Technical Data

FLIR P640 45°

General description
FLIR P640 is the highest-performing infrared inspection system available. With its state of the art technology, including 640 x 480 detector resolution and a unique ergonomic design, it is the natural choice for professional thermographers who want the most efficient instrument producing professional results. The camera is equipped with a 45° wide-angle lens.

Key features:
- Image resolution 640 x 480
- Sensitivity <30 mK
- Large high-resolution 5.6” flip-out LCD
- Tiltable high-resolution viewfinder
- High-performance lenses with USM technology
- 1–8 times continuous zoom with pan
- Rotatable handle for convenient operation
- Built-in 3.2 MP digital camera with target illuminator
- Standard temperature range –40°C to 500°C
- Real-time radiometric storage to built-in RAM
- Periodic storage
- Panorama
- Voice (via Bluetooth) and text annotation
- MeterLink connection
- Wireless communication (with USB adapter)
- MPEG-4 streaming to PC using USB or FireWire
- Programmable buttons
- User profiles

Imaging and optical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR resolution</td>
<td>640 x 480 pixels</td>
</tr>
<tr>
<td>Thermal sensitivity/NETD</td>
<td>&lt;30 mK @ +30°C (+86°F)</td>
</tr>
<tr>
<td>Field of view (FOV)</td>
<td>45° x 34°</td>
</tr>
<tr>
<td>Minimum focus distance</td>
<td>0.2 m (0.7 ft.)</td>
</tr>
<tr>
<td>Focal length</td>
<td>19 mm (0.7 in.)</td>
</tr>
<tr>
<td>Spatial resolution (IFOV)</td>
<td>1.3 mrad</td>
</tr>
<tr>
<td>Lens identification</td>
<td>Automatic</td>
</tr>
<tr>
<td>F-number</td>
<td>1.1</td>
</tr>
<tr>
<td>Image frequency</td>
<td>30 Hz</td>
</tr>
<tr>
<td>Focus</td>
<td>Automatic or manual (electric or on the lens)</td>
</tr>
<tr>
<td>Digital zoom</td>
<td>1–8× continuous</td>
</tr>
<tr>
<td>Panning</td>
<td>Panning on frozen image</td>
</tr>
<tr>
<td>Digital image enhancement</td>
<td>Adaptive digital noise reduction</td>
</tr>
</tbody>
</table>

Detector data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector type</td>
<td>Focal Plane Array (FPA), uncooled microbolometer</td>
</tr>
<tr>
<td>Spectral range</td>
<td>7.5–13 µm</td>
</tr>
</tbody>
</table>

Image presentation

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>Built-in widescreen, 5.6 in. LCD, 1024 x 600 pixels</td>
</tr>
<tr>
<td>Viewfinder</td>
<td>Built-in, tiltable LCD, 800 x 600 pixels</td>
</tr>
<tr>
<td>Automatic image adjustment</td>
<td>Continuous/manual, linear or histogram based</td>
</tr>
<tr>
<td>Automatic image adjustment, type</td>
<td>Standard or histogram based from image content</td>
</tr>
<tr>
<td>Manual image adjustment</td>
<td>Level/span/max/min</td>
</tr>
</tbody>
</table>
Image presentation modes

<table>
<thead>
<tr>
<th>Infrared image</th>
<th>Full IR-image with selected color scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual image</td>
<td>Full color visual image</td>
</tr>
<tr>
<td>Reference image</td>
<td>Shown together with live IR image</td>
</tr>
</tbody>
</table>

Measurement

| Object temperature range | –40°C to +120°C (–40°F to +248°F) |
|                         | 0°C to +500°C (+32°F to +932°F)     |
| Accuracy                | ±2°C (±3.6°F) or ±2% of reading     |

Measurement analysis

<table>
<thead>
<tr>
<th>Spotmeter</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>5 boxes or circles with max./min./average</td>
</tr>
<tr>
<td>Profile</td>
<td>1 live line (horizontal or vertical)</td>
</tr>
<tr>
<td>Automatic hot/cold detection</td>
<td>Max/Min temp. value and position shown within box, circle or on a line</td>
</tr>
<tr>
<td>Isotherm</td>
<td>2 with above/below/interval</td>
</tr>
<tr>
<td>Difference temperature</td>
<td>Delta temperature between measurement functions or reference temperature</td>
</tr>
<tr>
<td>Reference temperature</td>
<td>Manually set or captured from any measurement function</td>
</tr>
<tr>
<td>Atmospheric transmission correction</td>
<td>Automatic, based on inputs for distance, atmospheric temperature and relative humidity</td>
</tr>
<tr>
<td>Optics transmission correction</td>
<td>Automatic, based on signals from internal sensors</td>
</tr>
<tr>
<td>Emissivity correction</td>
<td>Variable from 0.01 to 1.0 or selected from editable materials list</td>
</tr>
<tr>
<td>Emissivity table</td>
<td>Emissivity table of predefined and editable materials</td>
</tr>
<tr>
<td>Reflected apparent temperature correction</td>
<td>Automatic, based on input of reflected temperature</td>
</tr>
<tr>
<td>External optics/windows correction</td>
<td>Automatic, based on inputs of optics/window transmission and temperature</td>
</tr>
</tbody>
</table>

Alarm

| Measurement function alarm | Audible/visual alarms (above/below) on any selected measurement function |
| Humidity alarm             | 1 humidity alarm, including dew point alarm |
| Insulation alarm           | 1 insulation alarm |

