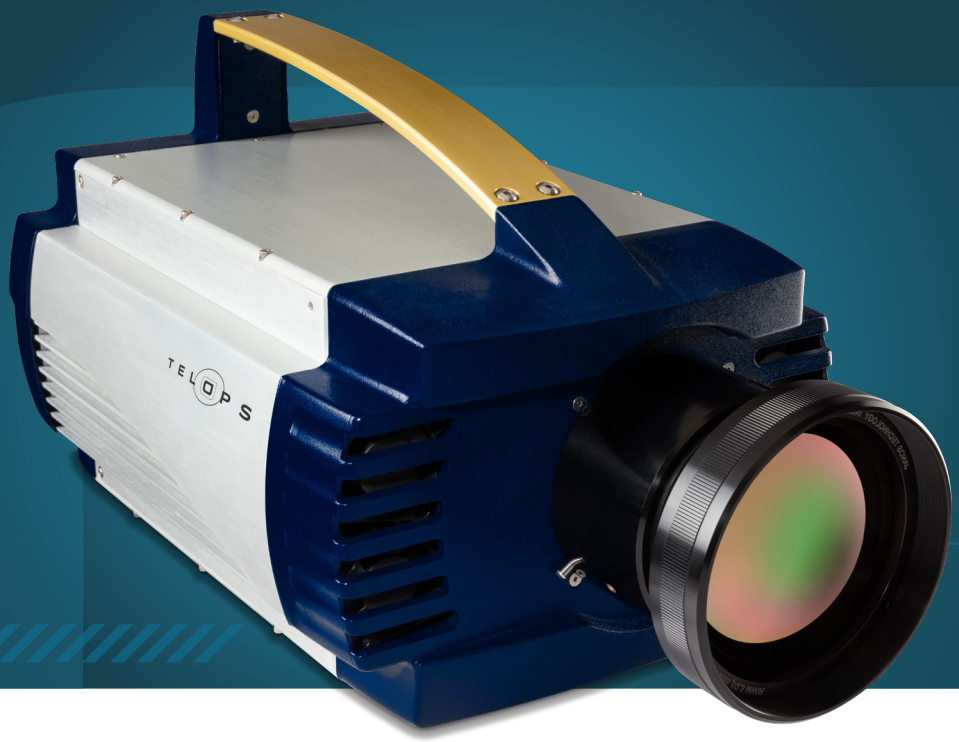
MULTISPECTRAL INFRARED CAMERAS

EXOSENS
REVEAL THE INVISIBLE

MS-IR FAMILY



THE MS-IR
POWERED BY TELOPS

KEY FEATURES

- **MULTISPECTRAL CAPABILITIES**
- **HIGH SPEED DATA ACQUISITION CAPABILITIES**
- **ADVANCED CALIBRATION**
- **HIGH SENSITIVITY**

Telops MS-IR cameras allow the scene to be split into eight distinct spectral bands rather than one single broadband image, enabling spectral characterization of target material infrared signature. The 8-position adjustable-speed filter wheel is designed to rotate at up to 6000 rotations per minute, allowing for high speed data acquisition at 800 Hz or 100 frames per second for each channel simultaneously in when operating in synchronous mode.

