HIGH-SPEED INFRARED CAMERAS.

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, and therefore enable the detection of challenging targets.

The IP-67 certified enclosure.

KEY BENEFITS

ULTRAHIGH FRAME RATE

High performance electronics produce thermal images at rates of up to 3 100 fps, depending on the model. Sub-windows can even be acquired at rates higher than 100 000 fps.

HIGH-SPEED INTERNAL MEMORY

Up to 32 GB memory procures reliable recording.

HIGH SENSITIVITY

Temperature differences as small as 18 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.
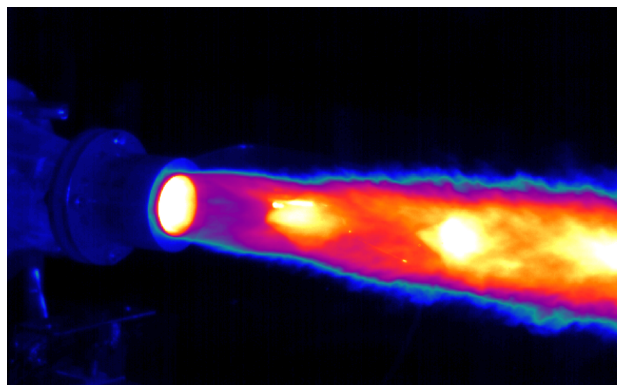
EXAMPLES OF TYPICAL USES
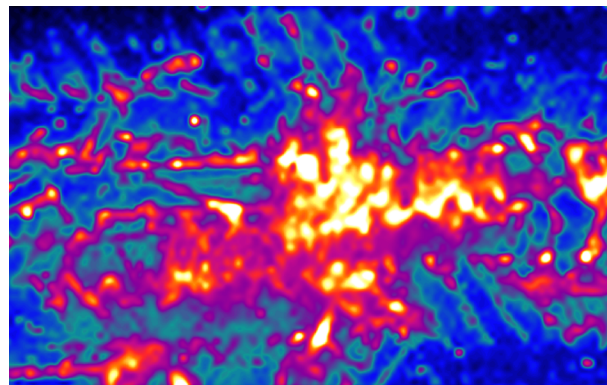
Observation of fuel injection.
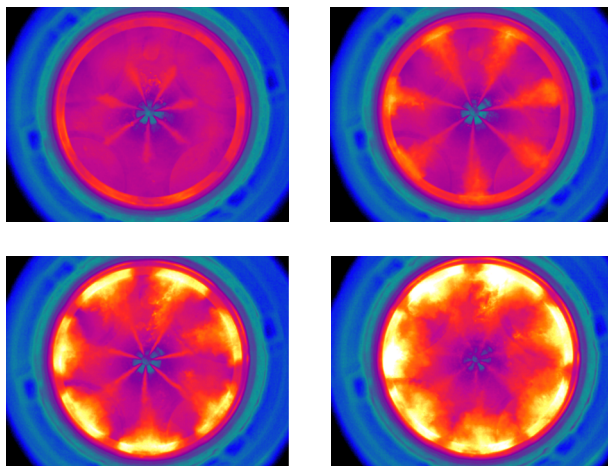
Tensile testing of a steel rod.
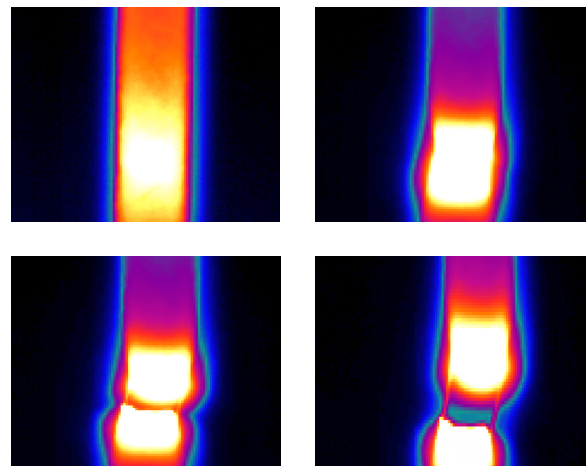
MIDWAVE SERIES			
SPECIFICATIONS	FAST M1*k*	FAST M2*k*	FAST M3*k*
DETECTOR TYPE	Cooled InSb	Cooled InSb	Cooled InSb
SPECTRAL RANGE	1.5 µm to 5.4 µm	1.5 µm to 5.4 µm	1.5 µm to 5.4 µm
SPATIAL RESOLUTION	640 × 512 pixels	320 × 256 pixels	320 × 256 pixels
DETECTOR PITCH	25 µm	30 µm	30 µm
OPTICAL APERTURE	F/2.5	F/2.5	F/2.5
MAXIMUM FRAME RATE IN FULL WINDOW	1 012 Hz	1 910 Hz	3 100 Hz
MAXIMUM FRAME RATE IN SUBWINDOW	11 000 Hz @ 64 × 64 40 000 Hz @ 64 × 8	78 600 Hz @ 64 × 8 90 000 Hz @ 64 × 4	100 000 Hz @ 64 × 4
TYPICAL NETD	25 mK	25 mK	25 mK
MIN. EXPOSURE TIME	0.27 µs to full frame rate	1 µs to full frame rate	0.95 µs to full frame rate
LENS MOUNT	Threaded interface	Bayonet interface	Bayonet interface
SPECIFICATIONS	FAST M350	FAST M100*k*	FAST M200
DETECTOR TYPE	Cooled InSb	Cooled MCT	Cooled MCT
SPECTRAL RANGE	1.5 µm to 5.4 µm	3 µm to 4.9 µm	1.5 µm to 5.1 µm
SPATIAL RESOLUTION	640 × 512 pixels	640 × 512 pixels	640 × 512 pixels
DETECTOR PITCH	15 µm	16 µm	15 µm
OPTICAL APERTURE	F/3 (other av.)	F/4	F/3
MAXIMUM FRAME RATE IN FULL WINDOW	355 Hz	115 Hz	210 Hz
MAXIMUM FRAME RATE IN SUBWINDOW	672 Hz @ 320 × 256 4 980 Hz @ 132 × 4	120 000 Hz @ 64 × 2	5 600 Hz @ 136 × 2
TYPICAL NETD	20 mK	17 mK	18 mK
MIN. EXPOSURE TIME	0.5 µs to full frame rate	0.2 µs to full frame rate	0.17 µs to full frame rate
LENS MOUNT	Bayonet interface	Bayonet interface	Bayonet interface

Pulsed detonation rocket engine.