Set-up

| Set-up commands | Configurable measurement tools menu; configure information to be shown in image; 2 Programmable buttons; user profiles; local adaptation of units, language, date and time formats |

Storage of images

<table>
<thead>
<tr>
<th>Storage media</th>
<th>Removable memory card</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Built-in RAM memory for burst recording</td>
</tr>
<tr>
<td>Image storage mode</td>
<td>IR/visual images, simultaneous storage of IR and visual images. Visual image is automatically associated with corresponding IR image.</td>
</tr>
<tr>
<td>Periodic image storage</td>
<td>Every 10 seconds up to 24 hours</td>
</tr>
<tr>
<td>Panorama</td>
<td>For creating panorama images in FLIR Reporter Professional software</td>
</tr>
<tr>
<td>File formats</td>
<td>Standard JPEG, 14 bit measurement data included</td>
</tr>
<tr>
<td>File formats, visual</td>
<td>Standard JPEG, automatically associated with corresponding thermal image</td>
</tr>
</tbody>
</table>

Image annotations

<table>
<thead>
<tr>
<th>Voice</th>
<th>60 seconds (via Bluetooth) stored with the image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>Predefined text or free text from PDA (via IrDA) stored with the image</td>
</tr>
<tr>
<td>Image description</td>
<td>Free text from PDA using IrDA</td>
</tr>
</tbody>
</table>
## Image annotations

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image marker</td>
<td>4 on IR or visual image</td>
</tr>
<tr>
<td>External sensors</td>
<td>Possible to connect (Bluetooth®):</td>
</tr>
<tr>
<td></td>
<td>Extech Moisture Meter MO297</td>
</tr>
<tr>
<td></td>
<td>Extech Clamp Meter EX845</td>
</tr>
</tbody>
</table>

## Video recording in camera

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiometric IR-video recording</td>
<td>Real-time to built-in RAM, transferable to memory card.</td>
</tr>
<tr>
<td>Non-radiometric IR-video recording</td>
<td>MPEG-4 to memory card</td>
</tr>
</tbody>
</table>

## Video streaming

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-radiometric IR-video streaming</td>
<td>MPEG-4 to PC using USB and FireWire</td>
</tr>
</tbody>
</table>

## Digital camera

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-in digital camera</td>
<td>3.2 Mpixel, auto focus, and video lamp</td>
</tr>
<tr>
<td>Video lamp</td>
<td>Built-in video lamp</td>
</tr>
</tbody>
</table>

## Laser pointer

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser</td>
<td>Activated by dedicated button</td>
</tr>
<tr>
<td>Laser classification</td>
<td>Class 2</td>
</tr>
<tr>
<td>Laser type</td>
<td>Semiconductor AlGaInP diode laser, 1 mW, 635 nm (red)</td>
</tr>
</tbody>
</table>

## Data communication interfaces

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluetooth</td>
<td>Communication with headset and external sensors (optional), using Bluetooth USB micro adapter</td>
</tr>
<tr>
<td>FireWire</td>
<td>Non radiometric IR video streaming output</td>
</tr>
<tr>
<td></td>
<td>File transfer to and from PC</td>
</tr>
<tr>
<td>FireWire, standard</td>
<td>IEEE 1394, 100/200/400 Mbps</td>
</tr>
<tr>
<td>FireWire, connector type</td>
<td>6/6 IEEE 1394 connector</td>
</tr>
<tr>
<td>IrDA</td>
<td>Infrared communications for text comments from PDA</td>
</tr>
<tr>
<td>WLAN</td>
<td>Peer to peer (adhoc) or infrastructure (network), using Wi-Fi USB micro adapter</td>
</tr>
<tr>
<td>SD Card</td>
<td>Two card slots</td>
</tr>
<tr>
<td>Audio</td>
<td>Headset connection for voice annotation of images</td>
</tr>
<tr>
<td>Audio, connector type</td>
<td>4-pole 3.5 mm jack</td>
</tr>
<tr>
<td>USB</td>
<td>• USB-A: Connect external USB device</td>
</tr>
<tr>
<td></td>
<td>• USB Mini-B: Data transfer to and from PC / streaming MPEG-4</td>
</tr>
<tr>
<td>USB, standard</td>
<td>USB 1.1 Full speed (12 Mbps)</td>
</tr>
<tr>
<td>USB, connector type</td>
<td>• USB-A connector</td>
</tr>
<tr>
<td></td>
<td>• USB Mini-B connector</td>
</tr>
</tbody>
</table>

## Composite video

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video out</td>
<td>Composite video output</td>
</tr>
<tr>
<td>Video, standard</td>
<td>CVBS (ITU-R BT.470 PAL/SMPTE 170M NTSC)</td>
</tr>
<tr>
<td>Video, connector type</td>
<td>Standard RCA connector</td>
</tr>
</tbody>
</table>

