

Thermocouple Input Module 4039-004



Thermocouple temperature sensors offer an extremely wide range of operation. They can also be inexpensive and easy to install. However, devices used in cryogenic applications are often difficult to apply because they exhibit

poor sensitivity at low temperature and are generally constructed with metals that are difficult to use.

The Cryo-con thermocouple module option plugs into the sensor input channel of a Cryo-con instrument to support thermocouple measurements from cryogenic to oven temperatures. One module can be installed on each input and they can be added or removed at any time.

The module is powered by the instrument. It performs amplification, cold-junction compensation and connection to copper.

Thermocouple calibration curves are factory installed in the instrument. Built-in curves are available for thermocouple types E, K, T and AuFe 0.7%. The user can also install additional curves for custom or calibrated devices.

Features

- Connects directly to the sensor input channel of a Cryo-con instrument.
- Powered by the instrument. No batteries or external connections.
- Measurement range includes both cryogenic and high temperature. Input voltage is $\pm 70\text{mV}$.
- Connects to copper as soon as possible to minimize errors caused by long thermocouple wires.
- Zero-drift input preamplifier provides the highest possible measurement accuracy. Differential input works equally well with grounded or floating sensors.
- Cold-junction compensation provided for thermocouple types E, K, T and AuFe 0.7%. Selection is by switches inside the module.
- Open sensor detection.
- Standard mini-spade type thermocouple connector.

Applications

- Cryostats with an operating range that includes both cryogenic and oven temperatures.
- Peripheral sensors that assert alarms or detect fault conditions.