



The HDR-IR.

HIGH-DYNAMIC-RANGE INFRARED CAMERAS.

The HDR-IR infrared cameras cover extended scene temperature ranges. These cameras maximize camera sensitivity for any static or dynamic scene. With their unique AEC+ (fast ND-Swap capability), these cameras find the best exposure time depending on the scene, and allow to resolve targets up to 2 500 °C automatically.

KEY BENEFITS

ULTRA HIGH DYNAMIC RANGE

Unique Telops proprietary non-linearity correction and exposure time independent calibration algorithms ensure observation of scene targets with the highest possible contrast and accuracy. Fast automated attenuation filters are also included to measure scenes with extreme temperature variations.

HIGH DATA RATE

High-performance electronics produce full-frame thermal images at rates up to 1 900 fps.

ADVANCED CALIBRATION

Real-time processing of infrared images including NUC, radiometric temperature, automated exposure control (AEC) and enhanced high-dynamic-range imaging (EHDMI).

EXAMPLES OF TYPICAL USES

Tank Muzzle Flash Analysis



Sparkle combustion analysis



MIDWAVE SERIES			
DETECTOR SPECIFICATIONS	HDR M350	HDR M100k	HDR M2K
DETECTOR TYPE	Cooled InSb	Cooled MCT	Cooled InSb
SPECTRAL RANGE	3 μm to 5.4 μm	3 μm to 4.9 μm	1.5 μm to 5.4 μm
SPATIAL RESOLUTION	640 \times 512 pixels	640 \times 512 pixels	320 \times 256 pixels
DETECTOR PITCH	15 μm	16 μm	30 μm
OPTICAL APERTURE	F/3	F/4	F/2.5
TYPICAL PERFORMANCES			
MAXIMUM FRAME RATE IN FULL WINDOW	355 Hz	115 Hz	1 900 Hz
MAXIMUM FRAME RATE IN SUBWINDOW (STATIC FILTER WHEEL MODE)	4 980 Hz @ 64 \times 4	120 000 Hz @ 64 \times 2	90 000 Hz @ 64 \times 4
TYPICAL NETD	20 mK	17 mK	25 mK
ELECTRONIC SPECIFICATIONS			
MINIMUM EXPOSURE TIME	0.5 μs to full frame rate	0.2 μs to full frame rate	1 μs to full frame rate
CAMERA CONSTRUCTION			
LENS MOUNT	Bayonet interface	Bayonet interface	Bayonet interface

Specifications are subject to change without notice. Other configurations are available upon request.

COMMON SPECS	
SENSOR COOLING	Rotary-stirling closed cycle
STANDARD SCENE TEMPERATURE RANGE	Up to 1 500 $^{\circ}\text{C}$
WINDOWING TO INCREASE FRAME RATE	Yes
DYNAMIC RANGE	16 bits
MEASUREMENT ACCURACY	1 K or 1% ($^{\circ}\text{C}$) from -15 $^{\circ}\text{C}$ to 150 $^{\circ}\text{C}$
SIZE W/O LENS	13.8" \times 8.5" \times 9.3" 352 mm \times 216 mm \times 236 mm
WEIGHT W/O LENS	< 13 kg



The automated 3-position filter mechanism.

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