## Power system

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery type</td>
<td>Rechargeable Li Ion battery</td>
</tr>
<tr>
<td>Battery voltage</td>
<td>7.2 V</td>
</tr>
<tr>
<td>Battery capacity</td>
<td>4.4 Ah</td>
</tr>
<tr>
<td>Battery operating time</td>
<td>&gt; 3 hours at 25°C (+68°F) and typical use</td>
</tr>
<tr>
<td>Charging system</td>
<td>In camera (AC adapter or 12 V from a vehicle) or 2-bay charger</td>
</tr>
<tr>
<td>Charging time</td>
<td>2.5 h to 95% capacity, charging status indicated by LED's</td>
</tr>
<tr>
<td>External power operation</td>
<td>AC adapter 90–280 VAC, 50/60 Hz or 12 V from a vehicle (cable with standard plug, optional)</td>
</tr>
<tr>
<td>Power management</td>
<td>Automatic shutdown and sleep mode (user selectable)</td>
</tr>
</tbody>
</table>
Environmental data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature range</td>
<td>-15°C to +50°C (+5°F to +122°F)</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>-40°C to +70°C (-40°F to +158°F)</td>
</tr>
<tr>
<td>Humidity (operating and storage)</td>
<td>IEC 68-2-30/24 h 95% relative humidity +25°C to +40°C (+77°F to +104°F)</td>
</tr>
<tr>
<td>EMC</td>
<td>EN 61000-6-2:2005 (Immunity)</td>
</tr>
<tr>
<td></td>
<td>EN 61000-6-3:2007 (Emission)</td>
</tr>
<tr>
<td></td>
<td>FCC 47 CFR Part 15 Class B (Emission)</td>
</tr>
<tr>
<td>Encapsulation</td>
<td>IP 54 (IEC 60529)</td>
</tr>
<tr>
<td>Bump</td>
<td>25 g (IEC 60068-2-29)</td>
</tr>
<tr>
<td>Vibration</td>
<td>2 g (IEC 60068-2-6)</td>
</tr>
</tbody>
</table>

Physical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera weight, excl. lens and battery</td>
<td>1.13 kg (2.49 lb.)</td>
</tr>
<tr>
<td>Camera weight, incl. lens and battery</td>
<td>1.93 kg (4.6 lb.)</td>
</tr>
<tr>
<td>Battery weight</td>
<td>0.24 kg (0.52 lb.)</td>
</tr>
<tr>
<td>Camera size, excl. lens (L x W x H)</td>
<td>282 x 144 x 147 mm (11.1 x 5.7 x 5.8 in.)</td>
</tr>
<tr>
<td>Camera size, incl. lens (L x W x H)</td>
<td>324 x 144 x 147 mm (12.8 x 5.7 x 5.8 in.)</td>
</tr>
<tr>
<td>Battery size (L x W x H)</td>
<td>141 x 47 x 28 mm (5.5 x 1.8 x 1.1 in.)</td>
</tr>
<tr>
<td>Battery charger size (L x W x H)</td>
<td>158 x 122 x 25 mm (6.2 x 4.8 x 1.0 in.)</td>
</tr>
<tr>
<td>Tripod mounting</td>
<td>UNC 1/4&quot;-20</td>
</tr>
<tr>
<td>Housing material</td>
<td>Magnesium</td>
</tr>
<tr>
<td>Grip material</td>
<td>TPE Thermoplastic Elastomer Plastics</td>
</tr>
</tbody>
</table>

Shipping information

- Hard transport case
- Infrared camera with lens
- Battery (2 ea.)
- Battery charger
- Bluetooth headset
- Bluetooth USB micro adapter
- FireWire cable, 4/6
- FireWire cable, 6/6
- FLIR Tools download card
- Lens cap (mounted on lens)
- Lens cap (2 ea.)
- Memory card SD
- Power supply, incl. multi-plugs
- Printed documentation
- Shoulder strap
- USB cable
- User documentation CD-ROM
- Video cable
- Wi-Fi USB micro adapter (depending on CE and FCC regulations regarding wireless equipment for your country)

Optional Accessories

- T197188 IR lens, f = 76 mm, 12°, incl. case for FLIR 600 series
- T197190 IR lens, f = 131 mm, 7°, incl. case for FLIR 600 series
- T197198 IR lens, f = 16 mm, 45°, incl. case for FLIR 600 series
- T197197 IR lens, f = 38 mm, 24°, incl. case for FLIR 600 series
- T197341 Macro lens, 1x (25 um) with case
- 1196745 High temperature option +2000°C/+3632°F
- 1196744 High temperature option +1500°C/+2732°F
- T197692 Battery charger, incl. power supply with multi-plugs
- T910814 Power supply, incl. multi-plugs
- T198511 Li-Ion Battery pack 7.4V 33Wh
- T911230ACC Memory card SDHC 4 GB
- T910423 USB cable Std A -> Mini-B
- T198509 Cigarette lighter adapter kit, 12 VDC, 1.2 m/3.9 ft.
- T190481ACC Video cable, RCA <-> RCA, 2.0 m/6.6 ft.
- T190483ACC FireWire cable 4/6, 2.0 m/6.6 ft.
- T190482ACC FireWire cable 6/6, 2.0 m/6.6 ft.
- T197262 Hard transport case for FLIR B/P/SC6xx
- T197921 Option for P/B6xx: Radiometric IR-video streaming using FireWire
- T198508 Headset, 3.5 mm plug
- T951387 Wi-Fi USB micro adapter
- T197771ACC Bluetooth Headset
- T951235ACC Bluetooth® USB micro adapter
- T910972 EX845: Clamp meter + IR therm TRMS 1000A AC/DC
- T910973 MO297: Moisture meter, pinless with memory
Optional Software

- T198586 FLIR Reporter Professional (license only)
- T198584 FLIR Tools
- T198583 FLIR Tools+ (license only)
- DSW-10000 FLIR IR Camera Player
- APP-10002 FLIR Tools Mobile (Android Application)
Optional Accessories

T197188; IR lens, f = 76 mm, 12°, incl. case for FLIR 600 series

General description
The 12° lens is a popular lens accessory and provides 2x magnification compared to the standard lens. Ideal for small or distant targets such as overhead power lines.

