



# User Manual

PCE-CIC Series Colour Viewing Box



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our product search on: [www.pce-instruments.com](http://www.pce-instruments.com)

Last change: 25 August 2020  
v1.0

## Contents

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
<b>2</b>	<b>Safety notes.....</b>	<b>1</b>
<b>3</b>	<b>Specifications.....</b>	<b>2</b>
<b>4</b>	<b>Delivery scope.....</b>	<b>2</b>
<b>5</b>	<b>Light sources used .....</b>	<b>3</b>
<b>6</b>	<b>Structure .....</b>	<b>3</b>
<b>7</b>	<b>Device description .....</b>	<b>5</b>
7.1	PCE-CIC 5.....	5
7.2	PCE-CIC 10.....	6
7.3	PCE-CIC 11.....	7
<b>8</b>	<b>Operation notes.....</b>	<b>8</b>
<b>9</b>	<b>Test report* .....</b>	<b>9</b>
<b>10</b>	<b>Bulb replacement .....</b>	<b>10</b>
<b>11</b>	<b>Lamp breakage.....</b>	<b>10</b>
<b>12</b>	<b>Contact.....</b>	<b>11</b>
<b>13</b>	<b>Disposal .....</b>	<b>11</b>

## 1 Introduction

Thank you for purchasing a colour viewing box from PCE Instruments.

A colour viewing box is used wherever products must have the same colour properties during production. Thus a colour viewing box contributes to quality control. The colour viewing box is a simulation instrument which, by means of different types of light, is able to display certain situations in order to analyse the colour characteristics of individual samples.

Metamerism can thus be avoided by using a colour viewing box. To support the measurement, the colour viewing box has a built-in hour meter which makes it easier for the user to stick to the recommended running time of the lamps. The user can select the appropriate type of light independently by pressing a key. The control bar is located at the front side of the colour viewing box. If desired, several types of light can be switched on at the same time in the colour viewing box. This is done by pressing the respective keys simultaneously.

## 2 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- Upon receipt, the device must be checked for damage.  
In case of damage, the device must not be used.
- The assembly instructions must be followed.
- The power supply is only to be established after the complete assembly at the place of installation, according to the type plate.
- The device must be set up on a stable, non-slip substructure.
- The working height should allow comfortable viewing of the samples at a 45° angle.
- A minimum distance of 10 cm to the body (rear panel / lid / side panels) must be maintained.
- The ventilation holes must not be closed.
- This product is intended for indoor use only under normal environmental conditions. (e.g., do not expose it to high temperatures, high humidity or vibration).
- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- Do not expose the device to shocks or strong vibration.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet or dirty.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Danger of burns: Depending on the operating mode and duration, the lamps generate heat which can cause burns if touched.
- Lamps may only be touched when they have cooled down accordingly.
- Always pull out the mains plug when installing or replacing the lamps.
- The colour viewing box may only be operated when all lamps are installed.



- Colour viewing boxes are not designed for permanent lighting.
- Used fluorescent lamps must be disposed of in accordance with the current disposal directive and must not be disposed of as normal household waste.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

### 3 Specifications

	PCE-CIC 5	PCE-CIC 10	PCE-CIC 11
<b>Standard light</b>			
D65	X	X	X
TL84	X	X	X
F11		X	X
TL83		X	X
U30		X	x
CWF		X	X
A / F	X	X	X
UV-A	X	X	x
Standards	ASTM D 1729 ISO 3664	ASTM D1729 ISO3664 DIN ANSI BSI	ASTM D1729 ISO3664 DIN ANSI BSI
Operating hours counter per light type	Yes	Yes	Yes
Power supply	230 V AC / 50 Hz		
Inner dimensions	680 x 385 x 355 mm	1280 x 590 x 590 mm	665 x 490 x 360 mm
Outer dimensions	710 x 405 x 570 mm	1310 x 600 x 800 mm	695 x 552 x 502 mm
Weight	30 kg	65 kg	20 kg

### 4 Delivery scope

- 1 x base plate
- 1 x rear wall
- 2 x side walls
- 1 x lighting segment (cover incl. illuminant depending on colour viewing box)
- 1 x screw connection (depending on the colour viewing box)

