



## Description

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### Features

Regardless of whether you take photos or record videos, the newest cameras supplied by Sonel, equipped with modern detectors, a wide range of temperature measurement and high-quality lenses, ensure highly detailed images and accurate measurements. The cameras are available in several versions, thus enabling the appropriate configuration for the user's needs.

### More to see, less to hold

A large display combined with innovative data processing electronics is placed in a compact housing, thus ensuring a perfect balance between high performance and small dimensions – the best choice for everyday use. Moreover, due to the centrally located navigation button supported by a menu on the touchscreen, this model ensures simple and intuitive operation.

### Thermal imaging is not everything

Cameras are additionally equipped with visual lenses and related image mixing technologies: PIP, MIF. Support from the built-in LED torch and laser improves operational quality by facilitating photography and then image interpretation.

### The picture is just the beginning

The built-in report module allows for the preparation and printing out of reports directly from the camera. Built-in communication interfaces ensure constant communication between the camera and the computer or mobile device, also over a wireless network. Thanks to state-of-the-art technologies and solutions, the cameras ensure full control and flexibility in various situations, and are an ideal tool for both novice users and professional thermographic inspectors.

## Camera features

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- high sensitivity of detectors and a wide temperature range
- comprehensive image analysis tools
- intuitive user interface
- IR video recording (on the SD card or computer disc)
- built-in report module
- different imaging modes: IR, visual, PIP, MIF
- built-in visual camera: 5 Mpix
- built-in: LED torch, laser pointer
- interfaces: microUSB 2.0, Wi-Fi, Gigabit Ethernet, microHDMI, microSD slot

## Technical specification

| Model                                       | KT-200   | KT-400   |
|---|--|--|
| Detector resolution                         | 192 x 144  | 382 x 288  |
| Spectral range                              | 7.5~14 $\mu$ m   |  |
| Pixel size                                  | 25 $\mu$ m   |  |
| Thermal sensitivity                         | 50 mK  | 45 mK  |
| Focusing                                    | Manual   |  |
| IFOV (standard lens)                        | 3.45 mrad  | 1.29 mrad  |
| Minimum focus distance (standard lens)      | 0.5 m  |  |
| Lens (field of view/focal length)           | 37.8° x 28.8°/7 mm<br>(option: 14.4° x 10.8°/19 mm)  | 28.4° x 21.5°/19 mm<br>(option: 57.0° x 45.0°/8.8 mm<br>and 13.7° x 10.3°/40 mm) |
| Display                                     | 4", high-quality LCD touchscreen   |  |
| Imaging mode                                | IR /Visual/InfraFusion MIF/PIF   |  |
| Zoom  | 1.1...4  |  |
| Temperature range                           | Range 1: -20°C...150°C<br>Range 2: 150°C...650°C<br>Range 3: 650°C...1500°C (option)                             |  |
| Accuracy                                    | $\pm$ 2°C or 2% of reading (for ambient temperatures between 15°C and 35°C and object temperature above 0°C)     |  |
| Image analysis mode                         | 5 points, 2 lines, 5 areas. Temp. readings: min., max., mean. Isotherms. Temp. difference Alarm temp. Dew point. |  |
| Palettes                                    | 8  |  |
| Emissivity coefficient                      | Adjustable from 0.01 to 1.00 or taken from the material list.  |  |
| Measurement correction                      | Settable distance, relative humidity, ambient (reflected) temperature  |  |
| Photo image format                          | JPG  |  |
| Notes to IR photos                          | Audio (60 seconds), text, graphic, photo.  |  |
| Report module                               | PDF reports, report printing through Wi-Fi   |  |
| Video file format                           | AVI, IRV (including information on temperature)  |  |
| Built-in functions                          | Visual camera 5 MPix, LED torch, laser pointer, microphone, speaker.   |  |
| Wireless communication                      | Wi-Fi  |  |
| Interfaces                                  | MicroSD card slot, microHDMI, microUSB 2.0   |  |
| Power supply                                | Li-ion battery (operating time >4 hours), built-in charger, AC 110-230 V (50/60 Hz) / 12 V power supply adapter  |  |
| Operating temperature                       | -10°C...50°C   |  |
| Storage temperature                         | -40°C...70°C   |  |
| Humidity                                    | 10% ... 95%  |  |
| Shock/vibration resistance                  | 30g 11 ms (IEC 60068-2-27) / 10 Hz~150 Hz~10 Hz 0.15 mm (IEC 60068-2-6)  |  |
| Housing                                     | IP54   |  |
| Weight                                      | approx. 0.84 kg (with battery)   |  |
| Dimensions (with standard lens and battery) | 274 x 106 x 78 mm  | 274 x 110 x 78 mm  |

