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Manual

Automotive Tester PCE-VE 200



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1 Introduction

Thank you for purchasing a PCE-VE 200 from PCE Instruments.
 This video endoscope is a useful tool for professionals for the non-destructive inspection of areas which are difficult to access. It can be used in automotive repair, in the construction industry, in restoration, plumbing, in HVAC/R inspection, etc.

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. There is no warranty of damages or injuries caused by non-observance of the manual.

- The device may only be used in the approved temperature range.
- The case should only be opened by qualified personnel of PCE Instruments.
- The instrument should never be placed with the user interface facing an object (e. g. keyboard side on a table).
- 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.
- Please keep the device clean, try to avoid direct contact with water, oil and other materials that can cause corrosion.
- Do not overbend the probe.
- Charge only with the original mains adaptor / USB cable.
- Please note that the borescope is not intended for medical use.

Battery:

- Do not overcharge the battery in order not to reduce the battery life.
- Remove the battery whenever the device will not be used for a longer period of time.
- After battery leakage, unscrew the battery compartment cover and replace the battery by a new one.
 Make sure that the polarity is correct. Attach the battery compartment cover again and tighten the screw.

This user's handbook is published by PCE Instruments without any guarantee.

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.

3 Specifications

Console

| | |
|------------------|---|
| Display | 3.5" TFT LCD |
| Video resolution | AVI (640 x 480) |
| Image resolution | JPEG (1600 x 1200) |
| Image rotation | 180 ° rotation / mirror image |
| Freeze frame | Possible |
| Zoom | 4 x variable digital zoom |
| Menu languages | English, Simplified Chinese, French, German, Spanish, Japanese, Russian |
| Interface | Micro USB 2.0 / TV out / card slot |
| TV out | PAL |
| Memory | Micro SD card |
| Power supply | 18650 Li-Ion battery (2600 mAh) |
| Battery life | Typically 5 h |

Insertion probe

| | |
|------------------------------------|--------------------------------------|
| Diameter of camera head | 4.5 mm |
| CMOS sensor | 1/8" CMOS chip |
| Camera resolution | 640 x 480 px |
| Camera illumination | intensity adjustment 6 white LEDs |
| Brightness level manual adjustment | possible |
| Field of View (FOV) | 90 ° |
| Camera depth of field | 15 ... 100 mm |
| Probe length | 1 m |
| Probe material | Flexible soft metal |

Insertion probe further versions

| | PCE-VE 200 –S | PCE-VE 200 –S3 | PCE-VE 200 –SV1 | PCE-VE 200 –SV3 |
|---------------------|---------------|----------------|-----------------|-----------------|
| Cable length | 1 m | 3 m | 1 m | 3 m |
| Diameter | 3.7 mm | 3.7 mm | 9 mm | 9 mm |
| Camera | Front | Front | Front / side | Front / side |

* To switch the camera from front to side, use the control handle at the camera cable.

Environmental conditions

| | | |
|-----------------------|-----------|--|
| Operating temperature | Probe | In air: -10 ... 50 °C In water: 5 ... 50 °C |
| | Console | In air: -10 ... 50 °C |
| Relative humidity | All parts | 15 ... 90 % |
| Liquid resistance | All parts | Machine oil, light oil or 5 % saline solution |
| Ingress protection | Probe | Water, oil and dust, in line with protection class IP67 |
| | Console | Blowing rain (battery compartment must be closed) Not under water |

4 System description



- 1 Power on / off
- 2 Down / image rotation
- 3 Up
- 4 Setting
- 5 OK
- 6 Preview / playback
- 7 Video recording
- 8 Photo taking
- 9 LED at tip of cable
- 10 Zoom
- 11 Frame freeze
- 12 LED at console
- 13 Tripod thread
- 14 Battery cover screw
- 15 Probe
- 16 Startup / shutdown indicator
- 17 Charging indicator
- 18 Micro SD card slot
- 19 TV out
- 20 Micro USB interface
- 21 Reset



5 Instructions

How to insert the micro SD card

- Remove the dust cover at the right side and insert the micro SD card.
- Please use a C4 micro SD card or above and make sure you format the card before use. To do so, connect the device with a computer or laptop, using the USB cable that comes with the device. Alternatively, you can format the SD card directly via the console, using the menu item for file management, see below.

How to switch the borescope on / off

To turn the endoscope on / off, push and hold the Power on / off button for 2 seconds.

How to take pictures and record videos

- To take a picture, push the photo button. The images will be saved to the micro SD card as DCIM files.
- To record a video, push the video button. To finish video recording, push the button again. The videos will be saved to the micro SD card as DCIM files.

Additional buttons

- LED button cable tip:
for adjustment of camera cable illumination (off / level 1 / level 2 / level 3)
- Zoom button:
for zooming (x 2 / x 3 / x 4)
- LED button console (torch function):
for illumination of the environment under inspection (off / level 1 / level 2 / level 3)

Settings

When you push the Setting button, you can set the language, date and time, and auto power off (Power Save). You can navigate through the different setting options using the arrow keys. You will find some more specific instructions on the display.

File management

Push the Playback button. Then push the Setting button to enter the file management screen where you can enter the following options using the arrow keys:

- Lock to protect image or video from unintended deletion
- Delete to delete the image or video
- Format to format the SD card (all saved data will be lost)

To execute these functions, please refer to the instructions in the display.

Charging

Charging via a 230 V outlet:

- Use the included mains adaptor / USB cable and connect it to a power outlet

Charging per USB

- Use the USB cable and connect it to a computer or power bank.
- The charging indicator will be red during charging. When charging via USB, the indicator will go off when the battery is fully charged.

6 Troubleshooting

| Problem | Solution |
|--|---|
| No image on LCD after powered on | Connect the mains adaptor to the borescope to activate the battery. |
| No image but words on LCD after powered on | Remove the probe and insert it again. |
| No pictures / videos can be taken / recorded and settings are not accepted | Insert a micro SD card. |
| Display keeps indicating "Please format the SD card" | Insert another SD card with better quality. |
| Device crashed | Reset the device and power on again. |

7 Disposal

For the disposal of batteries, 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.

If you have any questions, please contact PCE Instruments.



8 Contact

If you have any questions about our range of products or measuring instruments please contact PCE Instruments.

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