# NEW!
# ThermaCAM®
# S65 HS
## HIGH SENSITIVITY

*The ThermaCAM® S65 is a highly refined infrared research system. Its powerful new features and conveniences enable the professional thermographer to work with unprecedented efficiency and productivity. Working in concert with ThermaCAM Researcher reporting and database software, the S65 fully automates the process of collecting, reporting, and archiving infrared images and thermal data.*

**Bluetooth®** Enabled

- **NEW!** VOICE RECORDING WITH WORLD-STANDARD BLUETOOTH® CORDLESS TECHNOLOGY
- **NEW!** AUTOMATIC TARGET LIGHT
- **NEW!** ONBOARD AVI STORAGE PLUS REAL-TIME BURST RECORDING
- RADIOMETRIC FIREWIRE®
- RADIOMETRIC JPEG IMAGE STORAGE
- OUTSTANDING THERMAL IMAGE QUALITY PLUS VISUAL IMAGING, TOO
- HIGH THERMAL SENSITIVITY AND PRECISE TEMPERATURE MEASUREMENT
- AUTO-FOCUS PLUS AUTO-HOT-SPOT TRACKER AND DIGITAL ZOOM
- DETACHABLE REMOTE CONTROL/LCD HANDLE
- BUILT-IN RAM PLUS REMOVABLE COMPACTFLASH® MEMORY
- BUILT-IN LASER LOCATIR™ TARGET POINTER

## EXTRAORDINARY THERMAL SENSITIVITY AND IMAGING QUALITY

A thermal sensitivity of 0.05°C lets you see the smallest temperature differences clearly. The S65 is ready for action in seconds, thanks to its state-of-the-art 320 x 240 uncooled microbolometer detector. A total of 76,000 pixels provide real-time, crisp, high-resolution 16-bit thermal images. The built-in visual camera provides digital images linked with corresponding thermal images.

## EASY TO OPERATE

Ergonomic, intuitive controls make operation seamless and efficient. A user-friendly joystick, familiar menus, and soft programable control buttons on both the camera body and control handle provide for easy one-handed operation and allow you to customize your own features — a major unique advantage. Use the built-in Laser LocatIR™ to project a bright red dot on the exact location of a hot spot.

## RUGGED AND LIGHTWEIGHT

The S65 was designed for use in harsh environments. It has an IP54 environmental encapsulation, and a robust industrial shock rating. At under 4.4 lbs., it is the lightest full-featured infrared camera available.

## FLEXIBLE VIEWING OPTIONS

The built-in color viewfinder is ideal for outdoor applications. The detachable 4-inch color LCD on the camera's remote-control carrying handle adjusts to any angle for optimal viewing. Or, remove the handle, operate the camera with the redundant controls on the handle, and view images while the camera itself is positioned in hard-to-reach areas.

## FLEXIBLE IMAGE STORAGE

Images can be stored in Windows-friendly JPEG format on a removable CompactFlash® memory card or in internal flash RAM and can be transferred from RAM to the memory card. The camera can be set up to automatically capture images at preset intervals.

## BURST AND AVI RECORDING

Powerful burst recording function captures moving targets for sequences up to 20 seconds long. Play back the sequences on the camera or transfer to a PC for further analysis. The S65 can also record nonradiometric moving images in AVI file format for convenient playback in reports using industry-standard players.

## SPECIAL FEATURES BOOST YOUR EFFICIENCY

A brilliant LED target light automatically turns on when visual image mode is selected. Powerful auto-focus and auto-hot-spot features save time and effort. The S65 can automatically indicate the temperature and position of the hottest spot in the image and instantly calculate the difference between different measurement points. Sound and color alarms warn when targets exceed temperature maximums set by the user.

## VOICE RECORDING WITH BLUETOOTH® TECHNOLOGY…AND MORE

The S65 can record up to 30 seconds of voice comment with each image. A cordless Bluetooth earpiece eliminates all cable connections, increasing operator safety. In addition, text comments for each image can be entered manually or preloaded from a PC with optional ThermaCAM® Reporter software.

## STORE USER PROFILES

Store your favorite camera settings (such as color palettes, target spots and alarms) on the S65. There's no need to upload them one-by-one each time you use the camera—a real time-saver when one camera is used by multiple operators.

## WIDE RANGE OF ACCESSORIES

Optional optics range from microscopic through wide-angle and telescopic to meet diverse applications requirements. Innovative, miniature wearable infrared heads-up displays (IR-HUD) are available, which can augment situational awareness. Long-life lithium-ion batteries are rechargeable from 12VDC and 120VAC sources, or operate the S65 directly from external power sources.

## OPTIONAL SOFTWARE DOES THE WORK FOR YOU!

ThermaCAM Researcher reporting and analysis software analyzes your data in real time. ThermaCAM Database software enables you to trend, archive, and organize inspection data and reports quickly and easily. ThermaCAM Image Builder knits multiple IR images together to create a single radiometric composite.

