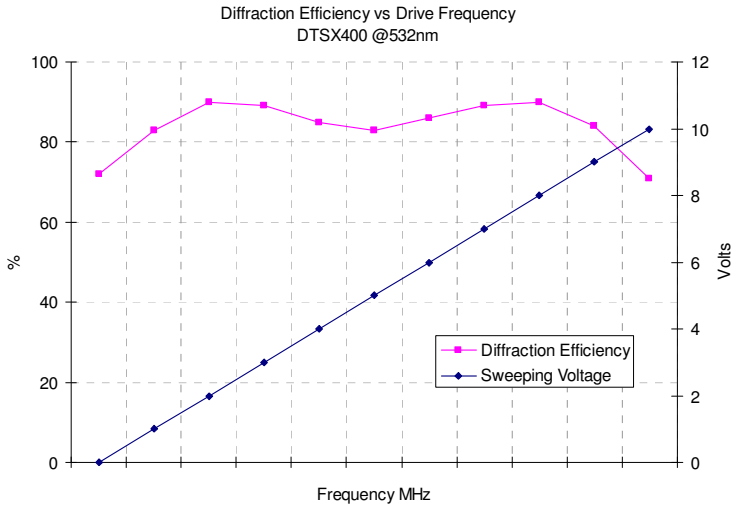
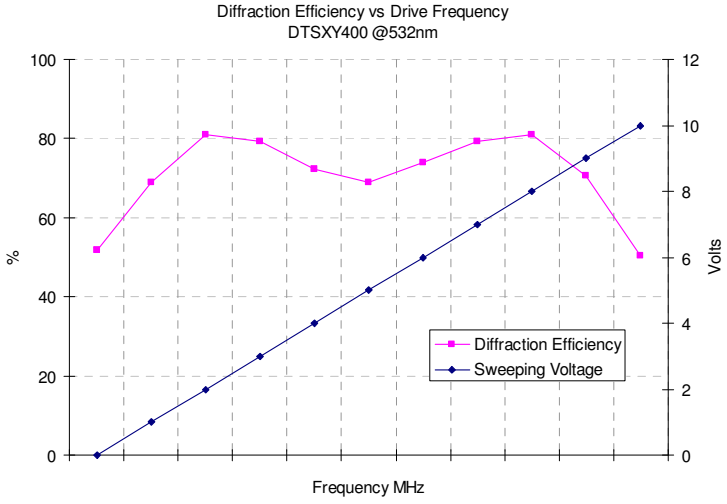


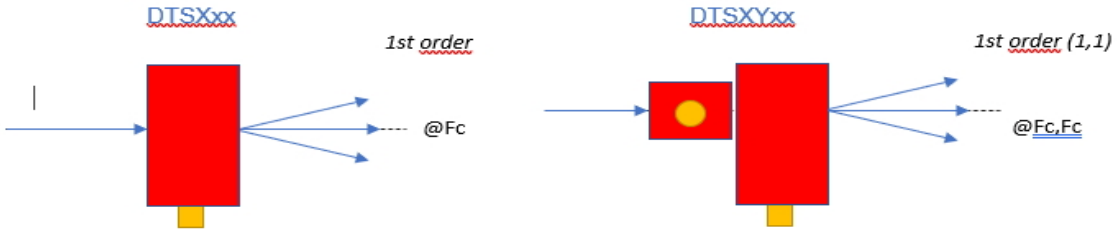
$$N = T_a \times \Delta f \qquad N = \frac{\Delta\theta}{\delta\theta} \qquad T_a = \frac{\phi}{V}$$

***ΔF**: RF frequency range*
***λ**: Wavelength of laser beam*
***Δθ**: Scan Angle*
***V**: Acoustic velocity*
***N**: number of resolvable points*





Angular Sketch (Top view): DTSXxx and DTSXYxx devices are « colinear »



