

## Collinear Adapter

### T-Ray® 5000 AXA40n1

**The T-Ray® 5000 is the first compact pulsed terahertz measurement system that is robust enough to be deployed in an industrial environment and has all of the flexibility provided by our fiber coupled sensor heads in a rack mount package. By having replaceable sensor heads, the T-Ray® 5000 can be configured to fit your specific application.**

The stand-alone transmitter (HTS40n1) and receiver (HRS40nm) can be coupled with the AXA5001 Collinear Adapter to perform as a collinear reflection transceiver. Reflection measurements are easily acquired because the transmitter and receiver share the same lens. Spatial resolution down to 100 microns has been obtained using this arrangement with a 1in. focal length lens. The transceiver is ideal for reflection tomography.

Alignment pins provide precise positioning. The adapter has two ports for the lens, so it can be assembled as right or left-handed. When used with an HTS40nm and an HRS40n1, the assembled collinear transceiver will provide over 3.5THz of bandwidth and 60dB of S/N. The AXA5001 allows the transmitter and receiver to perform as an integrated transceiver.

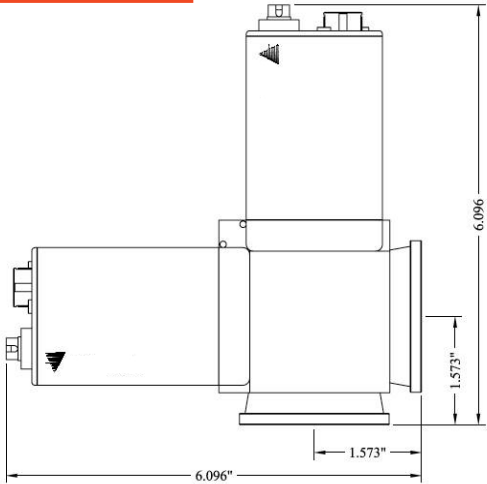
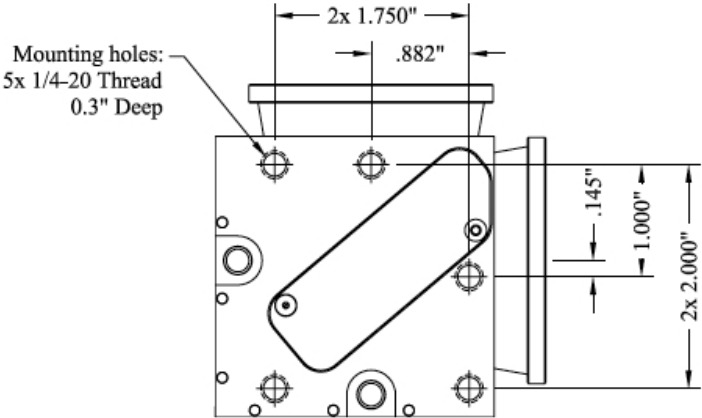
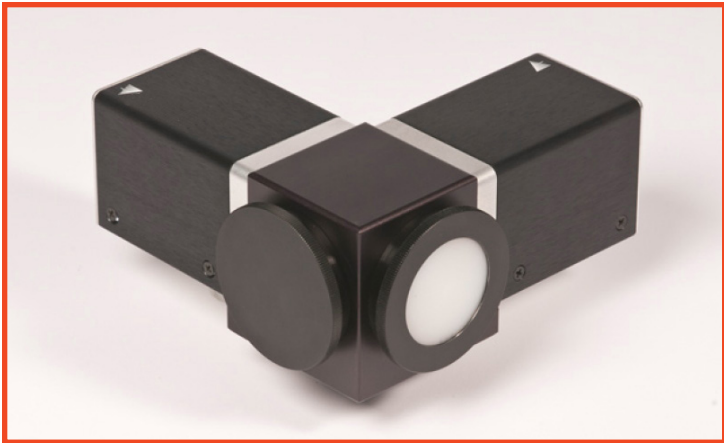
### APPLICATIONS

- Time domain reflection tomography
- Nondestructive materials inspection
- Package inspection
- Semiconductor wafer inspection
- Reaction kinetics monitoring
- Medical and biological imaging research
- Remote threat detection
- Subsurface corrosion detection
- Homeland Security



### KEY FEATURES

- Easily switch to transceiver configuration
- Simple orientation to target
- No tool required to change lenses
- Expands system capability
- Use to measure layer thickness
- Use to produce scanned images
- Compatible with HTS40nm and HRS40n1
- Variety of focal lengths available
- Right or left handed operation possible



Parameter	Specification	Units	Comments
Polarization Extinction Ratio	> 20:1		Horizontal
Available Lens Focal Length	25, 75, 150, coll.	mm	Collimating lens also available
Beam Diameter	38	mm	
Mounting Hardware	1/4 - 20		Threaded mounting holes
Size (W x H xD)	7 x 6.4 x 7	cm	
Weight	320	gm	

**ORDERING INFORMATION**  
Included

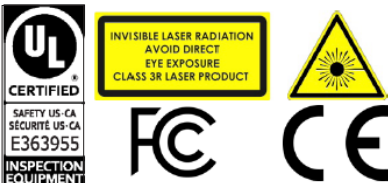
- HDPE Lens (1, 3, or 6 inch)

**Typical Configuration**

- Terahertz Controller
- Umbilical pair (2, 5, 10, or 30 m)
- Umbilical Adapter
- Transmitter
- Receiver
- T-Ray® Basic and T-Gauge® Software

**Industry Leading Regulatory Compliance**

The T-Ray 5000 intelligent TCU has been certified by Underwriters Laboratories has received the CE mark, is fully compliant with FDA CDRH laser safety regulations, and has been tested to meet FCC part 18 regulations.



2725 S. Industrial Highway, Suite 100  
Ann Arbor, MI 48104  
Phone: 734.926.4370  
Email: [terahertzsales@lunainc.com](mailto:terahertzsales@lunainc.com)