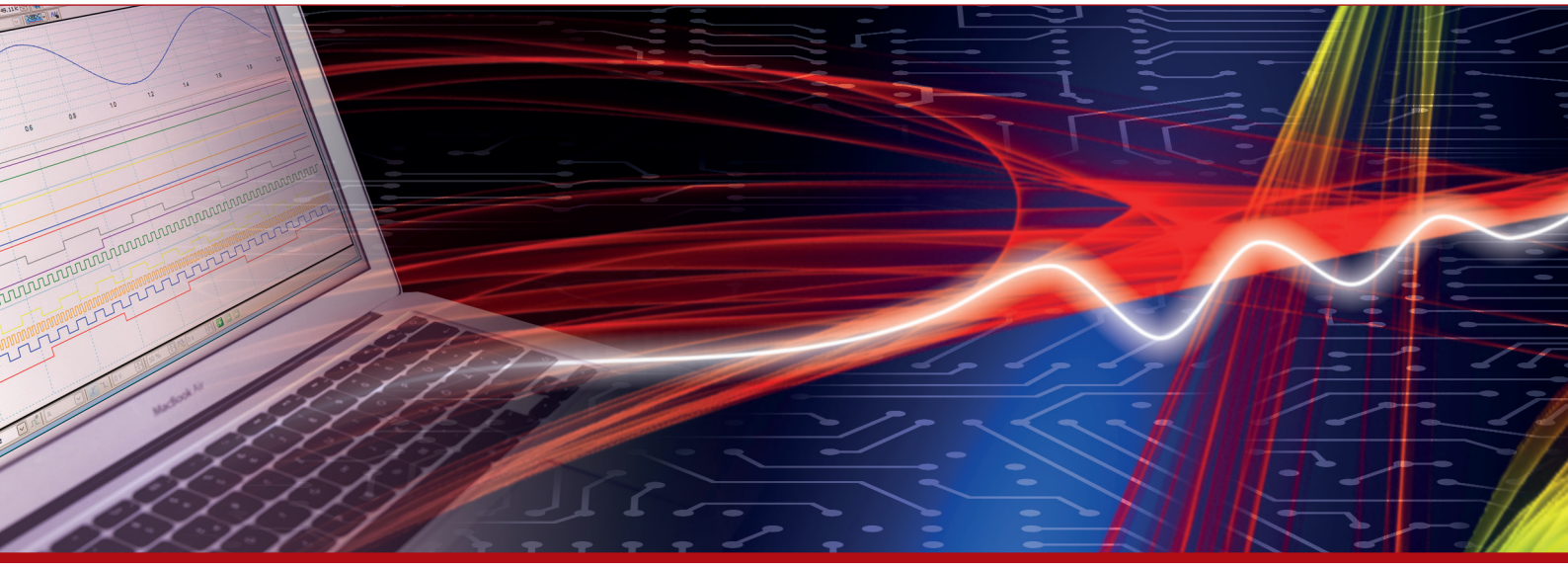
Produkt-Datenblatt - Technische Daten, Spezifikationen



Weitere Informationen im Web-Shop ▸ **www.meilhaus.de** und in unserem Download-Bereich.

Kontakt

Technischer und kaufmännischer Vertrieb, Preisauskünfte, Angebote, Test-Geräte, Beratung vor Ort:

Tel: **0 81 41 - 52 71-0**

FAX: **0 81 41 - 52 71-129**

E-Mail: **sales@meilhaus.de**

Downloads:
www.meilhaus.de/infos/download.htm

www.meilhaus.de

PeakTech®

Unser Wert ist messbar...

PeakTech® 5615

Bedienungsanleitung/
Operation Manual
Wärmebildkamera/
Thermal Imaging Camera

1. Safety precautions

This product complies with the requirements of the following European Community. Directives: 2014/30/EU (Electromagnetic Compatibility) as amended by 2014/32/EC (CE-Marking).

Damages resulting from failure to observe the following safety precautions are exempt from any legal claims whatever.

* Do not subject the equipment to direct sunlight, extreme temperatures, extreme humidity or dampness
* Do not operate the equipment near strong magnetic fields (motors, transformers etc.)
* Do not subject the equipment to shocks or strong vibrations
* Keep hot soldering iron or guns away from the equipment
* Allow the equipment to stabilise at room temperature before taking up measurement (important for exact measurement)
* Do not modify the equipment in any way
* Opening the equipment and service- and repair work must only be performed by qualified service personnel
* **Measuring instruments don't belong to children hands!**

Cleaning the cabinet
Clean only with a damp soft cloth and a commercially available mild household cleanser. Ensure that no water gets inside the equipment to prevent possible shorts and damage to the equipment.

2. General specifications

The portable thermal imager is a camera that can display and store thermal imagery. The built-in high-sensitivity IR detector and the high-performance sensor detect the temperature change and measure the real-time temperature. The temperature range is from -20 ° C up to 550 ° C with an accuracy of ± 2 ° C.
With the help of the thermal imager, it is possible to detect heat developments in electrical systems in order to prevent possible fire hazards. The device supports live image displays.
The portable thermal imager, which adopts an ergonomic design, underpins its practical handiness with its ease of use.

