

## P/N: 87504-0404

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### Website

<http://www.flir.com>

### Customer support

<http://support.flir.com>

### Disclaimer

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| General description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| <p>The FLIR TG297 combines accurate temperature measurement with the ability to image up to 1030°C (1886°F). FLIR MSX enhancement improves image clarity by embossing visual scene details on full thermal images. The FLIR TG297 is ideal for high-temperature industrial uses such as measuring the heat of glass furnaces, kilns, and forges as well as manufacturing applications, allowing you to accurately target potential faults, troubleshoot repairs, and monitor processes. Record images to assure that machinery and systems are functioning safely and at peak efficiency.</p>                           |                                                      |
| <p>Key features:</p> <ul style="list-style-type: none"> <li>• See beyond the limitations of single-spot IR thermometers with a 160 × 120 (19,200 pixel) true thermal imager.</li> <li>• FLIR patented MSX enhancement adds sharp visual detail to thermal images, making it easier to diagnose problems.</li> <li>• Measure a wide range of temperatures, from -25°C to 1030°C (-13°F to 1886°F).</li> <li>• Multipoint Laser pointer provides a circle to clearly show the area you are measuring.</li> <li>• Rugged and reliable with an IP54 enclosure that protects the camera from dirt, dust, and oil.</li> </ul> |                                                      |
| Imaging and optical data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                      |
| IR resolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 160 × 120 pixels                                     |
| Digital image enhancement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Yes                                                  |
| Thermal sensitivity/NETD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | < 70 mK                                              |
| Field of view (FOV)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 57° × 44°                                            |
| Minimum focus distance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.3 m (0.98 ft.)                                     |
| Distance to spot ratio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 30:1                                                 |
| Pseudo dual range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Range 1 < 400°C (< 752°F); Range 2 > 400°C (> 752°F) |
| Image frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8.7 Hz                                               |
| Focus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Fixed                                                |
| Detector data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                      |
| Focal plane array/spectral range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Uncooled microbolometer/7.5–14 μm                    |
| Detector pitch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12 μm                                                |

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| Image presentation                                                               |                                                                                                                                                       |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display resolution                                                               | 320 × 240 pixels                                                                                                                                      |
| Surface brightness (cd/m <sup>2</sup> )                                          | 400                                                                                                                                                   |
| Screen size                                                                      | 2.4 in. portrait                                                                                                                                      |
| Viewing angle                                                                    | 80°                                                                                                                                                   |
| Color depth (bits)                                                               | 24                                                                                                                                                    |
| Aspect ratio                                                                     | 4:3                                                                                                                                                   |
| Display technology                                                               | TFT                                                                                                                                                   |
| Cover glass material                                                             | Optical grade silicon                                                                                                                                 |
| Image adjustment                                                                 | Automatic                                                                                                                                             |
| Image modes                                                                      | <ul style="list-style-type: none"> <li>• MSX (Multi Spectral Dynamic Imaging)</li> <li>• Visual with temperature reading</li> </ul>                   |
| Gallery                                                                          | Yes                                                                                                                                                   |
| Measurement                                                                      |                                                                                                                                                       |
| Object temperature range                                                         | –25 to 1030°C (–13 to 1886°F)                                                                                                                         |
| Object temperature range and accuracy<br>(ambient temp. 15 to 35°C (59 to 95°F)) | –25 to 0°C (–13 to 32°F), acc. ±3°C (±7°F)                                                                                                            |
|                                                                                  | 0 to 50°C (32 to 122°F), acc. ±2.5°C (±5°F)                                                                                                           |
|                                                                                  | 50 to 100°C (122 to 212°F), acc. ±1.5°C (±3°F)                                                                                                        |
|                                                                                  | 100 to 500°C (212 to 932°F), acc. ±2.5%                                                                                                               |
|                                                                                  | 500 to 1030°C (932 to 1886°F), acc. ±3%                                                                                                               |
| IR temperature resolution                                                        | 0.1°C (0.2°F)                                                                                                                                         |
| Repeatability of reading                                                         | ±1% of reading or ±1°C (2°F), whichever is greater                                                                                                    |
| Response time                                                                    | 150 ms                                                                                                                                                |
| IR thermometer measurement                                                       | Continuous scanning                                                                                                                                   |
| Minimum measurement distance                                                     | 0.26 m (0.85 ft.)                                                                                                                                     |
| Measurement analysis                                                             |                                                                                                                                                       |
| Spotmeter                                                                        | Center spot on/off                                                                                                                                    |
| Color palettes                                                                   | <ul style="list-style-type: none"> <li>• Iron</li> <li>• Rainbow</li> <li>• Whitehot</li> <li>• Blackhot</li> <li>• Arctic</li> <li>• Lava</li> </ul> |

