

DXY110-T50S-9

Dual Axis AO Deflector

Visible Wavelengths



2121

The DXY110-T50S provides high speed simultaneous 2D laser beam scanning at NIR wavelengths. It is fabricated from two orthogonally-mounted single axis TeO₂ deflectors which diffract the input laser beam to generate up to a 375 x 375 sequential spot matrix. The DXY110 may be operated in raster (linear), random access and vector scanning modes from the same RF drive electronics. The Isomet deflector-driver combination is designed to maintain the Bragg relationship over the specified RF frequency bandwidth. This results in a uniform diffracted beam intensity across the full XY scan angle range.

SPECIFICATIONS

<u>DXY110-</u>	<u>-T50S-9</u>	<u>-T50S-9</u>	<u>-T50S-9</u>
Wavelength (specify)**:	729nm	830nm	1064nm
Centre Freq. (nominal)	50MHz	50MHz	50MHz
RF Bandwidth Δf:	25MHz	25MHz	25MHz
Scan Angle/Axis:	1.7°	1.9°	2.5°
Separation Angle:	3.4°	3.9°	4.9°
<u>Total</u> RF driver power:	MAX average or CW drive power limit = 3W per axis		
Nominal, per axis	1.8W	2.4W	Peak pulse drive power 3.5W Average limit 3.0W
Diffraction Efficiency (CW) across scan:			
CW Diffraction Efficiency:	35%	35%	20% (25% typ)
Peak Diffraction Efficiency:	(40% typ)	(40% typ)	35% (40% typ)
Aperture:	<u>Active Aperture:</u>		<u>Access Time:</u>
DXY110-T50S-9	9.3mm(H) x 9.3mm(W)		15 μs
Resolution N*:	N = maximum number of <u>resolvable</u> spots (angles), beam width dependent		
DXY110-T50S-9	N=375x375, 9.3mm dia' beam		

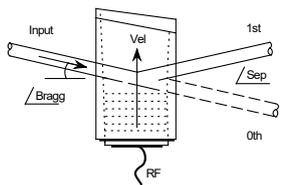
Input Laser Polarization: Linear. (Quarter wave plate included)
 Output Laser Polarization: Circular (Nominal)
 Interaction Material: TeO₂ (Slow Shear)
 Acoustic Velocity: 0.617mm/μs
 RF Input Impedance: 50Ω Nominal
 Insertion loss: < 8%
 Optical power: 10W CW full aperture.

* Theoretical Rayleigh resolution with a uniformly illuminated aperture.
 Incremental / non-resolvable spots are limited by the drive frequency resolution.

** Please specify with order. Call for other operating wavelengths.
 See model DXY110-T100S for >488nm.
 See model DXY110-T120S for <488nm.

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
 ISOMET CORP, 10342 Battlevue Parkway, Manassas, VA 20109, USA.
 Tel: (703) 321 8301 Fax: (703) 321 8546
 E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

Quality Assured.
In-house: Crystal Growth,
Optical Polishing,
A/R coating, Vacuum Bonding



DXY110-T50S-9

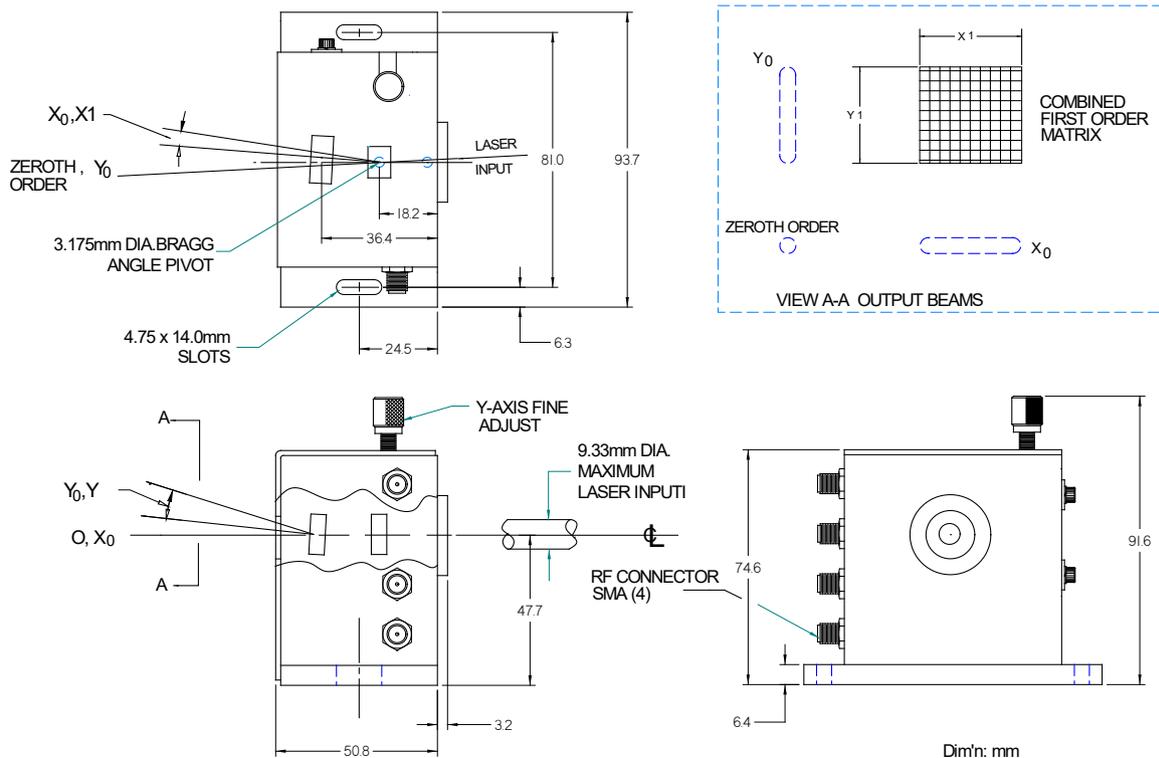


Dual Axis AO Deflector

Visible Wavelengths

2121

OUTLINE DRAWING



RF DRIVE ELECTRONICS

- 1 off iMS4-L (or -P) quad output synthesizer
- plus -
- 4 off AF0-50T-1-2 amplifiers

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

ISOMET CORP, 10342 Battlevue Parkway, Manassas, VA 20109, USA.

Tel: (703) 321 8301 Fax: (703) 321 8546

E-mail: ISOMET@ISOMET.COM Web Page: WWW.ISOMET.COM

Quality Assured.

In-house: Crystal Growth,

Optical Polishing,

A/R coating, Vacuum Bonding