

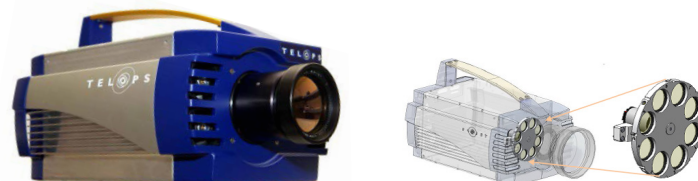
# MULTISPECTRAL INFRARED CAMERA

MS-IR HD



## A MULTISPECTRAL INFRARED CAMERA

The MS-IR high definition infrared cameras allow to split the scene signal into eight different spectral bands rather than only one broadband image hereby allowing 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.



## 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 Definition Thermal Imagery:** Equipped with a 1.3 Megapixel, InSb or MCT detector, it produces the sharpest midwave thermal images available on the market.

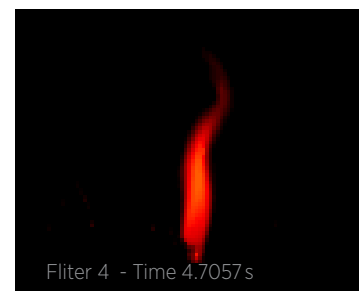
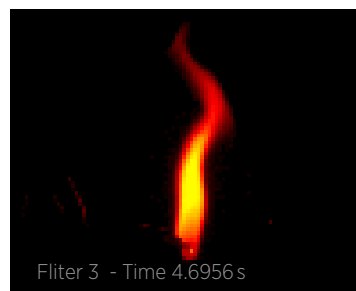
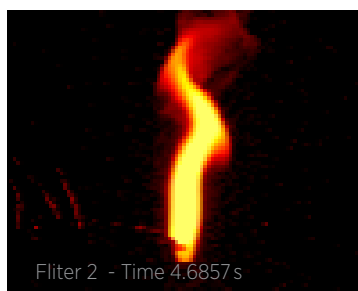
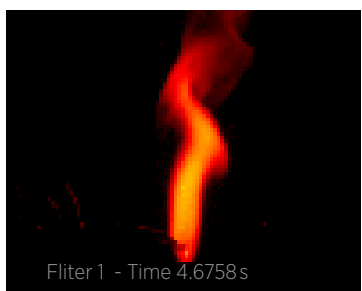
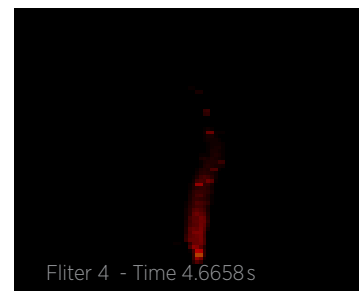
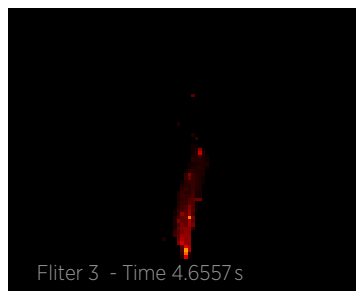
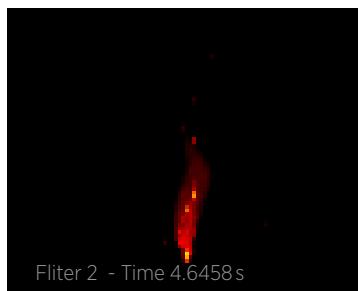
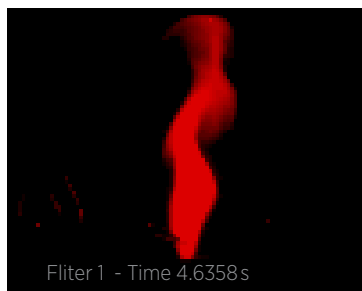
**High Dynamic Range:** Unique Telops proprietary non-linearity correction and exposure time independent calibration algorithms ensure observation of scene targets with the highest possible contrast and accurac.

**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, 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:** 16 GB memory for more than 50 second recording and autonomous operation.



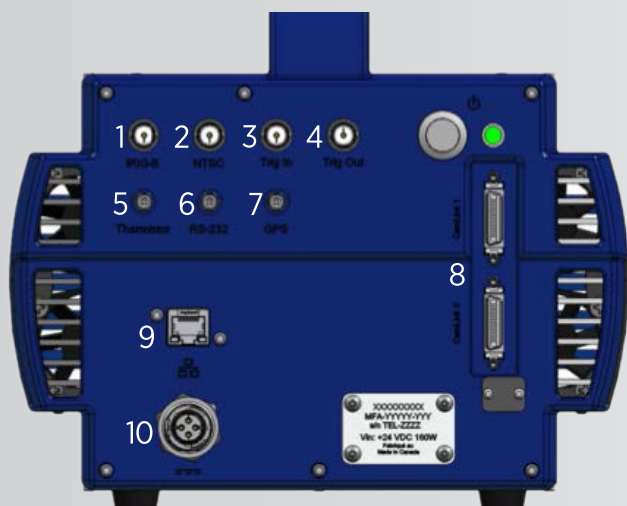
DETECTOR SPECIFICATIONS	MS-IR HD INSB	MS-IR HD MCT
Detector type	InSb	MCT
Spectral range	3 $\mu\text{m}$ to 5 $\mu\text{m}$	3.7 $\mu\text{m}$ to 4.8 $\mu\text{m}$
Spectral resolution	1280 $\times$ 1024 pixels	1280 $\times$ 1024 pixels
Detector pitch	15 $\mu\text{m}$	15 $\mu\text{m}$
Aperture size	F/3	F/3
Well depth	5.8 Me-	4.13 Me- (1.3 Me- selectable, no calibration)
Sensor cooling	Rotary-stirling closed cycle	Split-stirling closed cycle

TYPICAL PERFORMANCES		
Maximum full frame rate	105 Hz 2600 Hz @64 x 8	50 Hz 18000 Hz @264 x 4
Scene temperature range	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
Typical NETD	22 mK	25 mK

ELECTRONIC SPECIFICATIONS		
Exposure time	0.5 $\mu\text{s}$ to full frame rate	16 $\mu\text{s}$ to full frame rate
Windowing to increase frame rate	Yes	Yes
Dynamic range	16 bits	16 bits

CAMERA CONSTRUCTION		
Multi-Spectral (option)	8 $\times$ / 1" optics fixed or RAW fast rotating, up to 100 revolutions per second	
Lens mount	Bayonet interface	Bayonet interface
Base mounting	1/4-20 UNC + dowel pin	1/4-20 UNC + dowel pin
Size w/o lens	14" $\times$ 9" $\times$ 9" 355.6 mm $\times$ 228.6 mm $\times$ 228.6 mm	17.5" $\times$ 9" $\times$ 9.5" 444.5 mm $\times$ 228.6 mm $\times$ 241.3 mm
Weight w/o lens	< 13 kg	< 13 kg

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.

