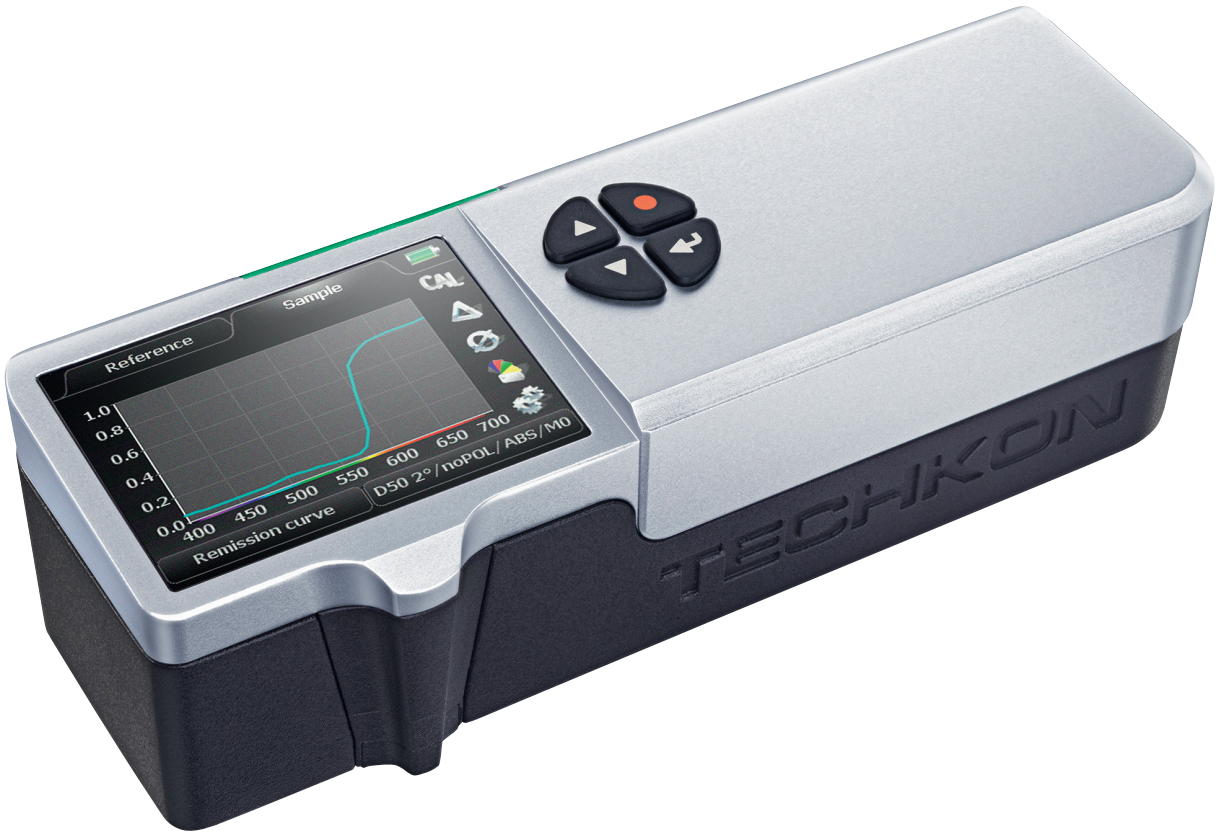
TECHKON

Perfect Color Made Easy



TECHKON SpectroDens

TECHKON SpectroDens – Spectro-Densitometer

The new era in color measurement

With the new generation of SpectroDens, TECHKON continues the success story of the SpectroDens handheld device. The objective during product development was: Pursue proven concepts and integrate new meaningful technologies. The result sets a new standard.

A measurement device for all applications

SpectroDens is an all-purpose measurement device that is universally utilized for quality control in the printing industry, as well as other industries, where color critical. SpectroDens is exceptionally suitable, no matter the application. Thanks to the individually adjustable display functions, you can quickly set up the device for a particular job. The solid aluminum unibody case makes the device a reliable and robust tool even in the harshest industrial environments. Direct positioning of the measurement head on the measurement field ensures a secure and quick measurement. In addition to single measurements, you can also scan a control strip with the SpectroDens. Tracking wheels on the bottom of the device make it possible to scan quickly, up to 200 color patches at once.

Two devices in one

As a spectro-densitometer, the SpectroDens combines the qualities of a highly accurate spectrophotometer and an easy-to-use densitometer. Measurement is spectral, (i.e. all the spectral data and the spectral fingerprint is measured). The data is converted into measurement data that can be used for descriptive analysis and display:

- Densitometric data is widely used in quality control during the printing process.
- Colorimetric data is used in the evaluation of print proofs, the creation of color profiles in color management as well as the color matching and formulation of inks.

Densitometry / Density measurement

A push of a button provides solid density figures as well as additional useful information such as dot gain, dot area, gray balance and print contrast. In automatic measurement mode the device always displays the relevant information instantly. You can quickly and easily produce complete printing curves. The spectral measurement technology calculates not only density values for CMYK, but also precise data for the density of spot colors.

Colorimetry

All standard colorimetric functions are displayed clearly. The entire CIE L*a*b* color circle appears in the high resolution color display. CIE L*a*b* values become clear to read and easy to use.

