



The Telops LN2 camera enclosure

HIGH-SPEED INFRARED CAMERAS.

The FAST LN2 camera features a liquid nitrogen dewar instead of the integrated Stirling cooler.

Any residual vibrations are therefore eliminated. The user may also access the cold filter and cold stop for greater flexibility. Perfectly dedicated to laboratory use.

KEY BENEFITS

ULTRAHIGH FRAME RATE

Maximum data throughput is larger than 1 Gigabit/s. High performance electronics produce thermal images at rates of up to 1012 fps. Sub-windows can even be acquired at rates higher than 40 000 fps.

HIGH-SPEED INTERNAL MEMORY

16 GB (expandable) memory for autonomous operation.

HIGH SENSITIVITY

Temperature differences as small as 25 mK are detectable.

ADVANCED CALIBRATION

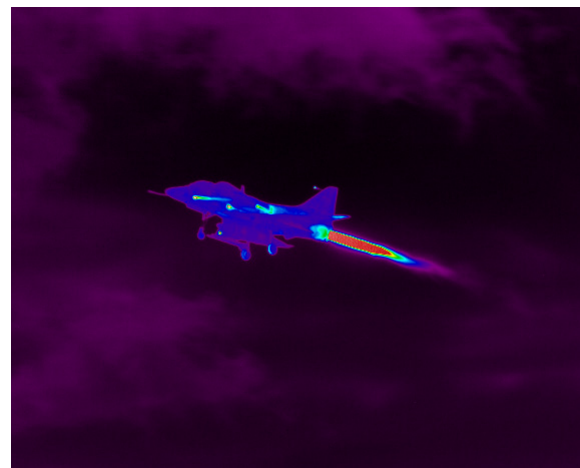
Unique proprietary real-time processing of infrared images including NUC, radiometric temperature, automated exposure control (AEC) and enhanced high-dynamic-range imaging (EHDRI). With these unique features, scientists benefit from ease of use and operation flexibility while getting accurate measurements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

EXAMPLES OF TYPICAL USES

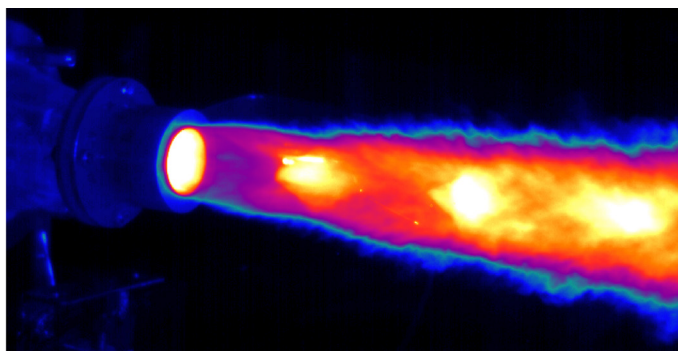
Observation of electronic chip



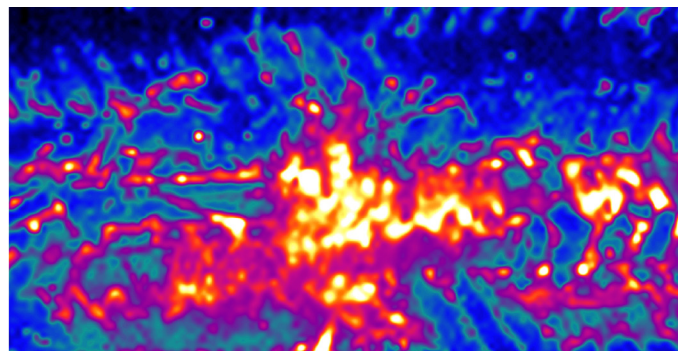
IR Signature



FAST-LN2	
SPECIFICATIONS	FAST M1k-LN
DETECTOR TYPE	Cooled InSb
SPECTRAL RANGE	1.5 μm to 5.4 μm
SPATIAL RESOLUTION	640 \times 512 pixels
DETECTOR PITCH	25 μm
APERTURE SIZE	F/2.5
FRAME RATE	1 012 Hz
MAXIMUM FRAME RATE	11 000 Hz @ 64 \times 64 40 000 Hz @ 64 \times 8
OPERATIONAL TEMPERATURE	-15 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$
STORAGE TEMPERATURE	-35 $^{\circ}\text{C}$ to +60 $^{\circ}\text{C}$
TYPICAL NETD	25 mK
EXPOSURE TIME	0.27 μs to full frame rate
LENS MOUNT	Bayonet interface



Pulsed detonation rocket engine



Impact of a projectile in the back of a composite material

OTHER SPECS & FEATURES	
Rotary-stirling closed cycle sensor cooling	Gig-E
Blackbody-free permanent calibration (up to 150 $^{\circ}\text{C}$)	Camera Link
Temperature calibration range upon request	Trigger In, Trigger Out
16 bits dynamic range	SDI, GPS, IRIG-B, RS232 and thermistor ports
High-speed internal memory buffer: up to 32 GB	Lock-In (optional)
Automatic exposure control (AEC)	Weight w/o lens: < 6 kg
Enhanced high-dynamic-range imaging (EHDR1)	Size w/o lens: 12.6" \times 7.8" \times 6.9" 321 mm \times 199 mm \times 176 mm

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