Technical data

<table>
<thead>
<tr>
<th>Field of view (FOV)</th>
<th>12° × 9°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum focus distance</td>
<td>1.2 m (3.9 ft.)</td>
</tr>
<tr>
<td>Focal length</td>
<td>76 mm (3.0 in.)</td>
</tr>
<tr>
<td>Spatial resolution (IFOV)</td>
<td>0.33 mrad</td>
</tr>
<tr>
<td>F-number</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Shipping information

- Lens
- Lens case

T197190; IR lens, f = 131 mm, 7°, incl. case for FLIR 600 series

General description
The 7° lens is a popular lens accessory and provides 3.5x magnification compared to the standard lens. Ideal for small or distant targets such as overhead power lines.

Technical data

<table>
<thead>
<tr>
<th>Field of view (FOV)</th>
<th>7° × 5.3°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum focus distance</td>
<td>3.0 m (9.8 ft.)</td>
</tr>
<tr>
<td>Focal length</td>
<td>131 mm (5.2 in.)</td>
</tr>
<tr>
<td>Spatial resolution (IFOV)</td>
<td>0.19 mrad</td>
</tr>
<tr>
<td>F-number</td>
<td>1.1</td>
</tr>
<tr>
<td>Weight</td>
<td>1.50 kg (3.30 lb.), Support 0.45 kg (0.99 lb.)</td>
</tr>
<tr>
<td>Size (L × D)</td>
<td>168.2 mm (6.62 in.) × 146.0 mm (5.75 in.)</td>
</tr>
</tbody>
</table>
T197189; IR lens, f = 19 mm, 45°, incl. case for FLIR 600 series

General description
This wide angle lens has a field of view almost double that of the standard 24° lens. Perfect for wide or tall targets or when working in crowded spaces.

Technical data
<table>
<thead>
<tr>
<th>Field of view (FOV)</th>
<th>45° × 34°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum focus distance</td>
<td>0.2 m (0.7 ft.)</td>
</tr>
<tr>
<td>Focal length</td>
<td>19 mm (0.75 in.)</td>
</tr>
<tr>
<td>Spatial resolution (IFOV)</td>
<td>1.3 mrad</td>
</tr>
<tr>
<td>F-number</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Shipping information
- Lens
- Lens case

T197187; IR lens, f = 38 mm, 24°, incl. case for FLIR 600 series

General description
The standard 24° lens is suitable for the majority of applications.

Technical data
<table>
<thead>
<tr>
<th>Field of view (FOV)</th>
<th>24° × 18°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum focus distance</td>
<td>0.3 m (1.0 ft.)</td>
</tr>
<tr>
<td>Focal length</td>
<td>38 mm (1.5 in.)</td>
</tr>
<tr>
<td>Spatial resolution (IFOV)</td>
<td>0.65 mrad</td>
</tr>
<tr>
<td>F-number</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Shipping information
- Lens
- Lens case
Optional Accessories

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T197341; Macro lens, 1x (25 um) with case

General description
For R&D usage or development purposes. As an example looking at PCB's or small electronic components.

Technical data
- Field of view (FOV): 16 x 12 mm (0.63 x 0.47 in.)
- Magnifying factor: 1x
- Working distance: 18 mm (0.71 in.)
- Depth of field: ±0.13 mm
- Spatial resolution (IFOV): 25 µm
- F-number: 1.1
- Focus: Fixed

Shipping information
- Lens
- Lens case

1196745; High temperature option
+2000°C/+3632°F

General description
For high temperature applications the camera can be calibrated for high temperature ranges.

Technical data
- Optional object temperature range: Up to +2000°C (+3632°F)

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1196744; High temperature option
+1500°C/+2732°F

General description
For high temperature applications the camera can be calibrated for high temperature ranges.

Technical data
Optional object temperature range
Up to +1500°C (+2732°F)

T197692; Battery charger, incl. power supply with multi plugs

General description
Stand-alone 2-bay battery charger, including power supply with multi plugs.

Technical data
AC operation
100–240 VAC, 50/60 Hz, 12 VDC out
Power
3000 mA at 12 VDC
Battery charger size (L x W x H)
158 x 122 x 25 mm (6.2 x 4.8 x 1.0 in.)
Cable length
1.98 m (6.5 ft.)

Shipping information
• Stand-alone 2-bay battery charger
• Power supply including cable
• EU plug
• UK plug
• US plug
• AU plug

EAN-13
7332558003787
UPC-12
845188004002
Optional Accessories

T910814; Power supply, incl. multi plugs

General description
FLIR P/B/SC6xx and FLIR GF3xx series:
Power supply, including multiple plugs, to charge the battery when it is inside or outside of the camera.
FLIR T6xx and FLIR Exx series:
Power supply, including multiple plugs, to charge the battery when it is inside the camera or in the battery charger.