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|                                      |                                                                                                                                                                                                                 |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Set-up</b>                        |                                                                                                                                                                                                                 |
| Set-up commands                      | <ul style="list-style-type: none"> <li>Local adaptation of units, language, date, and time formats</li> <li>Screen brightness (high, medium, low)</li> <li>Gallery, deletion of images</li> </ul>               |
| Emissivity correction                | Yes: 4 pre-set levels with custom adjustment of 0.1–0.99                                                                                                                                                        |
| Languages                            | Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, simplified Chinese, Spanish, Swedish, traditional Chinese, Turkish |
| <b>Service functions</b>             |                                                                                                                                                                                                                 |
| Camera software update               | Download from <a href="http://support.flir.com">http://support.flir.com</a>                                                                                                                                     |
| <b>Storage of images</b>             |                                                                                                                                                                                                                 |
| Storage media                        | eMMC 4GB                                                                                                                                                                                                        |
| Image storage capacity               | 50,000 images                                                                                                                                                                                                   |
| Image file format                    | JPEG with spot temp in meta tag                                                                                                                                                                                 |
| <b>Digital camera</b>                |                                                                                                                                                                                                                 |
| Resolution                           | 2 MP (1600 × 1200 pixels)                                                                                                                                                                                       |
| Focus                                | Fixed                                                                                                                                                                                                           |
| Field of view                        | 71° × 56°, adapts to the IR lens                                                                                                                                                                                |
| <b>Flashlight</b>                    |                                                                                                                                                                                                                 |
| Flashlight                           | Bright LED on/off                                                                                                                                                                                               |
| LED CCT                              | 6500 K                                                                                                                                                                                                          |
| LED CRI                              | 70                                                                                                                                                                                                              |
| Beam angle                           | ±20°                                                                                                                                                                                                            |
| Rated power                          | 0.5 W                                                                                                                                                                                                           |
| Light output (Lumens)                | 100                                                                                                                                                                                                             |
| <b>Laser pointer</b>                 |                                                                                                                                                                                                                 |
| Laser pointer                        | Indicating the size of the measurement area                                                                                                                                                                     |
| Laser                                | Class 1                                                                                                                                                                                                         |
| <b>Data communication interfaces</b> |                                                                                                                                                                                                                 |
| Interfaces                           | USB 2.0, Bluetooth                                                                                                                                                                                              |
| USB                                  | USB Type-C: data transfer/power                                                                                                                                                                                 |
| USB standard                         | USB 2.0 High Speed                                                                                                                                                                                              |
| Bluetooth                            | BLE                                                                                                                                                                                                             |
| <b>Power system</b>                  |                                                                                                                                                                                                                 |
| Battery type                         | Rechargeable Li ion battery                                                                                                                                                                                     |
| Battery voltage                      | 3.6 V                                                                                                                                                                                                           |
| Battery capacity                     | 3000 mAh                                                                                                                                                                                                        |

