

## Technical Specification Colour Meter PCE-TCD 200

### **Precise measurement of colour according to CIE standards / measures differences of colours and shows $\Delta E$ / for several surfaces / memory / USB interfaces / PC software for colour evaluation**

The PCE-TCR 200 colour device carries out an analysis of the color using CIE Lab\* color space. This color device also allows you to determine the colours in the RGB colour range. By means of a source of internal normalized white light the surface is illuminated. The colour device absorbs the light reflected from the background and processes it. In addition of indicating the Lab colors, this colour device also shows RGB, Lch and HCL colour ranges. The PCE-TCR 200 colour device can also detect the distance  $\Delta E$  between different colour pattern. This colour device allows you to set a limited value which should not be exceeded. The PCE-TCR 200 colour device checks each measurement to see if it has exceeded the threshold value. Measurement of colour is taken by means of a high precision silicon sensor. The sensor detects the light reflected according to the regulations of light source D65, D50 or F11, which can be selected using the menu. The internal memory of the colour device is able to store 30 colour values into 12 groups. That allows a fast control of the colour values. This colour device is powered by 4 AA batteries. It can also be powered by an external power plug. The measurement values can be transferred from the colour device to a PC, using a USB port. The PCE-TCR 200 colour device will be delivered in a resistant aluminium case. The following is also included in the delivery: Black and white test standards, a network component, a USB cable for data transmission and a case to ensure safe transportation of the colour device PCE-TR 200. If there are any questions about the colour device PCE-TCR 200 have a look at the technical specification below. Our technicians and engineers will gladly advise you in all colour devices and all products in the field of measuring instruments, regulation and control and scales.

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| - Measurement of Lab colour values     | - USB input                                      |
| - Conversion into LCH, RGB...          | - Software for evaluation of the measured values |
| - High repeatability                   | - Memory of values                               |
| - Selection of three light sources     | - Sleep function to reduce power consumption     |
| - Balancing of white and black objects | - Aluminium transportation case                  |

#### **Technical specification**

Repeatability	0.08
Illumination System	8/d, SCI, SCE
Light source	standard white light
Detection angle	10° according to CIE standard
Detection conditions	D65, D50, F11
Balancing of measured values	standard white according to CIE, standard black according to CIE

Memory	12 groups with 30 values each
Display	L*a*b*, L*c*h*, E*ab, RGB chromatic aberration of L*a*b* and L*c*h*
Diameter	8 mm
Voltage Supply	4 x AA 1.5 V, external 5 V power plug
Dimensions	Windows XP, Windows Vista, Windows 7
Weight	60 x 110 x 40 mm

#### **Regulations to evaluate colour measurements with the Colour Device PCE-TCR 200**

Range of colour differences	Valuation
0 ... 0.25 $\Delta E$	small deviation, deviation acceptable
0.25 ... 0.5 $\Delta E$	less chromatic aberration, acceptable in a few applications
0.5 ... 1.0 $\Delta E$	less or average chromatic aberration, acceptable in a few applications
1.0 ... 2.0 $\Delta E$	average deviation of colours, acceptable in a few applications
2.0 ... 4.0 $\Delta E$	high colour deviation, only acceptable in special applications
> 4.0 $\Delta E$	really high colour deviation, not acceptable

#### **Delivery content**

1 x colour device PCE-TCR 200, 1 x standard white object, 1 x standard black object, 4 x 1.5 AA batteries, 1 x 5 V power plug, 1 x USB cable, 1 x software, 1 x manual description