## IMAGING PERFORMANCE

### THERMAL

| | |
|---|---|
| Field of view/min focus distance | 20° x 15° / 0.3 m |
| Spatial resolution (IFOV) | 1.1 mrad |
| Thermal sensitivity | 50 mK at 30° C (86°F) |
| Electronic zoom function | 2,4,8, interpolating |
| Focus | Automatic or manual |
| Digital image enhancement, on/off | Normal and enhanced |
| Detector type | Focal plane array (FPA) uncooled microbolometer; 320 x 240 pixels |
| Spectral range | 7.5 to 13 µm |

### VISUAL

| | |
|---|---|
| Built-in digital video | 640 x 480 pixels, full color |

## IMAGE PRESENTATION

| | |
|---|---|
| Viewfinder | Built-in high-resolution color LCD (TFT) |
| External display | Built-in high-resolution color LCD (TFT) 4" LCD with integrated remote control |
| Video output | RS 170 EIA/NTSC or CCIR/PAL |

## MEASUREMENT

| | |
|---|---|
| Temperature ranges | -40℃ to +120℃ (-40°F to +248°F), Range 1<br>0℃ to +250 ℃ (+32°F to +482°F), Range 2<br>Up to +120 - 900 ℃ (+2732°F), Range 3<br>Up to +1500 ℃ (+2732°F), optional |
| Accuracy (% of reading) | ± 2 ℃ or ± 2% (±3.6°F) |
| Measurement modes | Up to 10 movable spots. Automatic temperature difference (Δ) and placement and reading of maximum and minimum temperatures. Up to 5 movable circle areas or boxes. Up to 2 isotherms. Line profile. |
| Emissivity correction | Variable from 0.1 to 1.0 or select from listings in pre-defined material list |
| Measurement features | Automatic corrections based on user input for reflected ambient temperature, distance, relative humidity, atmospheric transmission, and external optics |
| Optics transmission correction | Automatic, based on signals from internal sensors |

## IMAGE STORAGE

| | |
|---|---|
| Type | Removable CompactFlash® (256 MB) memory card; built-in Flash memory (50 images); built-in (128 MB) RAM memory for burst and AVI recording |
| File format – THERMAL | Standard JPEG; 14 bit thermal measurement data included |
| File format –VISUAL | Standard JPEG inked with corresponding thermal image |
| Voice annotation of images | Input via supplied Bluetooth ® wireless headset up to 30 seconds of digital voice clip" per image stored with image |
| Text annotation of images | Predefined by user and stored with image |

## SYSTEM STATUS INDICATOR

| | |
|---|---|
| LCD display | Shows status of battery and storage media. Indication of power, communication and storage modes. |

## LASER LOCATIR™

| | |
|---|---|
| Classification type | Class 2 Semiconductor AlGaInP Diode Laser: 1 mW/635 nm (red) |

## POWER SOURCE

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|---|---|
| Battery type | Li-Ion, rechargeable, field-replaceable |
| Battery operating time | 2 hours continuous operation |
| Charging system | In camera (AC adapter or 12V from car) or 2 bay intelligent charger |
| External power operation | AC adapter 110/220 VAC, 50/60Hz or 12V from car (cable with standard plug optional) |
| Power saving | Automatic shutdown and sleep mode (user-selectable) |

## ENVIRONMENTAL

| | |
|---|---|
| Operating temperature range | -15℃ to +50℃ (5°F to 122°F) |
| Storage temperature range | -40℃ to +70℃ (-40°F to 158°F) |
| Humidity | Operating and storage 10% to 95%, non-condensing IEC 359 |
| Encapsulation | IP 54 IEC 529 |
| Shock | Operational: 25G, IEC 68-2-29 |
| Vibration | Operational: 2G, IEC 68-2-6 |

## PHYSICAL CHARACTERISTICS

| | |
|---|---|
| Weight | 2.0 kg (4.4 lbs) w/battery and top handle (includes remote control, LCD, video camera and laser) 1.4 kg (3.1lbs) excluding battery and handle |
| Size | 100mm x 120mm x 220 mm ( 3.9" x 4.7" x 8.7") camera only |
| Tripod mounting | 1/4"– 20 |

## THERMACAM® S65HS SYSTEM INCLUDES:

- IR camera with visual camera, Laser LocatIR™, remote control with LCD display
- High-output multi-LED target light
- Bluetooth® wireless headset
- Carrying case, lens cap, shoulder strap, hand strap
- User manual (multilingual)
- Batteries (2)
- Power supply
- Battery charger
- FireWire® (IEEE 1394) cable
- Video cable with RCA plug
- USB cable
- 256 MB CompactFlash® card
- ThermaCAM® QuickView™ software

## LENSES (OPTIONAL)

*Field of view/minimum focus distance*

- 3X Telescope (5.75 x 4.3" /4m)
- 2X Telescope (10 x 7.4" /1.2m)
- 0.5X Wide angle (37 x 28" /0.1m)
- 160 µm Close-up (52mm x 39mm/150mm)
- 90 µm Close-up (28mm x 21mm/80mm)
- 38 µm Macro (12mm x 9mm/17mm)

## INTERFACES

| | |
|---|---|
| Firewire output (IEEE 1394) | Real-time digital transfer of radiometric thermal images or digital video (DV) out |
| USB / RS232 | Image (thermal and visual), measurement data, voice and text transfer to PC |
| IrDA | Two-way data transfer from laptop, PDA |
| Remote control | Removable handle with redundant controls and LCD |



# FLIR SYSTEMS™
## The Global Leader in Infrared Cameras

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