

TECHKON



**Spectro-Densitometer
TECHKON SpectroDens**

**We measure
color and more ...**

**Precise . Effective . Reliable
Technology Made in Germany**

TECHKON SpectroDens Spectro-Densitometer



**SPECTRO
DENS**

A measurement device for all applications

Using measurement technology for quality assurance in print is a universally accepted practice these days. SpectroDens is your all-purpose, modern measurement device. Whether it be in pre-print for verifying proofs, for ongoing quality control at the printing press, during delivery inspection of paper and print products or in a color lab, SpectroDens is exceptionally suitable, whatever your application. Thanks to the individually adjustable display functions, you can quickly set up the device for your particular job.

Two devices in one

The product name alone suggests the multiple uses of the device. As a spectro-densitometer, SpectroDens combines the qualities of a highly accurate spectro-photometer and an easy-to-use densitometer. Measurement is spectral, i. e. the entire color information – the spectral fingerprint of the color – is precisely registered. The spectral data is converted into measurement data 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 and the color matching and formulation of inks.

Densitometry

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

Colorimetry

All standard colorimetric functions are displayed clearly. Even the entire CIE L*a*b* color circle appears in the display. Reference colors and complete digital color books can be saved in the color library.

Standardized measurement

The device works strictly according to the 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 be activated by a push of a button. Using the latest LED technology, the new SpectroDens Premium provides D50 illumination and therefore fulfills the M0 - M3 measuring conditions in accordance to ISO 13655.

In addition the new SpectroDens Premium comes with tracking wheels, which ensure a straight run and allow besides spot measurements short scans of color patches or step wedges. Thus an Ugra/Fogra media wedge can be measured easily within only 15 seconds; an ISO/PSO conformity check and a printing curve can be done within only 3 seconds.

Software SpectroConnect

The SpectroConnect software supplied with the device displays the measurement data clearly arranged on a computer monitor. Just connect SpectroDens by USB cable to a PC. Optionally the new SpectroDens Premium can transmit the data even wirelessly via WLAN to the computer.

Measurement data can be transferred into Microsoft Excel™ or other applications. The integrated color library is especially easy to use. For example, you can load complete “digital color books” into the device. The software also serves as the connecting module for other applications, e. g. programs for the production of printing curves or colorimetric quality control.



Image SpectroDens Premium

Versions and functions

We supply SpectroDens in three types of performance packages: The model Basic with the essential density functions and the Advanced version which adds extended densitometry functions, colorimetry and a color library. The flagship model SpectroDens Premium now comes up in a new design featuring a color display and new functions.

SpectroDens Basic

- Automatic density
- Density CMYK (with reference measurements)
- Dot area; dot gain; print contrast
- Gray and color balance
- Ink trapping to Preucil

SpectroDens Basic can be upgraded post-purchase to Advanced by program upload (charged service).

SpectroDens Advanced

Same functions as SpectroDens Basic and additionally:

- Printing curve
- Spectral density for spot colors
- Trend function Espresso mini
- Slur/doubling value
- Dot area to Yule-Nielsen
- Ink trapping to Brunner and Ritz
- Density spectrum
- CIE $L^*a^*b^*$, $\Delta E^*a^*b^*$, CIE XYZ, CIE color circle
- Remission spectrum; color library
- GrayGuide according to Gracol G7™

SpectroDens Premium

Same functions as SpectroDens Advanced and additionally:

- Color display and new device design
- LED technology provides measurement conditions M0 - M3 according to ISO 13655
- Scan function measures Ugra/Fogra media wedge within 15 seconds; ISO/PSO conformity check and printing curve within 3 seconds
- Data transmission via WLAN optionally
- CIE $L^*C^*h^*ab$, CIE $L^*u^*v^*$, CIE $L^*C^*h^*uv$, CIE xyY, DIN Lab99
- ΔE^*cmc , ΔE^*CIE94 , $\Delta E^*CIE2000$
- ISO-Check: Color control acc. to ISO 12647
- InkCheck: Color control of spot colors
- Metamery index; whiteness; yellowness
- Pass-/fail tolerance; average

Software

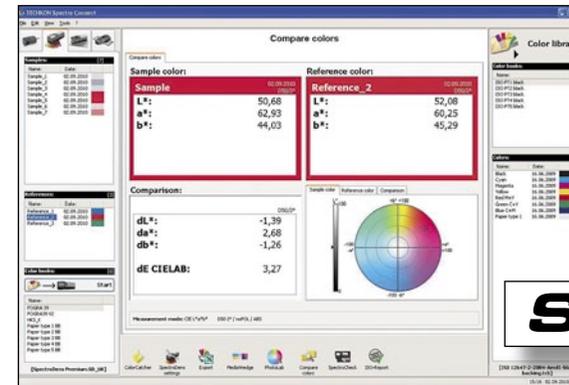
SpectroConnect requires Windows XP, Vista or 7

