

PHOTO RESEARCH[®], Inc.

The PR[®]-655 SpectraScan[®] Colorimeter

Unique Design

For nearly 15 years, the PR-650 SpectraScan has been the most widely used spectroradiometer in the world - the workhorse of the industry. The new PR-655 replaces the world renowned PR-650 with a plethora of enhancements. This unique, portable battery powered instrument utilizes a fast-scanning 128 detector element spectrometer with a spectral resolution of 3.12 nm per pixel and is supplied with an automated measure shutter. A 1° measuring field is standard equipment with the PR-655 - a 1/2° aperture can be ordered as an option. Other hardware features include AutoSync[®] for automatically synchronizing to the source refresh rate insuring the utmost accuracy, an external trigger port allowing remote measurement activation from either a push button or peripheral device, a Secure Digital (SD) port for measurement storage, and a long lasting rechargeable Lithium-ion (Li) battery.



PR-655 SpectraScan Colorimeter

Easy to Use

The PR-655 menus are accessed via the on-board, 2.25" x 3" high resolution, full color touch screen LCD display and 5-way navigation keypad. Following a measurement, the PR-655 displays data and color spectral graphs on the system display. The PR-655 design provides stand alone operation - no PC required. The PR-655 can be also controlled via the world famous SpectraWin software over the USB or Bluetooth interface or using text based commands (Remote Mode).

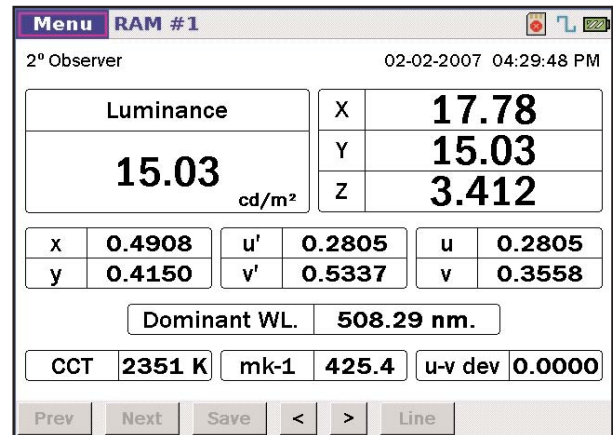
Flexibility

The unique design of the PR-655 makes tasks such as spectrally based photometric and colorimetric measurements, source spectral power distribution, dominant wavelength and correlated color temperature quick

and simple.

The PR-655 can be supplied with up to 15 filter based remote heads connected to the instrument in a 'daisy chain' configuration to make simultaneous illuminance or luminance measurements - an ideal tool for tasks such as projector uniformity. Select heads for luminance, illuminance or chromaticity.

For applications other than radiance or luminance the PR-655 can be supplied with optical accessories such as a cosine receptor for irradiance / illuminance, LR-127 LED Analyzer for testing LED's to CIE 127, fiber probe for remote non-line-of-sight luminance testing, and a series of magnification lens for small spot size analysis. In fact, all of the accessories available for the PR-650 SpectraScan can be used on the PR-655. An RGB option is available that provides an interactive method for display white point calibration based on spectral measurements.



Measurement Result Screen

Connectivity

It's easy for the PR-655 to talk to the outside world - it comes equipped with USB and (optional) Bluetooth[®] wireless interfaces. It is supplied with text based, Remote Mode syntax and a driver that emulates an RS232 interface (COM: port) making it a simple task to generate custom programming to perform specific tasks or for inclusion in an ATE environment. If you want, we can optionally add a traditional RS232 I/F.

Applications

Display luminance and color	Medical / dental color testing
Contrast	Reflectance / transmittance
Screen brightness	Quality control
LED testing	Human factors
Paper, ink and textile testing	Dominant wavelength

Features	Benefits
Full Color Touch Screen Display	Easy-to-use menu based software
Wide Dynamic Range	Address almost any display measurement requirement
USB Interface	Connects to virtually any PC
Bluetooth ready (optional)	Wireless, remote data transfer
Long lasting rechargeable Li battery	Excellent for field use.
SD Memory	Save thousands of measurements

PR-655 Specifications

Detector	128 detector array
Spectroradiometer Wavelength Range	380 to 780 nm
Optics	Pritchard viewing and measuring system.
Digital Resolution	16 bits
Spectral Resolution	3.12 nm / pixel
Spectral bandwidth	8 nm (5 nm optional)
Spectral Accuracy	± 1 nm
Luminance accuracy (Against NIST luminance standard)	± 2%
Luminance repeatability	≤ 1% at 3 cd/m ²
Color Accuracy (for Illuminant A)	±0.0015 in CIE 1931 x,y
Measurement Capabilities	Luminance, Illuminance, luminous intensity, chromaticity, correlated color temperature, dominant wavelength.
Measurement Time	6 ms to 6 secs.
Battery	Rechargeable Lithium-ion. (≥ 12 hours continuous operation)
Weight	3.75 lbs (1.7 kg)
Operating Temperature	34° to 95° F (1° to 35° C)

Notes:

1. Sensitivities are for 100:1 signal to RMS noise against an Illuminant A based NIST traceable luminance standard
2. All specifications are subject to change without notice.

Measurement Spot Size

Accessory	Working Distance	Aperture	
		1°	1/2°
MS-75 (355 mm to infinity)	355 mm	5.25 mm	2.63 mm
	305 m	5.32 m	2.66 m
SL-0.5X	94.1 mm to 137 mm	1.5 mm to 2.54 mm	0.75 mm to 1.27 mm
	46 mm to 66 mm	0.890 mm to 1.32 mm	0.445 mm to 0.660 mm
MS-2.5X	46 mm	0.51 mm	0.225 mm
MS-5X	28 mm	0.289 mm	0.145 mm
MS-7.5	100 mm	17.5 mm	4.38 mm
	3.05 m	53 cm	13.3 cm
LA-600	Contact	13.2 mm	13.2 mm
FP-600	Contact	3.17 mm	3.17 mm

Luminance Range (cd/m²)

Access.	Aperture	
	1°	1/2°
MS-75	3.4 to 17,000	13.6 to 68,000
SL-0.5X	3.4 to 17,000	13.6 to 68,000
SL-1X	3.4 to 17,000	13.6 to 68,000
MS-2.5X	10.3 to 51,400	41.2 to 205,600
MS-5X	13.7 to 51,400	54,800 to 205,600
MS-7.5	3.4 to 17,000	13.6 to 68,000
LA-600	3.4 to 17,000	13.6 to 68,000
FP-600	8.6 to 43,000	34.4 to 172,000
CR-600	21.5 to 107,700 lux	86 to 430,800 lux



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