

## **CERES V 1280 SERIES**

- Uncooled microbolometer camera for high-resolution thermal imaging
- 1280x1024 pixels
- 12 µm pitch
- GigE or CameraLink
- NETD <60 mK



## **COMPACT, HIGH-RESOLUTION THERMAL CAMERA**

The Ceres V 1280 series is based upon the Dione 1280 OEM thermal imaging core with 1280x1024 pixels and 12  $\mu$ m pixel pitch. The camera offers superior thermal imaging capabilities thanks to the state-of-the-art microbolometer detector and onboard image processing.

The Ceres V 1280 camera outputs full frame images at 60 Hz via either a CameraLink or GigE Vision interface - all GenICam compliant.

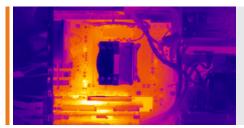
The compact size, excellent image quality and GenICam compliant interfacing allow for easy integration in demanding industrial, scientific and security thermal imaging applications. The camera comes either in a no-lens configuration (camera only with M34x0.5 and M45x0.75 optical mount), or optionally with five different HFOV (Horizontal Field-Of-View) options: 12, 16, 25, 48 or 71 degrees.

## **DESIGNED FOR USE IN**

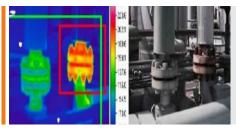
- Industrial Machine Vision
- Medical
- Scientific & Advanced Research
- Safety & Security

## **ADVANTAGES**

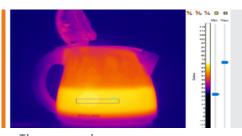
- Compact and high-resolution
- Superior on-board image processing performance (optimized image quality)
- GenICam complaint
- Uncooled operation
- Flexible optical mount and lens options