## Standard accessories

|  |                |
|--|----------------|
| 2 x Li-Ion 7.2 V 3.2 Ah rechargeable battery               | WAAKU24        |
| MicroUSB cable for data transmission                       | WAPRZUSBMICRO  |
| Hand strip   | WAPOZPAS4      |
| MicroHDMI cable  | WAPRZMIKROHDMI |
| Protective gloves (for operating the touchscreen)          | WAREK1         |
| MicroSD card 16 GB   | WAPOZMSD16     |
| Power supply adaptor Z13                                   | WAZASZ13       |
| L-6 hard carrying case (only KT-400)                       | WAWALL6        |
| Stiffened case (only KT-200)                               | WAFUTL16       |
| User manual  |                |
| Calibration certificate issued by an accredited laboratory |                |

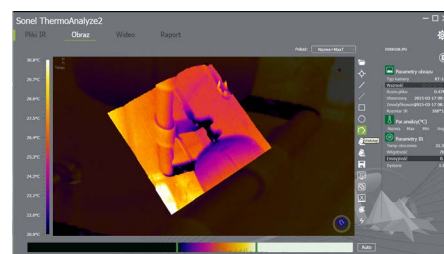
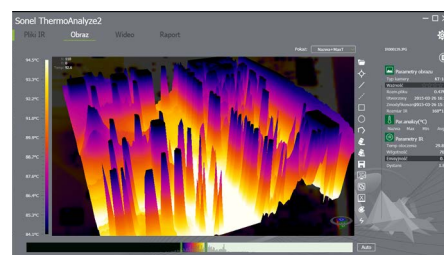
## Optional accessories

|  |           |
|--|-----------|
| KT-200 / 400 external battery charger                          | WAZASZ18  |
| IR 8.8 mm wide-angle lens for KT-400 (57.0°x45.0°)             | WAADA08X8 |
| IR 40 mm tele lens for KT-400 (13.7°x10.3°)                    | WAADA040  |
| IR 19 mm tele lens for KT-200 (14.4°x40.8°)                    | WAADA019  |
| Lens - high temperature filter up to 1500°C for KT-200, KT-400 | WAADAOF2  |
| L-6 carrying case  | WAWALL6   |
| M-11 carrying case   | WAFUTM11  |
| L-16 stiffened carrying case                                   | WAFUTL16  |

## Sonel ThermoAnalyze 2

A programme for analysing and reporting, included in the set of thermal imaging cameras.

- possibility of adjusting the emissivity coefficient for the entire thermogram or its parts – the coefficient may be adjusted separately for each selected area;
- selection of the analysed areas – marking out an area of a rectangular, oval or any other shape;
- temperature readout at any point – after moving the cursor, temperature readout and current coordinates are presented continuously in the “Information” box; other recorded data are also available (maximum temperature, humidity, emissivity);
- use of the InfraFusion technology – a thermogram in any palette chosen by the user is superimposed on a part of visual picture. The thermogram is superimposed with a set transparency, thus enabling optimal presentation and marking of areas of interest, especially when the visual comparison of the thermogram area and the details of visual image of the observed object is difficult;
- determination and readout of the minimum, maximum and mean temperature for the whole area or in each selected area; segment selection (straight line or polyline);
- easy report writing by transferring to the report all that you want to include – thermograms and corresponding visual pictures;
- saving all characteristic points and corrections made, allowing for further analysis at a later time;
- unlimited software licence – the programme can be used on many computers simultaneously.



## Sonel KT Mobile



Mobile version of the programme supporting Sonel thermal imaging cameras. This application enables the user to view the images in real time on a mobile phone and to remotely perform many other activities by managing the camera from a mobile device.