Technical data

<table>
<thead>
<tr>
<th>AC operation</th>
<th>100–240 VAC, 50/60 Hz, 12 VDC out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>3000 mA at 12 VDC</td>
</tr>
<tr>
<td>Cable length</td>
<td>1.98 m (6.5 ft.)</td>
</tr>
</tbody>
</table>

Shipping information
- Power supply including cable
- EU plug
- UK plug
- US plug
- AU plug

---

T198511; Li-Ion Battery pack 7.4V 33Wh

General description
High capacity battery for the IR camera.

Technical data

<table>
<thead>
<tr>
<th>Battery type</th>
<th>Rechargeable Li Ion battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery voltage</td>
<td>7.2 V</td>
</tr>
<tr>
<td>Battery capacity</td>
<td>4.4 Ah at +20°C (+68°F)</td>
</tr>
<tr>
<td>Battery note</td>
<td>Approximate lithium content: 3.0 g</td>
</tr>
<tr>
<td>Charging system</td>
<td>In camera (AC adapter or 12 V from a vehicle) or 2-bay charger</td>
</tr>
<tr>
<td>Charging time</td>
<td>2.5 h to 95% capacity, charging status indicated by LED's</td>
</tr>
<tr>
<td>Charging temperature</td>
<td>0°C to +45°C (+32°F to +113°F)</td>
</tr>
<tr>
<td>Battery storage temperature range</td>
<td>-40°C to +70°C (-40°F to +158°F)</td>
</tr>
<tr>
<td>Battery weight</td>
<td>0.24 kg (0.52 lb.)</td>
</tr>
<tr>
<td>Size (L × W × H)</td>
<td>141 × 47 × 28 mm (5.5 × 1.8 × 1.1 in.)</td>
</tr>
</tbody>
</table>
Optional Accessories

Shipping information

<table>
<thead>
<tr>
<th>EAN-13</th>
<th>7332558004364</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPC-12</td>
<td>845188004347</td>
</tr>
</tbody>
</table>

T911230ACC; Memory card SDHC 4 GB

General description
SD Card for data storage (e.g. images)

Technical data

<table>
<thead>
<tr>
<th>Memory card, size</th>
<th>At least 4 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>2 g (0.07 oz.)</td>
</tr>
<tr>
<td>Size (L x W x H)</td>
<td>32.0 x 24.0 x 2.1 mm (1.26 x 0.94 x 0.08 in.)</td>
</tr>
</tbody>
</table>

Shipping information

- SD Card

v1.0

1910423; USB cable Std A <-> Mini-B

General description
This cable is used to connect the infrared camera with a computer, using the USB protocol.

Technical data

<table>
<thead>
<tr>
<th>Weight</th>
<th>60 g (2.1 oz.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable length</td>
<td>1.8 m (5.9 ft.)</td>
</tr>
<tr>
<td>Connector</td>
<td>Standard USB-A to USB Mini-B</td>
</tr>
</tbody>
</table>

v1.0.2

T198509; Cigarette lighter adapter kit, 12 VDC, 1.2 m/3.9 ft.

General description
This cable is used to power the infrared camera from the cigarette lighter socket in a car.

Note: This is the same product as p/n 1196497.
Optional Accessories

Technical data
Cable length 1.2 m (3.9 ft).

Shipping information
EAN-13 7332558004340
UPC-12 845188004361

v1.01

1910484ACC; Video cable, RCA <-> RCA, 2.0 m/6.6 ft.

General description
This cable is used to transfer video signals from the infrared camera to an external monitor, or to a computer featuring an internal video card.

Technical data
Weight 60 g (2.1 oz.)
Cable length 2.0 m (6.6 ft.)
Connector RCA to RCA

Shipping information
EAN-13 7332558006252
UPC-12 845188006600

v1.0

1910483ACC; FireWire cable 4/6, 2.0 m/6.6 ft.

General description
This cable is used to connect the infrared camera with a computer, using the FireWire protocol.

Technical data
Weight 128 g (4.5 oz.)
Cable length 2.0 m (6.6 ft.)
Connector FireWire 4-pin to 6-pin

Shipping information
EAN-13 7332558006238
1910482ACC; FireWire cable 6/6, 2.0 m/6.6 ft.

General description
This cable is used to connect the infrared camera with a computer, using the FireWire protocol.

Technical data
- Weight: 157 g (5.5 oz.)
- Cable length: 2.0 m (6.6 ft.)
- Connector: FireWire 6-pin to 6-pin

Shipping information
- EAN-13: 7332558006245
- UPC-12: 845188006594

T197262; Hard transport case for FLIR B/P/SC6xx

General description
Hard transport case for FLIR B/P/SC6XX

Technical data
- Weight: 3.5 kg (7.7 lb.)
- Size (L x W x H): 495 x 387 x 194 mm (19.5 x 15.2 x 7.6 in.)
- Color: Black
Optional Accessories

P/N: 40402-3103
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T197921; Option for P/B6xx: Radiometric IR-video streaming using FireWire

General description
This camera option adds more functionality to the FireWire port. The FireWire port can now be used to transfer real-time, full dynamic IR video to a PC for data capture and analysis. This option for P/B6XX shall primarily be sold with FLIR QuickPlot for the predictive maintenance and building market, however it is also compatible with FLIR ResearchIR.

