

- Quality Control
- Precision
- Speed

01



| Applied Systems

Tighten your color control and accelerate precision

with the Ocean Insight SpectraNova D8 Series.





Create Precise Color Control at Speed

Tighten your color control and accelerate precision with the Ocean Insight SpectraNova D8 Series.

With production on a global scale, products must look identical, whether manufactured in Sydney or Singapore, California or Shenzhen.

Consumers expect parts on their products like buttons, sliders, or keys on a keyboard to flawlessly match. Rapid color control is essential when it comes to consumer demand and creating competitive advantage.

That's why the SpectraNova D8 color measurement system creates precise color control.

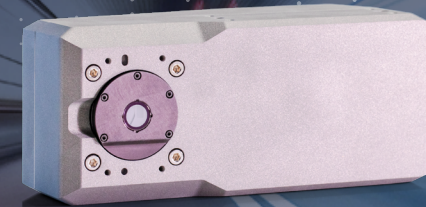




Accelerate Your In-Line Color Control

The SpectraNova D8 measures color on over 500,000 samples per day, without ever touching your product

Speed



Using cutting-edge technology, the SpectraNova D8 color measurement system from Ocean Insight delivers the precision you need on the production line, at an extraordinary pace.

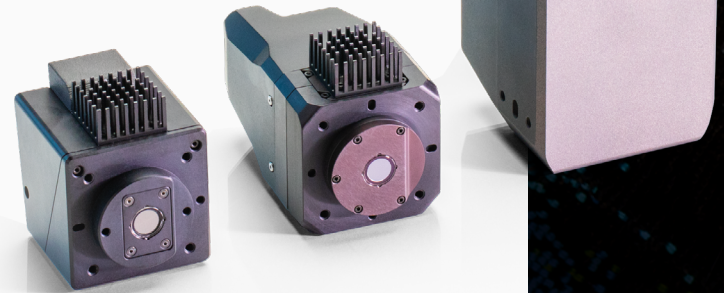
An in-line, non-contact system, the SpectraNova D8 measures color on over 500,000 samples per day, without ever touching your product, so you can catch drifts in real-time and make color corrections before they impact production, for a quicker, automated and more sustainable workflow.

Your production line is further accelerated because the SpectraNova D8 has a fully sealed, chemically resistant case with a removable sapphire window protecting the integrating sphere and internal optics from contaminants. This industrial-grade design means fewer production line delays for cleaning or changing the device, and zero risks of contamination to your sample, resulting in less waste and faster throughput.

And that's not all. The SpectraNova D8's small form factor means it can be placed almost anywhere within the production line, and with a moveable measurement head, it can also be integrated into robotic arms for hard-to-reach color measurements.

Benefits of the SpectraNova D8 Series

- **Non-contact** — No requirement to touch the sample, increasing production efficiency and reducing the risk of adversely affecting your product.
- **Speed** — Throughput of 500,000+ samples per day handles your high volume production lines with ease.
- **Compact** — The small diffuse/8° measurement head can be placed in-line almost anywhere on the production line, so no need to change your infrastructure.
- **Precise Lab-quality Color Measurements** — Conforms to CIE 015, ensuring high correlation with benchtop spectrophotometers and guaranteeing seamless color control from development through final QC.
- **Industrial-grade** — Designed for busy manufacturing environments with harsh industrial conditions. The sealed measurement head keeps dust/dirt out and has a removable/cleanable sapphire window, resulting in fewer production line delays and minimal maintenance.
- **Small Spot Size Option** — For small parts like buttons, the measurement spot size can be reduced to less than 1 mm.
- **High-gloss Model** — For products that have a high-gloss finish, simultaneous SCI / SCE measurements are available with the D8-M3 system.
- **Stationary or Integrated Motion-tolerant Setup** — For parts running on a conveyor belt production line, the standard stationary systems are right for you. For measurements that require reaching out with a robotic apparatus, the fibreless motion tolerant systems have you covered.



