



FEATURES

- Compact enclosure
- Mates to fiber coupled sensor head
- Integrated data processor
- Standard monitor and USB connections
- Digital inputs available for measurement control

BENEFITS

- Easy to install
- Integrates with web scanners and robots
- Provides measurements in engineering units
- Does not require specialty monitor or keyboard
- Triggers for bin boundaries or data tagging

APPLICATIONS

- Industrial process control: foam density; coating thickness; plastic extrusion; asphalt shingles
- Nondestructive materials inspection: aircraft; packaged goods; radome inspection; spacecraft; pipeline repairs
- Converting applications: paper coating; multilayer films; tire
- Scientific applications: Terahertz Imaging (transmission and reflection); Time Domain Spectroscopy

T-Ray[®] 5000 TCU52nm Control Unit

The T-Ray[®] 5000 Control Unit is appropriate for use in both industrial and scientific applications. It monitors and controls all aspects of THz generation and detection. It delivers precisely controlled optical signals to the terahertz transmitters and receivers, or the T-Gauge Sensor Heads, enabling them to generate and receive terahertz signals. Measured data are processed within the Control Unit at a rate of up to 1 KHz, making the T-Ray 5000 one of the fastest terahertz systems available.

The data generated by the T-Gauge Sensor Heads and processed by the T-Ray 5000 Control Unit enable multiple measurements of a product simultaneously.

One T-Gauge Sensor can measure the basis weight, caliper thickness, multi-layer thicknesses, density and moisture content of a sample in a single pass.



Attached to a separate transmitter and receiver, the T-Ray 5000 Control Unit can perform spectroscopic measurements as well as transmission and reflection imaging.

The T-Ray 5000 Control Unit and accessories are linked with robust connection points and interfaces appropriate for industrial environments. Adequate connections are provided to allow seamless integration with most QC systems or experimental applications. The industry-standard interface connections make integration with the T-Gauge Sensor straightforward.



ORDERING INFORMATION

Included

US standard line cord
Wall, shelf or rack mount
T-Ray basic software

Typical Configuration

Terahertz Controller
Umbilical (5, 10, 30 m)
Online transceiver

PARAMETER	SPECIFICATION	UNITS	COMMENTS
Model Number TCU52nm	n =		1 = with I/O, 2 = without I/O
Model Number TCU52nm	m =		0 = 320ps, 1 = 80ps, 2 = 160ps, 3 = 700ps
Maximum measurement range	12, 25, 50 or 100	mm	Will vary with material measured
Measurement rate	100 and 1000	Hz	Determined by measurement range
External monitor connection	VGA		
A/D dynamic range	16	Bit	
Operating temperature range	0 - 50	°C	20 - 90% RH non-condensing
Control required	<4	Amps	110/240 VAC, 50/60 Hz self-sensing
Size (W x H x D)	17.5 x 21.5 x 7.5	in	Minimum size
Weight	18.2	kg	
USB ports	4		
Ethernet ports	3		2 independent IP addresses
Digital interface	16		Inputs and outputs
Encoder inputs	6		High speed

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.

