

MULTISPECTRAL INFRARED CAMERA

MS-IR

TEL@PS

A MULTISPECTRAL INFRARED CAMERA

The MS-IR infrared cameras allow the scene to be split into eight different spectral bands rather than only one broadband image, thereby allowing target spectral signature analysis. The filter wheel is a fast rotating mechanism designed to maximize the cameras' frame rate and can be used in either fixed or rotating mode. Rotating speed is user adjustable up to 100 Hz, thus allowing a frame rate up to 800 fps.



KEY BENEFITS

Multispectral Capabilities: Performs 8-channel multispectral analysis using a high-speed filter wheel. Rotating speed is user adjustable up to 100 Hz, therefore it can support a frame rate up to 800 fps. In fast rotating mode, the image acquisition is synchronised so that one image per filter is acquired.

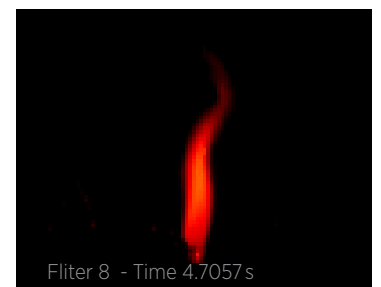
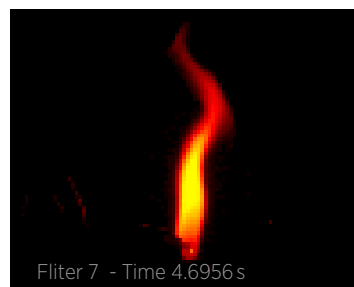
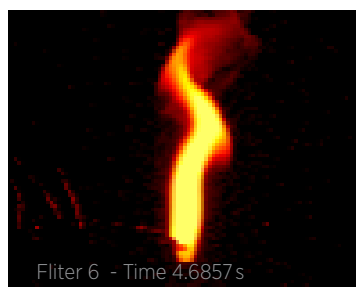
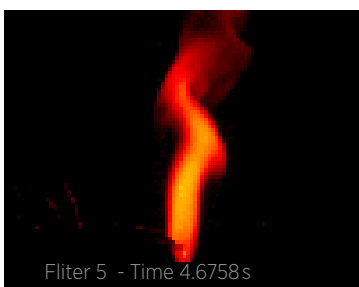
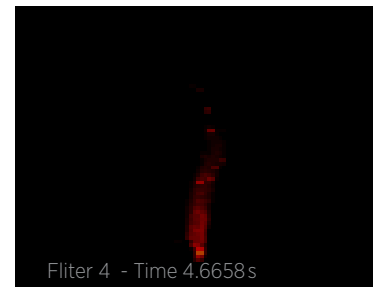
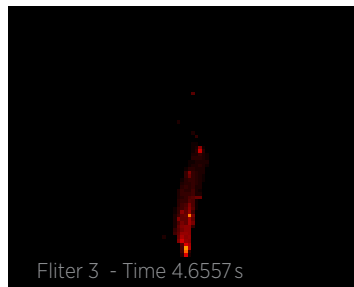
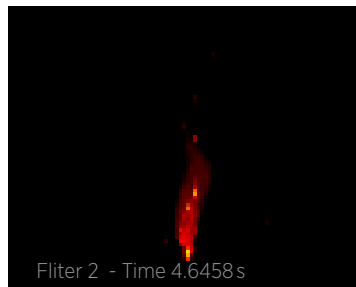
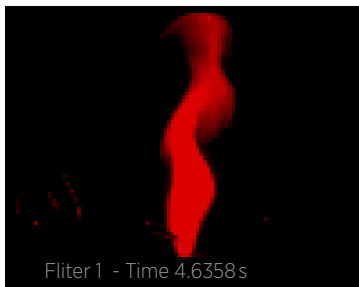
High Dynamic Range: Unique Telops proprietary non-linearity correction and exposure time independent calibration algorithms ensure observation of scene targets with the highest possible contrast and accuracy.

Optional: Fast automated attenuation filters are ideal to measure scenes with extreme temperature variations

Advanced Calibration: Unique proprietary real-time processing of infrared images including NUC, radiometric temperature, in-band radiance, automated exposure control (AEC) and enhanced high dynamic range imaging (EHDR). With these unique features, scientists benefit from ease of use and operation flexibility while getting accurate measurements over the entire camera's operation range.

