

# SPECIFICATIONS

## MiniScan® EZ

### Measurement

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<b>Measurement Principle:</b>	Dual-beam spectrophotometer
<b>Geometry:</b>	Diffuse/8° (specular component included) and 45°/0° (specular component excluded) models available
<b>Spectrophotometer:</b>	256 element diode array and high resolution, concave holographic grating
<b>Sphere Diameter:</b>	63.5 mm (2.5 in) (diffuse/8° models)
<b>Port Diameters/View Diameters</b>	
45°/0° models:	LAV 31.8 mm (1.25 in) illuminated/25.4 mm (1 in) measured SAV 6.0 mm (0.25 in) illuminated/5.0 mm (0.2 in) measured
Diffuse/8° models:	LAV 25.4 mm (1 in) illuminated/20.0 mm (0.8 in) measured SAV 14.3 mm (0.6 in) illuminated/8.0 mm (0.3 in) measured
<b>Specular Component:</b>	Excluded on 45°/0° models, Included on Diffuse/8° models
<b>Spectral Range:</b>	400 nm - 700 nm
<b>Spectral Resolution:</b>	< 3 nm
<b>Effective Bandwidth:</b>	< 10 nm equivalent triangular
<b>Reporting Interval:</b>	10 nm
<b>Photometric Range:</b>	0 to 150%
<b>Light Source:</b>	Pulsed Xenon Lamp
<b>Number of Flashes per Measurement:</b>	1 flash
<b>Lamp Life:</b>	> 1 million flashes
<b>Measurement Time:</b>	< 1 second from button push to measurement 2 seconds from button push to data display
<b>Minimum Interval between Measurements:</b>	3 seconds
<b>Standards Conformance:</b>	CIE 15:2004, ISO 7724/1, ASTM E-1164, DIN 5033, Teil 7 and JIS Z 8722 Condition C
<b>Standards Traceability:</b>	Instrument standard assignment in accordance with National Institute of Standards and Technology (NIST) following practices described in CIE Publication 44 and ASTM E259

## Performance

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<b>Inter-Instrument Agreement:</b>	$\Delta E^* \leq 0.15$ CIEL*a*b* (Avg) on BCRA II Tile Set $\Delta E^* \leq 0.25$ CIEL*a*b* (Max) on BCRA II Tile Set
<b>Colorimetric Repeatability: (20 Readings)</b>	$\Delta E^* \leq 0.05$ CIEL*a*b* on White Tile

## Firmware

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<b>Displayed Data:</b>	Color Data, Color Difference Data, Tristimulus Color Plot, Spectral Data, Spectral Difference Data, Spectral Plot, Spectral Difference Plot
<b>USB Flash Drive Features:</b>	Backup of Setups and Data, Setup Transfer to Multiple Units, Data Export to Excel
<b>Other Features:</b>	Pass/Fail, Average Multiple Readings, Search for Closest Standard
<b>Illuminants:</b>	A, C, D50, D55, D65, D75, F2, F7, F11
<b>Observers:</b>	2° and 10°
<b>Color Scales:</b>	CIE L*a*b*, Hunter Lab, CIE L*C*h, CIE Yxy, CIE XYZ
<b>Color Difference Scales:</b>	$\Delta L^*a^*b^*$ , $\Delta Lab$ , $\Delta L^*C^*H$ , $\Delta Yxy$ , $\Delta XYZ$
<b>Color Difference Indices:</b>	$\Delta E^*$ , $\Delta E$ , $\Delta C^*$ , $\Delta C$ and $\Delta E_{cmc}$
<b>Indices and Metrics:</b>	E313 Whiteness (C/2° and D65/10°), E313 Tint (C/2° and D65/10°), E313 Yellowness (C/2° and D65/10°), D1925 Yellowness (C/2°), Y Brightness, Z%, 457 nm Brightness, Opacity, Color Strength Average and Single Wavelength), Gray Change, Gray Stain, Metamerism Index, Shade Number
<b>Storage:</b>	As Standard - 100 spectral or tristimulus with Pass/Fail tolerances as Working, Physical, Numeric and Hitch As Sample - 750 spectral
<b>Languages:</b>	Chinese, English, French, German, Italian, Japanese, Spanish

## Physical / Electrical

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<b>Dimensions:</b>	Height: 13.9 cm (5.5 in) Width: 10.9 cm (4.3 in) Depth: 26.7 cm (10.5 in) Weight: 1.0 kg (2.25 lb) with batteries
<b>Display:</b>	5.8 cm x 5.8 cm (2.3 in x 2.3 in) backlit LCD, blue monochrome
<b>Interface:</b>	USB 2.0
<b>Power:</b>	Six AA-size alkaline batteries or nickel-metal-hydride rechargeable batteries
<b>Battery Performance:</b>	With alkaline batteries approximately 4,000 measurements With nickel-metal-hydride batteries approximately 4,000 measurements when fully charged (varies with battery condition)
<b>Operating Environment:</b>	10° to 40°C (50° to 104° F), 10% to 90% RH, noncondensing
<b>Storage Environment:</b>	-20° to 65°C (-5° to 150° F), 10% to 90% RH, noncondensing
<b>Standard Accessories:</b>	<ul style="list-style-type: none"><li>• NiMH batteries</li><li>• Battery charger</li><li>• Calibrated instrument white tile</li><li>• Certificate of traceability</li><li>• Black glass (45°/0° models) or Light trap (diffuse/8° models)</li><li>• Green diagnostic tile (all instrument standards are contained in a single ergonomic holder)</li><li>• Dust cover</li><li>• PC utilities disk and Interface drivers</li><li>• Carrying case</li><li>• Users guide</li></ul>

For more information, please contact HunterLab at 703-471-6870, [sales@hunterlab.com](mailto:sales@hunterlab.com) or visit [www.hunterlab.com](http://www.hunterlab.com)

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Specifications subject to change without notice

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