## 5 Light sources used

Standard light	Scope of application	Colour temperature	Watt	Type
D65	Daylight simulation for industry for colour evaluation	6500 Kelvin	20	SYLVANIA F20T12/D65
TL84 / F11	Department store, warehouse and office in Europe	4100 Kelvin	18	PHILIPS TLD 18W/33-840
TL83 / U30	Fluorescent light (warm white) similar to Incandescent A	3000 Kelvin	18	PHILIPS TLD 18W-830
CWF	Department store, warehouse and office in USA	4100 Kelvin	18	PHILIPS TLD 18W/33-640
A / F	Incandescent lamps for living areas, gastronomy	2700 Kelvin	40	OSRAM SPC. OVEN P FR 40 240V / E14/SES
UV-A	For detection of optical brighteners	365 nm	20	PHILIPS TL-D 18W BLB

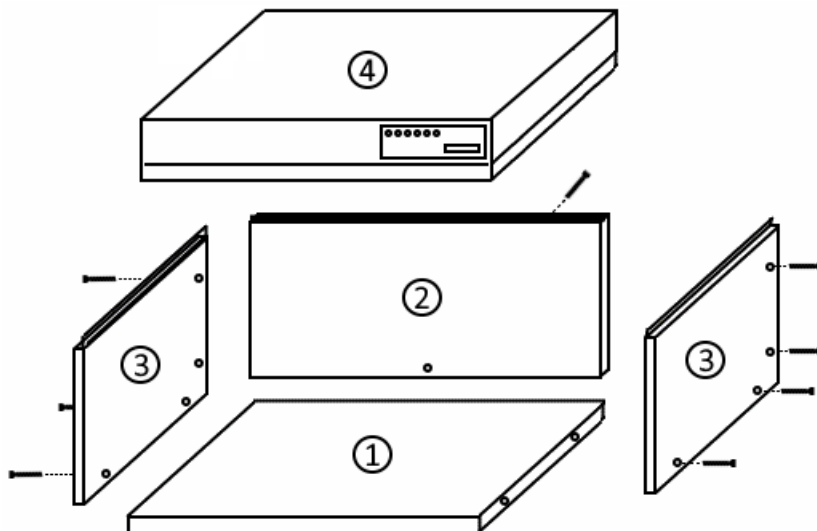
## 6 Structure

The colour viewing box is supplied in individual parts and must be assembled before first use. The lighting part (cover) is nearly complete and the main part of the assembly is limited to the construction of the body.

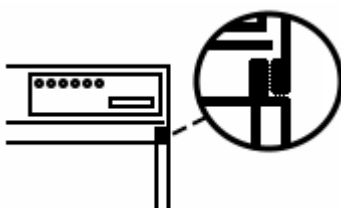
The assembly should be carried out at the intended installation site to avoid later transport. The installation site should absolutely avoid incidence of extraneous light and the environment should be as colour-neutral as possible in order to influence the perception of the observer as little as possible.

Two people are needed for the assembly. Due to the sharp-edged outer packaging, we recommend wearing protective gloves.

After unpacking the colour viewing box (Caution! The outer packaging may have protruding nails), the colour viewing box must be checked for possible damage and for completeness.



