

MULTISPECTRAL INFRARED CAMERA

MS-IR FAST

TEL_{OP}S

A HIGH SPEED INFRARED CAMERA

The MS-IR FAST is a fast frame rate, infrared camera which allows 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.

Ultra High Data Rate: Maximum data throughput larger than 1 Gigapixel/s. High performance electronics produces full-frame thermal images at rates up to 2000 fps. Subwindows can even be acquired faster than 90 000 fps.

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.

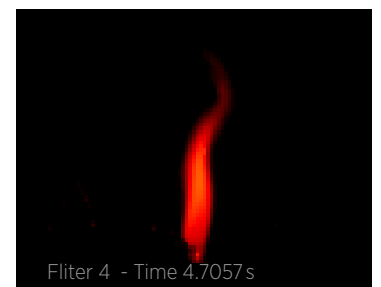
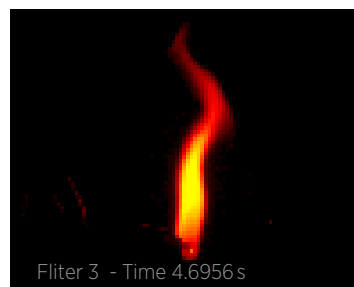
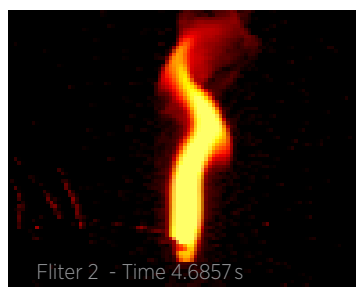
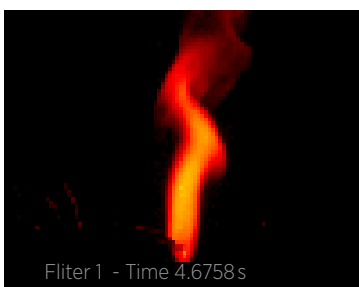
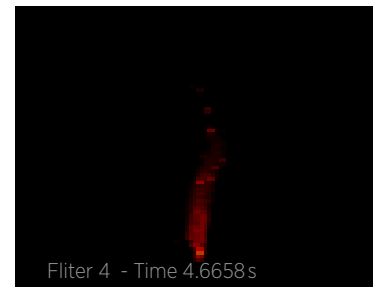
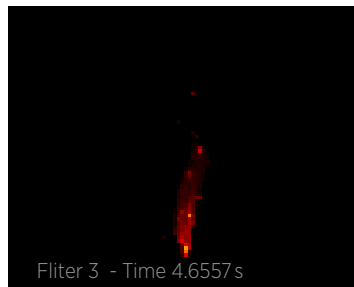
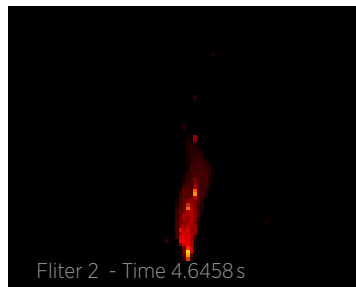
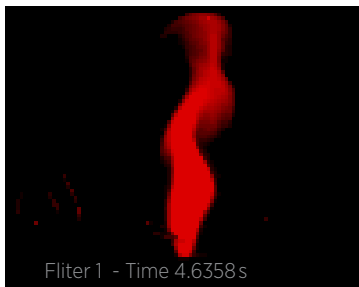
Optional: Fast automated attenuation filters are ideal to measure scenes with extreme temperature variations.

Advanced Calibration: Unique proprietary real-time processing of infrared images including NUC, radiometric temperature, automated exposure control (AEC) and enhanced high dynamic range imaging (EHDR).

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 25mK are detectable.

High Speed Internal Memory: 16 GB memory for more than 50 second recording and autonomous operation.



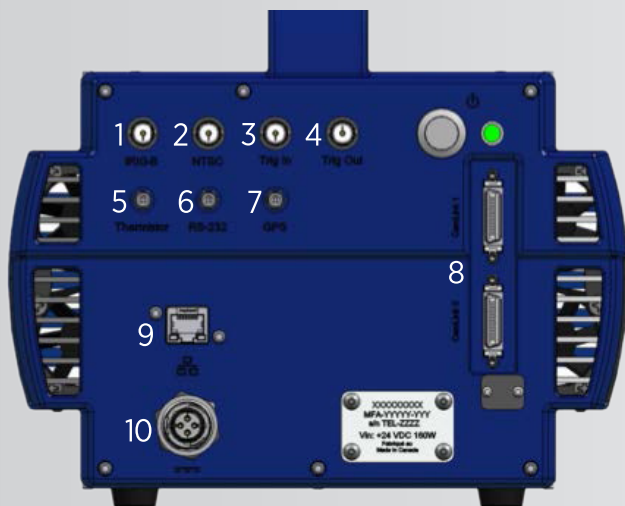
DETECTOR SPECIFICATIONS	MS-IR FAST
Detector type	InSb
Spectral range	3 μm to 5 μm
Spectral resolution	320 x 256 pixels
Detector pitch	30 μm
Aperture size	F/2.45
Well depth	3.4 Me- (150 ke- available, requires additional calibration)
Sensor cooling	Rotary-stirling closed cycle

TYPICAL PERFORMANCES	
Static filter wheel	1900 Hz 2000 Hz @ 320 x 240 90000 Hz @ 64 x 4
Scene temperature range	Up to 1500°C
Measurement accuracy	1 K or 1 % (°C) from -15°C to 150°C
Typical NETD	25 mK

ELECTRONIC SPECIFICATIONS	
Exposure time	1 μs to full frame rate
Windowing to increase frame rate	Yes
Dynamic range	16 bits

CAMERA CONSTRUCTION	
Multi-spectral (option)	8 \times / 1" optics fixed or RAW fast rotating
Lens mount	Bayonet interface
Size w/o lens	14" \times 9" \times 9" 355.6 mm \times 228.6 mm \times 228.6 mm
Weight w/o lens	< 13 kg

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



BACK PANEL INTERFACE

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.