Key features:
- Real time radiometric data streaming to PC using FireWire
- Supports Windowing (with FLIR ResearchIR)

Technical data
Radiometric IR-video streaming
- Real-time full dynamic to PC using FireWire:
  - 9 Hz using FLIR QuickPlot
  - 30 Hz or 60/120 Hz (with windowing) using FLIR ResearchIR

Shipping information
- Option for P/B6XX: Radiometric IR-video streaming using FireWire

T198508; Headset, 3.5 mm plug

General description
Standard headset with 3.5 mm plug
Optional Accessories

T951387; Wi-Fi USB micro adapter

General description
Wi-Fi USB adapter for wireless connection between the infrared camera and external equipment.

NOTE: Only for use in markets accepting CE and FCC regulations for wireless equipment.

Shipping information
- Wi-Fi USB micro adapter

T197771ACC; Bluetooth Headset

General description
Headset with Bluetooth for wireless connection with the infrared camera.

Technical data
- Bluetooth: Connection to the infrared camera
- Audio: Headset including microphone

Shipping information
- Headset
- Ear clip
- Charger
- Multi plugs
- USB cable Std A to Miri-B

EAN-13: 7332558006337
UPC-12: 845188006686
Optional Accessories

T951235ACC; Bluetooth® USB micro adapter

General description
Bluetooth® USB micro adapter for wireless connection between the infrared camera and external Bluetooth equipment.

Technical data

<table>
<thead>
<tr>
<th>Bluetooth</th>
<th>USB-A</th>
</tr>
</thead>
</table>

Shipping information

- Bluetooth® USB micro adapter

<table>
<thead>
<tr>
<th>EAN-13</th>
<th>7332558006283</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPC-12</td>
<td>845188006631</td>
</tr>
</tbody>
</table>

T910972; EX845: Clamp meter + IR therm TRMS 1000A AC/DC

General description
Bluetooth Transmitter with METERLINK™
Wirelessly transmits Voltage and Current readings to your FLIR high-definition infrared camera to incorporate meter readings with thermal images.
For more info see www.extech.com

METERLINK™ makes it easy for a thermographer to quickly take electrical readings using an Extech EX845 clamp meter and instantly record them right on an infrared image. METERLINK™ accelerates infrared inspections and diagnostics while adding value to your reports by increasing the amount of detail you provide.

EX845 CAT IV Clamp Meter Features:
Optional Accessories

General description

- Patented built-in non-contact IR Thermometer design with laser pointer
- True RMS Current and Voltage measurements
- Peak hold captures inrush currents and Transients
- MultiMeter functions include AC/DC Voltage, Resistance, Capacitance, Frequency, Diode, and Continuity
- 1.7" (43mm) jaw opening for conductors up to 750MCM or two 500MCM
- 4000 count backlit display
- Features include Data Hold and Min/Max and Auto Power off
- Autoranging with manual range button
- Complete with CAT IV test leads, 9V battery, Type K probe (-22°F to 572°F/-30 to 300°C), pouch case, and Professional Test Lead Set

Professional Test Lead Features:

- 8-Piece Professional Test Lead set
- Two 42" (1m) PVC lead extensions with shrouded banana plugs at both ends
- Two modular 4" (102mm) Heavy Duty test probe handles with 0.16" (4mm) banana plug tip
- Two standard size, alligator clips with insulated rubber boot
- Two extra large, double-insulated, alligator clips with sharp teeth for piercing insulated wire. Jaws open to 0.8" (20mm)

T910973; MO297: Moisture meter, pinless with memory

General description

Bluetooth Transmitter with MeterLink™
Wirelessly transmits moisture and humidity data to your FLIR high-definition infrared camera to incorporate meter readings with thermal images.
For more info see www.extech.com

FLIR infrared cameras rapidly reveal moisture problems in homes and commercial structures. Documenting water damage with a moisture meter can provide valuable added details about moisture issues. The process of correlating readings to infrared images however is awkward, imprecise and prone to errors. METERLINK™ expedites building inspections by annotating several moisture-related readings from damaged surfaces directly onto the related infrared image. METERLINK™ increases accuracy and eliminates confusion about which moisture readings pertain to which images.

Key features:
Optional Accessories

General description

- Quickly indicates the moisture content of materials with Pinless technology without damaging the surface; Remote Pin-type probe (MO290-P included) allows for contact moisture readings (3ft/0.9m cable length)
- Manually store/recall up to 20 labeled readings
- Works on multiple wood types and other building materials
- Easy to read, large dual display with automatic backlight feature
- Simultaneously displays moisture value of wood or material being tested, Air Temperature, IR Temperature, or Humidity
- Pinless measurement depth to 0.75" (19mm) below the surface
- Programmable high/low Moisture and Humidity alarms
- Designed with a patented IR circuit to measure non-contact surface temperature; 8:1 distance to spot ratio with 0.95 fixed emissivity
- Built-in Humidity/Temperature probe measures Relative Humidity, Air Temperature plus Grains Per Pound (gPP)/g/kg, Dew Point (DP), Vapor Pressure, and condensation point
- Automatic calculation of differential Temperature (IR - DP) to determine condensation point
- Fast Analog Bargraph
- Min/Max and Data Hold
- Auto power off and low battery indication
- Complete with pin moisture probe with cable, 9V battery and case
General description

FLIR Reporter Professional is a powerful software for creating compelling and professional, fully customized, easy-to-interpret maintenance reports.

Professional Report Wizard guides you step-by-step in combining all IR inspection data - infrared and visual images, temperature measurements, and text notes – into a professional, easy-to-interpret maintenance report.

