

CERES V 640 SERIES

- Uncooled microbolometer camera for high-resolution thermal imaging
- 640x480 pixels
- 12 µm pitch
- GigE or CameraLink
- NETD < 60 mK



COMPACT, INDUSTRIAL THERMAL CAMERA

The Ceres V 640 series is based upon the Dione 640 OEM thermal imaging core with 640x480 pixels and 12 μ m pixel pitch. The camera offers superior thermal imaging capabilities thanks to the state-of-the-art microbolometer detector and on-board image processing.

The Ceres V 640 camera outputs full frame images at 60 Hz via either a CameraLink or GigE Vision interface - all GenICam compliant.

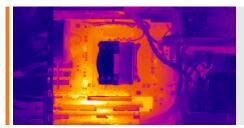
The compact size, excellent image quality and GenICam compliant interfacing allow for easy integration in demanding industrial, scientific and security thermal imaging applications. The camera comes either in a no-lens configuration (camera only with M24x0.5 and M34x0.5 optical mount), or optionally with four different HFOV (Horizontal Field-Of-View) options: 8, 12, 24 or 50 degrees.

DESIGNED FOR USE IN

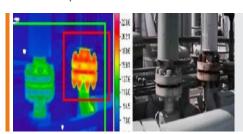
- Industrial Machine Vision
- Medical
- Scientific & Advanced Research
- Safety & Security

ADVANTAGES

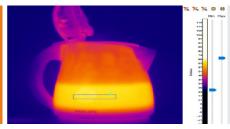
- Compact and high-resolution
- Superior on-board image processing performance (optimized image quality)
- GenICam complaint
- Uncooled operation
- Flexible optical mount and lens options