Technical Specifications

- **Measurement Geometry:**
Diffuse/8°, configured for SCI, SCE or both, conforms to CIE 015
- **Detector:** 1024 element array
- **Wavelength Range:** 400 - 700 nm
- **Photometric Range:** 0 to 150% with 0.01% resolution, colorimetric resolution 0.01 CIELAB units
- **LED Light Source:**
>250M measurements
- **Cycle Time:** < 150 ms
- **Measurement Distance:**
0.5 mm \pm 0.1 mm
- **Measurement / Illumination Area:**
2 X 2 mm / \varnothing 10 mm down to \varnothing 0.5mm
- **Repeatability:** Standard deviation of 0.01 ΔE^*_{ab} and 0.04% reflectance (typical) – Measured white calibration tile 100 times at 1-second intervals
- **Inter-Instrument Agreement:**
Mean 0.12 ΔE^*_{ab} (typical) average for 12 ceramic reference tiles, across 40 production systems. Distance measured from the mean of all measurements for each tile. Max 0.4 ΔE^*_{ab} for 12 ceramic reference tiles.
- **Data Interface:** USB 2.0
- **Hardware Triggering -**
Trigger Input: Opto-isolated BNC, 5V rising edge (internal 360 Ω resistor).
Trigger Output: 5 VDC, 15 mA max over BNC, active-high pulse at beginning of measurement (may be used to sync multiple sensors).
- **Input Power:** AC 100 – 250V @50-60Hz, 7.3 VA



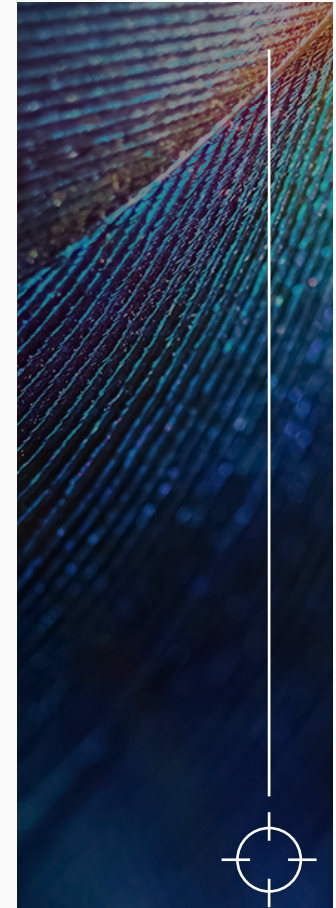


A Color Inspection System That's Right For You

Within the SpectraNova D8 Series, we have two models capable of meeting your precise color inspection requirements: the D8-M2 and the D8-M3.

Both models can be ruggedized to suit any industrial environment, are available in various form factors and configurations, and deliver laboratory-grade color inspection, at speed. While the D8-M2 is our most popular model, the D8-M3 is perfect for those production lines that require high gloss color measurements and other additional functions.

	D8-M2	D8-M3
Non-contact	●	●
NIST-traceable	●	●
Calibration tiles inc	●	●
Simultaneous SCI / SCE		●
Optional small spot size for small parts	●	●
Optional motion-tolerant sensor head	●	●
Dimensions	Head: 58.0 x 124.5 x 73.9 mm Control Unit: 198.1 x 206.8 x 35.7 mm <i>Dimensions may vary based on measurement geometry selected</i>	Head: 58.0 x 111.3 x 73.2 mm Control Unit: 198.1 x 192.6 x 35.7 mm <i>Dimensions may vary based on measurement geometry selected</i>
Weight	Head: 0.36 kg Control Unit: 0.86 kg <i>Weight may vary based on measurement geometry selected *dimensions & weight increase for MT model</i>	Head: 0.35 kg Control Unit: 0.9 kg <i>Weight may vary based on measurement geometry selected *dimensions & weight increase for MT model</i>
Operating Temperature	60° to 95° F (15° to 30° C), relative humidity 80% or less with no condensation	60° to 95° F (15° to 30° C), relative humidity 80% or less with no condensation
Storage Temperature	40° to 116° F (-40° to 47° C), relative humidity 80% or less with no condensation	40° to 116° F (-40° to 47° C), relative humidity 80% or less with no condensation





Ocean Insight: Global Leader, Innovative Pioneer

With more than 25 years serving the consumer electronics industry, Ocean Insight is a pioneer of spectrometer manufacturing.

Founded in 1989, we launched the world's first miniature spectrometer, and we have been leading the field in innovative spectroscopy hardware, software and on-demand data delivery, ever since.

Today, we are trusted by many of the world's premier consumer electronics manufacturers and their partners, helping them conduct the most accurate, laboratory-level optical measurements for quality control within a factory floor environment.



“Our customers have a high expectation for color quality control, so we have chosen the Ocean Insight D8 color inspection system to help quality engineers obtain exceptional quality control.”

**Eric Wu | Chief Technical Officer &
Co-founder | Suzhou Dinna**

For Fast, Precise In-Line Color Inspection, contact us now.

www.oceaninsight.com/contact-us/system-information-request/

ASK APPLIED
SPECTRAL
KNOWLEDGE