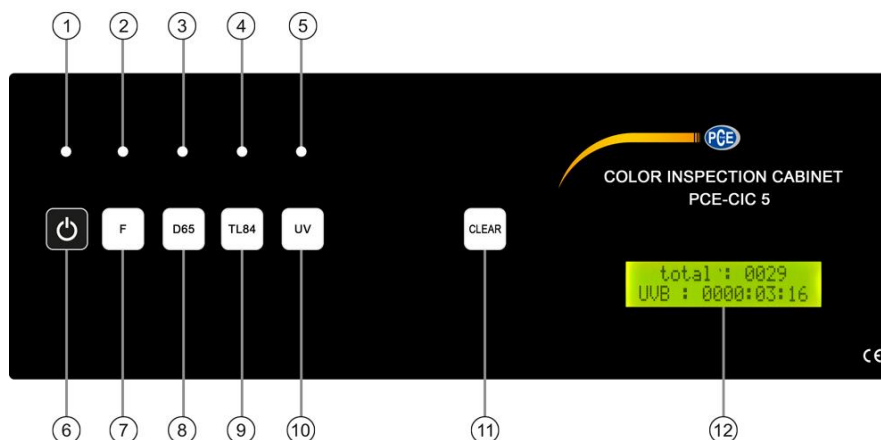
1. Remove the base plate ① and place it with the set-up side (feet / felt) on the table.
2. Screw the rear panel ② onto the base plate. The **MATT** painted side is the **inner side**.
3. Now the side parts ③ must be screwed to the bottom wall ① and the rear wall ②. The **MATT** painted side is the **inner side**.
4. Missing light sources must be screwed into the lighting segment.  
(The power supply must not yet be established)
5. The lighting segment ④ must now be plugged onto the body. Make sure that the cover clasps the edges of the body.



6. Now the power supply must be established with the supplied cold-device plug.  
The connection is located on the rear side of the lighting segment.

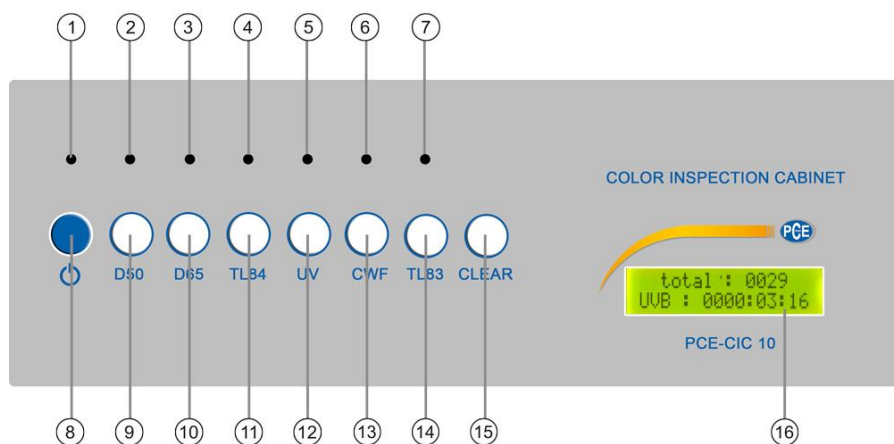
## 7 Device description

### 7.1 PCE-CIC 5



1. On/off LED
2. LED F light
3. LED D65 light
4. LED TL84 light
5. LED UV light
6. On/off key
7. F light key
8. D65 light key
9. TL84 light key
10. UV light key
11. Clear key
12. LC display

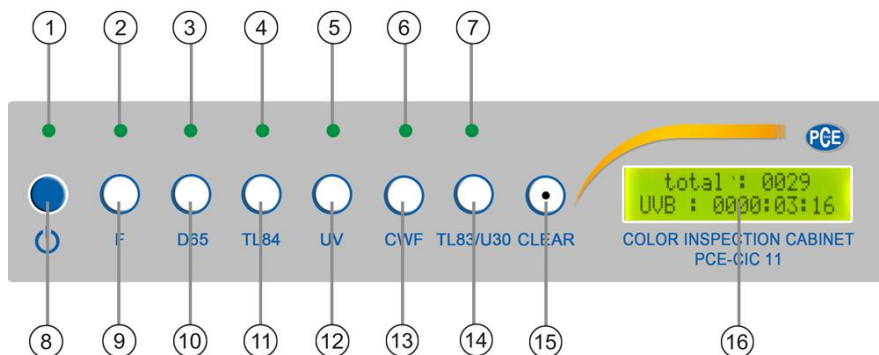
## 7.2 PCE-CIC 10



1. On/off LED
2. LED D50 light
3. LED D65 light
4. LED TL84 light
5. LED UV light
6. LED CWF light
7. LED TL83 light
8. On/off key
9. D50 light key
10. D65 light key
11. TL84 light key
12. UV light key
13. CWF light key
14. TL83 light key
15. Clear key
16. LC display



