

## MULTISPECTRAL INFRARED CAMERAS.

The MS-IR infrared camera allows the scene to be split into eight different spectral bands rather than only one broadband image, thus enabling spectral signature analysis. The filter wheel is a fast-rotating mechanism designed to maximize the cameras' frame rate. Rotating speed is adjustable up to 105 Hz per filter, allowing a frame rate up to 2 900 fps in a synchronised mode.



The MS-IR.

## KEY BENEFITS

### MULTISPECTRAL CAPABILITIES

Performs 8-channel multispectral analysis using a high-speed filter wheel. In fast-rotating mode, the image acquisition is synchronised so that one image per filter is acquired. The filter wheel can also be used in static mode.

### HIGH DYNAMIC RANGE

Unique Telops proprietary non-linearity correction and exposure time independent calibration algorithms ensure observation of scene targets with the highest possible contrast and accuracy.

In addition, optional fast automated attenuation filter mechanisms can be added to measure scenes with extreme temperature variations.

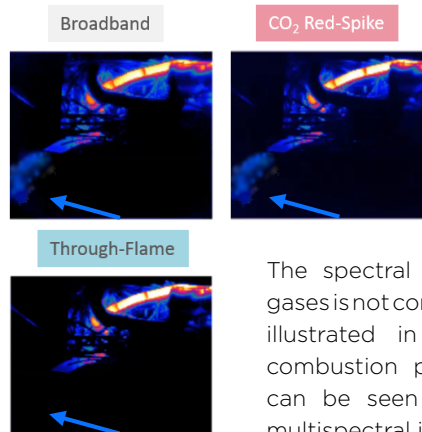
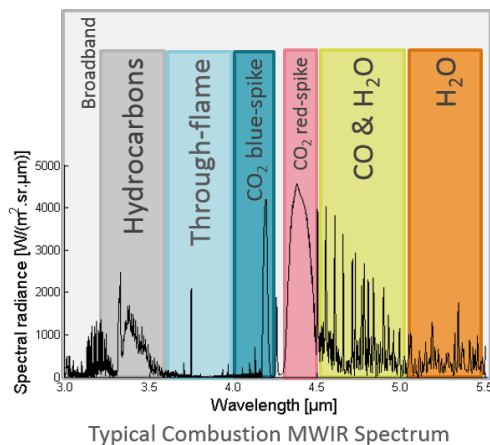
### ADVANCED CALIBRATION

Real-time processing of infrared images including NUC, radiometric temperature, in-band radiance, automated exposure control (AEC) and enhanced high dynamic range imaging (EHDMI). 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 SENSITIVITY

Temperature differences as small as 20 mK are detectable.

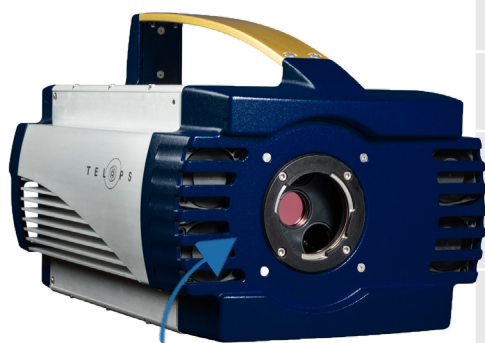
## EXAMPLE OF A TYPICAL USE



The spectral emissivity of typical combustion gases is not constant as a function of wavelength as illustrated in the MWIR spectra of typical combustion products. These spectral features can be seen in real time with time-resolved multispectral imaging.

MS M1k	
SPECIFICATIONS	
DETECTOR TYPE	Cooled InSb
SPECTRAL RANGE	1.5 $\mu\text{m}$ to 5 $\mu\text{m}$
SPATIAL RESOLUTION	640 $\times$ 512 pixels
DETECTOR PITCH	25 $\mu\text{m}$
APERTURE SIZE	F/2.5
MAXIMUM FRAME RATE IN FULL WINDOW (STATIC FILTER WHEEL MODE)	1 012 Hz
MAXIMUM FRAME RATE IN SUBWINDOW (STATIC FILTER WHEEL MODE)	40 000 Hz @ 64 $\times$ 8
MAXIMUM FRAME RATE IN ROTATING FILTER WHEEL MODE	800 Hz
MINIMUM EXPOSURE TIME	0.3 $\mu\text{s}$ in full frame
TYPICAL NETD	25 mK
LENS MOUNT	Bayonet interface

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



The motorized 8-filter wheel.

COMMON SPECS	
SENSOR COOLING	Rotary-stirling closed cycle
STANDARD SCENE TEMPERATURE RANGE	Up to 1500 $^{\circ}\text{C}$ Other ranges available.
DYNAMIC RANGE	16 bits
MEASUREMENT ACCURACY	2 K or 2 % ( $^{\circ}\text{C}$ ) from 0 $^{\circ}\text{C}$ to 1500 $^{\circ}\text{C}$
MULTISPECTRAL FILTER WHEEL	8 $\times$ 1" filters; static or fast-rotating mode
SIZE W/O LENS	13.8" $\times$ 8.5" $\times$ 9.3" 352 mm $\times$ 216 mm $\times$ 236 mm
WEIGHT W/O LENS	< 13 kg

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