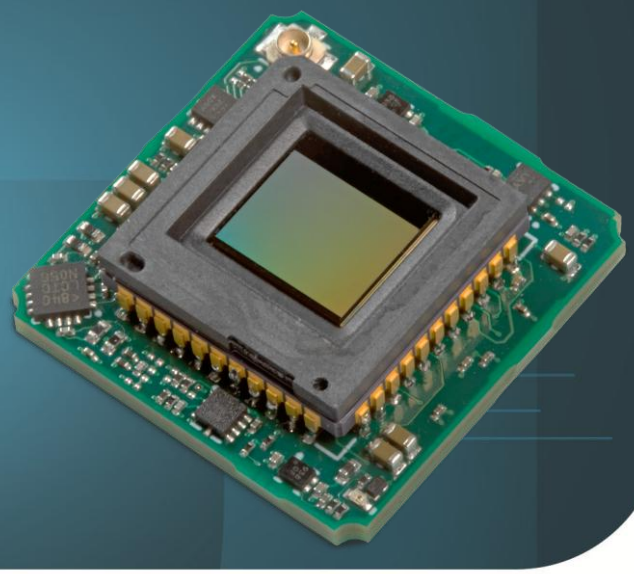
STATE-OF-THE-ART
THERMAL IMAGING CORE

EXOSENS
REVEAL THE INVISIBLE

Dione XP 640 OEM



STATE-OF-THE-ART THERMAL IMAGING CORE

KEY FEATURES

- **FAST TIME TO FIRST CORRECTED IMAGE**
- **ENHANCED DETECTION: CONTOUR MODE FOR CLEAR TARGET VISIBILITY**
- **EMBEDDED OPTIMIZED LOCAL CONTRAST ENHANCEMENT**
- **STABLE IMAGING: AUTO CALPACKS ADAPTS TO TEMPERATURE CHANGES**

The Dione XP (Extreme Performance) 640 OEM features a 640x480 uncooled microbolometer with 12 µm pixel pitch, powered by advanced algorithm for sharp contrast and dynamic range. With low latency, fast start-up, contour mode, and local AGC, it enhances detection and fusion. Compact, GenICam compliant, and SWaP-optimized, it integrates easily into security, surveillance, and search-and-rescue systems.

Camera Specifications	Dione XP 640 OEM 40 mK	Dione XP 640 OEM 35 mK
Mechanical specifications		
Dimensions (width x height x length) [mm]	25 x 25 x 10 (16bit DV); 25 x 25 x 16.5 (MIPI CSI-2); 25 x 25 x 16 (UVC); 25 x 25 x 18 (USB)	
Weight [gr]	6 (16bitDV); 9 (MIPI CSI-2); 10 (USB, UVC)	
Optical interface	-	
Connector general I/O	SAMTEC ST5-30-1.50-L-D-P-TR [16bit DV]; 22-pin FFC/FPC connector (Molex) [MIPI CSI-2]; 80-pin Hirose DF40C-80DP-0.4V (51) [UVC]; Type B USB 3.0 [USB]	
Environmental & power specifications		
Operating temperature range (housing temperature) [°C]	From -40 to +70 (16bit DV, UVC and USB); From -30 to +70 (MIPI CSI-2)	
Storage temperature [°C]	From -45 to +85(16bit DV, UVC); From -40 to +85 (USB); From -30 to +85 (MIPI CSI-2)	
Power consumption [W]	0.750 (60 Hz operation; 16bit DV); < 1.1 (MIPI CSI-2); < 1.32 (UVC); < 1.3 (USB)	
Power supply voltage	DC 5 V	
Shock	40 g, 11 ms, according to MIL-STD810G	
Vibration	5 g (20 to 2000 Hz), according to MIL-STD810G	
Regulatory compliance	RoHS	
Electro-optical specifications		
Image format [pixels]	640x480	
Pixel pitch [µm]	12	
Integration type	Rolling shutter	
Active area and diagonal [mm]	7.68 x 5.76 (diagonal 9.6)	
Detector NETD (Noise Equivalent Temperature Difference) [mK]	<40 (at 30 Hz, 300K, F/1)	<35 (at 30 Hz, 300 K, 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 recommended (1 - 100 is possible)	
Analog-to-Digital [ADC] [bits]	14	
Command and control	via SAMTEC ST5 connector [16bit DV]; I2C (or via SAMTEC ST5 connector on Dione XP 640) [MIPI CSI-2]; GenCP protocol over COM port [UVC]; GenCP over virtual COM port enumerated over the USB interface [USB]	
Digital output format	16bit DV, MIPI-CSI-2, UVC, USB	
Trigger	via SAMTEC ST5 connector (16bit DV); via development Header (UVC); via Molex connector (USB and MIPI CSI-2)	
Product selector guide		
Part number	XEN-001001 (Dione XP 640 OEM 40 mK)	XEN-001000 (Dione XP 640 OEM 35 mK)

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