

Consistent, Quantifiable Color and Appearance Measurement



Tristimulus Colorimeters

- ◆ Precise color measurement throughout production, from incoming raw materials to finished product
- ◆ Trouble-free performance in harsh industrial environments
- ◆ Built-in efficiency with simple, one-button operation
- ◆ Choice of sensor/processor configurations for measurement versatility
- ◆ Storage for 99 product standards and 300 sample measurements

D25/DP-9000® Color Measurement Systems

Built to withstand harsh plant environments, HunterLab's D25/DP-9000® systems provide precise, custom color measurement and analysis across a wide range of industries. Simple, one-button operation allows all color quality control functions to be performed efficiently and accurately with minimal operator training.

Menu-driven setups enable users to tailor the way data is displayed and interpreted. Color scales and index information are presented in formats common to specific industries or applications.

Sensor Features

D25A Sensor - Measures the reflected color of opaque solids, powders and translucent liquids. Ideal for paints, plastics, paper and juices.

- 45° illumination via dual opposing light beams with 0° viewing of a 2 in. (50.8mm) measurement area
- Reduced viewing area: 2 in. (50.8mm) to 1/8 in. (3.2mm)
- TAPPI Brightness filter

D25L Sensor - Measures the reflected color of non-uniform samples with irregular surfaces. Well suited for baked or roasted food products, and textiles like carpet, fabrics or fibers.

- 45° circumferential illumination and 0° viewing of a 3.75 in. (95.3mm) measurement area
- Reduced viewing area: 3.75 in. (95.3mm) to 2 in. (50.8mm)

Shared Sensor Features

- Light source: continuous, tungsten halogen lamp provides stable illumination
- Ultraviolet (UV) cut-off filter for analysis of UV-induced fluorescence
- Special sample-handling devices

Data can be printed with the built-in thermal printer or sent via the two-way serial port to other computers or printers.

A choice of two optical sensors (See *Sensor Features* below) provide correlation with visual assessments, and suit a variety of QC applications. Each sensor interfaces to a dedicated color processor. Icon-based keys and menu-driven operation enable users of all experience levels to perform precise color measurement functions.

Processor Features

Color Scales:

XYZ, Yxy, Hunter L,a,b, R_ab, CIE L*a*b*, CIE L*C*h°, FMC-2

Color Indices:

WI E313, YI E313, YI D1925, Opacity, TAPPI Brightness, Z%, Tomato Scores, ΔE, ΔE_{cmc*}, ΔC, ΔE*, ΔC*

Illuminant/Standard Observer:

C/2°

Data Display:

Sample, Standard and Difference

Tolerances:

- Symmetrical tolerances for color scales and indices based on user-selectable range or CMC automatic calculations
- PASS/FAIL displayed based on tolerances

Statistics:

Average, Standard Deviation, Maximum, Minimum and Range

Data Storage and Output:

- 300 sample readings and 99 product setups in battery-backed memory
- Built-in, 40-column thermal printer
- Bidirectional RS-232C serial communications with output in ASCII, DIF and WKI formats

Measurement Interval:

Single, continuous, or programmable 2-second intervals to 2 minutes; 1-minute intervals to 1 hour

User Interface:

- Sealed membrane keypad with icon key labels
- Backlit liquid crystal display, 40 columns x 8 lines

Languages:

English, Spanish, German, French and Italian

Measurement Performance:

- Displayed data 2 decimal places (4 for x,y)
- Short-term repeatability < .02 std. dev., XYZ-based on 20 consecutive readings
- Measurement speed < 1 second

Power Requirements:

90-260 VAC @50-60Hz

Operating Environment:

- Temperature: 50°-122°F (14°-50°C)
- Humidity: 0-85% RH, noncondensing

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ISO 9001 Certified

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