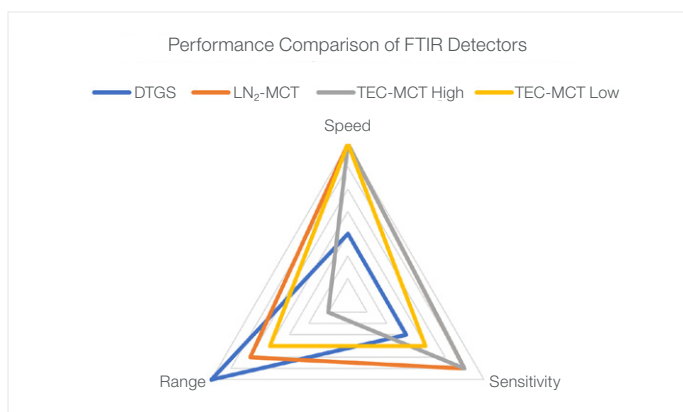


## Enhance Your Analytical Research with IR Detector Options for the Thermo Scientific Nicolet iS50 FTIR Spectrometer

Get quality spectra faster without the hassle of liquid-nitrogen (LN<sub>2</sub>) cooled detectors. Thermoelectrically cooled (TEC) MCT detectors enable high speed FTIR materials analysis while maintaining spectral quality.



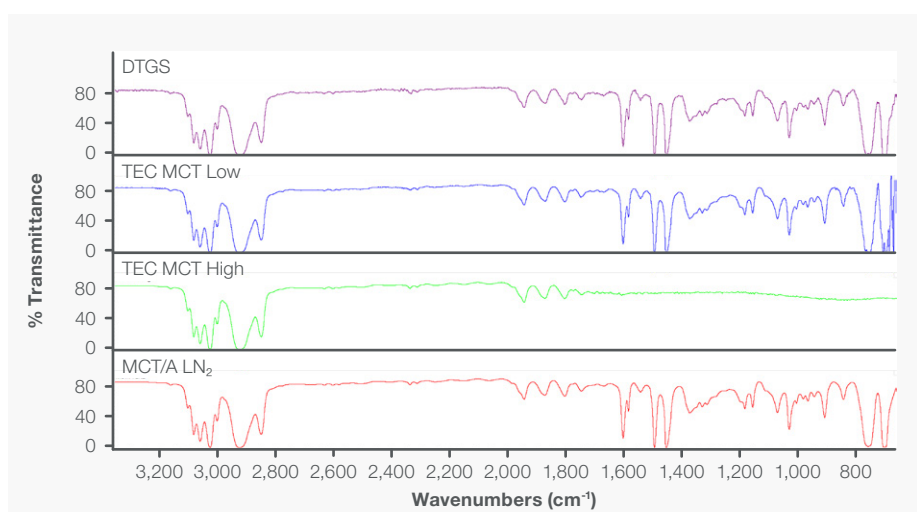
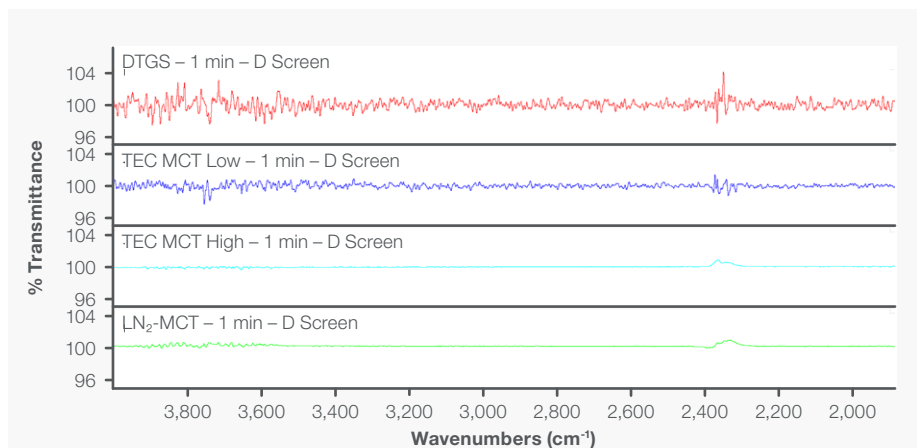
### How do TEC-MCTs compare to traditional IR detectors?

Thermal IR detectors have a wide spectral range but require longer scan times to acquire quality spectra, and they do not perform well for light-starved applications. LN<sub>2</sub> cooled MCT detectors have long been the detectors of choice to measure quickly and collect quality spectra, because of their relatively wide spectral range and high sensitivity. However, they require access to and handling of LN<sub>2</sub>. Thermoelectrically cooled MCT detectors provide an alternative, though users should understand that the wider spectral range of a TEC-MCT may lower the sensitivity. Thermo Scientific™ Nicolet™ FTIR products provide a range of TEC-MCT configurations for optimized solutions.

Select from two options for use with the Nicolet iS50 to accommodate a variety of applications

- TEC-MCT High: Low-end cutoff at 2000 cm<sup>-1</sup>
- TEC-MCT Low: Low-end cutoff at 750 cm<sup>-1</sup>

## Key Benefits of TEC-MCTs



**Speed:** measure 4x faster than with DTGS

**Sensitivity:** better sensitivity and lower noise compared to thermal DTGS detectors

- TEC-MCT High provides sensitivity comparable to a LN<sub>2</sub> cooled MCT.
- TEC-MCT Low provides 33% lower noise than a DTGS detector for a 1 min measurement (throughput attenuated to 0.8%).

**LN<sub>2</sub>-free:** no need to maintain LN<sub>2</sub> access or manage related safety concerns

- TEC-MCTs provide immediate results without time spent cooling the detector before using.
- There is no time limitation caused by dewar hold times (i.e., the need to refill a detector dewar for long measurements is eliminated)

### Applications:

TEC-MCT detectors can provide value to many research and analytical applications:

- Reaction Kinetics
- Cure studies
- Thin-film analysis
- Gas analysis
- Catalysis
- Sampling with reduced throughput accessories

Reach out to explore whether a TEC-MCT is the right fit for your analytical challenges.

Learn more and request a demo or quote at [thermofisher.com/iS50](https://thermofisher.com/iS50)