



Portable Spectrophotometers

## X-Rite Ci6x Series™

Improving Color Management Throughout The Supply Chain



# The Ci6x Series

## A Color Management Advantage That Fits In the Palm Of Your Hand

The Ci6x Series is a complete color management package designed to provide end-users with the perfect complement to a quality assurance, quality control, and process control operation.

- 1 Switchable apertures (Ci64) provide greater flexibility
- 2 Status LEDs give real-time visual feedback
- 3 Embedded NetProfiler monitors instrument and performance
- 4 Hi-Res color LCD is easy to see and read
- 5 Bluetooth (available in compliant countries only) allows wireless communication with other system components
- 6 USB communication with QC or QA systems
- 7 Remote measurement trigger for convenient measurements
- 8 Ergonomic overmold design provides smooth, comfortable grip
- 9 Calibrated UV (Ci64 UV only) enables increased accuracy with OBA samples
- 10 Embedded transform enabled to optimize agreement with legacy instruments
- 11 Common SP flip-back shoe that aids in sample presentation and techniques
- 12 Reliable detent lock



## Manage Color and Process Control, Reduce Operating Costs

Color is an area that is often overlooked in manufacturing. Yet proper color measurement offers significant advantages to every industry — from paint and coatings, to textiles, to home furnishings. This happens by improving the color consistency of your products. By improving the color consistency, you exceed customer expectations while reducing waste and downtime, and increase process efficiency and profitability.

Having a sound color program begins with having the right tools to deliver accurate, consistent measurement. X-Rite has those tools. The Ci6x family of handheld spectrophotometers is a performance-driven solution for managing color at any stage of production, and gives manufacturers a whole new level of confidence in their color data, regardless of where or when the measurements are collected.

## A Versatile Package for a Wide Range of Color Applications

The Ci6x Series creates opportunities to develop a consistent color monitoring program, efficiently manage process quality control, and reduce operating costs. The many options within the product family give operations of all sizes the ability to build in a stable measurement system that delivers repeatable performance and increased product yield. This makes the Ci6x Series a reliable solution for a wide range of industries and applications:

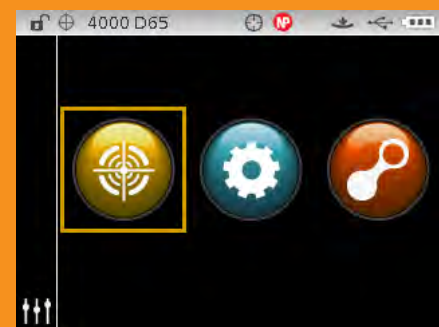
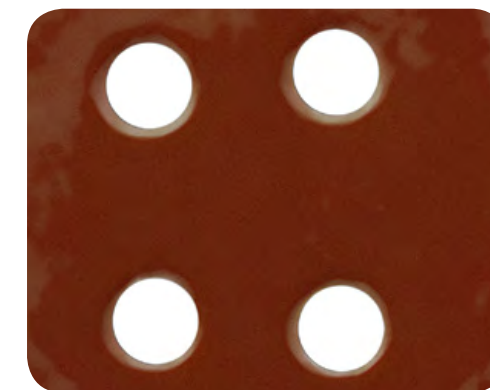
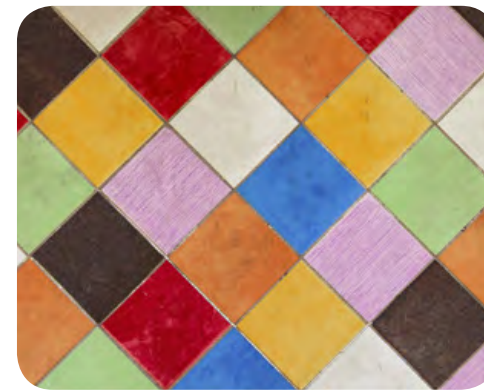
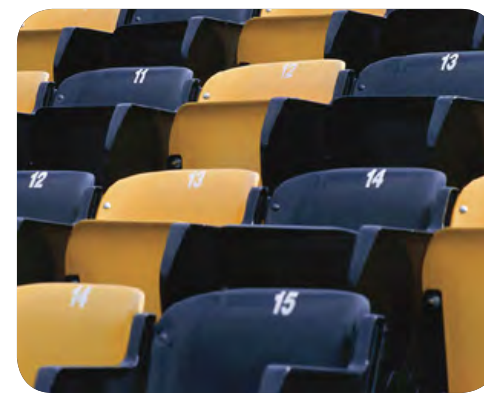
**Commercial Coatings.** The need to meet specific color codes and regulations requires repeatable color measurement. The Ci6x Series provides the consistency demanded to ensure batch-to-batch color conformity.

