

**Color and  
Gloss Unit  
SPEKTROMASTER  
565**



testing equipment for quality management

**ERICHSEN**

**Technical Description**

**Color**

DIN 5033 / 5036 / 6174  
ISO 7724  
ASTM D 2244 / E 308 / E 1164

**Gloss**

DIN 67530  
ISO 2813 / 7668  
ASTM D 523 / D 2457

**For simultaneous  
measurement of  
color and gloss**

## Purpose and Application

The overall appearance of a product is influenced by color and gloss. A sample of the same color but higher gloss level is visually perceived darker and more saturated than a low gloss sample. In order to get a uniform appearance, both attributes need to be controlled. The Spectrometers of the very most other suppliers are only able to measure the color value. In comparison with this, the **SPEKTROMASTER 565 is able to measure color and gloss both simultaneously!** Thus, the cause of a mismatch can be clearly defined in any situation.

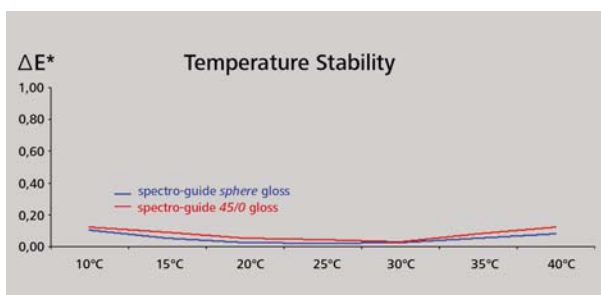
For color measurement, there have been two different methods established, each specifically preferred by the users due to the concerning desired application:

45°/0°	For measurements due to the allusion to a visually valued impression. Also for a lot of Automotive relevant applications as well as oftentimes for measurements within the final inspection.
8°/d	(Sphere acc. to Ullbricht) For color matching/recipe matters, pigment testing, measurements of color alternation after weathering exposure. Generally also for reception control.

The **SPEKTROMASTER 565** is available in two versions, each attached with one of the two measuring geometries.

- Color (45/0 or sphere) and 60° gloss are displayed at the same time
- In compliance with international specifications
- Tolerances for color and gloss allow quick pass/fail decisions in production

With the new **SPEKTROMASTER** you can measure any color: dark - brilliant - steep reflectance curves. The 10 nm spectral resolution not only ensures highly precise color results, but also an excellent agreement with competitive color instruments - even bench-top units.

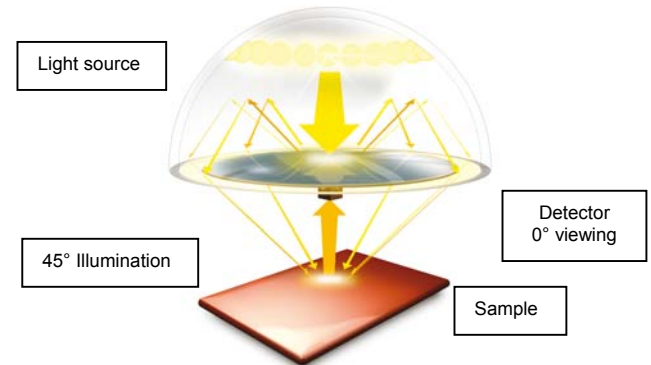


Additionally, a patented illumination control provides temperature independent results - even in extreme conditions.

## Design and Function

The **SPEKTROMASTER 565** makes quality control simple and secure - even for color beginners. Thanks to the intuitive pulldown menu and the four-cursor button operation quality control has never been easier.

- Light weight and small size - weights only 500 g
- Ergonomic design - can easily measure difficult to access areas
- Designated buttons for standard and sample readings
- Customization of the display to your needs



**True circumferential illumination for best repeatability on textured samples.**

The key criterion for a 45/0 instrument is a circumferential illumination. The **SPEKTROMASTER 565/45** is using a unique, patented measurement principle to achieve a 100 % circumferential illumination. A white coated hemisphere acts as a mixing chamber and guarantees completely uniform illumination. Thus, any influence of measurement direction is eliminated and excellent repeatability even on highly textured surfaces is guaranteed.

## Special Features

Economical and reliable operation of a color instrument is often taken as given. The **SPEKTROMASTER** guarantees superior accuracy for many years and low maintenance efforts.

- Long lasting standard AA batteries - up to 8,000 readings per set
- 10 year warranty on the light source - no lamp changes needed
- Rugged and compact design
- Stable, long-term calibration - needed only every three months