* Modern portable thermal imager
* 160 x 120 thermal imaging pixels
* Images with emission factor and measurements
* High image sensitivity, for a good image resolution
* Frame rate of 25 fps
* Four color palettes (White-Hot, Black-Hot, Iron, Rainbow)
* Crosshair, as well as Cold, and Hot-Spot display
* Take photos on internal memory
* With USB connection for data transmission
* Integrated rechargeable Li-battery
* Accessories: user manual, charger, strap for attachment to the device and micro USB cable
* Pictures with date and time information
* Ideal for industrial and daily use

3. Controls


Micro-USB &
Memory
Laser
Color-TFT
IR Sensor
Menu Keypad
Camera
Trigger
Battery
(internal)
Tripod Socket
PeakTech

3.1 Format the Micro SD

Before use, make sure that the Micro SD has been inserted into the device.

1. To format the micro SD, press the ⏻ button in the live image
2. Use the arrow keys to select the Format Micro SD menu
3. Press the ⏻ button and confirm the selection with OK to start formatting the Micro SD

3.2 Short description

- Press the ⏻ button for approx. 2 seconds to switch on the device.
- To change the menu mode, briefly press the ⏻ button
- With the arrow keys ▼ and ▲ it is possible to choose between the different modes
- By pressing the ⏻ key, you can access the respective menus to make further settings
- After you have edited the desired value, confirm the new value with the ⏻ key. To return to the measurement screen, press the ⮌ - button
- Press the shutter button to take a picture of the current screen. To save this picture, press the button ⏻
- To switch off the device, press the ⏻ button for approx. 3 seconds

3.3. Record thermal images

1. Turn on the camera ⏻
2. In live view, briefly press the trigger to freeze the image
3. Confirm the storage with the ⏻ key or chancel the process with the ⮌ key

3.4. Show thermal images

1. Turn on the camera
2. In the live view, briefly press the key to enter the menu
3. Press the / buttons to navigate to the menu item Pictures
4. Choose you displaying image with the button
5. Use the / buttons to scroll through other saved images
6. Finish the process with the key

3.5. Export thermal images

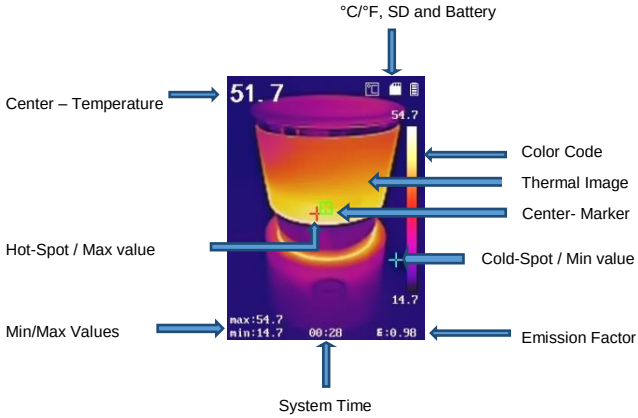
They can either be copied directly from the SD memory card or transferred via USB:

1. Open the USB cover on the head of the camera
2. Connect the camera to your PC with the included USB cable
3. Wait until the PC system detects and opens the detected disk
4. Copy the thermal images to any folder on your PC
5. Remove the USB cable after completion

Note: Do not remove the USB cable or the SD card while transfer to prevent data loss

4. Measurement

The measured temperature in the middle of the display is displayed in the upper left corner of the screen. The setting of the radiation coefficient (emission factor) is displayed in the lower right corner of the screen. Move the unit until the heat source or cold spot matches the center of the screen. Direct the device to the object whose temperature is higher or lower than the surrounding temperature to get the optimum measurement results.



4.1. General measurement settings

The thermometry parameters influence the accuracy of the temperature measurement.

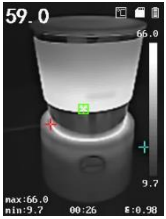
1. In live view, briefly press the ⏻ button to enter the menu
2. Press the ▲/▼ buttons to navigate to the desired menu item
3. Select the measurement option with the ⏻ button:

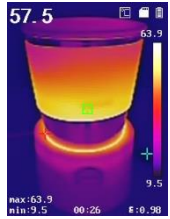
- Emissivity: Setting the emission factor (see table). The emission factor strongly influences the measurement accuracy of the temperature displays and should therefore be selected correctly.
- Temperature: Set the ambient temperature at your work location for a more accurate measurement result.
- Distance (m / feet): Set the distance to the measured object.
  Note: Recommended measurement distance is 0.2m to 2m with a target size of 80x80mm
- Rule: Turn on or off the Hot Spot, Cold Spot, MIN MAX displays in live view.

