Ceres T 640 Series

Xenics
Infrared Solutions

LWIR thermographic camera

- Compact and uncooled LWIR thermographic camera
- Microbolometer detector with 640x480 resolution and 12 µm pixel pitch

Compact, high-performance thermographic camera

The Ceres T 640 series is based upon the Dione 640 OEM thermal imaging core with 640x480 pixels and 12 µm pixel pitch. The camera offers superior on-board thermographic performance (accuracy, stability) in the temperature range up to 400°C.

The Ceres T 640 camera outputs full frame images at 60 Hz via either a CameraLink or GigE Vision interface.

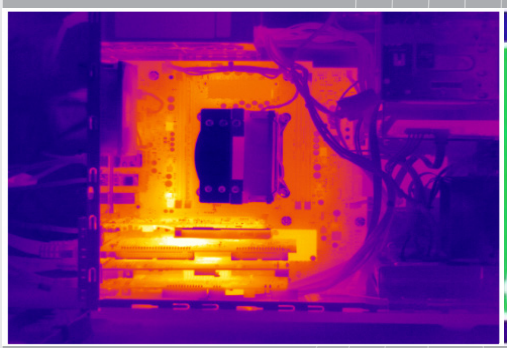
The compact size, excellent thermographic stability and accuracy, and GenICam compliant interfacing allow for easy integration in demanding industrial thermography applications. The camera comes with four different HFOV (Horizontal Field-Of-View) options: 8, 12, 24 or 50 degrees.

Designed for use in

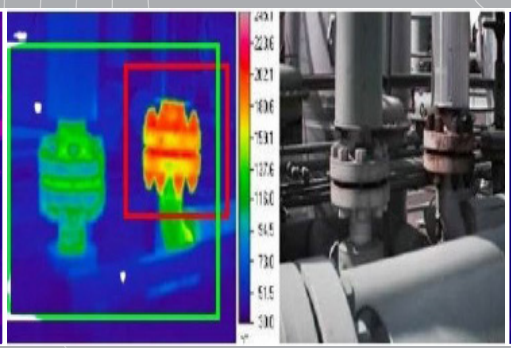
- Process Monitoring
- Medical
- Scientific & Advanced Research

Advantages

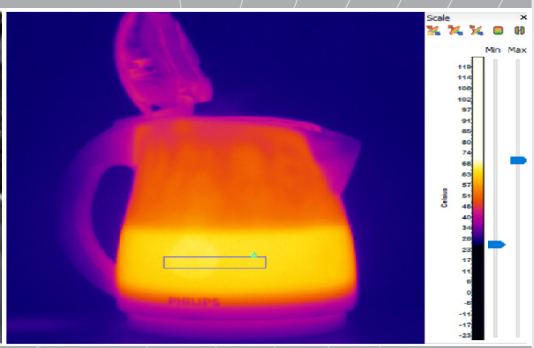
- Compact size
- Superior on-board thermographic performance (stability, accuracy)
- Temperature measurements up to 400°C
- Frame rate up to 60 Hz
- Low latency synchronization



PCB Inspection



Thermal imaging



Thermography

▶ Camera Specifications

Camera Specifications	Ceres T 640 CL	Ceres T 640 GigE
Mechanical specifications		
Approximate dimensions - excluding lens [width x height x length] [mm]	45 x 45 x 67	45 x 45 x 75
Approximate lens dimensions [diameter x length] [mm]	65 x 57 [Ceres T 640 8]; 45 x 33 [Ceres T 640 12]; 28 x 23 [Ceres T 640 24]; 32 x 30 [Ceres T 640 50]	
Weight [gr] - including lens	371 [Ceres T 640 8 CL]; 299 [Ceres T 640 12 CL]; 224 [Ceres T 640 24 CL]; 242 [Ceres T 640 50 CL]	378 [Ceres T 640 8 GigE]; 306 [Ceres T 640 12 GigE]; 231 [Ceres T 640 24 GigE]; 249 [Ceres T 640 50 GigE]
HFOV [°]	8 [Ceres T 640 8]; 12 [Ceres T 640 12]; 25 [Ceres T 640 24]; 50 [Ceres T 640 50]	
Minimum working distance [mm]	2000 [Ceres T 640 8]; 1000 [Ceres T 640 12]; 1500 [Ceres T 640 24]; 500 [Ceres T 640 50]	
Optical interface	M24 x 0.5 [Ceres T 640 24, Ceres T 640 50]; M34 x 0.5 [Ceres T 640 8, Ceres T 640 12]	
Connector GigE	-	RJ45
Connector CameraLink	SDR -26	-
Connector power	Unified connector [Lemo 1B]	
Connector trigger	Unified connector [Lemo 1B]	
Connector I/O	Unified connector [Lemo 1B]	
Environmental & power specifications		
Ambient operating temperature range [°C]	From -40 to +70	
Storage temperature [°C]	From -40 to +85	
Power consumption [W]	3.5	4
Power supply voltage	DC 12 V	
Shock	40 g, 11 ms, MIL-STD810G	
Vibration	5 g [20 to 2000 Hz], MIL-STD810G	
IP rating	IP40	
Regulatory compliance	RoHS	
Electro-optical specifications		
Image format [pixels]	640 x 480	
Pixel pitch [µm]	12	
Detector type	Microbolometer	
Integration type	Rolling shutter	
Active area and diagonal [mm]	7.68 x 5.76 [diagonal 9.6]	
Detector NETD [Noise Equivalent Temperature Difference] [mK]	<60 [at 30 Hz, 300 K, F/1]	
	8 - 14	
Pixel operability	>99.5% [excluding 3 peripheral rows and columns]	
Max frame rate [Hz] [full frame]	60	
Integration time range [µs]	20 - 65 [recommended]	
Min region size [pixels]	80 x 80	
Analog-to-Digital [ADC] [bits]	16	
Command and control	CL	GigE
Digital output format	CL	GigE
Trigger	Unified connector [Lemo 1B]	
Thermography		
Calibration pack 1 [°C]	From -20 to +120	
Calibration pack 2 [°C]	From +50 to +400	
Temperature measurement accuracy	Either +/- 2 °C or +/- 2%, whichever is greatest	
Operating temperature range [housing temperature] [°C]	+10 to +35	
Product selector guide		
Part number	XEN-000728 [Ceres T 640 8 CL] XEN-000727 [Ceres T 640 12 CL] XEN-000726 [Ceres T 640 24 CL] XEN-000682 [Ceres T 640 50 CL]	XEN-000725 [Ceres T 640 8 GigE] XEN-000724 [Ceres T 640 12 GigE] XEN-000723 [Ceres T 640 24 GigE] XEN-000681 [Ceres T 640 50 GigE]

XDS.027.02 | Information furnished by Xenics is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are typical values and subject to change without notice. This information supersedes all previously supplied information.