# KT-670 / KT-650 / KT-560

TOUCH SCREEN

WiFi

IP54

## Overview

The Sonel KT Series Thermal Imagers are budget-friendly yet offer highly accurate temperature measurements. Robustly designed and constructed, they are ideally suited for:

- Troubleshooting electrical installations, wiring, panels, motors, breakers, transformers, switchgear, and electrical equipment;
- Monitoring the thermal performance of industrial manufacturing processes;
- Identifying overheating of mechanical and electro-mechanical components;
- Inspecting buildings for insulation leaks, energy audits, HVAC/R equipment, water damage, and pests;
- Locating hidden heat sources (of people, animals, objects) in dark / low-light conditions.

## User friendly operation

The user-friendly design, light weight, and intuitive handling make Sonel thermal cameras a pleasure to use. Experienced or new users needing a professional diagnostic tool will find the menus easy to navigate via the touchscreen. Both the touchscreen and the lens swivel independently to view objects of interest that are difficult to access from any angle.

## Key features

- Removable Li-ion battery with 4 hour working time
- 5" large rotating touchscreen with no image cropping
- High brightness display gives detailed information in high ambient light or outdoors
- Save IR images and videos (to SD card or directly to a PC)
- Built-in Report module for complete thermal analysis in the camera
- View images as: IR, visual, "picture in picture" and MIF mode (combined visual and IR)
- Add voice and text notes, draw graphical symbols (arrows or circles) on images
- 5 Mpix visual camera
- GPS, digital compass, LED flashlight and laser pointer
- Micro USB 2.0, Wi-Fi, Bluetooth®, Gigabit Ethernet, Mini USB and SD slot for data transfer
- **ThermoAnalyze2** Software for PC

# Specifications

| | KT-670 | KT-650 | KT-560 |
|---|---|---|---|
| Detector type | 640 x 480 | | 384 x 288 |
| Spectral range | 7.5~14 µm | | |
| Thermal sensitivity | 30 mK | 40 mK | 50 mK |
| Lens (FOV /focal length) | 24.6° x 18.5°/25 mm<br>option:<br>45.4° x 34.9°/13 mm<br>11.3° x 8.5°/55 mm<br>7.3° x 5.5°/85 mm | | 21.7° x 16.4°/25 mm<br>option:<br>40.5° x 31.0°/13 mm<br>10.0° x 7.5°/55 mm<br>6.7° x 5.1°/85 mm |
| Display | 5", 1280 x 720, HQ touch LCD | | |
| Viewfinder | 1280 x 960 LCOS | | |
| Picture type | IR image/Visual image/PIP/MIF (combined) | | |
| Zoom | 1...10 | 1...4 | |
| Temperature range | Range 1: -20°C...150°C / -4°F...302°F<br>Range 2: 150°C...800°C / 302°F...1472°F<br>Option: 2000°C / 3632°F | | |
| Accuracy | ±2°C or 2% of reading | | |
| Image analysis modes | 10 points, 10 lines,<br>10 polygons,<br>temperature display: min,<br>max, avg,<br>isotherm, dew point,<br>temperature alarm | 8 points, 8 lines,<br>8 polygons,<br>temperature display: min,<br>max, avg,<br>isotherm, dew point,<br>temperature alarm | 5 points, 2 lines,<br>5 polygons,<br>temperature display: min,<br>max, avg<br>isotherm, dew point,<br>temperature alarm |
| Palette | 10 | 8 | |
| Emissivity | Adjustable from 0.01 to 1.00 or from the list of materials | | |
| Measurement correction | Adjustable: distance, relative humidity, ambient temperature | | |
| File format | JPG | | |
| Notes to pictures | Voice note (up to 60s), text,<br>graphical, additional visual<br>pictures | Voice note (up to 60s), text, graphical | |
| Reports module | Reports to PDF, printing via WiFi directly from the camera, or via PC | | |
| Video file format | AVI, IRV (with temperature info) | | |
| Built-in functions | Visual camera 5 Mpix, LED flashlight, GPS, laser pointer, microphon, loudspeaker,<br>digital compass, light sensor | | |
| Wireless communication | Wi-Fi + Bluetooth | Wi-Fi | |
| Interface | SD card, LAN 1 Gb/s, mini HDMI, microUSB 2.0 | | |
| Power supply | Li-Ion battery (work time >4 hours), built-in charger,<br>AC adapter 110-230 V, 50/60 Hz | | |
| Work temperature | -15°C...+50°C / 5°F...122°F | | |
| Storage temperature | -40°C...+70°C / -40°F...158°F | | |
| Humidity | 10%...95% | | |
| Shock / vibration | 25G, IEC 60068-2-29 / 2G, IEC 60068-2-6 | | |
| Casing | IP54 | | |
| Weight | 1.3 kg / 2.9 lbs (with battery) | | |

## Standard accessories

| | |
|---|---|
| **Rechargeable Li-Ion battery** | WAAKU18 |
| **Power adapter** | WAZASZ13 |
| **External battery charger (KT-670)** | WAZASZ14 |
| **USB cable (A to Micro B Type)** | WAPRZUSBMICRO |
| **RJ45 cable** | WAPRZRJ45 |
| **HDMI cable** | WAPRZHDMI |
| **16 GB SD memory card** | WAPOZSD16 |
| **Shoulder strap** | WAPOZPAS3 |
| **L9 carrying case** | WAWALXL9 |

**Calibration certificate issued by an accredited laboratory (no accreditation)**

## Optional accessories

| | |
|---|---|
| **External battery charger (KT-560/650)** | WAZASZ14 |
| **HDMI to RCA converter** | WAADAHDMIXRCP |
| **High temp filter** | WAADAOF1 |
| **42.1°×32.2°/13 mm wide angle lens (KT-560)** | WAADAO13V560 |
| **10.4°×7.8°/55 mm tele lens (KT-560)** | WAADAO55V560 |
| **45.4°×34.9°/13 mm wide angle lens (KT-657/670)** | WAADAO13V650 |
| **11.3°×8.5°/55 mm tele lens (KT-650/670)** | WAADAO55V650 |
| **M11 bag** | WAFUTM11 |

## Sonel ThermoAnalyze 2

Software for analyses and reports, included in the thermal imager kit.



- Capability of correcting emissivity factor for part of or the entire thermal image – the factor can be corrected for each selected area individually,
- Selection of analysed areas – selecting a rectangular, oval or area of any shape.
- Readout of temperature at any point –  placing the cursor over the „Information" window results  in the continuous readout of the temperature and current coordinates as well as other available saved information (maximum temperature, humidity, emissivity).
- Use of Infra Fusion technology – a thermal image is overlaid on part of the visual image in any user-selected palette. The thermal image is overlaid with selected transparency, thus allowing for the optimal presentation and the marking of areas of interest, especially, if it is difficult to visually compare spots in the thermogram with the details of the visual image of the object under observation.
- Determining and readout of the minimum, maximum and average temperature for the entire area, as well as for each selected area. Selection of a section (straight line or polyline).
- Creation of reports in a simple way, a report can include all the required elements – thermal images, corresponding visual images.
- Records of all the introduced corrections as well as characteristic points in order to enable further analysis at a later date.
- Selection of the visually optimal colour palette (from 9 palettes available in the software) for the best visual presentation of temperature changes. Definition of the temperature range for the best presentation of temperature distribution (manual or automatic mode available).
- This software has an unlimited license - it can be used simultaneously on many PCs.