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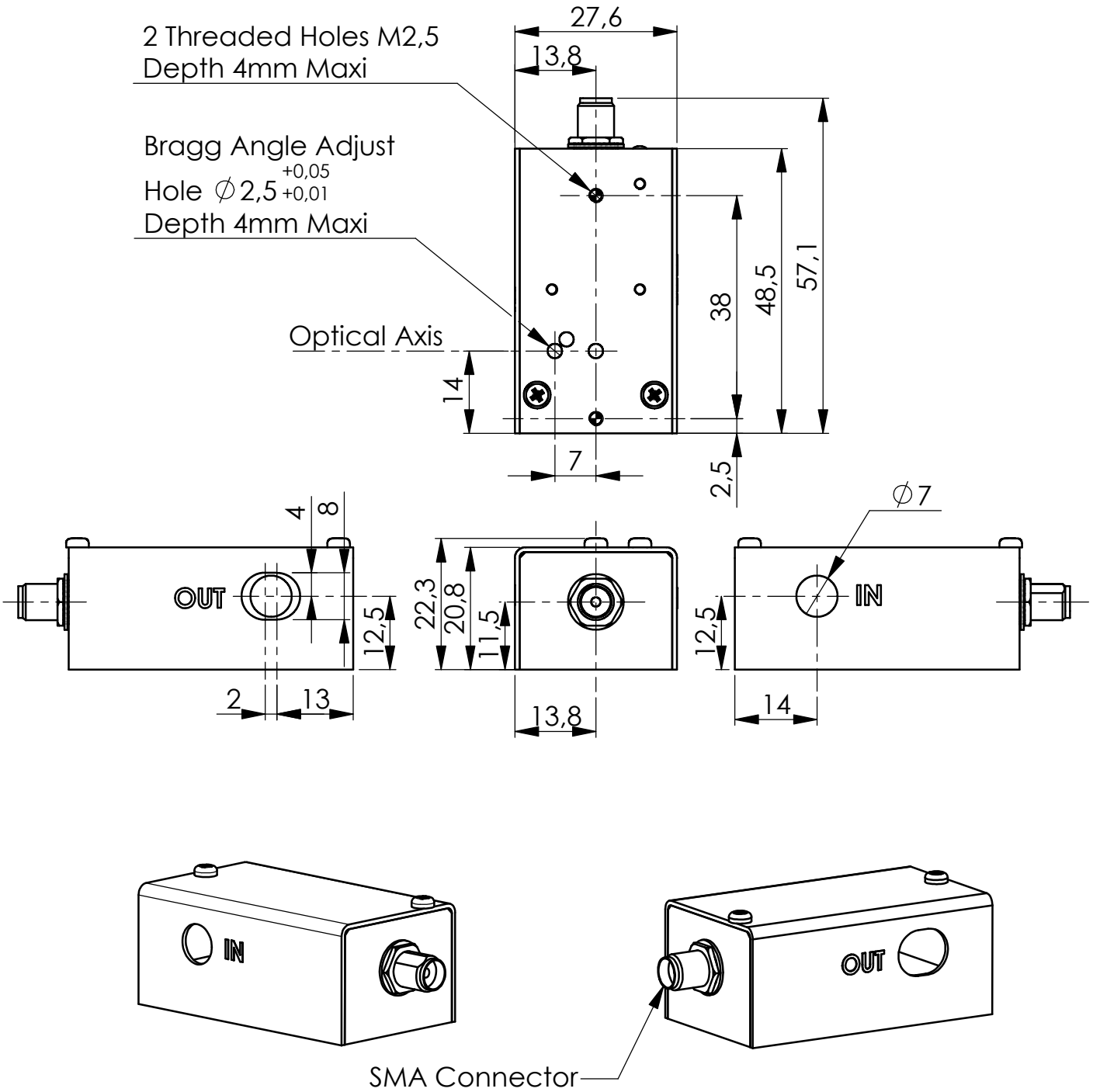

Indice Index	Date	Auteur Author	Modifications
A	28/02/07	E.D	Plan initial / Initial Drawing

Conception Design	E.D
Vérification Checking	L.F
Tolérance Tolerance	ISO 2768mK
Echelle Scale	1:1
Format	A4

