

Sensor Configuration T-Gauge®



The T-Gauge® Sensor Configuration changes the nature of online process control. By coupling a T-Ray® 5000 Intelligent Terahertz Control Unit (TCU) with an umbilical and a Sensor head, and running it with the T-Gauge® software configuration, a high fidelity terahertz pulse can be produced. The rich data derived from the pulsed terahertz signal allows multiple measurements from a single sensor. The multitude of connection options allows seamless integration with any QCS system. Measurements of basis weight, density, caliper thickness, multi-layer thickness and delamination can be made with a single compact sensor technology.

The T-Ray® 5000 Intelligent TCU is the heart of the T-Gauge® Sensor Configuration. The TCU comprises the short pulse laser, time delay rail, data collection electronics and powerful calculation engine. With a waveform acquisition time of 10ms or 1ms, depending on configuration, the intelligent TCU is the fastest, full-featured time domain terahertz controller available.

APPLICATIONS

- Industrial process control: basis weight; density; thickness; caliper; multilayer thickness; delamination
- Plastic extrusion; multilayer extrusion; pipe coating; asphalt thickness; TPO; Polyiso foam; rubber; tire
- Nondestructive testing: paper and paper coating; converting applications; foams and foam products

KEY FEATURES

- Compact sensor head
- Fiber coupled for scanning applications
- Integrated data processing
- Embedded measurement server
High signal to noise ratio
- High precision repeatability and reproducibility
- Switch easily between products

BENEFITS

- Lighter, single sided scanner
- Multiple measurements from a single sensor
- Produce cross direction profiles
- Minimizes processing burdens on the QCS
- Easy XML communication for integration
- High speed measurement for increased resolution
- Reliable measurement fidelity
- Reduce downtime, shorten product transition

Parameter	Specification	Units	Comments
Maximum Measurement Range	12, 25, 50 or 100	mm	Will vary with material measured
Measurement Rate	100 or 1,000	Hz	
External Monitor Connection	VGA		
USB Ports	4		
Ethernet Ports	2 or 3		2 Independent IP Addresses
Power Required	< 550	Watts	110-240 VAC, 50/60 HZ Self-sensing
Beam Diameter	38	mm	
Mounting Hardware	1/4-20		Threaded Mounting Holes
Umbilical	5 - 30	m	Configurable
Weight	18.2	kg	



ORDERING INFORMATION

Included

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

Typical Configuration

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



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