Key features:

- Flexible report page design and layout for customized reports
- Use quick insert function to easily create custom report pages
- Fully integrated with standard Microsoft Word
- Generates reports in standard MS Office format and PDF-format
- Powerful temperature analysis
- Triple Fusion Picture-in-Picture (movable, sizeable, scalable)
- Rapid report manager supporting automatic report generation by drag-and-drop
- Support for MSX (Multi-Spectral Dynamic Imaging) images
- Support for sketch images in both IR and visual with on/off toggling
- Support for same FOV (“Field of View Match”)
- Grid settings
- Trending functionality
- Automatic link to Google™ Maps for images with GPS coordinates
- Automatic summary table for the report
- Fine tune images and make full temperature analysis directly in Microsoft Word
- Spell check
- Create your own formulas including measurement values from images
- Play radiometric sequences directly in the report
- Search functionality to quickly finding images for your report
- Panorama tool for combining several images to a larger image
- Support for GF series IR images
- Auto Update function
- Office 2003 (32-bit), Office 2007 (32-bit) and Office 2010 (32-bit)
- Windows 7 (32 and 64-bit), Windows Vista (32 and 64-bit)
- Support for MeterLink™ data
- *.docx compatibility

Download

Download your copy of FLIR Reporter Professional here:

http://support.flir.com/reporter

Release notes

Version 9.2

New features

- --- News in 9.2: ---
- Option to hide Zoom Viewer
- Option to extract Visual image from MSI/Fusion image.
- Support for the new FLIR Ex and Exx series cameras.
- Support for multispectral images.
- Support for auto-oriented images.
- Various bug fixes.

Shipping information

- FLIR Reporter Professional scratchcard
## System requirements

<table>
<thead>
<tr>
<th>Operating system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows XP, 32-bit</td>
</tr>
<tr>
<td>Windows Vista, 32-bit</td>
</tr>
<tr>
<td>Windows Vista, 64-bit</td>
</tr>
<tr>
<td>Windows 7, 32-bit</td>
</tr>
<tr>
<td>Windows 7, 64-bit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Software requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office 2007 (32-bit)</td>
</tr>
<tr>
<td>Office 2010 (32-bit)</td>
</tr>
</tbody>
</table>

**v1.0**

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## General description

FLIR Tools is a software suite specifically designed to provide an easy way to update your camera and create inspection reports.

### Key features:

- Report templates (horizontal IR + DC, vertical IR + DC, horizontal IR + IR).
- Manual IR/Visual Image Grouping
- Import images from your camera to your computer.
- Apply filters when searching for images.
- Search all text in images and text annotations.
- Store the five latest search criteria’s.
- Lay out, move, and resize measurement tools on any infrared image.
- Create PDF imagesheets of any images of your choice.
- Add headers, footers, and logos to imagesheets.
- Create PDF reports for images of your choice.
- Add headers, footers, and logos to reports.
- Report editor (report page preview and snap to grid).
- Sort function (by date, groups sorted by path, and groups sorted by date).
- Browse and purchase infrared cameras, software, and accessories in the webshop.
- Software localized to 21 languages.
- Support for MSX (Multi-Spectral Dynamic Imaging) Images
- Support for Sketch Images on both IR and Visual with toggling ON/OFF feature.
- Support for Same FOV (Field of View Match)
- Display of Compass Information in Edit and in Report.
- Display of GPS Information in Edit and in Report.
- Microsoft Windows 7 (32- and 64-bit) and Windows 8 (32- and 64-bit)
- Camera update (applies to FLIR Ex, Kxx, Exx and T6xx series only).

---

## Download

This software is a freeware. To download, click the following link:

http://support.flir.com/SwDownload/app/RssSWDownload.aspx?ID=120

---

## Release notes

<table>
<thead>
<tr>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLIR Tools 4.1</td>
</tr>
</tbody>
</table>

http://www.flir.com
Optional Software

Release notes

New features

• --- News in 4.1: ---
• Previous/next in Edit mode.
• Clone in the Library.
• Extract visual photo from a multispectral image.
• Import *.mp4, *.seq, and *.csq files from the camera.
• Playback/edit *.seq and *.csq files.
• Scale enhancement for the FLIR GF3xx series.
• Auto resize of thumbnails during importing for the FLIR T6xx series.
• Grouping/ungrouping now added.
• Various bug fixes.

Shipping information

• Digital download, or
• CD-ROM

System requirements

Operating system

• Windows XP, 32-bit
• Windows Vista, 32-bit
• Windows 7, 32-bit
• Windows 7, 64-bit
• Windows 8, 32-bit
• Windows 8, 64-bit

v1.0

T198583; FLIR Tools+ (license only)

General description

Compared to FLIR Tools, FLIR Tools+ has the following features:
- Radiometric Panorama incl. MSX
- Radiometric IR Video Recording
- Advanced Reporting
FLIR Tools/Tools+ is a software suite specifically designed to provide an easy way to update your camera and create inspection reports.

