

## **Spectrophotometer**

### **ColorLite ColorTube - Quick Start Guide**

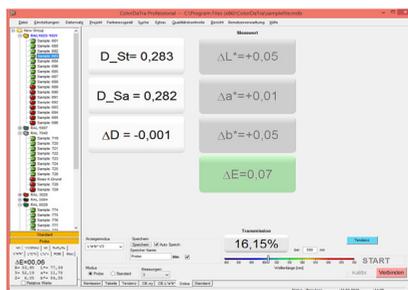
# Spectrophotometer

## ColorLite ColorTube - Quick Start Guide

The ColorLite ColorTube is a trend-setting high precision benchtop spectrophotometer for reflectance colour measurement. The ColorLite ColorTube has been developed for a variety of surfaces and materials. It is characterized by the use of high-quality electronics and optical components. Included is the QS-software ColorDaTra to evaluate, analyse and create professional reports in all common colour scales.



### Quality control PC software ColorDaTra



## 1) Getting started

Switch the ColorLite ColorTube on by holding down the button on the front side of the ColorTube (at least 2 seconds). After the coloured LED lighting has switched on, the ColorTube is ready for use without any warm-up time. To get a connection between the ColorTube and the PC you must connect the USB cable with the connection socket.

Open the ColorDaTra software and connect the ColorTube by clicking - [Connect](#) -. (A separate instruction manual for the ColorDaTra software is included in the delivery)

## 2) Specific for ColorTube settings

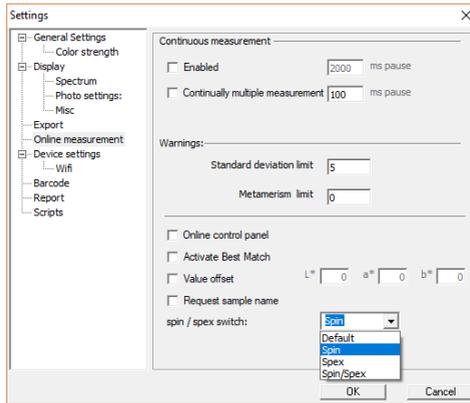
### Spin / Spex (Specular Included) / (Specular Excluded)

The ColorTube has an internal light trap to switch between measuring with and without specular gloss.

Spex Mode - The gloss trap is open and gloss component escapes the sphere, which means the measurement is made without the gloss part.

By closing the gloss trap - Spin Mode - both the colour and gloss components are measured.

To change the settings, go to Settings - Online measurement - Spin/Spex.



### Options:

- Default: Device uses SPIN or the setting that has been previously set up on the device.
- Spin: Measurements are made with the gloss trap is closed.
- Spex: Measurements are made with the gloss trap is open.
- Spin/Spex: The device will take 2 measurements. SPIN and SPEX.

### Measurement spot size

The ColorTube has an automatic focus adjustment to change the measurement spot size. To switch the settings, go to [Settings - Device settings - Measurement spot size](#).

Plates with different openings are available. These must be selected for the appropriate measuring area setting.

### Options:

- 3mm
- 10mm
- 20mm
- 30mm

After changing the setting, the device needs a new manual calibration.

### 3) Calibration - Colour measurement

To calibrate the device use the supplied certified white calibration standard and black reference. We recommend to calibrate daily or before measuring a colour standard. Calibration is started from the ColorDaTra software on your PC. Place the black reference above the measuring port and select - **Calibrate** -. After the black measurement, remove the black calibration standard and position the white tile in front of the opening. Confirm the White calibration on the PC with - **ok** -.



Black calibration  
standard

### 4) How to measure a reference

Reference colours are normally target colours, which we call "Standards". Standards can be measured and stored as reference colour. This standard is used for later measurements in the ColorDaTra software. Select - **Standard** - mode in the ColorDaTra software. Choose a name for the standard, for example "Powder Red". The measurement begins as soon as you press the - **Start** - button.

Typical standards are colour scales such as RAL or NCS, ideally in the same material as the sample. But very often for quality control applications a release sample is best measured as the standard. This ensures that the texture, geometry and other optical features are identical to the sample.

When measuring a standard following points should be observed:

- The standard must be clean. Best always keep protected and never touch the surface.
- For the measurement of inhomogeneous samples such as granules or structured surfaces such as leather, it is possible to determine the number of scans for colour analysis. In this case, an average from the number of individual scans is displayed and stored.
- Number of scans can be found in ColorDaTra at - **Measurements** -. The current setting is displayed on the screen. The basic setting is "3". The number of measurements can be chosen between 1 and 20.
- Select a tolerance range in ColorDaTra - **Quality control** -. Fix which Pass/Fail limits are to be monitored. Enter the limits in the mask. If you have not defined pass/fail limits for a standard, the ColorTube shows the measured colour visually via the integrated LED lighting. Otherwise the Tube will give a RED feedback for failed and GREEN for Passed.

### 5) Sample measurement

Sample values are measured as absolute readings or used to compare to a standard colour. Before the measurements starts, standard must be measured or selected from the stored selection. Select - **Sample** - mode in ColorDaTra.

The measurement starts immediately after pressing the - **Start** - button in the software or by pressing the trigger button on the ColorTube. Results are automatically stored and can be visualised in different modes.

See ColorDaTra manual for more information.