Accurate Measurement: Radiometric temperature accuracy of $\pm 1^\circ\text{C}$ or $\pm 1\%$ over the entire range.

High Sensitivity: Temperature differences as small as 20 mK are detectable.



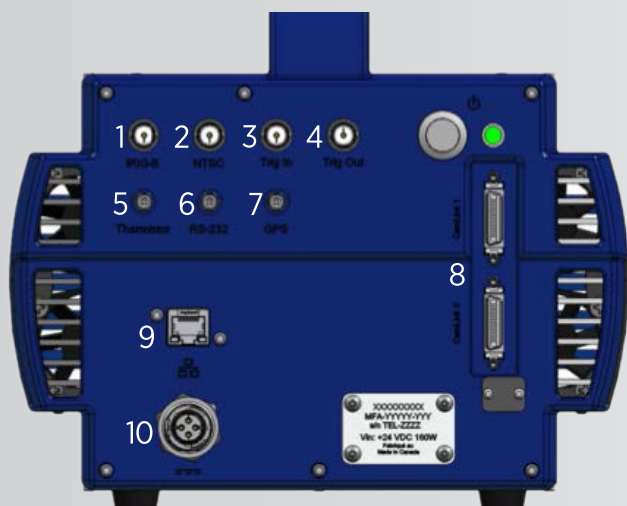
DETECTOR SPECIFICATIONS	MS-IR MW	MS-IR MW	MS-IR VLW
Detector type	InSb	MCT	MCT
Spectral range	3 μm to 5.4 μm	3 μm to 4.9 μm	7.7 μm to 11.8 μm
Spatial resolution	640 x 512 pixels	640 x 512 pixels	320 x 256 pixels
Detector pitch	15 μm	16 μm	30 μm
Aperture size	F/3	F/4	F/2
Well depth	5.8 Me-, 1.5 Me-	Selectable (260 fF, 200 fF, 120 fF, 70 fF)	36 Me-, 14.8 Me-
Sensor cooling	Rotary-stirling closed cycle	Rotary-stirling closed cycle	Rotary-stirling closed cycle

TYPICAL PERFORMANCES	MS-IR MW	MS-IR MW	MS-IR VLW
Frame rate	350 Hz 4200 Hz @64 x 8	115 Hz 117000 Hz @ 64 x 2	300 Hz 76000 Hz @64 x 2
Scene temperature range	Up to 1500°C	Up to 1500°C	Up to 1500°C
Measurement accuracy	1 K or 1 % (°C) from -15°C to 150°C	1 K or 1 % (°C) from -15°C to 150°C	1 K or 1 % (°C) from -15°C to 150°C
Typical NETD	20 mK	20 mK	25 mK

ELECTRONIC SPECIFICATIONS	MS-IR MW	MS-IR MW	MS-IR VLW
Exposure time	0.5 μs to full frame rate	0.2 μs to full frame rate	0.5 μs to full frame rate
Windowing to increase frame rate	Yes	Yes	Yes
Dynamic range	16 bits	16 bits	16 bits

CAMERA CONSTRUCTION	MS-IR MW	MS-IR MW	MS-IR VLW
Multi-Spectral (option)		8 \times / 1" optics Fixed or RAW fast rotating	
Lens mount	Bayonet interface	Bayonet interface	Threaded interface
Size w/o lens		< 13 kg	
Weight w/o lens		14" \times 9" \times 9" 355.6 mm \times 228.6 mm \times 228.6 mm	

Actual product may differ and specifications are subject to change without notice.



BACK PANEL INTERFACE (InSb)

1. IRIG-B
2. NTSC/PAL
3. Trig-in: Trigger the camera on TTL signal
4. Trig-out: Output TTL signal
5. Thermistor: LCC
6. RS-232
7. GPS Input: GPS time and location from external GPS receiver
8. CameraLink base/full
9. Ethernet: GigE Vision compatible
10. Power: 24 VDC 60 W steady state. Includes 120-230 VAC power supply.

