

## Online Sensor Head

### T-Gauge® HXC50yn

The HXC50yn Online Sensor Head takes the robustness of the T-Ray® 5000 terahertz system to a new level with the ability to operate in industrial environments. Reflection measurement of thickness, multi-layer thickness, and basis weight are easily acquired. A variety of lenses are available to adjust the measurement spot size and working distance.

The transmitter and receiver are securely mounted inside the sealed metal housing. The umbilical for the transceiver, containing the electrical and optical connections, is constructed with high flex rated electrical cable to allow for continuous scanning.

When connected to a T-Ray® 5000 Control Unit, the HXC50yn will provide excellent waveform response, capable of providing detailed reflection measurement of layered surfaces.

The “y” and “n” in the model number correspond to the focal length of the lens, and the type of terahertz transmitter, respectively. For “y” = 4 for 75mm lens and 5 for 150mm lens. For “n” = 1 for a Type 1 transmitter and 2 for a Type 2 transmitter.

### APPLICATIONS

- Industrial process control: commercial roofing; foam density; paint thickness; plastic extrusion; asphalt shingles
- Nondestructive materials inspection: aircraft; packaged goods; radome inspection; spacecraft; pipeline repairs
- Converting applications: paper coating; multilayer films; tire



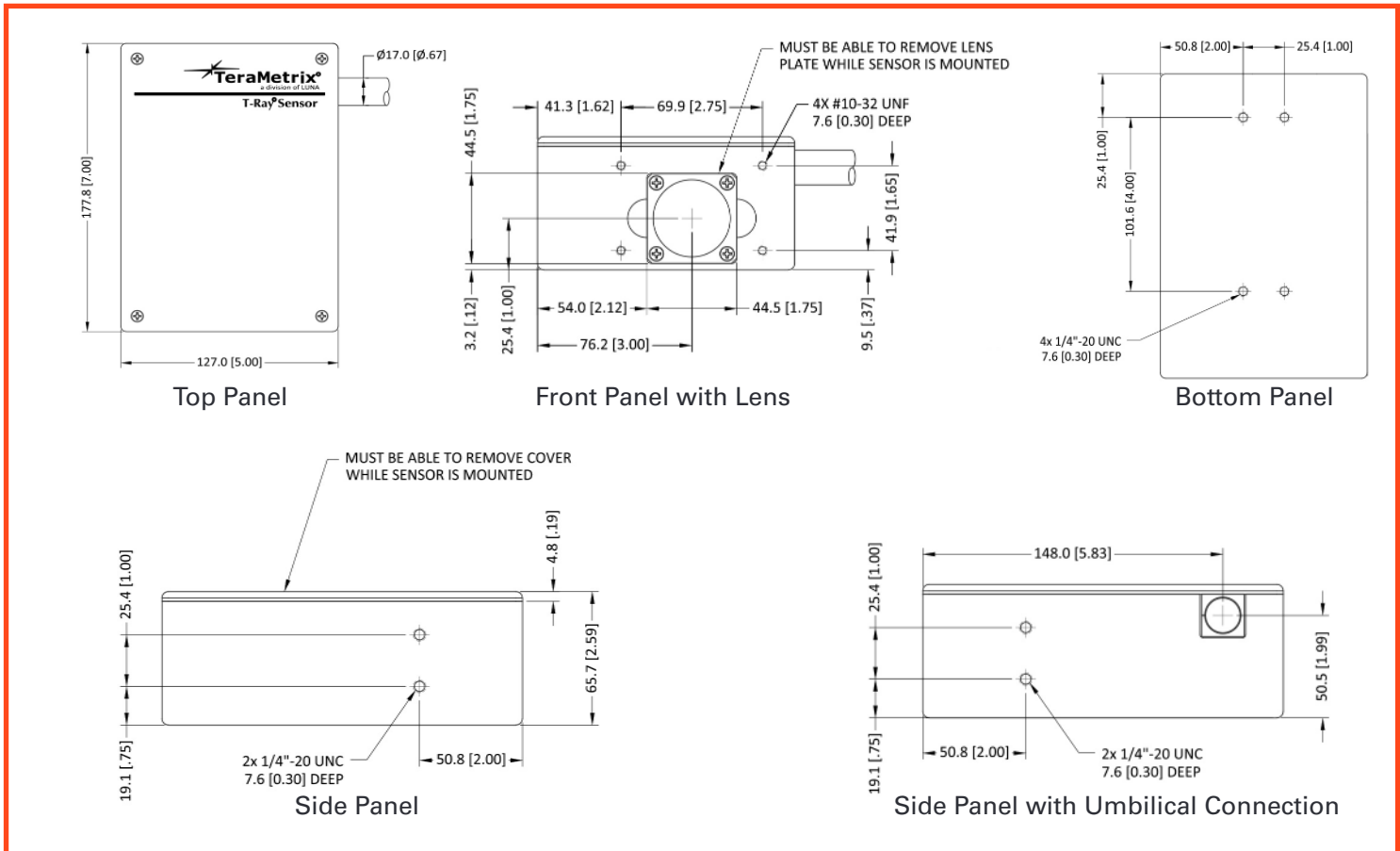
### KEY FEATURES

- Full transceiver functionality
- Collinear design
- Low cost plastic lens
- Hardened case for industrial environment
- Use to measure layer thickness
- Use to produce scanned images
- Single high flex umbilical
- Variety of focal lengths available
- Capable of being cleaned

### BENEFITS

- No need for separate transmitter and receiver
- Simple orientation to target
- Inexpensive to replace if damaged
- Extended lifetime
- Replace multiple sensors
- Compatible with various motion options
- Long umbilical life in scanner or robot
- Improve product quality by optimizing production
- Tolerant to dirt and dust in the factory

Parameter	Specification	Units	Comments
Polarization Extinction Ratio	> 20:1		Horizontal
Available Lens Focal Length	25, 75, 150, coll.	mm	Other lens available on request
Beam Diameter	40	mm	
Mounting Hardware	1/4 - 20		Threaded mounting holes
Operating Temperature Range	0 - 50	°C	20 - 90% RH non-condensing
Size (W x H x D)	128 x 66 x 178	mm	
Weight	1.6	kg	



## ORDERING INFORMATION

### Included

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

### Typical Configuration

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