Contents

- Measurement device SpectroDens
- Charging console with white standard and AC-adapter with universal plugs
- Carrying case; USB cable
- CD with software SpectroConnect
- Manual with ISO 9000 compliant certificate

Optional accessories

- Small apertures, UV-Cut filter
- Print control strip TCS Digital
- Color reference SpectroCheck



Specifications

Measurement technology	Spectral remission measurement and color density determination to ISO 5-3/4
Measurement geometry	0/45° optics to DIN 5033
Spectral range	400 to 700 nm in 10 nm steps
Measurement aperture	3 mm round standard; Basic and Advanced version: 1.5 mm round optional
Light source	Gas-filled lamp, type A illumination; Premium version: LED
Polarization filter	Twice linear crossed, switched on and off per button release
Measurement time	Approx. 1 second per measurement
White reference	Absolute and relative; absolute white standard integrated and protected in charging console
Illumination / Standard observer	A, C, D50, D65, F 2/7/11 / 2°, 10°
Density filter	DIN 16536, DIN 16536 NB, ISO/ANSI T, ISO/ANSI I, ISO E; Advanced, Premium version: Dmax
Density measurement range	0.00 D – 2.50 D
Repeatability	0.01 D; 0.03 CIE $\Delta E^*a^*b^*$
Inter-instrument agreement	0.01 D; 0.3 CIE $\Delta E^*a^*b^*$
Display	LC backlight display, 16 gray levels, 240 x 160 pixels; Premium version: color, 320 x 240 pixels
Power supply	Rechargeable NiMH battery, regulated recharge via charging console with AC adapter, 100 – 240 V, 47 – 63 Hz, up to 10.000 measurements per battery charge, battery level control
Communication-Port	USB; Premium version: WLAN module optional
Weight	520 grams; Premium version: 480 grams
Dimensions	65 x 65 x 190 mm (approx. 2.6 x 2.6 x 7.5 inch); Premium version: 65 x 55 x 190 mm
System requirements	for software SpectroConnect: Windows XP, Vista or 7

The TECHKON Spectro series

Good printing is a matter of quality. The key to success is to control all steps of the process which lead to the printing product. The Spectro series provides you with the perfect tool for each of these steps.

SpectroPlate is the ideal device for checking the quality of a printing plate. Today in the age of Computer-to-Plate it is obvious: Without quality control in pre-press, there is no guarantee for quality in print.

Concerning colorimetric and densitometric measurements on printed products, the precise and compact hand-held measurement device SpectroDens is a real all-rounder. It is full of functions but nevertheless easy to use. Direct positioning of the measurement head on the measurement field ensures a secure and quick measurement.

When it comes to automatic measurement and analysis of complete print control strips, the TECHKON scan-measurement devices are used.

SpectroJet is quickly guided by hand along the color bar. Optionally a guidance track supports this task, when long print control strips have to be measured. SpectroDrive is motorized and therefore scans a print control strip automatically. Both devices have a high speed of measurement in common and directly transfer the measurement data to the powerful but user-friendly Windows software TECHKON ExPresso or to other programs that control printing machines.

The world of TECHKON

As a long-established company we have more than 25 years of experience in the development and manufacture of high-quality spectral measurement technology.

Our core area is the development of products for quality control in the printing industry. The color measurement instruments of the TECHKON Spectro series are regarded as the industry benchmark.

One of our specific strengths is our ability to tailor our solutions to specific applications.

Our philosophy here: We observe and understand your application, deal with the complexity of the measurement technology and deliver you simple-to-use measurement solutions, which make your work safer, easier and more efficient.

Our philosophy for perfect measurement devices

As with all TECHKON-products, the innovative Spectro product series was designed by applying our four powerful principles for perfect measurement devices:

Easy and fast to use

High measurement accuracy

Solid and reliable

Functional and attractive design

The advantages at a glance

PRECISE

- Patented measurement head for exact and direct positioning
- Precise spectral engine
- Automatic measurement function displays always the relevant values
- Measurement values can be memorized with date and time tag
- Devices are factory-made calibrated permanently

FAST

- Immediately ready to use after switching on
- All measurement functions quickly accessible
- Quick measurement
- Up to 10.000 measurements per battery charge*
- Rechargeable high-capacity batteries; battery level control*
- USB port for easy and speedy transfer of measurement data to a PC

ROBUST

- Robust design for reliable function in a harsh industrial environment
- Durable precision; device is maintenance free

ERGONOMIC

- Ergonomically positioned, user-friendly measurement button
- Handy and compact
- Self-explanatory operation

VERSATILE

- Several dialog languages available
- Download of additional functions and device upgrades* via PC
- Comprehensive software SpectroConnect included

* except for SpectroJet

TECHKON on the internet

Please visit our internet pages.

You will find useful information about the complete product range and themes of measurement technology. Download current program versions for the measurement instruments.

Or simply order your personal test device.

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