

# FAST HIGH PERFORMANCE INFRARED CAMERA

## FAST-IR 2K



### A HIGH SPEED INFRARED CAMERA

The FAST-IR series includes the fastest infrared cameras available on the market. To analyze dynamic events, the FAST-IR infrared cameras allow high-speed thermal imaging with an impressive temporal resolution at a rapid frame rate. These high-performance infrared cameras are extremely sensitive, enabling the detection of challenging targets.



### KEY BENEFITS

**Ultra High Frame Rate:** Maximum data throughput is larger than 1 Gigapixel/s. High performance electronics produce thermal images at rates of up to 2000 fps. Sub-windows can even be acquired at rates of 90 000 fps.

**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.

**High Dynamic Range:** 16 GB memory for more than 50 seconds of recording and autonomous operation.

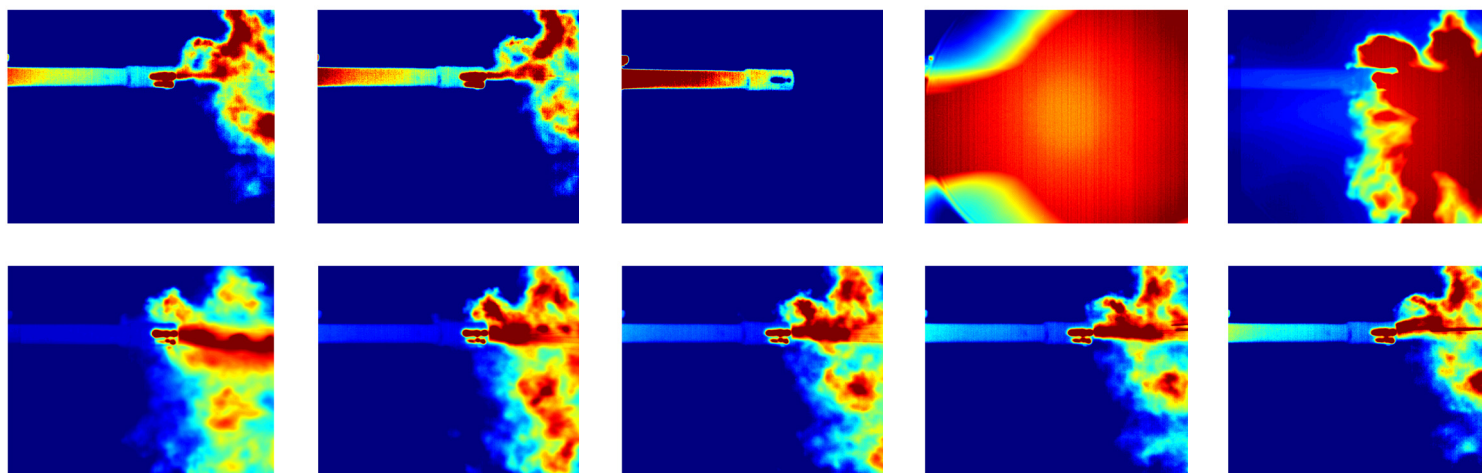
**High Speed Internal Memory:** Unique Telops proprietary non-linearity correction and exposure time independent calibration algorithms ensure observation of targets with the highest possible contrast and accuracy.

**High Dynamic Range:** Radiometric temperature accuracy of  $\pm 1^\circ\text{C}$  or  $\pm 1\%$  over the entire 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 25mK are detectable.

M16 muzzle flash analysis



## DETECTOR SPECIFICATIONS

### FAST-IR

Detector type	InSb
Spectral range	3 - 5.4 $\mu\text{m}$ (Others available upon request)
Spatial resolution	320 x 256 pixels
Detector pitch	30 $\mu\text{m}$
Aperture size	F/2.5
Well depth	3.4 Me- (150 ke- available, requires additional calibration)
Sensor cooling	Rotary-stirling closed cycle

## TYPICAL PERFORMANCES

Frame rate	2000 Hz @320 x 240 90 000 Hz @ 64 x 4
Scene temperature range	0°C to 150 °C Up to 600 °C (option) Up to 1500°C (option) Up to 2500°C (option)
Measurement accuracy	1K or 1% (°C)
Typical NETD	25 mK

## ELECTRONIC SPECIFICATIONS

Exposure time	1 $\mu\text{s}$ to full frame rate
Windowing to increase frame rate	Yes
Dynamic range	16 bits

## CAMERA CONSTRUCTION

Lens mount	Bayonet interface
Size w/o lens	12.6" x 7.8" x 5.3" 320.04 mm x 198.12 mm x 134.62 mm
Weight w/o lens	< 6 kg

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

## ENVIRONMENTAL SPECIFICATIONS

Environmental rating:  
IP67

Operating temperature range:  
-20°C to +50°C

Storage temperature ranges:  
-35°C to +60°C

Operational Vibration  
IEC-60068-2-64

Operational Shock  
IEC-60068-2-27



## BACK PANEL INTERFACE

1. CameraLink base/full
2. Power
3. Thermistor
4. RS-232: Camera remote control
5. IRIG-B
6. HD-SDI
7. Trig-in: Trigger the camera on TTL signal
8. Trig-out: Output TTL signal
9. Ethernet: GigE Vision compatible
10. GPS Input: GPS time and location from external GPS receiver
11. Power 24 VDC, 50W steady-state. Includes 120-230 VAC power supply