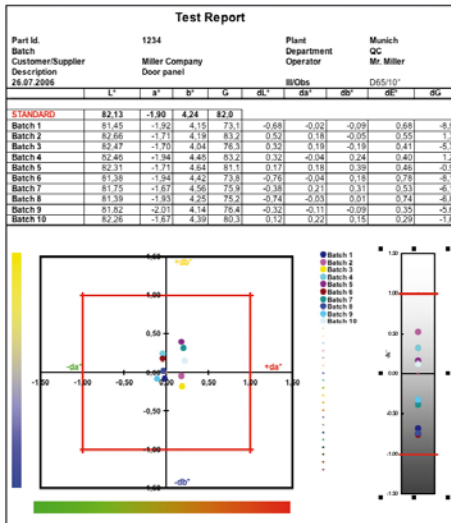


# Accessory

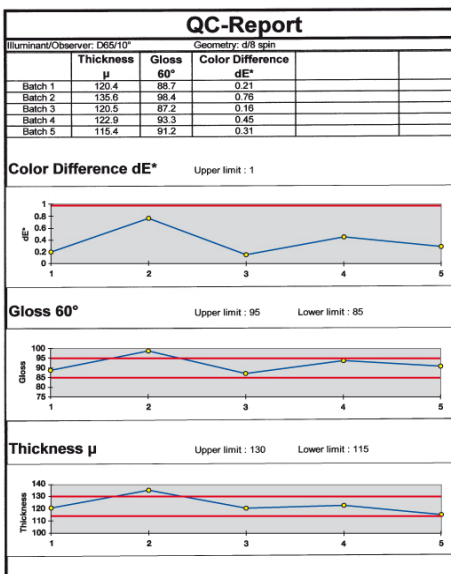
## Software easy-link

No matter whether you want to compare a batch to a defined standard or monitor process changes over time, **easy-link**, included with **SPEKTROMASTER 565**, offers all of the necessary tools (Hardware Requirements: Operating system Windows® 95 or higher Microsoft Excel® 97 or higher, including VBA - Visual Basic for Applications; Free Serial Interface).

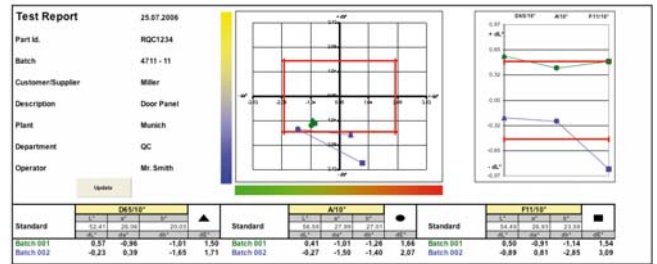
Direct data transfer from the instrument into predefined QC templates make you ready for routine color control.



The CIELab-Graph charts differences in color and lightness together with production tolerances.



All data are summarized in a trend graph: Color, gloss, film thickness and your own product specific information.



Color differences are displayed simultaneously for three illuminants to control metamerism.

### Manual entry of standards

If you have to match colors and the physical sample is no longer available, you can easily enter the spectral data in easy-link. The standards can then be transferred to **SPEKTROMASTER** for color QC.

### Back-up your standard data

For safety reasons, it is recommended to store your complete database of standards on the PC. They can be downloaded with the individual tolerances to the **SPEKTROMASTER** – whenever needed.

### Establish your tolerances

The auto tolerancing function assists you in setting up the tolerances for Pass/Fail control. Measure at least 20 visually accepted production trials, transfer the readings to Excel®, and have the tolerances automatically calculated for you – saving time and headaches.



## Technical Data

### Color

Spectral Range:	400-700 nm, 10 nm resolution
Repeatability:	0,01 $\Delta E^*$ , 1 $\sigma$ (10 consecutive measurements on white)
Reproducibility:	0.2 $\Delta E^*$ , 1 $\sigma$ (average on 12 BCRA II tiles)
Color Systems:	CIELab/Ch; Lab(h); XYZ; Yxy
Color Differences:	YIE313; YID1925; WIE313; CIE; Berger; Color strength; Opacity; Metamerism
Illuminants:	A; C; D50; D55; D65; D75; F2; F6; F7; F8; F10; F11; UL30
Observer:	2°; 10°

<b>Gloss:</b>	0 - 100 GU
Repeatability:	$\pm 0.2$ GU
Reproducibility:	$\pm 1.0$ GU

Memory:	1500 Standards; 999 Samples
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Languages:	English; German; French; Italian; Spanish; Japanese; Chinese
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Power Supply:	4 AA alkaline; NiCd or MH batteries
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Operating Temperature:	10 °C - 42 °C (50 °F - 110 °F)
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Humidity:	< 85% relative humidity, non-condensing / 95 °F (35 °C)
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Dimensions:	9.5 x 8 x 18 cm
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Weight:	approx. 0.5 kg
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Order Informations	
Ord.-No.	Product-Description
0287.01.31	<b>SPEKTROMASTER 565-45</b> for simultaneous measurement of color (geometry 45/0, aperture 11 mm) and gloss (geometry 60°, aperture 5 x 10 mm)
0288.01.31	<b>SPEKTROMASTER 565-D</b> for simultaneous measurement of color (geometry 8/d, aperture 11 mm) and gloss (geometry 60°, aperture 5 x 10 mm)
<p><b>The scope of supply includes:</b></p> <ul style="list-style-type: none"> <li>- Black calibration standard</li> <li>- White calibration standard with certificate</li> <li>- Green checking reference</li> <li>- High-gloss standard</li> <li>- Sample area locator</li> <li>- Software easy-link</li> <li>- Interface cable</li> <li>- AA batteries (4 pcs.)</li> <li>- Hand strap</li> <li>- Carrying case</li> <li>- Operating instructions</li> </ul>	

The right of technical modifications is reserved.  
Group 17/18 - TBE 565 – X/2009