



The IP-67 certified enclosure.

## SCIENTIFIC INFRARED CAMERA.

The Telops SPARK line of cooled MWIR cameras are designed for high-performance in general purpose thermography applications. Available in both VGA and HD detector formats, SPARK cameras can be configured to meet your specific measurement requirements. When combined with the powerful yet intuitive ReveallR acquisition software, the user is able to control all aspects of the data collection process. SPARK cameras feature Telops' unique permanent radiometric calibration and the Automatic Exposure Control operating mode.

## KEY BENEFITS

### HIGH FRAME RATE

High-performance electronics enable the acquisition of full-frame thermal images at rates of up to 220 fps. Detector subwindows can be used to increase the frame rate over 4 000 fps.

### HIGH-SPEED INTERNAL MEMORY

Up to 1 GB rotating buffer memory for reliable recording of high-speed events.

### HIGH SENSITIVITY

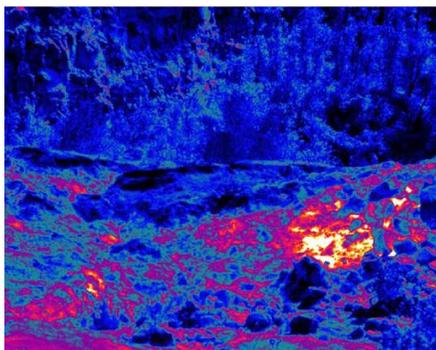
Minimum detectable temperature differences as low as 20 mK.

### ADVANCED CALIBRATION

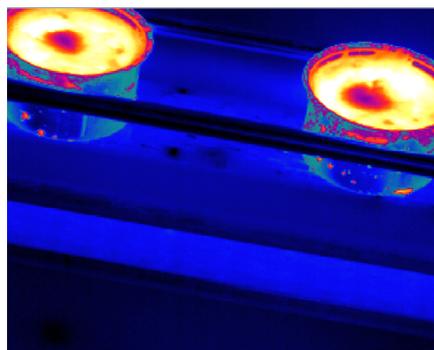
Telops proprietary permanent radiometric calibration eliminates the need for the user to acquire reference blackbody measurements when changing camera operating parameters. Calibrated data can be displayed in units of radiometric temperature ( $^{\circ}\text{C}$ ), in-band radiance ( $\text{W sr}^{-1} \text{m}^{-2}$ ), or in-band irradiance ( $\text{W m}^{-2}$ ). The calibration is valid for any exposure time supported by the detector, enabling advanced features such as Automatic Exposure Control and Enhanced High-Dynamic-Range Imaging.

## EXAMPLES OF TYPICAL USES

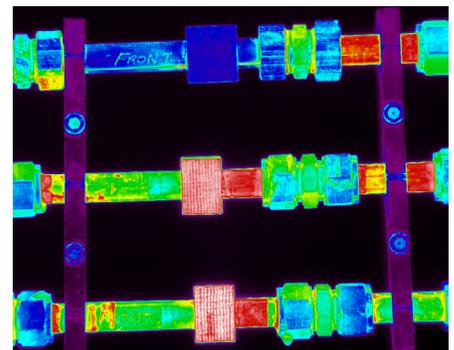
Gas detection  
at Sulphur Banks, Hawaii



High-speed control  
and temperature monitoring



Observation of Tokamak  
cooling water system



SPARK SERIES		
SPECIFICATIONS	SPARK M150	SPARK M200
DETECTOR TYPE	Cooled InSb	Cooled MTC
SPECTRAL RANGE	1.5 μm to 5.4 μm	1.5 μm to 5.1 μm
SPATIAL RESOLUTION	640 × 512 pixels	640 × 512 pixels
DETECTOR PITCH	15 μm	15 μm
OPTICAL APERTURE	F/3	F/3
MAXIMUM FRAME RATE IN FULL WINDOW	220 Hz	210 Hz
MAXIMUM FRAME RATE IN SUBWINDOW	430 Hz @ 320 × 256 4 000 Hz @ 132 × 4	760 Hz @ 320 × 256 5 600 Hz @ 136 × 2
TYPICAL NETD	20 mK	18 mK
MIN. EXPOSURE TIME	0.5 μs to full frame rate	0.17 μs to full frame rate
LENS MOUNT	Bayonet interface	Bayonet interface

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

## FEATURES & OPTIONS

### OUR INFRARED CAMERAS' KEY FEATURES & SPECS

SPARK 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.
- Extended, high-temperature calibration range up to 2500 °C (optional).
- High-speed internal memory buffer up to 1 GB (expandable to 32 GB for M60hd).
- Gig-E ethernet.
- Camera Link.
- Trigger In/Out.
- RS232 and thermistor ports.
- Lock-In.

- Automatic Exposure Control (AEC).
- Enhanced high-dynamic range imaging (EHDR).
- 16-bit dynamic range.
- Weight w/o lens: < 6 kg.
- Size w/o lens: 12.6" × 7.8" × 6.9" (321 × 199 × 176 mm).
- 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.

FOR MORE INFORMATION | [TELOPS.COM](http://TELOPS.COM)

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