From waybackmachine <http://www.flir.com/cvs/cores/view/?id=54717&collectionid=612&col=54726>

Narrow Field of View (NFOV) Models

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **25 mm f/1.1** | **35 mm f/1.2** | **50 mm f/1.2** | **60 mm f/1.25** | **100 mm f/1.6** |
| **Tau 640 (17μ 640×512)** | **FoV iFoV** | 25° x 20° 0.680 mr | 18° x 14° 0.486 mr | 12.4° x 9.9° 0.340 mr | 10.4° x 8.3° 0.283 mr | 6.2° x 5° 0.170 mr |
| **Tau 336 (17μ 336×256)** | **FoV iFoV** | 13° x 10° 0.680 mr | 9.3° x 7.1° 0.486 mr | 6.5° x 5° 0.340 mr | 5.5° x 4.2° 0.283 mr | 3.3° x 2.5° 0.170 mr |
| **Tau 324 (25μ 324×256)** | **FoV iFoV** | 18° x 14° 1.000 mr | 13° x 10° 0.714 mr | 9.1° x 6.9° 0.500 mr | 7.6° x 5.7° 0.417 mr | 4.6° x 3.7° 0.250 mr |
| **Min Focus Distance** | | 30cm | 60cm | 1.5m | 2.3m | 7m |
| **Hyperfocal Distance** | | 21m | 35m | 71m | 122m | 160m |
| **Hyperfocal Depth of Field** | | 11m | 18m | 36m | 61m | 80m |
| **Lens Mount** | | M34x0.5 inside thread. | | | | |
| **Length** | | 25mm | 35mm | 50mm | 60mm | 100mm |
| **Diameter** | | 42mm | 42mm | 58mm | 61mm | 82mm |
| **Weight** | | 112g | 150g | 280g | 200g | 479g |

Wide Field of View (WFOV) Models

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **7.5 mm f/1.4** | **9 mm f/1.25 for Tau 324 & 336 f/1.4 for Tau 640** | **13 mm f/1.25** | **19 mm f/1.25** |
| **Tau 640 (17μ 640×512)** | **FoV iFoV** | 90° x 69° 2.267 mr | 69° x 56° 1.889 mr | 45° x 37° 1.308 mr | 32° x 26° 0.895 mr |
| **Tau 336 (17μ 336×256)** | **FoV iFoV** | 45° x 35° 2.267 mr | 35° x 27° 1.889 mr | 25° x 19° 1308 mr | 17° x 13° 0.895 mr |
| **Tau 324 (25μ 324×256)** | **FoV iFoV** | 63° x 50° 3.333 mr | 48° x 37° 2.778 mr | 34° x 26° 1.923 mr | 24° x 18° 1.316 mr |
| **Min Focus Distance** | | 2.5cm | 3.2cm | 7.6cm | 15.3cm |
| **Hyperfocal Distance** | | 1.2m | 2.1m | 4.4m | 9.5m |
| **Hyperfocal Depth of Field** | | 0.6m | 1.1m | 2.2m | 4.8m |
| **Lens Mount** | | M24x0.5 inside thread; M29x1.0 outside thread | | | |
| **Length** | | 8mm | 9mm | 13mm | 19mm |
| **Diameter** | | 29mm | 29mm | 29mm | 29mm |
| **Weight** | | 72g | 72g | <70g | <70g |

