

Press Release

OEM Temperature Controller Module for Peltier-Cooled Photodetector Arrays and Spectrometers

tec5 offers a family of specialized OEM electronics modules for optimal operation of detector arrays and spectral sensors performing detector array based spectroscopy, for the UV-VIS-NIR wavelength ranges. The newest member is our 'Peltier-tc' cooling controller board which provides near-perfect stability for all kinds of cooled detector arrays.

Designed for use with InGaAs photodiode arrays for the NIR range, the temperature controller can also be used to cool all kinds of detector arrays based on 1 to 3 stage Peltier elements and thermistor-type temperature sensors. All important parameters like current limit, temperature set point, and thermistor current are user-adjustable to allow adaptation to a wide range of applications. The module provides a maximum Peltier current of 3 Amperes and holds the detector temperature to within ± 10 mK. Its operation as a linear PI controller minimizes possible cross-talk effects that might impair the detection limit of the photodiode array.

The unit has inputs for additional thermistors for over temperature shutdown and offers switched relay contacts, allowing it to protect sensitive equipment against thermal runaway conditions. A number of additional monitoring functions are available on the board.

Picture: Peltier_tc attached

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