

ILT950 / ILT950UV

Portable spectrometers



The ILT950 is equally at home on the production floor as well as in the laboratory combining high performance, accuracy, ease of use, and a wide array of features all in a rugged, compact, portable design.

The excellent performance of the ILT950 spectroradiometer has been improved further with the addition of a new machined optical bench for reduced stray light and improved thermal stability.

The ILT950 and ILT950UV spectroradiometers also now use the new higher pixel detector CMOS linear image sensor for improved performance including nearly 50% more sensitivity over the entire spectral region, and higher S/N ratio increased from 200:1 to 300:1 with larger quantum well depth.

These improvements combined with the new features in our powerful SpectriLight III software, including PAR $\mu\text{mol}/\text{m}^2/\text{s}$, metamerism, and baseline overlay comparisons, make the ILT950 a top performer in the CCD

Ordering information	
ILT-ILT950-UV-NIR	UV-NIR spectroradiometer system 350 - 1050 nm "single source" calibration
ILT-ILT950UV	UV spectroradiometer system 200 - 350 nm "single source" calibration
ILT-ILT950UV-DUAL	UV spectroradiometer system 200 - 450 nm "dual source" calibration
ILT-ILT950UV-RAA4	UV spectroradiometer system 200 - 450 nm "dual source" calibration, with RAA4

Specifications	
ILT950	200 - 1100 nm
Resolution:	1.4 nm with 25 micron slit
(Calibration options: single source 350 - 1050 nm or dual source 250 - 1050 nm)	
ILT950UV	200 - 450 nm
Resolution:	>1 nm with 50 micron slit
(Calibration options: single source 200 - 350 nm or dual source 200 - 450 nm)	
NIST-traceable/ISO17025 accredited calibration*	
Detector	CMOS linear image sensor
Focal length	75 mm
Dynamic range	3300
Optical configuration	Symmetrical Czerny-Turner
Stray light	<0.3%
Signal/noise	300:1
Integration time	1 ms ~ 20 s
Data transfer speed	2 ms/scan, 16 bits, 2 MHz
Trigger compatible	
Synchronization capability	
Temperature range	15 - 40°C
Size	41x127x178 mm (HxBxT)
Dynamic dark correction	Yes
Non-linearity calibration	Yes
Wavelength accuracy	± 0.5 nm
Radiometric accuracy	200 nm - 350 nm: $\pm 20\%$ ** >350 nm - 400 nm: $\pm 10\%$ ** >400 nm - 900 nm: $\pm 5\%$ >900 nm - 1100 nm: $\pm 10\%$
<p>* Note: Dual range calibration with D₂ and QTH light source is strongly recommended for broadband measurements encompassing UV below 350 nm due to low output of the QTH lamp which increases the difficulty of accurate UV calibration. The ILT950 can be calibrated with QTH light source only if UVB/C accuracy is not consequential.</p> <p>** Requires dual source calibration upgrade to assure radiometric accuracy in the UV</p>	

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SpectriLight III

ILT950 control & analysis software

SpectriLight™ III is a LabVIEW based software package for Windows that allows you to acquire spectral and color data.

The new version of SpectriLight™ III has additional calculations for metamerism, and 2 and 20 degree observer. The new overlay feature allows the user to compare the base reading to current readings. Wavelength range, integration time, scan average and other controls can be easily set through pop up windows, menus and tool bars.

Absolute irradiance and chromaticity are calculated instantly.

SpectriLight™ III is LabVIEW based software and can be easily customized for specific OEM applications. For API applications, Multiple DLL's are available.

Specifications

- Automated time line measurements
- Access multiple calibration files
- Auto-integration simplifies user interactions
- Scan average: 1 to 999 for reduced noise
- External trigger
- Peak find
- Enhanced scaling and zoom features including movable vertical cursors
- Export to ASCII text or directly into Excel. Save screens/scans in multiple formats including .bmp, .jpg, and .png
- Powerful import data wizard can even import data from other spectrometers!

SpectriLight™ III version 5 new features

- Overlay: allows comparison to baseline reading
- PAR: plant growth calculations
- New color calculation includes 2 and 10 degree observer, and metamerism
- Improved colorimetry based on 1 nm (previously 5 nm)

Optional input optics (others on request)

ILT-R2 Radiance optic

Specialized fiber optic produces an average field of view of 2 degrees for radiance/luminance measurement of extended sources. Requires ILT-VS950R calibration.



ILT-RAA4 Right angle cosine adapter

with approx. 6.9 mm diameter aperture, permits measurement of light sources 90° to the standard fiber. Sold with weighted screw-on handle for more stable detector placement when needed. Excellent cosine response, increases signal transmitted to CCD spectrometer, excellent for lower light, low profile, and small diameter light pattern measurements. Calibration required (sold separately).



ILT-INS50 2-inch Integrating sphere

with 2 ports; SMA905 and 5 mm port with lambertian response. For testing mounted and unmounted LEDs, fiber optics and miniature lamps. Provides readout of total flux in watts and lumens, irradiance in W/cm², illuminance in lux, color purity, spectral distribution and color temperature with ILT550 (requires ILT-VS950P calibration).

Alternative: ILT-INS125 5-Inch Integrating sphere and ILT-INS250N 10-inch Integrating sphere.



ILT-FFOSMA2UV1000

2 meter long, 1000 micron, armored fiber optic light guide. Transmits light from 250 -1050 nm. Strong armored cable adds additional protection against breakage often required for longer fiber lengths.



Real-time analysis

- Irradiance: Total, Visible, UVA, UVB, UVC, PAR, and photopic data
- Selectable bandwidth for irradiance, power, and radiance (requires additional hardware and calibration options)
- Chromaticity analysis: x, y, u, v coordinates and display in CIE color spaces
- Dominant and complementary wavelength and color purity
- General Color Rendering Index (CRI) and 15 special color rendering indices
- Correlated Color Temperature (CCT) and DUV