User Manual

Food / Hygiene Thermometer PCE-FOT 10

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v1.0

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Contents

1   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.

- 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.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, …) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture. The device is intended for indoor use.
- Before the measurement, the device should have stabilised at ambient temperature, which is important when moving from cold to warm rooms and vice versa.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Before making a measurement, make sure the device is entirely closed.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should be cleaned with a damp cloth after each use. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- When the frying oil tester is not used for a longer period of time, remove the batteries.
- Do not store the meter together with any chemicals.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Wear your personal protective equipment during each measurement to avoid injury. This also applies to other people near the measuring location as oil splashes can cause serious injury to human skin and eyes.
- To avoid burns, never touch the sensor or the metal shaft directly after the measurement as these parts can become very hot when they are immersed into hot oil.
- Remove the oil quality meter from the oil when you leave the place.
- Do not use the instrument in explosive atmospheres. Also avoid proximity to explosive, easily flammable or chemical substances when the sensor is hot.
- Only use the device in systems that are electrically tested on a regular basis. Never connect the conductive metal parts of the meter with a source of voltage. Inspect the system visually before each measurement. If there are any signs of damage, do not carry out any measurements until the problem has been resolved.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- 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.
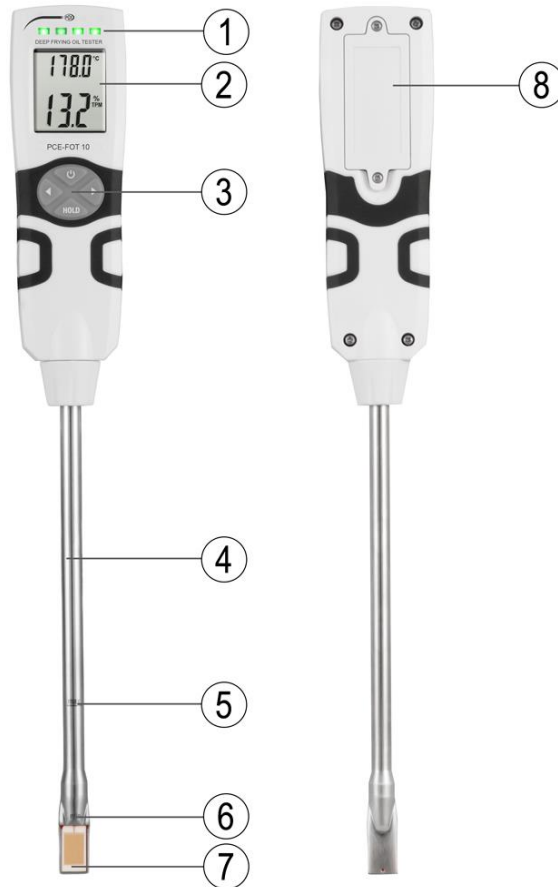
2   Technical specifications

Temperature	
Temperature measurement range	+30 ... +200 °C
Temperature accuracy	±1.5 °C
Temperature resolution	0.5 °C
PC value	
PC measurement range	0.5 ... 40 % polar fractions
PC accuracy	±3 % (at +30 ... +90 °C)*
PC resolution	0.1 %
General	
Measurable materials	olive oil, palm oil, rapeseeed oil, peanut oil, soybean oil, sesame oil, further vegetable oils or animal fats
Power supply	2 x 1.5 V AAA battery
Battery life	approx. 500 measurements / 25 h continuous operation
Temperature sensor	PTC sensor
Oil sensor	capacitive sensor
Operating temperature	0 ... +50 °C
Storage temperature	-20 ... +70 °C
Display	LCD, 3 digits
Dimensions (W x D x H)	55 x 350 x 25 mm without probe
Weight	185 g
Case material	ABS
Protection class	IP65

* As different fats and oils have different characteristics, the measured PC values can deviate by a certain percentage, depending on the type of oil/fat.

