

# MCT IR DETECTOR MODULE

## Key Benefits & Advantages

- Detector, pre-amplifier and TE cooling integrated into convenient enclosure
- Plug and play operation with full integral control of detector via instrument software
- Flexibility to locate anywhere in the experiment via 2 meter interface cable

## Description

The MCT (Mercury-Cadmium-Telluride) IR (infrared) Detector Module is a thermoelectrically cooled detector element and preamplifier package optimized for acquiring spectral data with the LaserTune™ Quantum Cascade Laser (QCL) source.

With the module, users can configure a spectrometer in a variety of ways for applications such as IR microscopy. Spectral data is acquired and viewed in the LaserTune application software without the need for additional data collection or processing electronics.

The module is also optimized for the emission profile and fast scan rate of the LaserTune QCL. And unlike other commercial MCT detectors, the MCT IR Detector module requires no liquid nitrogen to operate.

Parameter	Specification
Detector Element	TE cooled MCT
Active area	1 x 1 mm <sup>2</sup>
Window	BaF <sub>2</sub>
Wavelength range	6 – 12 μm
Total Gain (typical)	800 V/W
Cut-Off Frequency Range	10 Hz – 20 MHz
Operating Temperature (typical)	223 K
Saturation Threshold Power (@ 8 μm, 20 MHz speed)	5 mW (peak)

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