### 7.3 PCE-CIC 11



1. On/off LED
2. LED F light
3. LED D85 light
4. LED TL84 light
5. LED UV light
6. LED CWF light
7. LED TL83 / U 30 light
8. On/off key
9. F light key
10. D85 light key
11. TL84 light key
12. UV light key
13. CWF light key
14. TL83 / U 30 light key
15. Clear key
16. LC display

## 8 Operation notes

- The observer should wear a neutral (achromatic) colour for the evaluation of the samples to avoid reflections and other influences.
- The observer must be examined and selected by an appropriate method to ensure normal colour vision and normal ability to distinguish colours.
- Press the on/off key to turn on the colour viewing box. The timer will then display the total running time of the colour viewing box, regardless of the light type.
- If you have selected a light type via the control bar and pressed the key, it will be switched on and the time counter will show the running time of the selected light type.

Depending on the light source, a certain warm-up time must be taken into account in order to be able to make a reproducible assessment.

Since the light quality decreases with increasing operating hours, the light sources must be replaced after a certain number of operating hours.  
(see illuminant manufacturer's specifications)

- Place the objects to be viewed in the centre of the colour viewing box and also change the position of the reference samples from time to time.
- A viewing angle of 45 degrees is ideal.
- When viewing is complete, press the on/off key again to turn off the unit.

## 9 Test report\*

The test report should contain at least the following information:

- (a) All details necessary for the identification of the tested coating material;
- (b) a reference to this international standard (ISO 3668);
- (c) details of additional information referred to in annex A;
- (d) a reference to the international or national standard, product specification or other document containing the information referred to in (c);
- (e) in what daylight - natural or artificial - the sample was taken and where appropriate, the type of artificial light;
- (f) details of the colour viewing box, if used, e. g. manufacturer and brightness of interior walls;
- (g) Description of the rating scale, as described in Annex B (see 8.1.3);
- (h) the result of the test, with reference to metamerism where appropriate and whether sampling has been carried out with regard to a reference standard produced in parallel or with respect to a colour standard;
- (i) any deviation from the stipulated test procedure;
- j) Inspection date and name(s) of the inspector(s).

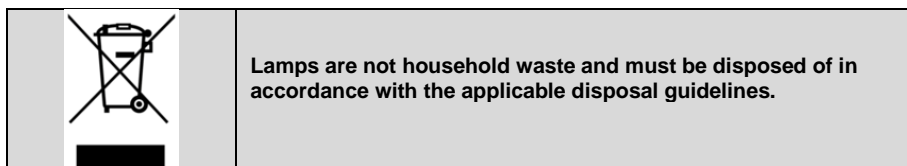
\*Extract from DIN EN ISO 3668



**Note:** This is a recommendation on how the structure of a test report can be, based on DIN EN ISO 3668.

## 10 Bulb replacement

- Before changing the lamp, disconnect the cold-device plug from the power supply.
- Wait until the lamps have cooled down before replacing them.
- The illuminants have a marking and must be re-inserted in the place provided for this purpose.
- The illuminants must always be completely replaced for the respective light sources in order to ensure consistent quality based on the number of operating hours.
- After changing the bulbs, the respective hour meters must be reset.  
To do this, select the appropriate light type and press the clear button.

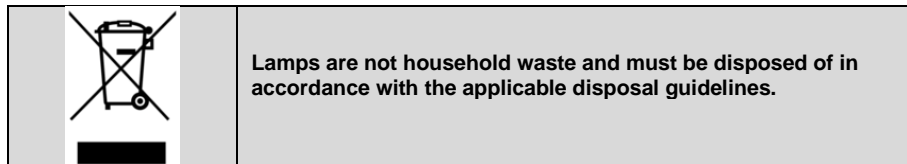


## 11 Lamp breakage

Depending on the type of light, illuminants may contain small amounts of mercury and other substances that are harmful to health. For this reason, if the lamp breaks, you must act immediately and with the utmost caution:

