

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)		
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 (NEΔT)	<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		

Spot Meter	Temperatures measured in central 4×4		
Advanced Radiometry	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		

Wide field of view 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
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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	M34x0.5 inside thread; M29x0.5 outside thread				
Length		8mm	9mm	13mm	19mm
Diameter		29mm	29mm	29mm	29mm
Weight		72g	72g	<70g	<70g

Narrow field of view 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