

## Transmitter (Type 3)

### T-Ray® 5000 HTS40n3

The T-Gauge® 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-Gauge® can be configured to fit your specific application.

Operating in either reflection or transmission mode, the fiber coupled sensor heads deliver a picosecond duration time-domain terahertz pulse, allowing high speed, scanned images to be easily produced.

The HTS40n3 Transmitter Type 3 for the T-Ray® 5000 provides uniform signal to noise over an extended range for high resolution spectroscopy, while minimizing waveform distortions after the pulse to allow high resolution temporal measurement of layer thicknesses without the need for post processing of the waveform. Coupled with an HRS40n1 receiver, the HTS40n3 provides bandwidth over 3.5 THz and signal to noise ratio above 55 dB. By providing a uniform signal to noise over a broad bandwidth, the HTS40n3 is ideal for applications where both high resolution and broad spectral range are desired.

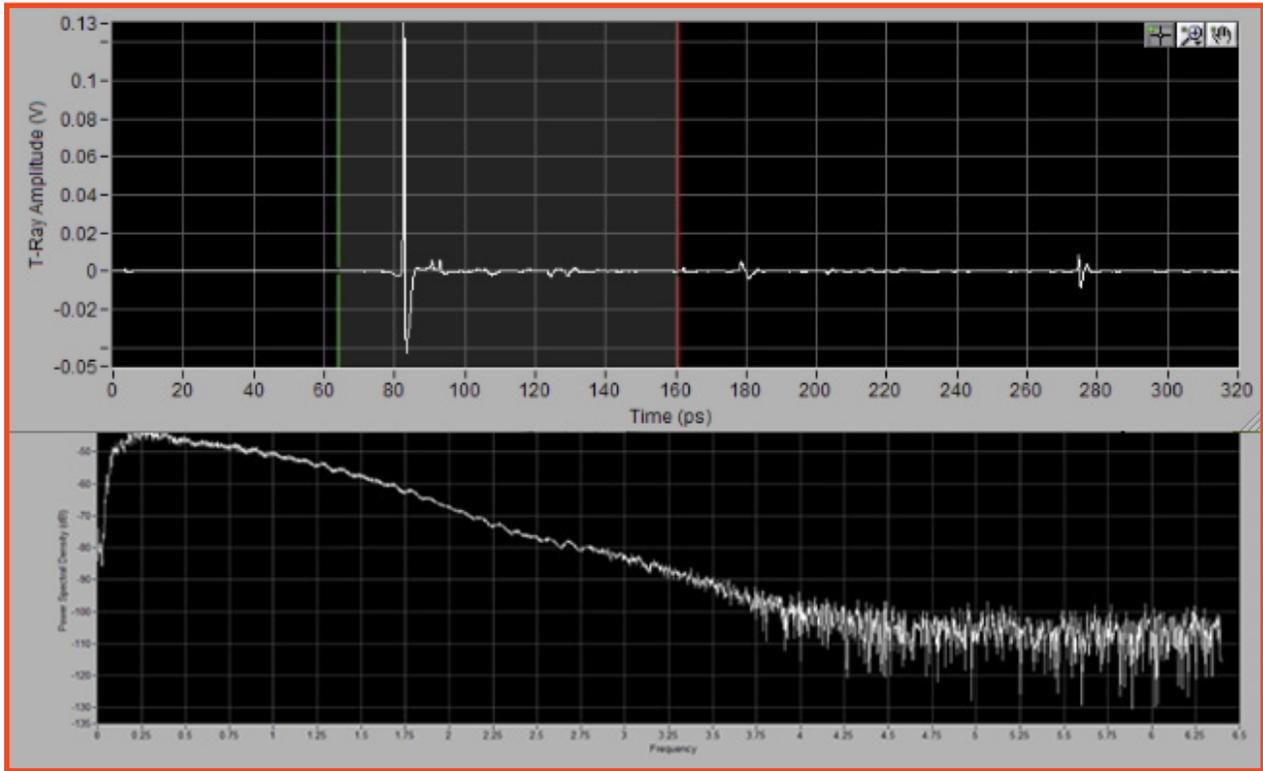


#### KEY FEATURES

- Fiber coupled to allow easy movement
- Ultra-broadband measurement
- Transmitted or reflected data collection
- Mates with collinear adapter (AXA40n1)
- High signal to noise ratio
- Hot swappable with other transmitters
- Low noise to enable rapid data collection
- Adjustable lens tube for focusing
- Multiple lenses available

#### APPLICATIONS

- Gas, liquid and solid spectroscopy
- Nondestructive materials inspection
- Package inspection
- Semiconductor wafer inspection
- Reaction kinetics monitoring
- Medical and biological imaging research
- Remote threat detection
- Sub-surface corrosion detection
- Homeland Security capabilities



Parameter	Specification	Units	Comments
Polarization Extinction Ratio	< 20:1		Horizontal
Standard Lens	25, 75, 150	mm	Collimating lens also available
Beam Diameter	38	mm	
Mounting Hardware	1/4-20		Threaded mounting holes
Size (W x H x D)	7.5 x 7.5 x 15	in	
Weight	275	gm	

**ORDERING INFORMATION**

**Included**

- 1.5 in. diameter lens (1, 3, or 6 in. working distance)
- Adjustable lens tube

**Typical Configuration**

- Terahertz Controller
- Umbilical pair (5, 10, or 30 m)
- Umbilical adapter
- 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)