Projectile impact on the back of a composite material.

Specifications are subject to change without notice. Other configurations are available upon request.

LONGWAVE SERIES

SPECIFICATIONS	FAST L200
DETECTOR TYPE	Cooled MCT
SPECTRAL RANGE	7.7 µm to 9.3 µm
SPATIAL RESOLUTION	640 × 512 pixels
DETECTOR PITCH	15 µm
OPTICAL APERTURE	F/2
MAXIMUM FRAME RATE IN FULL WINDOW	234 Hz
MAXIMUM FRAME RATE IN SUBWINDOW	17 200 Hz @ 160 × 2
TYPICAL NETD	22 mK
MIN. EXPOSURE TIME	0.2 µs to full frame rate
LENS MOUNT	Threaded interface

VERY LONG WAVE SERIES

SPECIFICATIONS	FAST V1k*	FAST V350	FAST V500*
DETECTOR TYPE	Cooled SLS	Cooled SLS	Cooled SLS
SPECTRAL RANGE	7.5 µm to 11.5 µm	7.5 µm to 11.5 µm	7.5 µm to 11.5 µm
SPATIAL RESOLUTION	640 × 512 pixels	320 × 256 pixels	640 × 512 pixels
DETECTOR PITCH	25 µm	30 µm	25 µm
OPTICAL APERTURE	F/2	F/2	F/2
MAXIMUM FRAME RATE IN FULL WINDOW	1 012 Hz	345 Hz	500 Hz
MAXIMUM FRAME RATE IN SUBWINDOW	2 400 @ 320 × 256 40 000 Hz @ 64 × 8	14 100 Hz @ 128 × 8	17 000 Hz @ 64 × 8
TYPICAL NETD	30 mK	25 mK	30 mK
MIN. EXPOSURE TIME	0.27 µs to full frame rate	5.1 µs to full frame rate	0.27 µs to full frame rate
LENS MOUNT	Threaded interface	Threaded interface	Threaded interface

HD & SUPER HD SERIES

SPECIFICATIONS	FAST M3Shd	FAST M2Shd	FAST M200hd	FAST M100hd
DETECTOR TYPE	Cooled InSb			
SPECTRAL RANGE	1.5 µm to 5.4 µm		1.5 µm to 5.4 µm (3 to 5 µm optional)	
SPATIAL RESOLUTION	1920 × 1536 pixels	1520 × 1536 pixels	1280 × 1024 pixels	1280 × 1024 pixels
DETECTOR PITCH	10 µm			
OPTICAL APERTURE	F/3			
MAXIMUM FRAME RATE IN FULL WINDOW	90 Hz	50 Hz	180 Hz	100 Hz
MAXIMUM FRAME RATE IN SUBWINDOW	2 570 Hz @ 64 × 2	1 425 Hz @ 64 × 2	2 180 Hz @ 64 × 4	1 200 Hz @ 64 × 4
TYPICAL NETD	30 mK			
LENS MOUNT	Bayonet interface			

ABOUT US

Telops is a leading supplier of high-performance scientific infrared cameras for the defence, academic, industrial, and environmental research industries. Telops also offers R&D services for optical systems technology development.

Since its beginning in 2000, Telops has distinguished itself with the quality of its technical personnel and its innovative approach to many technological challenges in the optics field. Today, the expertise of its scientists and the performances of its infrared cameras and hyperspectral imagers are internationally recognized.

Quebec City's Château Frontenac in infrared.

FEATURES & OPTIONS

OUR INFRARED CAMERAS' KEY FEATURES & SPECS

All our FAST infrared cameras offer advanced features to address the most demanding research applications. They include:

- Rotary-stirling closed cycle sensor cooling.

- Blackbody-free permanent calibration (up to 150 °C).

- Calibration up to 2500 °C (optional).

- High-speed internal memory buffer: up to 32 GB (optional).

- Gig-E.

- Camera Link.

- Trigger In, Trigger Out.

- SDI, GPS, IRIG-B, RS232 and thermistor ports.

- Lock-In (optional).

- Automatic exposure control (AEC).

- Enhanced high-dynamic-range imaging (EHDRI).

- 16 bits dynamic range.

- Weight w/o lens: < 6 kg.

- *Weight w/o lens: < 7 kg. (V1k/V500).

- Size w/o lens: 12.6″ × 7.8″ × 6.9″ (321 × 199 × 176 mm).

- *Size w/o lens: 12.9″ × 7.8″ × 7.7″ (199 × 198 × 330 mm) (V1k/V500).

- Operational Vibration: IEC-60068-2-64.

- Operational Shock: IEC-60068-2-27.

OUR INFRARED CAMERAS' LENS OPTIONS

Telops offers a variety of lens options depending on your camera configuration using either a flanged, threaded, or bayonet mount interface.

Customized optics are available, as well as many accessories such as telescopes and microscopes.