



# GUIDE

## Refresh the temperature record at 30Hz

**Hammer Series** Intelligent Thermal Camera

### Introduction

With a built-in self-developed high-sensitivity IR detector with a maximum resolution of 640x480, a 13MP visible light camera, and 5 focusing modes, Hammer Series, the high-precision thermal camera designed specifically for the industrial field helps users intuitively view high-definition images and temperature details of the target, with the classic "hammer" shape. 30Hz infrared frame rate for fast and accurate access to more temperature data of moving targets, far beyond the same level of products.

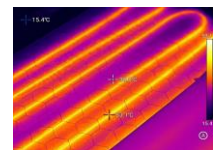
### Features

- The new generation of self-developed IR detectors with a maximum resolution of 640x480
- ASIC algorithms for pixel point details and hidden hazards
- A 13MP visible light camera and dual illumination for easy location of faults
- Up to 30Hz IR video frame rate for temperature analysis by the screenshot
- IP54 waterproof and dustproof and 2m drop resistance with military-grade quality
- OTA online upgrades to keep the device in top shape
- Built-in WIFI module for easy transfer of images to the cloud and remote instant download and analysis

### Applications



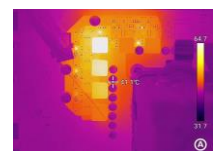
Power



HVAC



Oil and Petrochemical



Electronic Information

## Specifications

Product model	H4
<b>Imaging and Optics</b>	
Detector resolution	Focal Plane Array, Uncooled Microbolometer, 480x360 pixels, non-interpolate
Minimum Spectral Range Coverage	7.5 to 14 $\mu\text{m}$
Image frame rate (on display)	30 Hz, non-interlaced
Thermal Sensitivity at 30°C (NETD)	$\leq 0.03$ °C (30 mK) at 30 Hz image frame rate
Field of view (FOV)	25° x 19°
Instantaneous Field of View (IFOV)	0.91 mrad
Minimum Focus Distance	0.15 m
Focus	Focus systems 1. Auto Focus (Continuous/Real-time) 2. Manual focus
Laser Pointer	Laser pointer including laser distance meter value
Built-in Digital Camera	Built-in, 8 Mpixels, full color
Digital Zoom	1.0 - 16x Continuous
Image Enhancement Mode	MIF (MSX Equivalent)
<b>Measurement and analysis</b>	
Correction Setting	Emissivity (Variable from 0.01 to 1.0 at 0.01 step), Reflected Temperature, Transmittance, Humidity, Atmospheric Temperature, Distance
Temperature Range	-40°C to 650 °C
Accuracy	$\pm 2^\circ\text{C}$ or $\pm 2\%$ of reading ,whichever is greater at 25°C ambient
Measurement mode	12 movable spots, 12 areas, 12 lines (auto maximum and minimum temperature)
<b>Image Display</b>	
Touch Screen Display	4.3" Colour LCD Display (Resolution 800x480 pixels)
Color Palettes	15: White Hot, Iron Red, Arctic, Rainbow 2, Hot Iron, Rainbow 1, Fulgurite, Medical, Tint, Black Hot, Blue Hot, Sepia, Green Hot, Ice and Fire, Amber; Customized
Image Adustment	Manual / Automatic
<b>Connection and Interfaces</b>	
Transfer Interfaces	USB for connection between the camera and notebook computer
Wireless Connection	Bluetooth
Video Output	Display port to HDMI
GPS	Yes

## Specifications

Product model	H4
<b>Environmental parameter</b>	
Operating temperature	-20°C to 50 °C
Protection	IP54
Shock	25 G
Vibration	2 G
Drop Test	2 m
Weight	1.2 kg (including battery)
Warranty	2 Years
<b>Image Storage</b>	
Storage media	Local storage (64 GB) and external SD card (64 GB and up to 256 GB)
<b>File Format</b>	
Thermal	24 bit radiometric JPEG IR digital image
Visual	JPEG Visual image shall be linked with corresponding thermal image
<b>Power System</b>	
Battery	Rechargeable battery, at least 4 hours operation for each battery
<b>Accessories</b>	
60 seconds voice annotation with each image file ,Standard lens (IFOV 0.91 mrad), Video output port, Communication cable; One (1) set battery charger and two (2) sets battery; Optional extra batteries, AC power adapter, single phase 230 VAC, 50 Hz, Data analysis software, Instruction manual in English and Thai, Other accessories according to manufacturer' s design and auxiliary equipment necessary to complete	
<b>Data Analysis and Reporting Software</b>	
Data analysis and reporting software comprising useful function for Windows operating system with : thumbnail image viewer, support drag and drop transfer of selected images from memory card to computer, independent emissivities correction variable from 0.01 to 1.0 select from listings in pre-defined material list (at 0.01 step), can adjust image parameters, spot tools, area tools, line tools, with maximum, minimum and average temperature, Delta T calculation function, optimize thermal contrast , voice note replay, wizard driven report generation, the report can be modified by user	