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| Power system                     |                                                                                                                                                                                                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Battery operating time           | <ul style="list-style-type: none"> <li>5 hours of scanning (LCM medium brightness)</li> <li>4.5 hours with laser on (LCM medium brightness)</li> </ul>                                                                                                                    |
| Battery charge life              | 30 days minimum                                                                                                                                                                                                                                                           |
| Charging system                  | Battery is charged inside the camera                                                                                                                                                                                                                                      |
| Charging time                    | 4 hours to 90%, 6 hours to 100%                                                                                                                                                                                                                                           |
| Charging temperature             | 0 to 45°C (32 to 113°F)                                                                                                                                                                                                                                                   |
| Power management                 | Adjustable: off, 5 minutes, 15 minutes, 30 minutes                                                                                                                                                                                                                        |
| Battery documents                | For documents like MSDS and UN38.3 test reports/summaries, see: <a href="https://support.flir.com/resources/msds">https://support.flir.com/resources/msds</a>                                                                                                             |
| Environmental data               |                                                                                                                                                                                                                                                                           |
| Operating temperature range      | -10 to 45°C (14 to 113°F)                                                                                                                                                                                                                                                 |
| Storage temperature range        | -30 to 55°C (-22 to 131°F)                                                                                                                                                                                                                                                |
| Humidity (operating and storage) | 0-90% relative humidity (RH) (0 to 37°C (32 to 98.6°F))<br>0-65% RH (37 to 45°C (98.6 to 113°F))<br>0-45% RH (45 to 55°C (113 to 131°F))                                                                                                                                  |
| EMC                              | <ul style="list-style-type: none"> <li>EN 61000-6-3</li> <li>EN 61000-6-2</li> <li>FCC 47 CFR Part 15 Class B</li> </ul>                                                                                                                                                  |
| Magnetic fields                  | EN 61000-4-8 class 3                                                                                                                                                                                                                                                      |
| Radio spectrum                   | <ul style="list-style-type: none"> <li>ETSI EN 300 328</li> <li>FCC Part 15.249</li> <li>RSS-247 Issue 2</li> <li>EN 301 489-1:2011</li> <li>EN 301 489-17:2009</li> </ul>                                                                                                |
| Encapsulation                    | IP 54 (IEC60529)                                                                                                                                                                                                                                                          |
| Shock                            | 25 g (IEC 60068-2-27)                                                                                                                                                                                                                                                     |
| Vibration                        | 2 g (IEC 60068-2-6)                                                                                                                                                                                                                                                       |
| Drop                             | Designed for 2 m (6.56 ft.)                                                                                                                                                                                                                                               |
| Safety                           | CE/CB/EN61010/UL                                                                                                                                                                                                                                                          |
| Environmental safety             | <ul style="list-style-type: none"> <li>REACH Regulation EC 1907/2006</li> <li>RoHS2 Directive 2011/65/EC</li> <li>WEEE Directive 2012/19/EC</li> <li>JIS C 6802:2011 laser directive (ongoing)</li> <li>IEC 60825-1 class I laser directive</li> <li>FDA laser</li> </ul> |
| Humidity requirement             | <ul style="list-style-type: none"> <li>IEC 60068-2-30 / 24h 95% Relative Humidity +25 - +70°C / 2 Cycles (Storage)</li> <li>IEC 60068-2-30 / 24h 95% Relative Humidity +25 - +40°C / 2 Cycles (Operating)</li> </ul>                                                      |
| Declaration of conformity        | See: <a href="https://support.flir.com/resources/DoC">https://support.flir.com/resources/DoC</a>                                                                                                                                                                          |



## FLIR TG297

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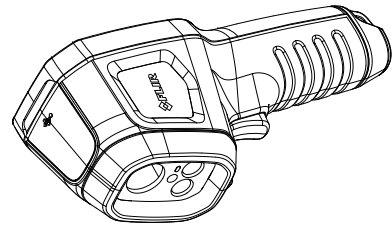
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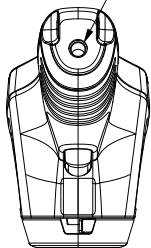
| Physical data              |                                                                                                                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight (including battery) | 0.394 kg (13.9 oz.)                                                                                                                                                                             |
| Size (L × W × H)           | 210 × 64 × 81 mm (8.3 × 2.5 × 3.2 in.)                                                                                                                                                          |
| Tripod mounting            | UNC ¼"-20                                                                                                                                                                                       |
| Warranty and service       |                                                                                                                                                                                                 |
| Warranty                   | <a href="http://www.flir.com/warranty/">http://www.flir.com/warranty/</a>                                                                                                                       |
| Shipping information       |                                                                                                                                                                                                 |
| Packaging, type            | Cardboard box                                                                                                                                                                                   |
| Packaging, contents        | <ul style="list-style-type: none"><li>• TG297</li><li>• FLIR Thermal Studio Starter</li><li>• Printed documentation</li><li>• Wrist strap lanyard</li><li>• USB cable</li><li>• Pouch</li></ul> |
| Packaging, weight          | 0.942 kg (2.08 lb.)                                                                                                                                                                             |
| Packaging, size            | 284 × 151 × 105 mm (11.2 × 5.95 × 4.12 in.)                                                                                                                                                     |
| EAN-13                     | 7332558023853                                                                                                                                                                                   |
| UPC-12                     | 845188019600                                                                                                                                                                                    |
| Country of origin          | Taiwan                                                                                                                                                                                          |