3   Interpretation of the measured values

Oil is new and good to use (LED flashes in green)	**0 ... 18.5 %**
Oil quality classified as critical (LED flashes in blue). It is recommended to renew the oil partly or completely.	**19 ... 24 %**
The oil in the fryer should no longer be used. The set threshold value (default setting: 24 %) has been exceeded and the LED flashes in red. The oil must be exchanged completely.	**>24 %**

4   Device description

1) Alarm LEDs
2) Display
3) Keys:
   On / off key
   Arrow keys
   HOLD key
4) Metal shaft
5) Line: max. immersion depth
6) Line: min. immersion depth
7) Sensor
8) Battery compartment cover

5   Measurement

1. Press and release the on / off key to switch on the device.
2. The temperature display will show "Lo".
3. The PC display will show "- - -".
4. Insert the sensor into the hot oil so that the oil level is between the minimum and maximum lines on the metal shaft.
5. If you want to freeze the measured value in the display, press the HOLD key.
6. Press the HOLD again to deactivate the HOLD function.
7. When the temperature indication flashes and shows "HI", the oil/fat is too hot and exceeds the upper end of the measurement range of 200 °C.
8. When the temperature indication flashes and shows "Lo", the oil/fat is too cold and is below the lower end of the measurement range of 30 °C.
9. When the PC indication flashes and shows "Lo," the oil/fat used is not suitable to be tested with the PCE-FOT 10.

Important notes to achieve the most accurate results

- During the measurement, there should not be any fried food in the oil/fat. After taking out the fried items, wait at least 5 minutes before making a measurement.
- If you would like to measure in an induction cooker, switch it off as its electromagnetic field can falsify the result.
- Stir the oil/fat briefly with the device to ensure an even temperature.
- Avoid direct contact with metal objects such as cooking pots or frying baskets as this can influence the measurement result. Minimum distance: 1 cm.
- Replace the oil/fat when a PC value of 24 % is reached. Different countries have different threshold values to stick to. It is recommended to replace the oil/grease before reaching the threshold value.

6   Settings / configuration mode

Activate the configuration mode by pressing the HOLD key and the arrow left key at the same time. Now you can navigate through the submenus, make the desired settings and confirm these by pressing the HOLD key. The next menu will open automatically.

Set temperature unit
Switch on the device and press the HOLD key and the arrow left key simultaneously for approx. 3 seconds. °C or °F will appear in the display.
1. Use the arrow keys to set the temperature unit (°C/°F).
2. Confirm the selected temperature unit by pressing the HOLD key to confirm.

Switch on / off audible alarm (ALA)
3. Use the arrow keys to switch on / off the audible alarm (ALA).
4. Press the HOLD key to confirm.

Switch on / off Auto Power Off function (OFF)
5. Press the arrow keys to switch on / off the Auto Power Off function.
6. Confirm your selection with the HOLD key.

Switch on / off alarm LED
7. Use the arrow keys to turn on / off the LEDs.
8. Press the HOLD key to confirm.

Switch on / off calibration mode (CAL)
9. Press the arrow keys to switch on / off calibration mode.
10. Press the HOLD key to confirm.

Reset device to factory settings (RST)
11. Use the arrow keys to reset the device to its factory settings (on).
12. Press the HOLD key to save and exit.

Switch the background lighting (BL) on or off
13. Press the arrow keys to turn on / off the backlight.
14. Press the HOLD key to save and exit.

To leave configuration mode, press the on / off key.

7 Advanced alarm settings

Switch on PC alarm (High)
1. Switch on the device and hold down the arrow left key for approx. 3 seconds until the LEDs turn red.
2. Use the arrow keys to set the alarm value.
3. Save the setting by pressing the HOLD key or press the on / off key to return to measurement mode without saving.

Switch on PC alarm (Low)
1. Switch on the device and hold down the arrow right key for approx. 3 seconds until the LEDs turn green.
2. Use the arrow keys to set the alarm value.
3. Save the setting by pressing the HOLD key or press the on / off key to return to measurement mode without saving.

8 Calibration

1. Use a reference oil with a known PC value for calibration. Heat the oil to 50 °C.
2. Enter calibration mode as described above. "CAL" will be displayed. Immerse the sensor into the calibration oil. Make sure the oil is between the Min/Max lines on the sensor shaft.
3. When the reading has stabilised, press the arrow keys to adjust the reading in increments of 0.5 %.
4. When the displayed value matches the reference value, press the HOLD key to save the value.

You can reset your calibration to factory settings by opening the menu item factory settings (RST) via the configuration mode as described under Settings **and then pressing the arrow right key and the HOLD key.**

9 Contact

You can read our Contact terms in our General Business Terms which you can find here: https://www.pce-instruments.com/english/terms.

10 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.

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