**Plastics.** Batch consistency—from raw material through finished product—often varies depending on material supplier and process conditions. The Ci6x Series can monitor the color impact of shifts in process variables, while X-Rite application software storing color data that can be shared among the supply network to ensure color accuracy.

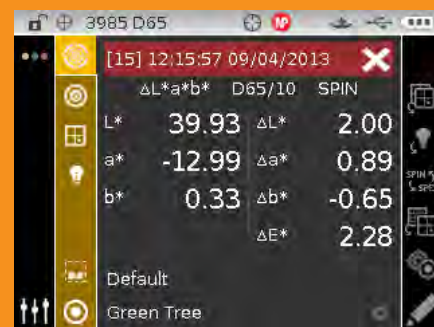
**Automotive.** Whether OEM interior, aftermarket parts, or second- and third-tier supplier components, color accuracy is an absolute must. The Ci6x system allows manufacturers at every level to achieve consistent readings. The ability to simultaneously measure SCI/SCE further enhances the quality control process.

**Textiles.** While materials and fabrics may appear similar at first glance, those that contain optical brightening agents (OBA) may result in a much different look under varied lighting conditions. Available calibrated UV enhanced illumination controls the UV/visible balance, enabling long-term, consistent measurement of optically bright samples.

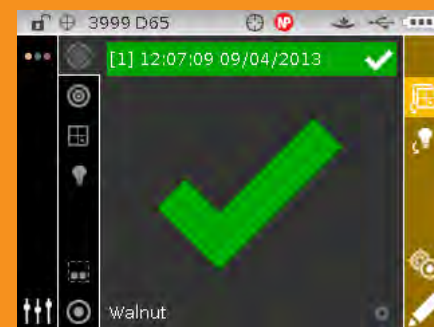
**Home Furnishings.** Different materials—wood, paint, plastic, metal, fabric—and a wide variety of colors, make repeatable color conformance critical. The Ci6x family is able to read a wide range of materials and provide a benchmark measurement that can be used at each step of the production or assembly process.



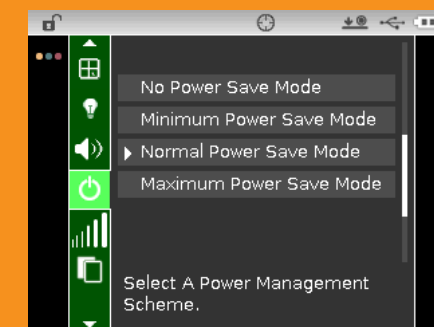
Easy to use – straight forward main menu with model dependent options to measure, to run a predefined job or to calibrate the device (Ci64 Shown)



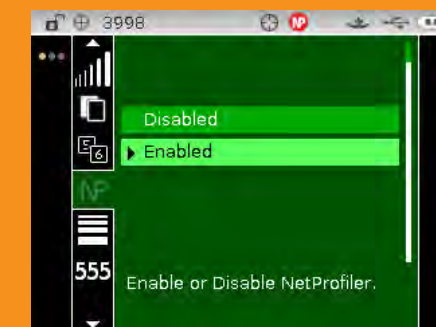
Results at a glance – the instrument could either show detailed color comparison data for the analyst...



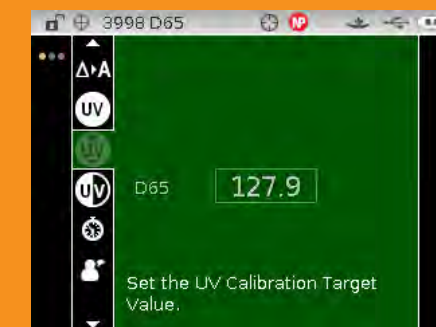
... or just simplified and straight forward pass fail indication for the production user.



Easy to configure – quick access navigation columns allow easy and fast configuration of the instrument



NetProfiler on the go – perform more accurate readings when using your device in portable mode



Calibrated UV component – first X-Rite handheld spectrophotometer with adjustable UV component to fully characterize optically brightened materials



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## Reliable and Flexible

From painted surfaces to molded plastic parts to apparel textiles, the ability to provide a consistently satisfactory match is critical in today's manufacturing.

The X-Rite Ci6x series offers the industry's most complete set of options for a wide variety of applications so customers pay only for those features that add value to the measurement tasks at hand.

### Some of those features include:

**Embedded NetProfiler for Ci62 and Ci64.** X-Rite's patented color utility enables users to monitor the performance of their instruments to optimize measurement agreement anywhere in a manufacturing or supply chain, reducing downtime and operating costs.

**Ci64 Graphical Jobs™.** Shop floor and lab personnel can see visuals on the instrument's large color screen of where and how measurements should be taken for accurate and repeatable acquisition of color data. The software helps to assure reliable measurement collection for statistical process control across shifts, production lines and separate manufacturing facilities.

