

# armstrong optical

## ThermoPro TP8S



## IR Thermography Camera TP8S

Improving on the most advanced IR package currently available; integrating multiple technologies never before used in the industry, the **ThermoPro TP8S** is another ingenious solution providing for professional IR thermographers. In a rugged, compact and durable magnalium casing, the **ThermoPro TP8S** offers a wide assortment of unexpected features that enable thermographers to work with unprecedented efficiency and productivity. Far exceeding the performance of all the existing IR radiometric cameras, it sets another new standard for the whole industry.

### **New-generation high-performance IR detector (384 x 288 pixels, 35µm)**

Utilizing the latest generation high-performance IR detector with over 110000 pixels (35µm x 35µm each), the camera boasts extraordinarily high resolution, high sensitivity and high accuracy offering real-time, noise-free 16-bit thermal images.

### **Crisp thermal and visual imaging**

With a 384 x 288 pixel IR camera and a colour 1280 x 1024 visible camera incorporated in the same unit, operators can simply locate the scene to be inspected, snap the shutter and then have both high-resolution thermal and visual images taken and saved together in a single file with one name. The integrated laser locator helps operators accurately associate a hot spot shown in thermal images with the real physical target. Documenting infrared inspections gets much faster and more certain.

### **High thermal sensitivity and precise temperature measurement**

Offering an unmatched high thermal sensitivity of 0.08°C and high temperature measurement accuracy of ±1°C or ±1%, the camera enables operators to pinpoint the smallest temperature difference quickly and clearly.

### **Intelligent onboard analysis**

Auto indication of hot spot and the image centre

One cursor automatically indicates the position and temperature of the hottest spot within the image.

Another cursor always stays at the image center to show its temperature and provides a reference for inspection analysis.

**Audible and visible alarms**

Audio alarm will automatically trigger for a spot with temperature exceeding the value preset by the operator. For conditions of low power, both audio and video alarm can be activated.

**Multiple measurement modes**

Simultaneous eight-spot & eight-area analysis, line profile, isotherm analysis and x1- x10 continuous electronic zoom function expedite comprehensive probing for and pinpointing of potential problems.

**Auto memory of customized setting & Easy resumption of default setting**

Your preferred camera settings will remain available at switching on. Pressing only one button will resume all the default settings of the camera.

**Flexible high-resolution image presentation (640 x 480 LCD screen, 640 x 480 OLED viewfinder & VGA video output)**

Two high-performance viewing options are available in the camera: a built-in color 640 x 480 OLED viewfinder and a detachable color 640 x 480 LCD (TFT) screen. Operators can easily choose either of them for optimal use. Combined with the two options above, a high-resolution VGA mode also enables crisp video output that can be also transformed to PAL or NTSC mode.

**Real-time radiometric recording and JPEG image storage**

The large-capacity SD card lays a foundation for the real-time recording. The recording captures dynamic radiometric sequences of moving targets at different frame rates. Sequences, as well as images that are stored in Windows-friendly JPEG file format, can be played back on the camera or transferred to a PC for further analysis.

**Bluetooth voice recording technology**

30-second duration digital clip of voice annotation can be stored with each image. A wireless Bluetooth headset eliminates all cable connections, increasing operator safety.

**Large-capacity SD memory card (2GB capacity)**

2GB SD memory card stores both fully radiometric recording and fully radiometric JPEG images associated with temperature measurement and voice annotation. Both of them can be easily and rapidly downloaded from the camera to PC.

**Compact architecture (magnalium casing) and intuitive touch screen control**

The durable & lightweight magnalium casing allows for a highly rugged, compact and portable camera architecture. Intuitive touch screen and Windows-style menus enable point-and-shoot operation of the camera without having to memorize possibly redundant features.

**Intelligent automatic speech recognition system**

It is possible to control the camera by voice only. This will free operators' hands and enable unprecedented working efficiency.

**High-speed data transfer via USB2.0**

The plug-and-play USB2.0 interface enables fast downloading of fully radiometric recording and images including temperature measurement and voice annotation.

**Robust post-processing software**

Offering an extensive range of temperature measuring, image processing and report generating functions, the easy-to-operate Windows- based software automates the process of reporting and archiving infrared and visual images, videos and voice annotation, improving professional thermographers productivity and efficiency.

**License free and rapid delivery**

Utilizing European microbolometer FPA detector technology, the camera has no export or import license requirements significantly improving delivery times to our customers throughout the world.

## Specification:

### Thermal channel:

Detector type: uncooled FPA microbolometer (384x288 pixel, 35µm)  
Spectral range: 8-14 micron  
Thermal sensitivity: 0.08°C at 30°C  
FOV: 22° x 16° / 35mm  
Focus: automatic or motorised  
Frame rate: 50Hz PAL, 60Hz NTSC, non-interlaced  
Electronic zoom: x1 to x10 continuous zoom

### Visible channel:

Built-in digital video: CMOS, 1280x1024 pixel, 2<sup>15</sup> colours

### Image presentation:

External display: 3.5" HR colour LCD (TFT), 640 x 480 pixels  
Viewfinder: 0.6" built-in HR colour OLED, 640 x 480 pixels  
Image Display: Thermal image alone/ Visual image alone/ Picture in picture  
Video output: VGA/PAL/NTSC

### Measurement:

Temperature range: -20 to +600°C (up to +2000°C optional)  
Accuracy: +/-1°C or +/- 1% of reading  
Measurement modes: Auto hot/cold spot , auto alarm for temperature above or below ; 10 movable spots, 10 movable & changeable areas displaying either max, min, or average, vertical & horizontal line profile, delta-t, histogram & isotherm in live/zoomed/frozen/saved image  
Emissivity correction: Variable from 0.01 to 1.00 (in 0.01 increment)  
Measurement features: Automatic correction based on user input for emissivity, reflected ambient temperature, distance, relative humidity, atmospheric transmission and external optics.  
Optics Transmission Correction: Auto, based on signals from sensors

### Image storage:

Type: Removable 2Gb SD memory card  
File format: JPEG (an individual file consists of infrared image, visual image and voice annotation if any)  
Voice annotation: Up to 60 seconds per file

### Optional Lenses:

Field of View/ Focus: 7.7° x 5.8° / 100mm  
45.6° x 35° / 16mm

### Laser locator:

Classification type: Class 2 semiconductor laser

### Power system:

Battery type: Rechargeable Li-Ion Camcorder-style battery, field replaceable  
Charging System: In camera or in battery charger  
Operating time: > 2.5hrs continuous operation

### External power:

Operation: AC adapter 110/220 VAC, 50/60Hz

**Environmental specification:**

Operating temperature: -20 ~ +60°C

Storage temperature: -20 ~ +60°C

Humidity: Operating & storage 10 to 95%, non-condensing

Encapsulation: IP54 IEC 529 housing

Shock: Operational 25G, IEC 68-2-29

Vibration: Operational 2G, IEC 68-2-6

**Interfaces:**

USB 2.0/ RS232: Image (thermal and visual), measurement and voice transfer to PC, camera control

Live video transmission: >750m to a remote monitor (optional)

**Man-Machine Interface:**

Touch Screen: Present and receive operator commands given by touch

**Physical characteristics:**

Casing: Magnalium

Weight: 1.1kg (including battery)

Size: 186x106x83mm (standard model)

Tripod mounting: 1/4" – 20mm



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