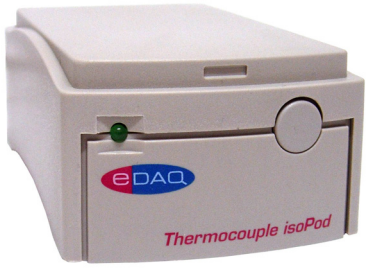
Thermocouple isoPod™ (Model EP356)



- Plug and play installation
- Use with most thermocouple types
- High accuracy
- NIST ITS-90 polynomial calibration
- Electrical isolation minimises noise and crosstalk

Description

This compact signal conditioner is for use with an **e-corder** unit, enabling continuous monitoring and recording of temperature from thermocouple probes.

Compatibility

The Thermocouple isoPod can be used with most thermocouple types (B, E, J, K, N, R, S, and T). Suitable probes include:

- ET405 K-type Thermocouple Probe
- ET1400 T-type Thermocouple Probe (±0.1 °C accuracy between 0 – 50 °C)

Use with Chart software version 5.5.6, or later, on Windows XP or later computers.

Applications

The isoPod can be used as a general purpose laboratory thermometer for both research and teaching, including melting and boiling point determinations, measurements of heats of reaction, and calorimetric kinetic experiments.

Calibration

The raw signal from the probe is ice point corrected, and then linearized by applying an idealized polynomial correction as described by the NIST ITS-90 thermocouple database, at:

- http://srdata.nist.gov/its90/main/

This results in a calibration at least as good as the stated accuracy of the thermocouple probe itself. Alternatively, the signal can be calibrated using accurately known temperature sources and the Chart software Units conversion, or Multipoint Calibration, features.

Specifications

Thermocouple types:	B, E, J, K, N, R, S, T, and raw millivolt
Input connector:	Miniature thermocouple socket (copper)
Input impedance:	> 20 MΩ (differential) > 10 GΩ (common mode)
Range settings:	50, 100, 200, 500 °C (J, K, T type) 50, 100, 200 °C (E type) 1000, 2000 °C (B type) 200, 500, 1000, 2000 °C, (R, S type) ±1, 2, 5, 10, 20 mV (raw millivolt)
Output signal:	±2 V maximum
Cold junction compensation:	±0.1°C over 0 – 40°C ambient
DC drift:	< 0.1 µV/°C
Gain error:	< 0.05%

Zero error:	< 5µ V
ICMRR:	> 140 dB
Low pass filter settings:	1, 2, 5, 10, 20, 50, 100 Hz
Response time (@ 100 Hz):	~13 ms for 0 – 90% of final value. Probe size will limit response time.
Amplifier noise:	< 0.2 µV rms (0 – 10 Hz)
Isolation:	> 250 V rms
Dimensions (l x w x h):	108 x 58 x 35 mm
Weight:	~200 g
eDAQ Pty Ltd reserves the right to alter these specifications at any time.	

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