1. Disconnect power supply.
2. Ventilate the room for about 15 minutes. During this time, switch off the heating, ventilation and air conditioning system and leave the room.
3. Put on disposable gloves and, if necessary, safety gloves for the clean-up work and avoid any unintentional contact with the fragments. (e. g. with clothes / shoes, etc.)
4. Leave the windows open during the clean-up work.
5. First, sweep the fragments together with the help of a carton / cardboard.  
***(Do not use a hand brush / broom, as this will whirl up the fragments into the ambient air with the bristles and other fragments will get caught in the bristles)***
6. Any remaining fragments must be removed with adhesive tape or moist disposable paper towels.
7. The lamp residues as well as the auxiliary materials used for collection (e. g. cardboard / paper / adhesive tape / gloves, etc.) must be safely sealed in airtight containers (e. g. screwed glass, sealable plastic bags, etc.) and disposed of at the designated collection points.

<https://www.lightcycle.de/verbraucher/sammelstellensuche.html>



8. After cleaning up, wash your hands thoroughly and air the room for some time.

## 12 Contact

If you have any questions, suggestions or technical problems, please do not hesitate to contact us. You will find the relevant contact information at the end of this user manual.

## 13 Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.





## PCE Instruments contact information

### Germany

PCE Deutschland GmbH  
Im Langel 4  
D-59872 Meschede  
Deutschland  
Tel.: +49 (0) 2903 976 99 0  
Fax: +49 (0) 2903 976 99 29  
info@pce-instruments.com  
www.pce-instruments.com/deutsch

### United Kingdom

PCE Instruments UK Ltd  
Unit 11 Southpoint Business Park  
Ensign Way, Southampton  
Hampshire  
United Kingdom, SO31 4RF  
Tel: +44 (0) 2380 98703 0  
Fax: +44 (0) 2380 98703 9  
info@pce-instruments.co.uk  
www.pce-instruments.com/english

### The Netherlands

PCE Brookhuis B.V.  
Institutenweg 15  
7521 PH Enschede  
Nederland  
Telefoon: +31 (0)53 737 01 92  
info@pcebenelux.nl  
www.pce-instruments.com/dutch

### United States of America

PCE Americas Inc.  
711 Commerce Way suite 8  
Jupiter / Palm Beach  
33458 FL  
USA  
Tel: +1 (561) 320-9162  
Fax: +1 (561) 320-9176  
info@pce-americas.com  
www.pce-instruments.com/us

### France

PCE Instruments France EURL  
23, rue de Strasbourg  
67250 Soultz-Sous-Forêts  
France  
Téléphone: +33 (0) 972 3537 17  
Numéro de fax: +33 (0) 972 3537 18  
info@pce-france.fr  
www.pce-instruments.com/french

### Italy

PCE Italia s.r.l.  
Via Pesciatina 878 / B-Interno 6  
55010 Loc. Gragnano  
Capannori (Lucca)  
Italia  
Telefono: +39 0583 975 114  
Fax: +39 0583 974 824  
info@pce-italia.it  
www.pce-instruments.com/italiano

### China

PCE (Beijing) Technology Co., Limited  
1519 Room, 6 Building  
Zhong Ang Times Plaza  
No. 9 Mentougou Road, Tou Gou District  
102300 Beijing, China  
Tel: +86 (10) 8893 9660  
info@pce-instruments.cn  
www.pce-instruments.cn

### Spain

PCE Ibérica S.L.  
Calle Mayor, 53  
02500 Tobarra (Albacete)  
España  
Tel. : +34 967 543 548  
Fax: +34 967 543 542  
info@pce-iberica.es  
www.pce-instruments.com/espanol

### Turkey

PCE Teknik Cihazları Ltd.Şti.  
Halkalı Merkez Mah.  
Pehlivan Sok. No.6/C  
34303 Küçükçekmece - İstanbul  
Türkiye  
Tel: 0212 471 11 47  
Faks: 0212 705 53 93  
info@pce-cihazlari.com.tr  
www.pce-instruments.com/turkish

### Hong Kong

PCE Instruments HK Ltd.  
Unit J, 21/F., COS Centre  
56 Tsun Yip Street  
Kwun Tong  
Kowloon, Hong Kong  
Tel: +852-301-84912  
jyi@pce-instruments.com  
www.pce-instruments.cn