### Supplies & accessories:

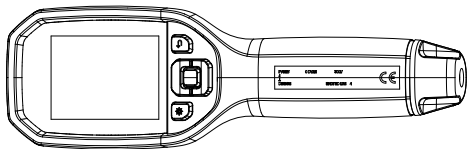
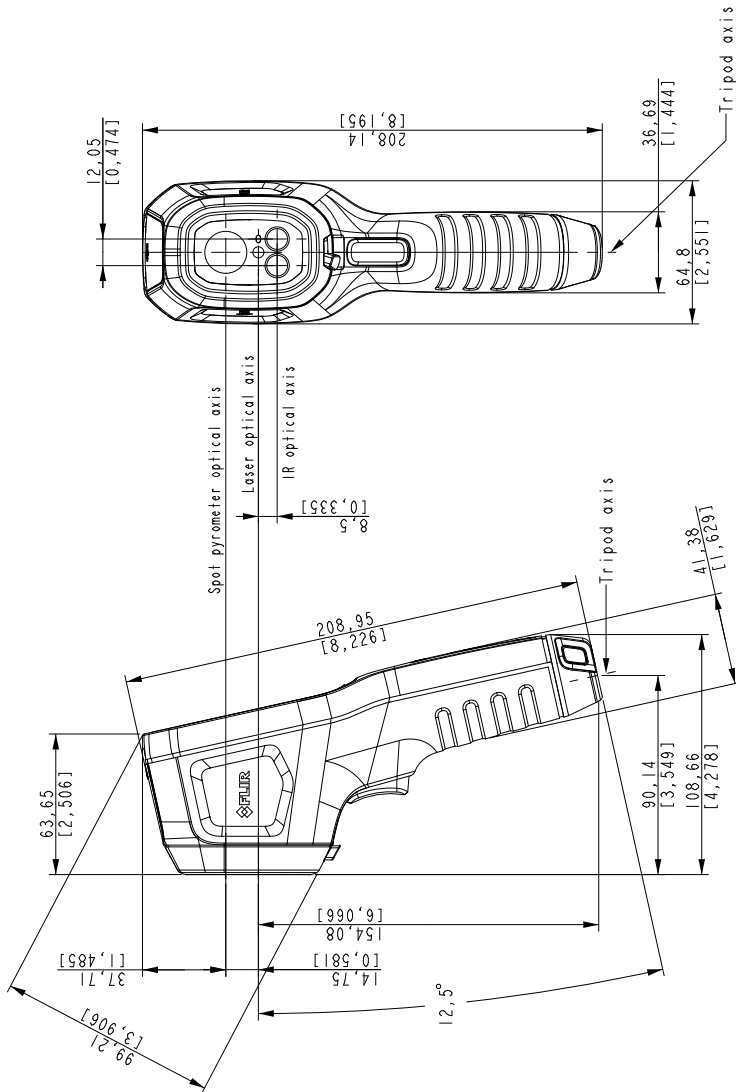
- T130976ACC; Retractable lanyard, 7 N (24 oz)



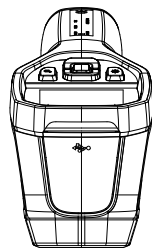
SCALE 0,500



Tripod mount: UNC 1/4-20



SCALE 0,500



|                                                 |                |                      |               |
|-------------------------------------------------|----------------|----------------------|---------------|
| Modified<br>2020-03-12                          | Check<br>Qlsda | Drawn by<br>Qlsda RI | Size<br>A3    |
| Determination                                   |                |                      |               |
| Basic Dimension TG165-X / TG267 / TG275 / TG297 |                |                      |               |
| Scale<br>1:2                                    |                |                      | Sheet<br>1(1) |
| Drawing No.                                     |                |                      | Size<br>A     |