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TC-202A

Bipolar Temperature Controller

Works with all Harvard Apparatus Micro-Incubation and Tissue Slice Chambers



Flexible

The TC-202A allows the researcher to control the command temperature from alternative locations. In the case of the PDMI-2, PSMI, and CSMI micro-incubators, temperature is controlled either from a thermistor placed in the bath, or from a second thermistor permanently positioned on the plate containing the regulated surface of the Peltier devices.

Accurate

Accurate thermal control ($\pm 0.2^{\circ}\text{C}$) is achieved by sensing temperature with a miniature thermistor, digitizing the thermistor signals, and then proportionally regulating a low noise DC current output. Current output is also regulated to match the thermal time constants of small systems (such as micro-incubators), thus minimizing initial overshoot and oscillations about the set point.

Other Features

- Low electrical noise for sensitive electrophysiology recordings
- Stable long term operation
- Excellent temperature stability at user selectable set points
- Easy to use, digitally set command temperatures
- Versatile monopolar or bipolar operation (heat only or heat and cool)
- Temperature profile monitoring capability
- Over-temperature shut down

- Low Noise
- Bipolar or monopolar operation
- Temperature control from 0° to 50°C
- Digital display
- Excellent stability

The TC-202A Bipolar Temperature Controller is the next generation of the TC-102 Monopolar Temperature Controller. This instrument operates with all Harvard Apparatus micro-incubators to provide both heating and cooling functions for life science research purposes.

Because the TC-202A is bipolar, it is ideally suited for use with Peltier devices such as those built into our PDMI-2 Open Perfusion Micro-incubator, PSMI Patch Slice Micro-incubator, and CSMI Chambered Slide Micro-incubator.

While the unit has multiple uses, it has been designed as an ideal companion for Harvard Apparatus/Medical Systems Peltier-based micro-incubators. In its monopolar mode, the TC-202A efficiently controls microincubators that use resistive heaters such as the Leiden Micro-incubator Systems and the BSC-BU Brain/Tissue Slice Chamber units.

Specifications

| | |
|----------------------------|--|
| Temperature Setting Range | 0 to 50°C |
| Temperature Regulation | $\pm 0.2^{\circ}\text{C}$ |
| Temperature Display | 0.1°C resolution |
| Chamber Temperature Sensor | Thermoliner type, 36 K Ω nominal at 25°C |
| Voltage Range | 0 to ± 5 V |
| Current Range | 0 to ± 6 A DC |
| Case Size (W x H x D) | 48.3 x 8.9 x 33.7 cm (19 x 3.5 x 13.25 in), 19 in. rack mountable |
| Weight | 5.7 kg (12.5 lb) |
| Power | 150 W, 120/230 VAC, 50/60 Hz, user selectable |

| Order # | Model | Product |
|------------|---------|---|
| W3 65-0045 | TC-202A | Bipolar Temperature Controller for use with PDMI-2, PSMI, CSMI, LU-CB-1, LU-CPC-CEH, and BSC-BU. Includes BSC-T3 Thermistor |

Accessories and Replacement Parts

| | | |
|------------|---------|--|
| W3 65-0057 | BSC-T3 | Bath Thermistor for use with PDMI-2, PSMI, LU-CB1, and TC-202A (36 KW total) |
| W3 65-0056 | BSC-T3A | Bath Thermistor for use with LU-CPC-CEH |
| W3 65-0098 | BSC-T2 | Old Style Bath Thermistor for Obsolete TC-102 |
| W3 65-0016 | BSC-T2A | Old Style Bath Thermistor for use with LU-CPC-CEH and TC-102 |



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