**PCB** Inspection



Thermal imaging



Thermography

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Camera dimensions (width x height x length) [mm]   65 x 68 x 84   65 x 68 x 81   (approx.)	Camera Specifications	Ceres V 1280 GigE	Ceres V 1280 CL	
Camera dimensions (width x height x length) [mm]				
Optical interface         M34x0,5 & M45x0,75         M34x0,5 & M45x0,75           Camera weight [gr]         583         534           Connector GigE         RV45         NA           Connector power         Unified Connector (Lemo 1B)           Connector I/O         Unified Connector (Lemo 1B)           Connector I/O         Unified Connector (Lemo 1B)           Environmental & power specifications         From -40 to +70           Storage 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-ST0810G           Vibration         5 g (20 to 2000 Hz), MIL-ST0810G           IP rating         IP40           Regulatory compliance         Rel-Electro-optical specifications           Image format [pixels]         1280x1024           Pixel pitch [µm]         1           Detector type         Microbolometer           Integration type         Rolling shutter           Active area and diagonal [µm]         15.36 x 12.29 (diagonal 19.67)           Detector NETD Noise Equivalent Temperature Difference  [µm]         8-14           Pi	Camera dimensions (width x height x length) [mm]	65 x 68 x 84	65 x 68 x 81	
Seas		M34x0.5 & M45x0.75	M34x0.5 & M45x0.75	
Connector GigE  R)45  NA  SDR-26  Connector (ameraLink  NA  SDR-26  Connector power  Unified Connector (Lemo 1B)  Connector (i/g)  Unified Connector (Lemo 1B)  Connector (i/g)  Environmental & power specifications  Operating temperature (i'C)  Perow-40 to +70  Storage temperature (i'C)  Power supply voltage  DC 12 V  Shock  40 g, 11 ms, MIL-STDB10G  Vibration  5 g (20 to 2000 Hz), MIL-STDB10G  IP rating  Regulatory compliance  Electro-optical specifications  Unage format (pixels)  1280x1024  Pixel print (jmn)  12  Detector type  Integration type  Active area and diagonal [mm]  Detector NETD (Noise Equivalent Temperature Difference) [mk]  Pixel operability  As 14  Pixel operability  NA  SDR-26  Commend on NA  SDR-26  Cut  Unified Connector (Lemo 1B)  Product selector guide		583	534	
Connector power  Connector I/O  Connector I/O  Unified Connector (Lemo 18)  Connector I/O  Unified Connector (Lemo 18)  Connector I/O  Unified Connector (Lemo 18)  Connector I/O  Operating temperature range (housing temperature) (°C)  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  IP rating  IP rating  IP p40  Regulatory compliance  RoHS  Electro-optical specifications  Image format (pixels)  Pixel pitch (µm)  1 2  Detector type  Microbolometer  Integration type  Rolling shutter  Active area and diagonal (µm)  Detector NETO (Noise Equivalent Temperature Difference) (µK)  Spectral range (µm)  Rolling shutter  Active area and range (µs)  Analog-to-Digital (ADC) (bits)  Command and control  GigE  CL  Digital output format  GigE  CL  Unified connector (Lemo 18)  Product selector guide	Connector GigE	RJ45	NA	
Connector trigger Unified connector (Lemo 1B) 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 3.5 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] 1280x1024 Pixel pitch [µm] 12 Detector lype Microbolometer Integration type Rolling shutter Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67) Detector NETO [Noise Equivalent Temperature Difference] [mK] 99.5% (excluding 3 peripheral rows and columns) Max frame rate [Hz] [full frame] 60 Integration time range [µs] 16 Command and control GigE CL Digital output format GigE CL Digital output format Command and control GigE CL Digital output format Command and control Lemo IB) Product selector guide	Connector CameraLink	NA	SDR-26	
Connector	Connector power	Unified Connector (Lemo 1B)		
Operating temperature range (housing temperature) (°C)  Storage temperature (°C)  Prom -40 to +85  Power consumption (W)  4  Dt 12 V  Shock  40 g, 11 ms, MIL-STD810G  Vibration  S g (20 to 2000 Hz), MIL-STD810G  Prating  IP40  Regulatory compliance  RoHS  Electro-optical specifications  Image format (pixels)  Pixel pitch (µm)  Detector type  Microbolometer  Integration type  Active area and diagonal (mm)  Detector NFD (Noise Equivalent Temperature Difference) [mK]  Spectral range (µm)  Pixel operability  As frame rate (Hz) [full frame]  Command and control  GigE  CL  Digital output format  GigE  CL  Unified connector (Lemo 1B)  Product selector guide	Connector trigger			
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] 1280x1024  Pixel pitch [µm] 12  Detector type Microbolometer  Integration type Rolling shutter  Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67)  Detector NTO [Noise Equivalent Temperature Difference] [mK] +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  Trigger Unified connector (Lemo 18)  Product selector guide	Connector I/O			
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] 1280x1024 Plexel pitch [µm] 12 Detector type Microbolometer Integration type Rolling shutter Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67) 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]  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]  Pixel pitch [µm]  12  Detector type  Microbolometer  Integration type  Rolling shutter  Active area and diagonal [mm]  Detector NETD [Noise Equivalent Temperature Difference]  [mK]  Spectral range [µm]  8-14  Pixel operability  Post operability  Nax frame rate [Hz] [full frame]  60  Integration time range [µs]  Analog-to-Digital (ADC) [bits]  Command and control  GigE  Unified connector (Lemo 1B)  Product selector guide	Operating temperature range (housing temperature) [°C]	) to +70		
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] 1280x1024  Pixel pitch [µm] 12  Detector type Microbolometer  Integration type Rolling shutter  Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67)  Detector NETO [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 6igE CL  Digital output format GigE CL  Trigger Unified connector (Lemo 1B)  Product selector guide	Storage temperature [°C]	From -40 to +85		
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] 1280x1024  Pixel pitch [µm] 12  Detector type Microbolometer  Integration type Rolling shutter  Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67)  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)	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] 1280x1024  Pixel pitch [µm] 12  Detector type Microbolometer  Integration type Rolling shutter  Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67)  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 GigE CL  Trigger Unified connector (Lemo 1B)	Power supply voltage	DC 12 V		
Prating   Regulatory compliance   RoHS	Shock	40 g, 11 ms, MIL-STD810G		
Regulatory compliance  Electro-optical specifications  Image format [pixels]  Inage format [pixels]  Pixel pitch [µm]  Detector type  Microbolometer  Integration type  Active area and diagonal [mm]  Detector NETD [Noise Equivalent Temperature Difference]  [mk]  Spectral range [µm]  Spectral range [µm]  As-14  Pixel operability  Pixel operability  Pixel operability  Spectral time range [µs]  Analog-to-Digital [ADC] [bits]  Command and control  GigE  CL  Digital output format  CL  Trigger  Unified connector (Lemo 1B)  Product selector guide	Vibration			
Electro-optical specifications  Image format [pixels] 1280x1024  Pixel pitch [µm] 12  Detector type Microbolometer  Integration type Rolling shutter  Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67)  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 Unified connector (Lemo 1B)  Product selector guide	IP rating	IP40		
Image format [pixels]  Pixel pitch [µm]  Detector type  Microbolometer  Integration type  Active area and diagonal [mm]  Detector NETD [Noise Equivalent Temperature Difference] [mK]  Spectral range [µm]  Pixel operability  As 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] 15.36 x 12.29 (diagonal 19.67)  Detector NETD [Noise Equivalent Temperature Difference] [mK]	Electro-optical specifications			
Detector type  Integration type  Active area and diagonal [mm]  Detector NETD [Noise Equivalent Temperature Difference] (mK)  Spectral range [µm]  Spectral range [µm]  Pixel operability  Spectral [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	Image format [pixels]	1280x1024		
Integration type Rolling shutter Active area and diagonal [mm] 15.36 x 12.29 (diagonal 19.67)  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 CL Trigger Unified connector (Lemo 1B)	Pixel pitch [µm]	12		
Active area and diagonal [mm]  Detector NETD [Noise Equivalent Temperature Difference] (60 (at 30Hz, 300K, F/1)  Spectral range [µm]  8-14  Pixel operability  Pixel operability  Max frame rate [Hz] [full frame]  Integration time range [µs]  Analog-to-Digital [ADC] [bits]  Command and control  GigE  CL  Trigger  Unified connector (Lemo 1B)  Product selector guide	Detector type	Microbolometer		
Detector NETD [Noise Equivalent Temperature Difference] (mK] (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)	Integration type	Rolling shutter		
[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	Active area and diagonal [mm]	15.36 x 12.29 (diagonal 19.67)		
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	<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]  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		
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	
Product selector guide	Digital output format	GigE	CL	
	Trigger	Unified connector (Lemo 1B)		
	Product selector guide			
	Part number	XEN-000746	XEN-000747	