

D110-T50S-9

Acousto-Optic Deflector

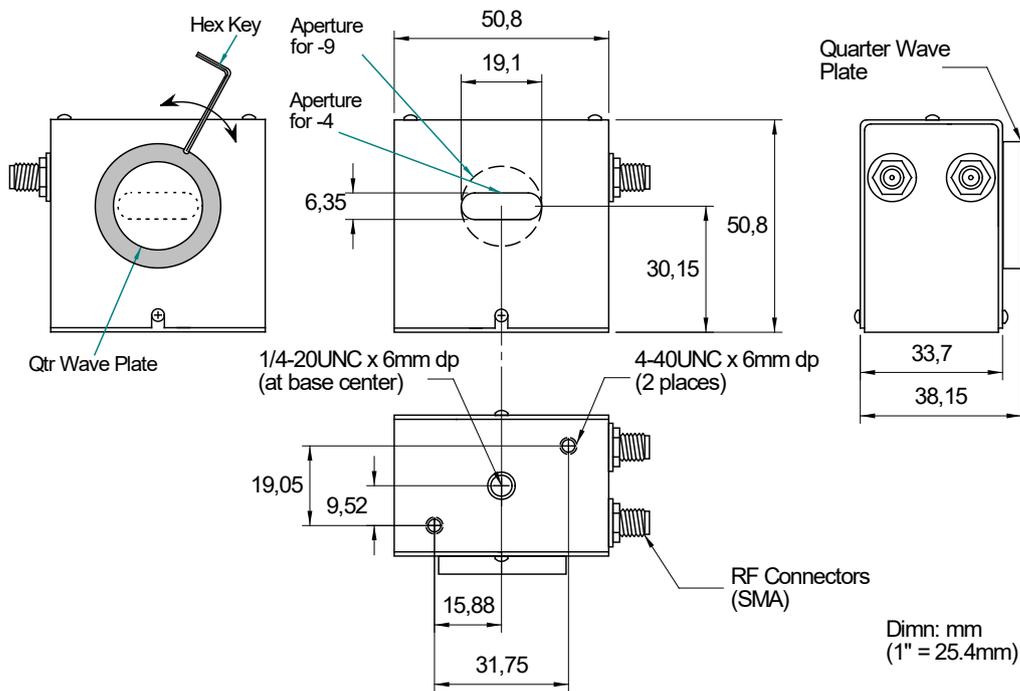
NIR



4421

The D110-T50S provides high speed laser beam scanning and each model is optimized for a specific operating wavelength in the NIR spectrum. The D110-T50S 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 scan angle.

OUTLINE DRAWING



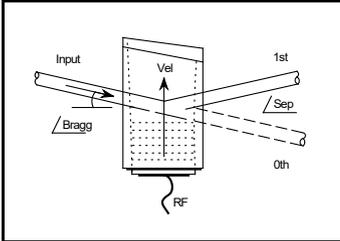
(Formerly model LS110-)

RF DRIVE ELECTRONICS

- 1 off iMS4-L (or -P) quad output synthesizer
- plus -
- 2 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



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SPECIFICATIONS

	D110-	-T50S-9	-T50S-9	-T50S-9
Wavelength (specify)**		729nm	830nm	1064nm
Centre Freq. (nominal)		50MHz	50MHz	50MHz
RF Bandwidth, Δf		25MHz	25MHz	25MHz
Scan Angle		1.7°	1.9°	2.5°
Separation Angle		3.4°	3.9°	4.9°
Total RF driver power	MAX average or CW drive power limit = 3W			
D110-T50S-9	1.8W	2.4W	Peak pulse drive power 3.5W Average limit 3.0W	
Diffraction Efficiency (CW) across scan:				
CW Diffraction Efficiency:	65%	65%	50% (55% typ)	
Peak Diffraction Efficiency:	(70% typ)	(70% typ)	60% (65% typ)	
Aperture	<u>Active Aperture:</u>		<u>Access Time:</u>	
D110-T50S-9	9.3mm(H) x 9.3mm(W)		15 μ s	
Resolution, N*	N = maximum number of <u>resolvable</u> spots (angles), beam width dependent			
D110-T50S-9	N=375, 9.3mm beam			

Input Laser Polarization: Linear. (Quarter wave plate included)
Output Laser Polarization: Circular (Nominal)
Interaction Material: TeO₂ (Slow Shear)
Acoustic Velocity: 0.617mm/ μ s
RF Input Impedance: 50 Ω Nominal
Insertion loss: < 5%
Optical power: 10W CW, full aperture

* Theoretical Rayleigh resolution with a uniformly illuminated aperture.
Incremental / non-resolvable spots defined by the drive frequency resolution
See model D110-T50S-4, with 4mmH x 14mmW aperture and increased max' resolution, N=550

** Please specify with order. Call for other operating wavelengths.
See model D110-T100S for >488nm.
See model D110-T120S for <488nm.

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