# FLIR T1010 28°

## P/N: 72502-0502

**Copyright**

**Document identity**

**Website**

http://www.flir.com

**Customer support**

http://support.flir.com

**Disclaimer**

| General description | |
|---|---|
| The FLIR T1010 is designed for the expert requiring the highest performance and the latest technology available. The camera combines excellent ergonomics and feature-rich flexibility with superior image quality at an infrared resolution of 1024 × 768 pixels. | |
| Benefits:<br><br>• Flexible and feature rich: A wide variety of measuring and analysis functions make the FLIR T1010 flexible for your every need. Two programmable buttons provide easy access to favorite functions.<br>• Highest performance with the latest technology: The FLIR T1010 is equipped with the innovative Multi Spectral Dynamic Imaging (MSX) feature, which produces an image richer in detail than ever before. With its continuous autofocus, the FLIR T1010 is a fully automatic infrared camera.<br>• Support for UltraMax: When enabling UltraMax in the camera, the resolution of images can be substantially enhanced when importing the images into a FLIR Thermography software. | |

| Imaging and optical data | |
|---|---|
| IR resolution | 1024 × 768 pixels |
| MSX resolution | 1024 × 768 pixels |
| UltraMax | Yes |
| Thermal sensitivity/NETD | <25 mK @ +30°C (+86°F) |
| Field of view (FOV) | 28° × 21° |
| Minimum IR focus distance | 0.4 m (1.32 ft.) |
| Minimum IR–visual alignment distance | 0.4 m (1.32 ft.) |
| Focal length | 36 mm (1.42 in.) |
| Spatial resolution (IFOV) | 0.47 mrad |
| Lens identification | Automatic |
| F-number | 1.15 |
| Image frequency | 30 Hz |
| Focus | One shot or manual |
| Digital zoom | 1–8× continuous |
| Digital image enhancement | Adaptive digital noise reduction |

| Detector data | |
|---|---|
| Detector type | Focal plane array (FPA), uncooled microbolometer |
| Spectral range | 7.5–14 µm |
| Detector pitch | 17 µm |

# FLIR T1010 28°

| Image presentation | |
|---|---|
| Display | Built-in touch screen, 4.3 in. wide screen LCD, 800 × 480 pixels |
| Display type | Capacitive touch screen |
| Auto orientation | Automatic landscape or portrait |
| Automatic image adjustment, type | Standard or histogram based on the image content |
| Manual image adjustment | Linear based, possible to adjust level/span/max./min. |

| Image presentation modes | |
|---|---|
| Image modes | Thermal, thermal MSX, digital camera |
| Infrared image | Full color infrared image |
| Visual image | Full color visual image |
| Multi Spectral Dynamic Imaging (MSX) | Thermal image with enhanced detail presentation |
| Gallery | • Review thumbnail/full image on the camera<br>• Edit measurements/palettes/image modes on the camera |

| Measurement | | |
|---|---|---|
| Object temperature range | | Accuracy |
| –40 to +150°C (–40 to +302°F) | –40 to +5°C (–40 to +41°F) | ±2°C (±3.6°F) |
| | +5 to +100°C (+41 to +212°F) | ±2°C (±3.6°F) |
| | +100 to +150°C (+212 to +302°F) | ±2% |
| 0 to +650°C (+32 to +1202°F) | 0 to +100°C (+32 to +212°F) | ±2°C (±3.6°F) |
| | +100 to + 650°C (+212 to +1202°F) | ±2% |

**NOTE**

For HSI use, above 30 Hz frame rate, the typical accuracy will be ±2.5°C (±4.5°F), or 2.5% of reading @ 25°C (77°F).

A special calibration is required for your T10xx camera to work with the HSI box. Therefore, the HSI box needs to be ordered with the camera, or when ordered separately, the special calibration can be added to the camera later on by a FLIR Service Center.

| Screening mode | |
|---|---|
| Sampling average mode | Recommended temperature range: 30 to 45°C (86 to 113°F) in stable room temperature<br><br>Accuracy (drift): ±0.3°C (±0.5°F)[1] |

| Measurement analysis | |
|---|---|
| Spotmeter | 1 |
| Area | 1 box with max./min./average |
| Profile | No |
| Automatic hot/cold detection | Auto hot or cold spotmeter markers within the area |
| Measurement presets | No measurements, Center spot, Hot spot, Cold spot, User preset 1, User preset 2 |
| User presets | The user can select and combine measurements from one box, one delta. |