PCB Inspection



Thermal imaging



Thermography

SPECIFICATIONS

As A 5 x 45 x 75			
A5 x 45 x 75	Camera Specifications	Ceres V 640 GigE	Ceres V 640 CL
43.43.67 43.43.67 43.43.67 43.43.67	Mechanical specifications		
207 200	Camera dimensions (width x height x length) [mm] (approx.)	45 x 45 x 75	45 x 45 x 67
Connector Giglé Connector GarderaLink NA SDR-26 Connector power Unified Connector (Lemo 1B) Connector trigger Unified Connector (Lemo 1B) Connector I/O Unified Connector (Lemo 1B) Connector I/O Unified Connector (Lemo 1B) Connector I/O Connector I/O Unified Connector (Lemo 1B) Connector I/O Conn	Optical interface	M24x0.5 & M34x0.5	M24x0.5 & M34x0.5
Connector CameraLink Connector power Unified Connector (Lemo 1B) Connector trigger Unified Connector (Lemo 1B) Connector I/O Connector I/O Unified Connector (Lemo 1B) Connector I/O Con	Camera weight [gr]	207	200
Connector power Connector I/O Conn	Connector GigE	RJ45	NA
Connector trigger Unified connector (Lemo 18) Connector I/O Unified Connector (Lemo 18) Connector I/O Unified Connector (Lemo 18) Connector I/O Unified Connector (Lemo 18) Connector I/O Environmental & power specifications Operating temperature range (housing temperature) [°C] From -40 to +70 Storage temperature [°C] From -40 to +85 Power consumption [W] 4 3.5 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] 640x480 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 NETO [Noise Equivalent Temperature Difference] (mix) Spectral range [µm] 8-14 Pixel operability 999.5% (excluding 3 peripheral rows and columns) Max framer tate [Hz] [full frame] 16 Integration time range [µs] 20-65 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Unified Connector (Lemo 18) Product selector guide	Connector CameraLink	NA	SDR-26
Connector I/O Unified Connector (Lemo 1B) Environmental & power specifications Operating temperature range (housing temperature) [°C] From -40 to +70 Storage temperature [°C] From -40 to +85 Power consumption [W] 4 S.5 Power supply voltage DC 12 V Shock 40 g, 11 ms, MIL-STD810G Vibration 5 g (20 to 2000 Hz), MIL-STD810G Prating IP40 Regulatory compliance Regulatory compliance Electro-optical specifications Image format [pixels] 640x480 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] Spectral range [µm] 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 Analog-to-Digital (ADC) [bits] 16 Command and control GigE CL Digital output format GigE CL Unified Connector (Lemo 1B)	Connector power	Unified Connector (Lemo 1B)	
Environmental & power specifications Operating temperature range (housing temperature) (°C) Storage temperature (°C) Prom -40 to +85 Power consumption (W) 4 3.5 Power supply voltage DC 12 V Shock 40 g, 11 ms, MIL-STD810G Vibration 5 g (20 to 2000 Hz), MIL-STD810G Prating Prating Prating Regulatory compliance RoH5 Electro-optical specifications Image format (pixels) Prixel pixels (Microbolometer Integration type Active area and diagonal (mm) Detector NETO (Noise Equivalent Temperature Difference) (mK) Spectral range (pm) As -14 Prixel operability As a -20 -65 Analog-to-Digital (ADC) (bits) Command and control GigE Unified Connector (Lemo 1B) Product selector guide	Connector trigger	Unified connector (Lemo 1B)	
Operating temperature range (housing temperature) [°C] Storage temperature [°C] Prom -40 to +70 Storage temperature [°C] Prom -40 to +85 Power consumption [W] 4 3.5 Power supply voltage DC 12 V Shock 40 g, 11 ms, MIL-STD810G Vibration 5 g (20 to 2000 Hz), MIL-STD810G Prating IP40 Regulatory compliance RoHS Electro-optical specifications Image format [pixels] Pixel pitch [µm] 12 Detector type Microbolometer Integration type Active area and diagonal [mm] Potector NFTO [Noise Equivalent Temperature Difference] [mK] Spectral range [µm] Pixel operability Pixel operability Applications and columns) Max frame rate [Hz] [full frame] Integration time range [µs] Analog-to-Digital [ADC] [bits] Command and control GigE CL Digital output format Unified Connector (Lemo 1B) Product selector guide	Connector I/O	Unified Connector (Lemo 1B)	
Storage temperature [°C] From -40 to +85 Power consumption [W] 4 3.5 Power supply voltage DC 12 V Shock 40 g, 11 ms, MIL-STD8106 Vibration 5 g (20 to 2000 Hz), MIL-STD8106 IP rating IP40 Regulatory compliance Regulatory compliance Electro-optical specifications Image format [pixels] 640x480 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] (60 (at 30Hz, 300K, F/1) Spectral range [µm] 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 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format (Lemo 1B) Product selector guide	Environmental & power specifications		
Power consumption [W] 4 3.5 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] 640x480 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) Spectral range [µm] 8-14 Pixel operability 999.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] 20 - 65 Analog-to-Digital (ADC) [bits] 16 Command and control GigE CL Digital output format (Lemo 1B) Product selector guide	Operating temperature range (housing temperature) [°C]	From -40 to +70	
Power supply voltage DC 12 V Shock 40 g, 11 ms, MIL-STDB10G Vibration 5 g (20 to 2000 Hz), MIL-STDB10G IP rating IP40 Regulatory compliance RoHS Electro-optical specifications Image format [pixels] 640x480 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] Spectral range [µm] 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 Analog-to-Digital (ADC) [bits] 16 Command and control GigE CL Digital output format CL Digital output format Unified Connector (Lemo 1B) Product selector guide	Storage temperature [°C]	From -40 to +85	