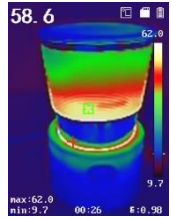
4. Press the ▲/▼ buttons to select the parameter to be changed and ⏻ to confirm
5. Press the ▲/▼ buttons to change the value or keep the buttons pressed to make rapid changes
6. Save and finish the process with the ↩ button

4.2. Color palette

In the menu, the artificial color of the infrared image can be changed, which is displayed or recorded on the screen.
A series of color palettes are available for use.
Some color palettes are very useful for use in special environments, so they can be adjusted if necessary.
The "grayscale color palette" provides balanced linear shades of temperature gradients and thus can help to show complete details.
The "High contrast color palette" can emphasize the color displayed stronger. This color palette is adjusted to the hot-cold contrast situation. It is used to improve the color contrast between high temperature and low temperature.
The "Iron" and "Rainbow color palettes" offer a mixed-contrast color gradient.







White heat Black heat Iron Rainbow

White Heat: Hot areas are displayed in white

Black Heat: Hot areas are displayed in black

Iron: Color gradations similar liquid metal from light to dark

Rainbow: Higher contrast between hot and cold

4.3. Emissivity

The emission factor of an object strongly influences the measurement result and can be adjusted from 0.01 to 1.00. Many common measurement objects (such as wood, water, skin, and textiles) have a matte surface and high infrared radiation, so the default emission factor of this device is set to 0.95. For semi-matt objects, the emission is lower at about 0.85 and at half-glossy objects even lower, at about 0.6. shiny objects have the lowest infrared radiation and therefore indicate a wrong reading with the wrong emission factor setting. Usually, the infrared radiation at glossy surfaces is about 0.3.

Deviating emission factors can be changed before each measurement in the menu and taken from the following table:

Materiall	Emissivity
Human Skin	0,98
PCB	0,91
Cement/ Concrete	0,95
Ceramics	0,92
Rubber	0,95
Paint	0,93
Wood	0,85
Asphalt	0,96
Brick	0,95
Sand	0,90
Soil	0,92
Cotton	0,98
Cardboard	0,90
White Paper	0,90
Water	0,96

5. Technical Specifications

Display	2.4“ Color LCD 320x240
Resolution of infrared image	160 x 120 (35200 Pixel)
Fiel of view	37,2° x 50°
IFOV	5.48 mrad
Response waveband	8 µm to 14 µm
Pixel Pitch	17µm
NETD	< 40 mK
Min. Focus length	> 150mm
Meas. range	-20°C … +550°C -4°F … + 1022°F
Accuracy	+/-2°C 2,0%
Image frequency	25 Hz
Emissivity	0.01 - 1.0, adjustable
Color palette	White heat Black heat Iron Red Rainbow
Memory	included Micro SD 8GByte
File format	JPEG
Interface	Micro- USB
IP Class	IP 54 protection
Operating temperature	-10°C – 50°C
Storage temperature	-20°C – 60°C
Relative humidity	< 90% RH
Battery	3,6V DC /3,35 Ah Li-Ion
Battery life	Approx. 8 h
Drop Test	2 m (6,56 feet)
Dimensions (WxHxD)	59 x 196 x 78 mm
Weight	350 g

6. General Maintenance

- Do not store or operate the device in locations where the device will be exposed to direct sunlight for extended periods of time.
- The device may only be opened and repaired by qualified personnel.
- Only clean the sensitive lenses with a lens cleaning cloth or use compressed air for cleaning.

6.1. Charging the battery

The device has a rechargeable Li battery.

- If the battery is empty, an icon appears in the display.
- Charge the battery with the included USB cable to a USB interface or a commercially available USB charger.
- Remove the USB cable after charging

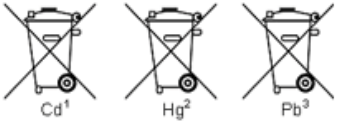
6.1. Care of the battery

- Do not charge the device for more than 24 hours
- Charge the battery for about 2 hours at least every three months to increase the life of the battery
- Do not charge the battery in extremely cold environments

Notification about the Battery Regulation

The delivery of many devices includes batteries, which for example serve to operate the remote control. There also could be batteries or accumulators built into the device itself. In connection with the sale of these batteries or accumulators, we are obliged under the Battery Regulations to notify our customers of the following:

Please dispose of old batteries at a council collection point or return them to a local shop at no cost. The disposal in domestic refuse is strictly forbidden according to the Battery Regulations. You can return used batteries obtained from us at no charge at the address on the last side in this manual or by posting with sufficient stamps.
Contaminated batteries shall be marked with a symbol consisting of a crossed-out refuse bin and the chemical symbol (Cd, Hg or Pb) of the heavy metal which is responsible for the classification as pollutant:



1. "Cd" means cadmium.
2. "Hg" means mercury.
3. "Pb" stands for lead.

This manual considers the latest technical knowing. Technical changings which are in the interest of progress reserved.

We herewith confirm, that the units are calibrated by the factory according to the specifications as per the technical specifications.

We recommend to calibrate the unit again, after 1 year.