---

1. No external blackbody needed.

# FLIR T1010 28°

| Measurement analysis | |
|---|---|
| Difference temperature | Delta temperature between the measurement functions and the reference temperature |
| Reference temperature | Yes |
| Atmospheric transmission correction | Automatic, based on the inputs for distance, atmospheric temperature, and relative humidity |
| Optics transmission correction | Automatic, based on signals from internal sensors |
| Emissivity correction | Variable from 0.01 to 1.0 or selected from the materials list |
| Reflected apparent temperature correction | Automatic, based on the input of the reflected temperature |
| External optics/windows correction | Automatic, based on the inputs of the window transmission and temperature |
| Measurement corrections | Emissivity, reflected temperature, relative humidity, atmospheric temperature, object distance, external infrared window compensation |
| Colors (palettes) | Iron, Rainbow, Rainbow HC, White hot, Black hot, Arctic, Lava |

| Set-up | |
|---|---|
| Set-up commands | Save options, Programmable button, Reset options, Set up camera, Language, Time & units, Camera information |
| Languages | Arabic, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, simplified Chinese, Swedish, traditional Chinese, Turkish |

| Service functions | |
|---|---|
| Camera software update | Using USB cable or SD card |

| Storage of images | |
|---|---|
| Image storage | Standard JPEG, including digital image and measurement data, on a memory card |
| Storage media | Removable media SD or SDHC card. Class 10 or better recommended |
| Image storage mode | • Simultaneous storage of thermal and digital images in the same JPEG file<br>• Option to store a digital photo as a separate JPEG file |
| File formats | • Standard JPEG, measurement data included<br>• CSQ, measurement data included |
| File formats, visual | Standard JPEG, automatically associated with the corresponding thermal image |

| Video recording in camera | |
|---|---|
| Non-radiometric IR-video recording | H.264 to the memory card |
| Visual video recording | H.264 to the memory card |

| Video streaming | |
|---|---|
| Radiometric IR-video streaming | Real-time radiometric streaming (RTRS) via USB |
| Non-radiometric IR-video streaming | H.264 video using USB |
| Visual video streaming | H.264 video using USB |

# FLIR T1010 28°

| Digital camera | |
| --- | --- |
| Built-in digital camera | 5 Mpixel with LED light |
| Digital camera | Field of view adapts to the infrared lens |
| Video lamp | Built-in LED light |

| Laser pointer | |
| --- | --- |
| Laser | Activated by a dedicated button |
| Laser alignment | Position is automatically displayed on the infrared image |
| Laser classification | Class 2 |
| Laser type | Semiconductor AlGaInP diode laser, 1 mW, 635 nm (red) |

| Data communication interfaces | |
| --- | --- |
| Interfaces | USB Micro-B, HDMI |
| SD Card | One card slot for removable SD memory cards |

| USB | |
| --- | --- |
| USB | USB Micro-B: data transfer/video |
| USB, standard | • USB 2.0 High Speed<br>• USB Micro-B connector |

| Video | |
| --- | --- |
| Video out | • HDMI 640 × 480<br>• HDMI 1280 × 720<br>• DVI 640 × 480<br>• DVI 800 × 600 |
| Video, connector type | HDMI type C |

| Radio | |
| --- | --- |
| Antenna | Internal (disabled) |

| Power system | |
| --- | --- |
| Battery type | Rechargeable Li ion battery |
| Battery operating time | >2.5 hours at 25°C (+68°F) and typical use |
| Charging system | In camera (AC adapter or 12 V from a vehicle) or two-bay charger |
| Charging time | 2.5 hours to 90% capacity, charging status indicated by LEDs |
| Charging temperature | 0°C to +45°C (+32°F to +113°F), except for the Korean market: +10°C to +45°C (+50°F to +113°F) |
| External power operation | AC adapter 90–260 V AC, 50/60 Hz or 12 V from a vehicle (cable with a standard plug, optional) |
| Power management | Automatic power-off functionality, user configurable between 5 minutes, 20 minutes, and no automatic shutdown |

| Environmental data | |
| --- | --- |
| Operating temperature range | −15°C to +50°C (+5°F to +122°F) |
| Storage temperature range | −40 to +70°C (−40 to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30 / 24 hours, 95% relative humidity, 25–40°C (77–104°F) / 2 cycles |