Shock 40 g, 11 ms, MIL-STDB10G Vibration 5 g (20 to 2000 Hz), MIL-STDB10G IP rating IP40 Regulatory compliance RoHS Electro-optical specifications Image format [pixels] 640x480 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) Spectral range [µm] 8-14 Pixel operability 999.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] 20 · 65 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Power consumption [W]	4	3.5
Vibration 5 g (20 to 2000 Hz), MIL-STD810G IP rating IP40 Regulatory compliance RoHS Electro-optical specifications Image format [pixels] 640x480 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) 8-14 Pixel operability 999.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] 20 - 65 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format CL Trigger Unified Connector (Lemo 1B)	Power supply voltage	DC 12 V	
IP rating IP40 Regulatory compliance RoHS Electro-optical specifications Image format [pixels] 640x480 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] (60 (at 30Hz, 300K, F/1) Spectral range [µm] 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 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B)	Shock	40 g, 11 ms, MIL-STD810G	
Regulatory compliance Electro-optical specifications Image format [pixels] 640x480 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] (at 30Hz, 300K, F/1) Spectral range [µm] 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 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B)	Vibration	5 g (20 to 2000 Hz), MIL-STD810G	
Electro-optical specifications Image format [pixels] 640x480 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] 8-14 Pixel operability 8-99.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] 20 · 65 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B)	IP rating	IP40	
Image format [pixels] Detector type Microbolometer Integration type Rolling shutter Active area and diagonal [mm] Detector NETD [Noise Equivalent Temperature Difference] (mK] Spectral range [µm] Pixel operability Nax frame rate [Hz] [full frame] Integration time range [µs] Analog-to-Digital [ADC] [bits] Command and control GigE Unified Connector (Lemo 1B) Product selector guide	Regulatory compliance	RoHS	
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) Spectral range [µm] 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 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B)	Electro-optical specifications		
Detector type Integration type Rolling shutter Active area and diagonal [mm] 7.68 x 5.76 (diagonal 9.6) Detector NETD [Noise Equivalent Temperature Difference] [mK] Spectral range [µm] 8-14 Pixel operability >99.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] Analog-to-Digital [ADC] [bits] Command and control GigE CL Digital output format GigE Unified Connector (Lemo 1B) Product selector guide	Image format [pixels]	640x480	
Integration type Active area and diagonal [mm] 7.68 x 5.76 (diagonal 9.6) Detector NETD [Noise Equivalent Temperature Difference] [mK] Spectral range [µm] 8-14 Pixel operability >99.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] Analog-to-Digital [ADC] [bits] Command and control GigE CL Digital output format GigE Unified Connector (Lemo 1B) Product selector guide	Pixel pitch [µm]	12	
Active area and diagonal [mm] Detector NETD [Noise Equivalent Temperature Difference] [mK] Spectral range [µm] Pixel operability Max frame rate [Hz] [full frame] Integration time range [µs] Analog-to-Digital [ADC] [bits] Command and control Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Detector type	Microbolometer	
Detector NETD [Noise Equivalent Temperature Difference] [mK] Spectral range [µm] 8-14 Pixel operability Max frame rate [Hz] [full frame] Integration time range [µs] Analog-to-Digital [ADC] [bits] Command and control Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Integration type	Rolling shutter	
[mK] Spectral range [µm] Pixel operability Max frame rate [Hz] [full frame] Integration time range [µs] Analog-to-Digital [ADC] [bits] Command and control Digital output format GigE Unified Connector (Lemo 1B) Product selector guide	Active area and diagonal [mm]	7.68 x 5.76 (diagonal 9.6)	
Pixel operability >99.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] 20 - 65 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Detector NETD [Noise Equivalent Temperature Difference] [mK]	<60 (at 30Hz, 300K, F/1)	
Max frame rate [Hz] [full frame] 60 Integration time range [µs] 20 - 65 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Spectral range [µm]	8-14	
Integration time range [µs] 20 - 65 Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Pixel operability	>99.5% (excluding 3 peripheral rows and columns)	
Analog-to-Digital [ADC] [bits] 16 Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Max frame rate [Hz] [full frame]	60	
Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Integration time range [µs]	20 - 65	
Command and control GigE CL Digital output format GigE CL Trigger Unified Connector (Lemo 1B) Product selector guide	Analog-to-Digital [ADC] [bits]	16	
Trigger Unified Connector (Lemo 1B) Product selector guide	Command and control	GigE	CL
Trigger Unified Connector (Lemo 1B) Product selector guide	Digital output format	GigE	CL
Product selector guide	Trigger		
Part number XEN-000786 XEN-000785	Product selector guide		
	Part number	XEN-000786	XEN-000785