Standardized measurement

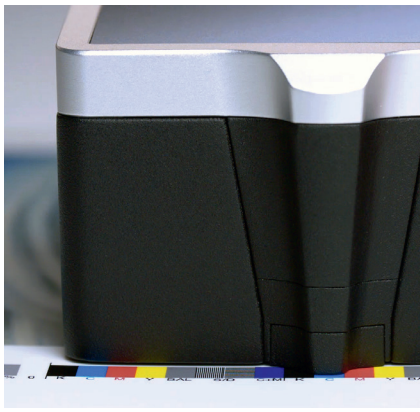
Thanks to an ISO-compliant measurement head, SpectroDens complies to standards valid for the graphic industry. Select different status filters for density measurement in the device settings. A special technical feature is the polarization filter which can easily be switched on and off. This makes SpectroDens particularly strong at evaluating the Ugra/Fogra media wedge.

Using the latest LED technology, SpectroDens provides D50 illumination and fulfills the M0, M1, M2, M3 measuring conditions in accordance to ISO 13655. The lifetime of the LED illumination is nearly unlimited. The new design of the direction-independent measuring head provides reliable measurement of a wide range of print media.

SpectroConnect Software

The included Windows-based software, TECHKON SpectroConnect, provides the connection between SpectroDens and a PC via the micro-USB connector or via the optional WLAN-module. Measurement data can therefore be comfortably processed on the PC and transferred, for example, to Microsoft Excel™.

Use the color library to load complete digital color books quickly and easily into the device. An import of color values in CXF® format is possible as well. SpectroConnect is also the connecting module for other applications, e. g. programs for the production of printing curves, for colorimetric quality control or for checking the compliance of printing products to ISO standards.



Versions and functions

Techkon provides SpectroDens in three types of performance packages: The Basic model contains all density functions. The Advanced model provides essential colorimetric functions and a color library. The fully equipped flagship model, SpectroDens Premium, meets all requirements with regard to quality control. All SpectroDens devices can also be used for short scans and feature a brilliant color display. The LED technology provides measurement conditions M0, M1, M2, M3 according to ISO 13655. Wireless data transmission by means of the optional WLAN module is possible. SpectroDens can be upgraded remotely, post-purchase, to another model.

SpectroDens Basic Functions

▪ Automatic density ▪ Density CMYK (with reference measurements) ▪ Dot area ▪ Dot gain ▪ Print contrast ▪ Gray and color balance ▪ Ink trapping ▪ Printing curve ▪ Density spectrum ▪ Spectral density for spot colors ▪ Trend function ExPresso mini ▪ Slur/doubling ▪ Dot area to Yule-Nielsen for printing plates

SpectroDens Advanced Functions

Same functions as SpectroDens Basic and additionally: ▪ CIE L*a*b* ▪ ΔE*a*b* ▪ CIE L*C*h*ab ▪ CIE XYZ ▪ CIE color circle ▪ ΔE*cmc ▪ ΔE*CIE94 ▪ ΔE*CIE2000 ▪ Remission spectrum ▪ InkCheck: Color control of spot colors ▪ Color library with up to 20 color books and a total number of 25000 reference values ▪ Memory capacity for 3000 sample values and 300 reference values ▪ GrayGuide (gray balance) according to Gracol G7™

SpectroDens Premium Functions

Same functions as SpectroDens Advanced and additionally: ▪ Ugra/Fogra media wedge evaluation ▪ ISO-Check: Color control according to ISO 12647 ▪ CIE L*u*v* ▪ CIE L*C*h*uv ▪ CIE xyY ▪ DIN Lab99 ▪ Metamery index ▪ Whiteness ▪ Yellowness ▪ Pass/fail tolerance ▪ Opacity ▪ OBA-Check ▪ Average

Software Requirements

▪ SpectroConnect requires Windows 7, 8 or 10

Included Contents

▪ SpectroDens Measurement device ▪ Charging console with white standard and AC adapter with universal plugs ▪ USB cable ▪ CD with SpectroConnect software ▪ Manual with ISO 9000 compliant certificate ▪ Manufacturer's certificate

Optional accessories

▪ Small 1.5mm aperture ▪ Digital print control strip ▪ SpectroCheck color reference instrument ▪ WLAN module

Specifications

Measurement geometry	0° : 45° optics according to ISO 5-4
Spectral range	400 to 700 nm in 10 nm steps, spectral resolution 10 nm, pixel distance sensor < 3 nmnm
Measurement aperture optional	3 mm round standard; 1.5 mm round
Light source	LED, provides measurement conditions M0, M1, M2, M3 according to ISO 13655
Polarization filter	Twice linear crossed, switched on and off per button release
Measurement time	Approx. 1 sec. per measurement; max. 10 seconds in scan mode
White reference	Absolute and relative; absolute white standard integrated in charging console
Illumination types	A, C, D50, D65, F 2/7/11
Standard observer	2°, 10°
Density filter	DIN 16536, DIN 16536 NB, ISO/ANSI T, ISO/ANSI I, ISO E; spectral density Dmax
Density measurement range	0.00 – 2.50 D
Repeatability	0.01 D; 0.03 CIE ΔE*a*b*
Inter-instrument agreement	0.01 D; 0.3 CIE ΔE*a*b*
Display	Color LC backlight display, antireflective, 20 x 240 pixels
Power supply	Rechargeable LiFePO4 battery, regulated recharge viacharging console with AC adapter, 100 – 240 V, 47 – 63 Hz, approx. 10000 measurements per battery charge, battery level control
Communication port	USB; WLAN module optional
Weight	495 grams
Dimensions	62 x 50 x 185 mm (approx. 2.4 x 2.0 x 7.3 inches)

System requirements for TECHKON software: Windows 7, 8 or 10; 32- and 64-bit, minimum: IBM-compatible PC with Intel Core Duo processor or comparable processor, 4 GB RAM, 2 USB ports

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