PLAN D'INTERFACE / OUTLINE DRAWING

Référence / Reference

IN-PRO-163

OPTO-ELECTRONIC
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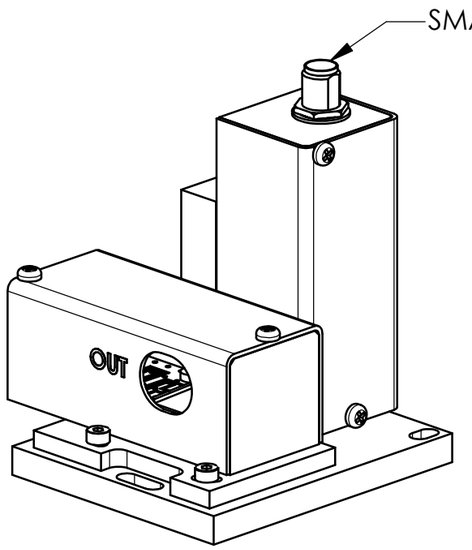
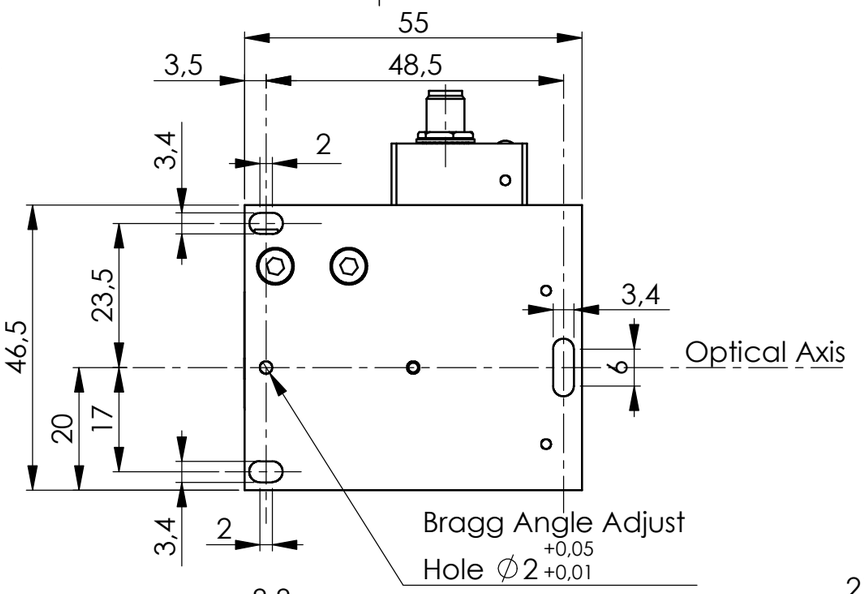
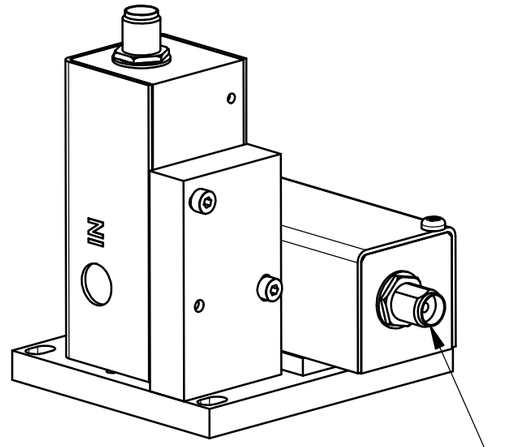
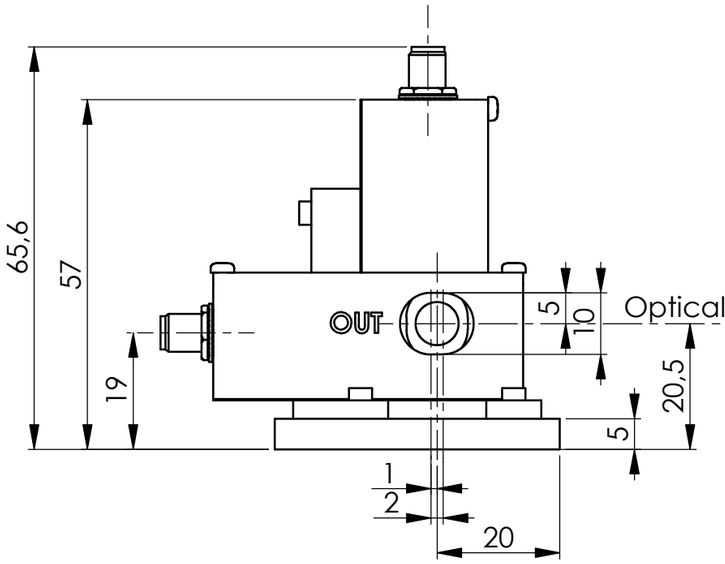
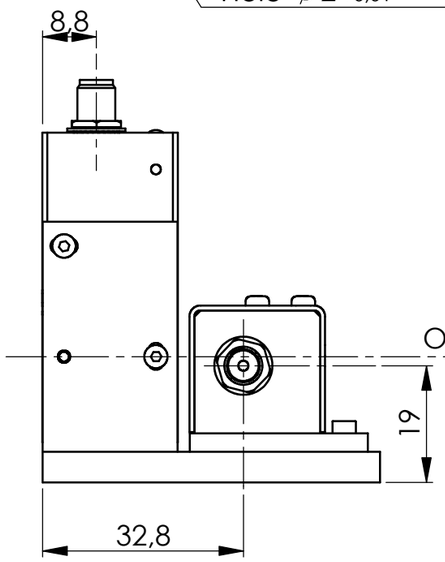
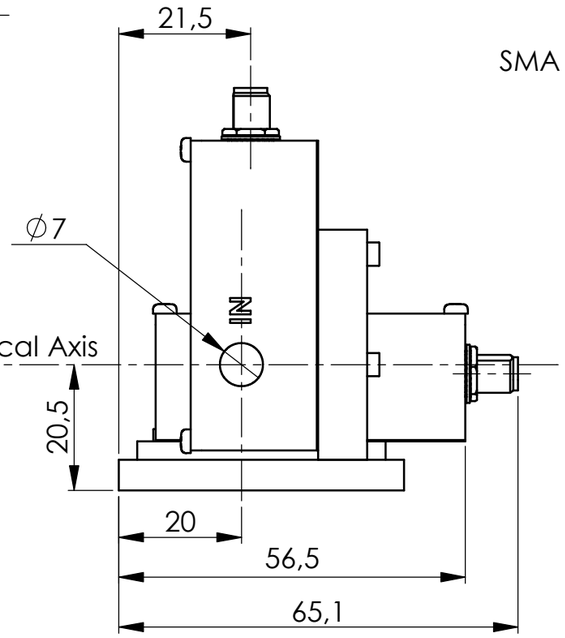






