OTS System

The optical transmittance spectrophotometer

Optical Transmittance Spectrophotometer (OTS)

Ocean Optics has combined its expertise in miniature spectrometers and precision optics to create a compact system for real-time transmittance measurements. The system accepts samples from 10-150 mm diameter and up to 10 mm thickness. The OTS is especially well suited for applications where transmittance accuracy (to +/- 1.0%) and precision (+/- 0.1%) are critical.

Applications

The OTS is especially useful for measuring tint colour, visual transmittance and UV cut-off of ophthalmic lenses, optical coatings, windows and filters and sun lens materials. Manufacturers of neutral density filters and filter glasses, and anti-reflective and other precision coatings, will appreciate the ability to use the OTS as a real-time, in-line process monitor.

Features

The OTS is built on a high-resolution miniature linear CCD-array spectrometer configured for the 380-780 nm wavelength range. A high-power, 20-watt tungsten halogen light source provides stable, continuous output. The high resolution optics provide beam collimation. The sample fixture (z-stage) holds the sample in place and excludes ambient light.

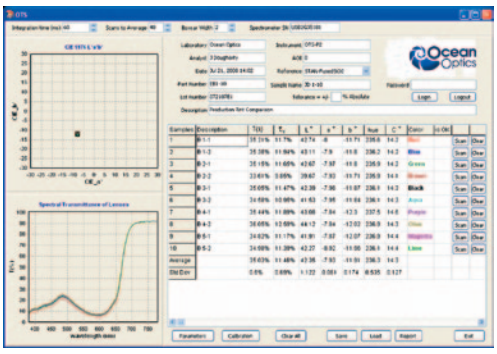
Advantages

» Fast and accurate measurements
» Easy to use
» Calculates %T, luminous transmittance, colour, CIE L* a* b* and other critical optical measurements
» Meets CE, UL, RoHS, WEEE requirements
» Customised software possibilities
» Non-contact sample measurement

Specifications

OTS - Optical Transmittance Spectrophotometer

CHARACTERISTICS	
Special range	380-780 nm
Detection	Miniature fibre optic spectrometer
Light source	High-power tungsten halogen
Sample collection	Fibre optic integrating sphere
Color calculation	CIE L* a* b* color characteristics
Measurement calibration	Manual calibration using known glass standard (included); calibration time < 30 seconds
System calibration	Recommended annual recalibration
Traceable standards	Optional
Sample size	Tinted plastic and glass lenses, windows, optical filters
Optical stage	Aluminum (with chemical resistant durable coating)
Software	Specialised OTS software for colour and transmittance provides central data management
Quality	Conforms with ISO 8980-3, ISO 13666: 1998 and CIE norms and standards
Manufacturing compliance	CE/UL/RoHS/WEEE
PERFORMANCE	
Transmittance measurement accuracy	+/- 1.0 %
Transmittance measurement precision	+/- 0.1 %
Data acquisition time	< 5 s
Light source output	20 watts
Light source stability	0.5% (15 minutes to stabilize)
Light source drift	< 0.3% per hour
Bulb lifetime	2,000 hours
Bulb color temperature	3,000 K
Operating temperature	5°C - 35°C
Operating humidity	5-95% RH
COMPUTER REQUIREMENTS	
Operating systems	Windows XP, Vista
Computer interfaces	USB 2.0



Data shown by OTS software

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