FLIR Tools+ main features:

• Manual IR/Visual Image Grouping
• Radiometric Panorama incl. MSX
• Radiometric IR Video Recording
• Advanced Reporting - Microsoft Office 2007 (32bit), and 2010 (32bit) support
• Report templates (horizontal IR + DC, vertical IR + DC, horizontal IR + IR).
• Import images from your camera to your computer.
• Apply filters when searching for images.
• Search all text in images and text annotations.
• Store the five latest search criteria's.
• Lay out, move, and resize measurement tools on any infrared image.
• Create PDF imagesheets of any images of your choice.
• Add headers, footers, and logos to imagesheets.
• Create PDF reports for images of your choice.
• Add headers, footers, and logos to reports.
• Report editor (report page preview and snap to grid).
• Sort function (by date, groups sorted by path, and groups sorted by date).
• Browse and purchase infrared cameras, software, and accessories in the webshop.
• Software localized to 21 languages.
• Support for MSX (Multi-Spectral Dynamic Imaging ) Images
• Support for Sketch Images on both IR and Visual with toggling ON/OFF feature.
• Support for Same FOV ( Field of View Match )
• Display of Compass Information in Edit and in Report.
• Display of GPS Information in Edit and in Report.
• Microsoft Windows 7 (32- and 64-bit) and Windows 8 (32- and 64-bit)
• Camera update (applies to FLIR Ex, Kxx, Exx and T6xx series only).

Download

Download your copy of FLIR Tools+ here:
Optional Software

Download

http://support.flir.com/toolsplus

Release notes

Version: FLIR Tools+ 4.1

New features:
- News in 4.1:
- Previous/next in Edit mode.
- Clone in the Library.
- Extract visual photo from a multispectral image.
- Import *.mp4, *.seq, and *.csq files from the camera.
- Playback/edit *.seq and *.csq files.
- Scale enhancement for the FLIR GF3xx series.
- Auto resize of thumbnails during importing for the FLIR T6xx series.
- Grouping/ungrouping now added.
- Various bug fixes.

Shipping information

- FLIR Tools+ scratchcard

System requirements

Operating system:
- Windows XP, 32-bit
- Windows Vista, 32-bit
- Windows 7, 32-bit
- Windows 7, 64-bit
- Windows 8, 32-bit
- Windows 8, 64-bit

Software requirements:
- Office 2007, 32-bit
- Office 2010, 32-bit
- Office 2013, 32-bit

DSW-10000; FLIR IR Camera Player

General description

FLIR IR Camera Player is a PC-based remote control and viewer that you can use with cameras from FLIR Systems.

You can perform one or more of the following with FLIR IR Camera Player:
- Record a video stream from the camera.
- Save a frame from the video stream as a snapshot image (*.bmp).
- Autofocus, focus far, and focus near.
- Autoadjust the camera image.
- Freeze the camera image.
- Save a camera image in the camera.
- Change Color palette.
- Add an image description and a text comment to an image.

You connect a camera in one of the following ways:
- Ethernet
- FireWire
- USB

Download

This software is a freeware. To download, click the following link:

http://support.flir.com/SwDownload/app/FissSWDownload.aspx?ID=89

Release notes

Version: 2.3.3
Optional Software

Release notes

New features

- -- News in 2.3.3
- Added latest device drivers (1.9.1.0).
- Various bugfixes
- -- News in 2.2.7
- Added support for FLIR Ax5 series.

System requirements

Operating system

- Windows XP, 32-bit
- Windows Vista, 32-bit/64-bit
- Windows 7, 32-bit/64-bit

APP-10002; FLIR Tools Mobile (Android Application)

General description

FLIR Tools Mobile is an intuitive Android app for analyzing, managing, and distributing infrared images.

Key features:

- Remote control
- MSX
- Images with sketch on DC and IR
- Images with field of view follow
- Editable text comments
- Emissivity table
- Import images from your Wi-Fi-enabled camera.
- Connect and stream infrared images from the camera.
- Connect and stream measurement data from FLIR Test & Measurement meters
- Lay out and move measurement tools on the image.
- Read out temperature measurements.
- Create and configure temporal plots based on results of measurement tools on the infrared image.
- Log measurement data and export it as a *.csv file.
- Save a measurement scenario as a data snapshot.
- Zoom in on images.
- On the Android device, remotely take snapshots when a camera is connected.
- On the camera, take snapshots that will automatically be saved on the Android device.
- Delete images on the Android device.
- Display an image's GPS coordinates on Google Maps.
- Create and e-mail reports.
- Save images in the Android device photo library.
- Send images to FTP sites and other file-sharing services (Dropbox, Box.net, etc.).
- Display image information, e.g., object parameters, text comments, and file details.
- Play back voice comments.
- Change the level and span.
- Change general settings in the app.
- Change the palette.

Download

The application can be downloaded from Android Market or Amazon Marketplace, see the link below.


Release notes

Version

FLIR Tools Mobile 3.1.0

http://www.flir.com
## Optional Software

### Release notes

**New features**
- --- News in 3.2.0 ---
- Receive data logs from FLIR DM93.
- Save or export data logs in new *.csv format.
- Various bug fixes.
- --- News in 3.1.0 ---
- Added variable level of MSX alpha
- Added Fusion Blending mode for images with possibility to adjust level
- Stability fixes
- Improved memory management
- Modified internal handling of measurement results and displaying them.

### System requirements

**Operating system**
- Android 2.3 and later

v1.04
Camera with Lens IR f=38 mm (24°)
Camera with Lens IR f=19 mm (45°)
Camera with Close-up lens 0.5X f=75 mm (fits 24° IR lens)
Camera with Macro lens 1X (25 µm)