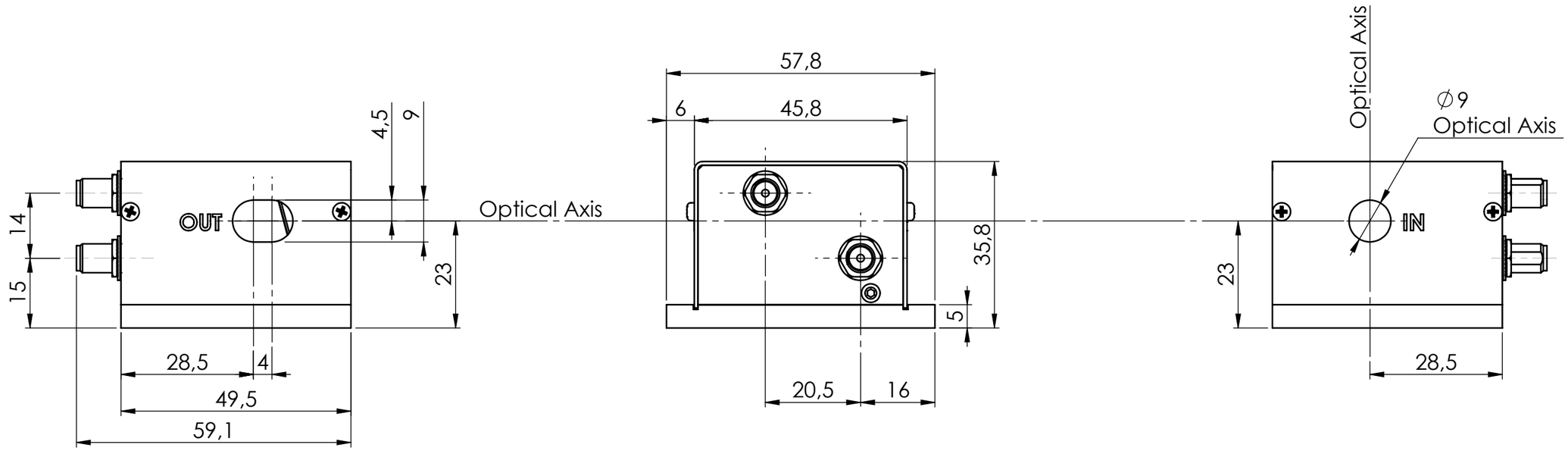


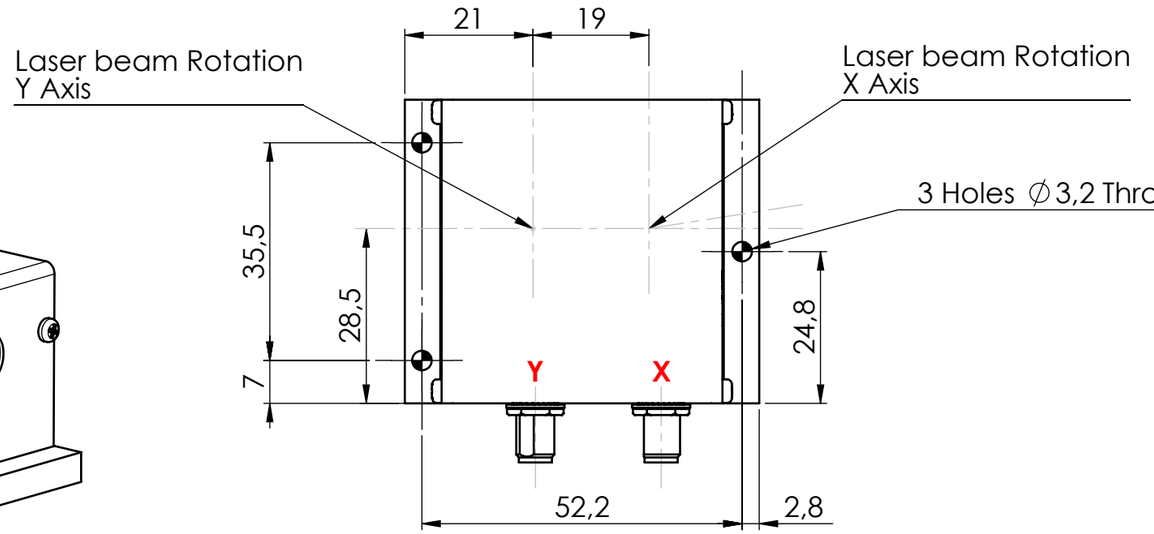


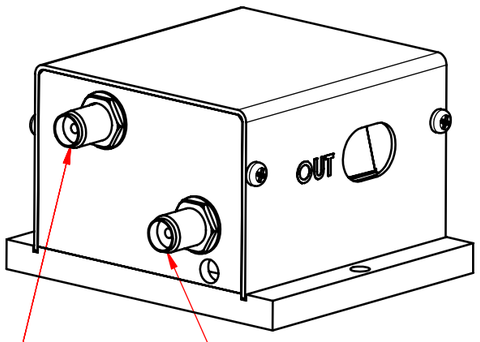


A	23/02/07	E.D	Plan initial / Initial Drawing
Indice Index	Date	Auteur Author	Modifications

Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING	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
Vérification Checking	L.F		
Tolérance Tolerance	ISO 2768mK	Référence / Reference IN-PRO-161	
Echelle Scale	1:1		
	Format A3	Ce document est la propriété de A.A.SA. Il est strictement interdit de reproduire ce document ou une partie sans l'autorisation de A.A.SA. This document is the property of A.A.SA. It is strictly prohibited to reproduce this document or a part without the authorization of A.A.SA.	Folio / Sheet 1/1 — Indice / Index A

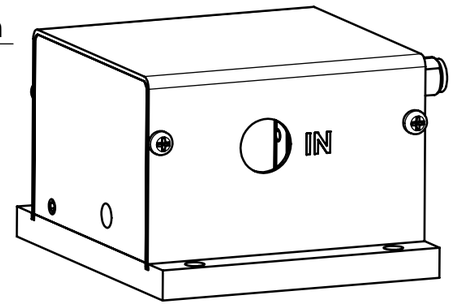






SMA Connectors
RF Input Y

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
Vérification Checking	L.F
Tolérance Tolerance	ISO 2768mK
Echelle Scale	1:1
Format	A3

PLAN D'INTERFACE / OUTLINE DRAWING

Référence / Reference

IN-PRO-180

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