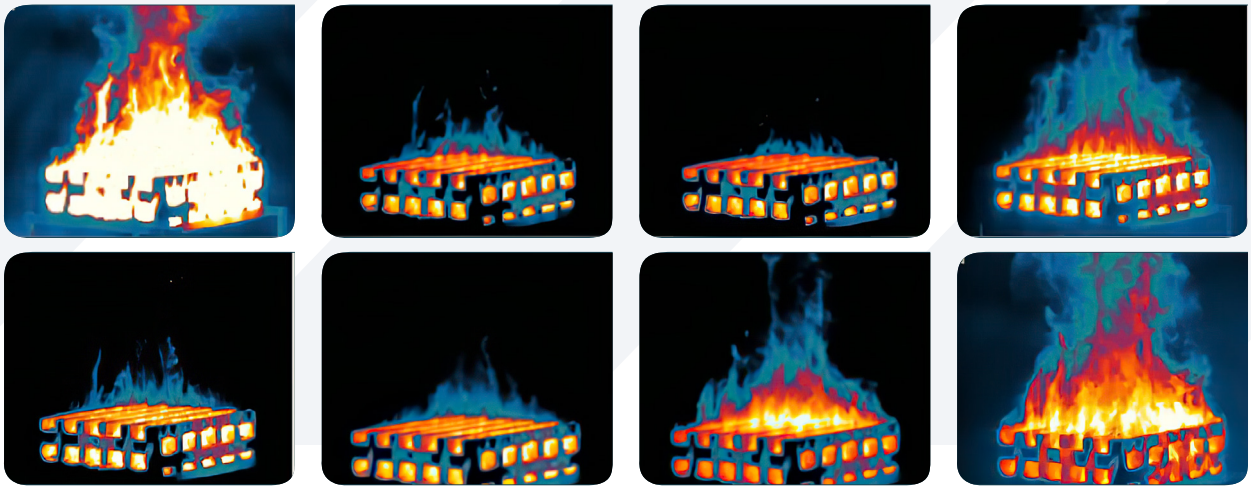
MIDWAVE SERIES

SPECIFICATIONS	MS M3*k*	MS M2*k* UD	MS M1*k*	MS M350
Detector Type	Cooled InSb	Cooled InSb	Cooled InSb	Cooled InSb
Detector Format	320 x 256 pixels	640 × 512 pixels	640 × 512 pixels	640 × 512 pixels
Spectral Range	1.5 µm to 5.5 µm	1.5 µm to 5 µm	1.5 µm to 5 µm	1.5 – 5.4 µm
Detector Pitch	30 µm	25 µm	25 µm	15 µm
Optical Aperture	F/2.5	F/2.5	F/2.5	F/3
Max. Frame Rate in Full Window (Static Filter Wheel Mode)	3 100 Hz	1 500 Hz	1 012 Hz	350 Hz
Max. Frame Rate in Subwindow (Static Filter Wheel Mode)	100 000 @ 64 x 4	41 500 Hz @ 64 x 8	40 000 Hz @ 64 x 8	4 980 Hz @ 132 x 4
Max. Frame Rate in Rotating Filter Wheel Mode	800 Hz	800 Hz	800 Hz	350 Hz
Minimum Exposure Time	1 µs	0.5 µs	0.3 µs	0.5 µs
Typical NETD	30 mK	≤ 23 mK	25 mK	20 mK
Lens Mount	Bayonet	Threaded	Threaded	Bayonet

MIDWAVE HD SERIES

SPECIFICATIONS	MS M100hd
Detector Type	Cooled InSb
Detector Format	1280 × 1024 pixels
Spectral Range	1.5 – 5.4 µm
Detector Pitch	15 µm
Optical Aperture	F/3
Max. Frame Rate in Full Window (Static Filter Wheel Mode)	105 Hz
Max. Frame Rate in Subwindow (Static Filter Wheel Mode)	2 900 Hz @ 132 x 8
Max. Frame Rate in Rotating Filter Wheel Mode	800 Hz
Minimum Exposure Time	1 µs
Typical NETD	25 mK
Lens Mount	Bayonet

EXAMPLES OF TYPICAL USES



Multispectral analysis of combustion experiment

VERY LONGWAVE SERIES

SPECIFICATIONS	MS V1*K*	MS V350
Detector Type	Cooled SLS	Cooled SLS
Detector Format	640 × 512 pixels	320 × 256 pixels
Spectral Range	7.5 –11. 5 µm	7.7 – 11.5 µm (other ranges available)
Detector Pitch	25 µm	30 µm
Optical Aperture	F/2.5	F/2
Max. Frame Rate in Full Window (Static Filter Wheel Mode)	1 012 Hz	340 Hz
Max. Frame Rate in Subwindow (Static Filter Wheel Mode)	40 000 Hz @ 64 x 8	14 000 Hz @ 128 x 8
Max. Frame Rate in Rotating Filter Wheel Mode	800 Hz	340 Hz
Minimum Exposure Time	0.3 µs	5.1 µs
Typical NETD	30 mK	25 mK
Lens Mount	Threaded	Threaded

ABOUT US



Exosens Canada (formely known as Telops), is a leading supplier of high-performance scientific infrared cameras for the defense, academic, industrial, and environmental research industries. Exosens also offers R&D services for optical systems technology development.

Since its founding in 2000, Telops, now Exosens, has distinguished itself through its highly skilled personnel and innovative approach to the technological challenges in optics and photonics.

Today, its experts and cutting-edge infrared cameras and hyperspectral imagers are internationally recognized.

FEATURES & OPTIONS

OUR INFRARED CAMERAS' KEY FEATURES & SPECS

All of our MS-IR infrared cameras offer a common set of advanced features to address the most demanding research applications. They include:

- Closed-cycle rotary Stirling sensor cooling
- Blackbody-free permanent calibration (up to 150 C)
- Calibration up to 2500 C (optional)
- Fast-rotating 8-position filter wheel (6000 rpm)
- High speed data transfer capabilities:
  - Internal memory buffer up to 32 GB
  - Gig-E
  - Camera Link
- Trig-In/Trig-Out
- SDI, GPS, IRIG-B, RS232, and thermistor ports
- Automatic Exposure Control (AEC
- Enhanced Dynamic Range Imaging (EHDRI)
- 16 bits dynamic range
- Size w/o lens: 13.8" x 8.5" x 9.3" (352 x 216 x 236 mm)

OUR INFRARED CAMERAS' LENS OPTIONS

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

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