## Specifications

|  |  |  |  |
| --- | --- | --- | --- |
| Overview | Tau 640 | Tau 336 | Tau 324 |
| **Thermal Imager** | Uncooled VOx Microbolometer | | |
| **FPA / Digital Video Display Formats** | 640 × 512 | 336 × 256 | 324 × 256 |
| **Analog Video Display Formats** | 640 × 480 (NTSC); 640 × 512 (PAL)[1](https://web.archive.org/web/20140328205256/http:/www.flir.com/cvs/cores/view/?id=54717&collectionid=612&col=54726#tnote1) | | |
| **Pixel Pitch** | 17 μm | | 25 μm |
| **Spectral Band** | 7.5 - 13.5 μm | | |
| **Full Frame Rates** | 30 Hz (NTSC) 25 Hz (PAL) | 30/60 Hz (NTSC) 25/50 Hz (PAL) | |
| **Exportable Frame Rates** | 7.5 Hz NTSC; 8.3 Hz PAL | | |
| **Sensitivity (NEdT)** | <50 mK at f/1.0 | | |
| **Scene Range (High Gain)** | -25°C to +135°C | -25°C to +100°C | -25°C to +135°C |
| **Scene Range (Low Gain)** | -40°C to +550°C | | |
| **Time to Image** | <5.0 sec | <4.0 sec | |
| **Factory Optimized Video** | Yes | | |
| Physical Attributes | Tau 640 | Tau 336 | Tau 324 |
| **Size (w/o lens)** | 1.75" x 1.75" x 1.18" | | |
| **Lensed & Lensless Configurations Available** | Yes | | |
| **Precision Mounting Holes (M2x0.4) on 3 sides (2 per side)** | Yes | | |
| **Sealable Bulkhead Mounting Feature on Lens Barrel (M29×1.0), WFOV Only** | Yes | | |
| Radiometric Features | Tau 640 | Tau 336 | Tau 324 |
| **Isotherms** | See Product Spec [page 34 Section 3.3.3.1](https://web.archive.org/web/20140328205256/http:/cvs.flir.com/tau2-product-spec) | | |
| **Spot Meter** | Temperatures measured in central 4×4 | | |
| **Advanced Radiometryhttps://web.archive.org/web/20140328205256im_/http:/projects.flircs.com/thermo/assets/img/question-icon.png** | Improved accuracy, moveable spot meter, image metric data, T-Linear (digital output) (OEM part number required, additional charge) | | |
| Image Processing & Display Controls | Tau 640 | Tau 336 | Tau 324 |
| **NTSC/PAL (field switchable)** | Yes | | |
| **Image Optimization** | Yes | | |
| **Digital Detail Enhancement** | Yes | | |
| **Invert/Revert (analog and 8-bit digital)** | Yes | | |
| **Polarity Control (black hot/white hot)** | Yes | | |
| **Color & Monochrome Palettes (LUTs)** | Yes | | |
| **Digital Zoom** | 2x, 4x, 8x | 2x, 4x | |
| **Continuous Zoom** | Yes | | |
| **Symbology (256 gray & 256 color)** | Yes, single-pixel resolution for all models | | |
| Digital Video | Tau 640 | Tau 336 | Tau 324 |
| **LVDS (14-bit or 8-bit)** | Yes | | |
| **CMOS (14-bit or 8-bit)** | Yes | | |
| **BT.656 (8-bit)** | Yes | | |
| **Camera Link (Expansion Bus Accessory Module)** | Yes | | |
| **Slow Video Option (factory configured)** | Yes | | |
| Interfacing | Tau 640 | Tau 336 | Tau 324 |
| **Primary Electrical Connector** | 50-pin Hirose | | |
| **Input Power (max 2.5 amp during shutter)** | 4.0 - 6.0 VDC | | |
| **Power Dissipation, steady state** | <1.2 W | ~1.0 W | |
| **Flat-Field Correction (FFC) Duration** | <0.5 sec | | |
| **Power Reduction Switch (disables analog video)** | Yes | | |
| **RS-232 Compatible Communication** | 57,600 & 921,600 baud | | |
| **External Sync Input/Output** | Yes | | |
| **Discrete I/O Controls Available** | Yes (10-camera minimum) | | |
| **Settable Splash Screens** | Yes (10-camera minimum) | | |
| **User Configurability via SDK & GUI** | Yes | | |
| **Dynamic Range Switching** | No | Yes | |
| Environmental | Tau 640 | Tau 336 | Tau 324 |
| **Operating Temperature Range** | -40°C to +80°C | | |
| **Non-Operating Temperature Range** | -55°C to +95°C | | |
| **Temperature Shock** | 5°/min | | |
| **Operational Altitude** | +40,000 feet | | |
| **Humidity** | 5% - 95% non-condensing | | |
| **Vibration** | 4.3g three axis, 8 hr each | | |
| **Shock** | 200g shock pulse w/ 11 msec sawtooth | | |
| **ROHS** | Compliant | | |

1. Tau 336 & 324 analog video is upsampled & interpolated to 640 × 480 for NTSC, and to 640 × 512 for PAL[back](https://web.archive.org/web/20140328205256/http:/www.flir.com/cvs/cores/view/?id=54717&collectionid=612&col=54726#tfn1)