**Simultaneous specular included/specular excluded.** Using standard measurement methods, companies can immediately identify variances in color and gloss to ensure accurate color readings, or verify visual inspection.

**Optional jigs and accessories** so instruments can be customized to measure surfaces accurately in a variety of applications.

**Remote Measurement Trigger.** Accuracy and convenience of sample measurement.

**Available Calibrated UV Enhanced Illumination.** The Ci64UV is equipped with UV illumination for accurate color measurement of plastics, textiles and papers that contain optical brightening agents.

**Embedded Transforms.** Enables optimization of agreement with legacy instrumentation.

**USB and Bluetooth\* Communications Capability.** Keeps the Ci6x instrument connected to operations systems so data can be synchronized and viewable remotely.

**Data Compatibility with X-Rite Sphere Handhelds.** Transfer and share data with existing X-Rite measurement tools.

**Durable, Operator-Friendly Design.** The Ci6X Series features an ergonomic overmold design for easy handling, a flip-back shoe designed to withstand heavy use, and a reliable detent lock. It also operates on standard commercially available Li-ion batteries.

**Dynamic User Interface (DUI).** Allows users to modify and configure the interface to meet their unique processes, saving valuable operating time.

**User Interface Navigation.** Navigate the user interface with capacitive touch with lock key offering configurable menus perfectly orientated through a color-coded display.

\* Work with your sales representative to identify if Bluetooth is an available option in your region.

## Service Programs

### Optimize Your Spectrophotometer Investment

X-Rite is the world leader in providing solutions for professionals involved with all aspects of color control. We lead the industry in offering service options to ensure uninterrupted performance for your Spectrophotometer. Training and educational resources are available globally and on line for both new and experienced users to optimize their color control capabilities.

X-Rite's Ci6x spectrophotometers are manufactured to rigorous quality standards. These standards are backed by a one-year standard warranty\* that includes comprehensive global services and superior phone and web support. Now you can be assured that your device is always working at optimum performance when you choose one of the Ci6x Service programs.

Limit your operational down time, eliminate hassle, and ensure you are completely satisfied with your X-Rite products, year after year. Ideal for those requiring annual ISO or other certification, and protection against unforeseen incidents.

*\*unless different regulations or custom contracts apply*

## Ci6x Series Specifications

<b>Measuring Geometrics</b>	d/8°, DRS spectral engine fixed aperture Simultaneous SPIN / SPEX
<b>Illuminant Types</b>	A, C, D50, D65, F2, F7, F11 & F12
<b>Data Compatibility</b>	SP series backward compatibility
<b>Standard Observers</b>	2° & 10°
<b>Receiver</b>	Blue-enhanced silicon photodiodes
<b>Spectral Range</b>	400 – 700nm
<b>Spectral Interval</b>	10nm – measured 10nm – output
<b>Storage</b>	1,000 standards with tolerances 4,000 samples
<b>Measurement Range</b>	0 to 200% reflectance
<b>Measuring Time</b>	Approx. 2 seconds

<b>Color Spaces, Indices, Functions</b>	[ $\sqrt{X}$ ], Lab, Y11925, WI Taube, $\Delta$ ecmc, $\Delta$ lab, $\Delta$ WI73, $L^*a^*b^*$ , Reflectance, WI98, MI, $\Delta$ E00, $\Delta$ reflectance, $\Delta$ WI Berger, $L^*C^*h^\circ$ , Munsell Notation, WI73, MI6172, $\Delta$ E94, $\Delta$ YI98, $\Delta$ WI Hunter, XYZ, Gray Scale, WI Berger, Gloss, $\Delta$ XYZ, $\Delta$ YI73, $\Delta$ WI Stensby, Yxy, YI98, WI Hunter, $\Delta$ L $^*a^*b^*$ , $\Delta$ Yxy, $\Delta$ YI1925, $\Delta$ WI Taube, $L^*u^*v^*$ , YI73, WI Stensby, $\Delta$ L $^*C^*h^\circ$ , $\Delta$ L $^*u^*v^*$ , $\Delta$ WI98, Averging, 555 Shade Sort, Verbal Difference, Power Management
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<b>Lamp Life</b>	Approx. 500,000 measurements
<b>Charge Time</b>	Approx. 4 hours – 100% capacity
<b>Battery</b>	Removable (Li-ion) battery pack; 7.4 VDC, 2400 mAh
<b>Transform Support</b>	Embedded
<b>AC Adapter Requirements</b>	X-Rite P/N: SE30-177 100-240VAC 50/60Hz, 12VDC @ 2.5A
<b>Display</b>	3.2 inch backlit Color Graphic LCD
<b>Operating Temperature Range</b>	50° to 104°F (10° to 40°C) 85% relative humidity maximum (non-condensing)
<b>Storage Temperature Range</b>	-4° to 122°F (-20° to 50°C)
<b>Weight</b>	2.34 lbs. (≈1.06 kg)
<b>Dimensions</b>	4.3”H 3.6”W 8.4”L (10.9 cm 9.1 cm 21.3 cm)