www.flir.com

# FLIR T1010 28°

**P/N: 72502-0502**
© 2020, FLIR Systems, Inc.
#72502-0502; r. 66245;

| Environmental data | |
|---|---|
| EMC | • ETSI EN 301 489-1 (radio)<br>• ETSI EN 301 489-17<br>• EN 61000-6-2 (Immunity)<br>• EN 61000-6-3 (Emission)<br>• FCC 47 CFR Part 15 Class B (Emission)<br>• ICES-003 |
| Radio spectrum | • ETSI EN 300 328<br>• FCC Part 15.247<br>• RSS-247 Issue 2 |
| Encapsulation | IP 54 (IEC 60529) |
| Shock | 25 g (IEC 60068-2-29) |
| Vibration | 2 g (IEC 60068-2-6) |
| Safety | EN/UL/CSA/PSE 60950-1 |
| Ergonomics | The viewfinder plus the 120° rotating optical block allow you to point the camera in multiple directions while maintaining a comfortable position |

| Physical data | |
|---|---|
| Weight | 1.9 kg (4.3 lb.) |
| Camera size, excl. lens (L × W × H) | 167.2 mm × 204.5 mm × 180.4 mm (6.6 in. × 8.0 in. × 7.1 in.) |
| Tripod mounting | UNC ¼"-20 |
| Housing material | Magnesium |

| Warranty information | |
|---|---|
| Warranty | See http://www.flir.com/warranty/. |

| Shipping information | |
|---|---|
| List of contents | • Infrared camera with lens<br>• Battery (2 ea.)<br>• Battery charger<br>• Calibration certificate<br>• FLIR Thermal Studio Pro license card (1 year subscription)<br>• Hard transport case<br>• HDMI-HDMI cable<br>• Lens cap<br>• Memory card<br>• Neck strap<br>• Power supply, including multi-plugs<br>• Printed documentation<br>• USB cable, Std A to Micro-B |
| EAN-13 | 7332558014400 |
| UPC-12 | 845188016456 |
| Country of origin | Sweden |

**Supplies & accessories:**

- T199065; Close-up lens 3x (51 µm) with case
- T199745; IR lens, f=142 mm (7°) with case and mounting support
- T199066; IR lens, f=21.2 mm (45°) with case
- T199064; IR lens, f=36 mm (28°) with case
- T199077; IR lens, f=83.4 mm (12°) with case
- T910814; Power supply, incl. multi plugs
- T198126; Battery charger, incl. power supply with multi plugs T6xx
- T199364ACC; Battery Li-ion 3.65 V, 8.5 Ah, 32 Wh

www.flir.com

# FLIR T1010 28°

- T911650ACC; Memory card SD Card 8 GB
- T198509; Cigarette lighter adapter kit, 12 VDC, 1.2 m/3.9 ft.
- T910930ACC; HDMI type C to DVI cable 1.5 m
- T910891ACC; HDMI type C to HDMI type A cable 1.5 m
- T198869ACC; Hard transport case for FLIR T10xx series
- T300030; Option, No radio
- T300194; FLIR SC kit T10xx
- T128829ACC; Neck strap
- T850105; FLIR Inspection Route - Camera Option
- T198533; USB cable Std A <-> Micro B
- T911093; Tool belt
- APP-10002; FLIR Tools Mobile (Android Application)
- APP-10003; FLIR Tools Mobile (iPad/iPhone Application)
- T198586; FLIR Reporter Professional (license only)
- T300243; FLIR Thermal Studio Pro, 1 Year Subscription
- T300083; FLIR Thermal Studio Pro, Perpetual license
- T300258; FLIR Thermal Studio Standard, Perpetual license
- T198584; FLIR Tools
- T198583; FLIR Tools+ (download card incl. license key)
- T199233; FLIR Atlas SDK for .NET
- T199234; FLIR Atlas SDK for MATLAB
- 4220499; FLIR Research Studio - 1 Year Subscription (online activation)
- 4220500; FLIR Research Studio - Perpetual License (online activation)
- 4220646; FLIR Research Studio - Perpetual License (USB dongle)
- INST-EW-0170; Extended Warranty 1 Year for T10xx, GF7x
- INST-EWGM-0180; Premium Service Package for A310pt, T10xx, GF7x
- INST-GM-0160; General Maintenance Package for T10xx, GF7x, P6xx, X90, SC1000

www.flir.com