<b>Languages</b>	English, German, French, Spanish, Italian, Portuguese, Chinese Simplified, Chinese Traditional, Korean, and Japanese
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	Ci60 Specifications	Ci62 Specifications	Ci64 Specifications	Ci64UV Specifications
<b>Optical Aperture</b>	8mm measurement area / 14mm target window	<b>Choice of Optical Aperture:</b> 4mm measurement area / 6.5mm target window or 8mm measurement area / 14mm target window	<b>Choice of Optical Aperture - Switchable Aperture</b> 4mm measurement area / 6.5mm target window and 8mm measurement area / 14mm target window or Large fixed aperture 14mm measurement area / 20mm target window	<b>Choice of Optical Aperture - Switchable Aperture</b> 4mm measurement area / 6.5mm target window and 8mm measurement area / 14mm target window
<b>Light Source</b>	Gas-filled tungsten lamp	Gas-filled tungsten lamp	Gas-filled tungsten lamp	Gas-filled tungsten lamp + UV LEDs Adjustable UV Content
<b>Inter-Instrument Agreement</b>	CIE $L^*a^*b^*$ : Avg. 0.40 $\Delta$ E*ab based on avg. of 12 BCRA Series II tiles (specular component included) Max. 0.60 $\Delta$ E*ab on any tile (specular component included)	CIE $L^*a^*b^*$ : Avg. 0.20 $\Delta$ E*ab based on avg. of 12 BCRA Series II tiles (specular component included) Max. 0.40 $\Delta$ E*ab on any tile (specular component included)	<b>Inter-Instrument Agreement 8mm/14mm or 14mm/20mm</b> CIE $L^*a^*b^*$ : Avg. 0.13 $\Delta$ E*ab based on avg. of 12 BCRA Series II tiles (specular component included) Max. 0.25 $\Delta$ E*ab on any tile (specular component included) <b>4mm/6.5mm</b> CIE $L^*a^*b^*$ : Avg. 0.2 $\Delta$ E*ab based on avg. of 12 BCRA Series II tiles (specular component included) Max. 0.40 $\Delta$ E*ab on any tile (specular component included)	<b>Inter-Instrument Agreement 8mm/14mm</b> CIE $L^*a^*b^*$ : Avg. 0.13 $\Delta$ E*ab based on avg. of 12 BCRA Series II tiles (specular component included) Max. 0.25 $\Delta$ E*ab on any tile (specular component included) <b>4mm/6.5mm</b> CIE $L^*a^*b^*$ : Avg. 0.2 $\Delta$ E*ab based on avg. of 12 BCRA Series II tiles (specular component included) Max. 0.40 $\Delta$ E*ab on any tile (specular component included)
<b>Short-Term Repeatability</b>	.10 $\Delta$ E*ab on white ceramic	.05 $\Delta$ E*ab on white ceramic	.04 $\Delta$ E*ab on white ceramic	.04 $\Delta$ E*ab on white ceramic
<b>Data Interface</b>		USB 2.0, Bluetooth <sup>◇</sup>	USB 2.0, Bluetooth <sup>◇</sup>	USB 2.0, Bluetooth <sup>◇</sup>
<b>Accessories Provided</b>	Calibration standards: Black trap, White standards, Operations manual, AC adapter	Calibration standards: Black trap, White & green standards, Operations manual, AC adapter	Calibration standards: Black trap, White & green standards, Operations manual, AC adapter	Calibration standards: Black trap, White & green standards, UV Calibration standard, Operations manual, AC adapter
<b>Options</b>	Sample presentation fixtures, Spare battery, Dual bay charger	NetProfiler, Sample presentation fixtures, Benchttop stand, Spare battery, Dual bay charger	NetProfiler, Sample presentation fixtures, Benchttop stand, Spare battery, Dual bay charger	NetProfiler, Sample presentation fixtures, Benchttop stand, Spare battery, Dual bay charger
<b>Modes/Functions</b>	QA, Compare, Opacity, Strength	QA, Compare, Opacity, Strength, Projects	QA, Compare, Opacity, Strength, Projects & Jobs	QA, Compare, Opacity, Strength, Projects & Jobs

<sup>◇</sup> In compliant countries only; Work with your sales representative to identify if it is an available option in your region.

“Project” function—allows a different group of standards for each project.

“Jobs” function—step by step instructions will allow a programmed sequence of specific steps to assist the operator in the color measurement process.