Temperature Controller **BTC Series**

Datasheet

Functions

The BELEKTRONIG benchtop temperature controllers of the BTC series are used to control heating or Peltier elements in a professional way. Their accurate temperature measurement up to 0.001°C combined with the extended PID-algorithm and the high-resolution output power allows a precise adjustment of even the smallest temperature deviations. All units of the series are built compact and robust and offer a high operating comfort and numerous additional functions.

Key Features

- ✓ Compact, easy-to-use laboratory instrument
- ✓ 3 temperature resolutions: 0.1°C, 0.01°C, 0,001°C
- ✓ Measurement range: -200...800°C
- ✓ DC control output up to 270 W (maximal 10 A)
- ✓ Fan Control Output
- ✓ USB Port
- ✓ Separate PID parameter for heating and cooling
- ✓ Freely usable command set
- ✓ Supplied with PC software BTC soft, USB driver, command set, LabView VIs

Configurations

Name: BTC-LAB-	A10	A20	A100	A200	A1000	A2000
Temperature resolution [°C]	0.1	0.1	0.01	0.01	0.001	0.001
Control accuracy [°C]	±0.1	±0.1	±0.01	±0.01	±0.003	±0.003
Number of temperature sensors	1	2	1	2	1	2
Number of fan outputs	1	2	1	2	1	2

Technical Data

Temperature Measurement
› Measurement range: -200...+800°C
› Resolution: 0.1°C; 0.01°C; 0.001°C
› Sampling rate: 10 Hz
› Temperature sensors: PT100, PT1000, (NTC, PTC on request)
› Accuracy of measurement: ±0.05°C
› Temperature coefficient: 0.05 mK/K
› Calibration possibility for sensors

Temperature Control
› Digital PID control algorithm
› Adjustable PID parameter
› Adjustable temperature limits
› Automated switch off in case of errors

Modes of Operation for Peltier elements for heating elements
› (1) Manual control (1) Manual control
› (2) Heating operation only (2) Heating operation
› (3) Cooling operation only
› (4) Heating and cooling

Control Output
› DC control output with adjustable voltage: -27...27 V, max. 10 A
› Adjustable voltage limits e.g. to maximal 12 V, 24 V or similar
› Adjustable current limits e.g. to maximal 7.8 A or similar
› On request: medical approved power supply

Current Measurement on Control Output
› Resolution: 0.3 A (active with 3.4 % of output voltage)

Fan Control Output
› DC Output: 0...12 V DC, maximal 300 mA
› Modes: (1) Manual control
(2) Associated with temperature control output

Interface
› USB 2.0 including drivers for virtual COM port
› On request: RS232

Software Control
› PC software BTC Soft
› LabView VIs
› ASCII command set

Dimensions and Conditions of Operation
› Dimensions (L x W x H): 226 x 172 x 91 mm³
› Weight: 3.2 kg
› Operating temperature: 10...45°C
› Relative humidity: 0...80%, not condensating

Scope of Delivery
› Benchtop temperature controller incl. power and USB cable
› Matching connectors 8polar (if no connecting cables ordered)
› PC software BTC Soft (download link)

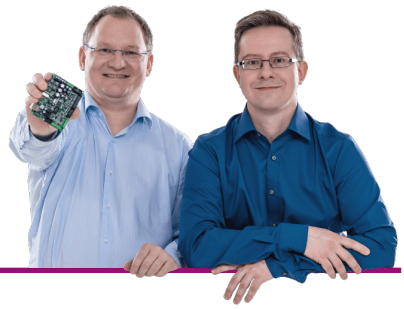
BTC Soft: Measuring, Monitoring and Recording Temperature Curves

› Reading and setting of device settings and conditions via USB interface (set-point, PID parameter, limits, ...)
› Continuous display of temperature and output power
› Dialogue for data recording
› Dialogue for actualizations and upgrades to a higher configuration

Matching Equipment to Complete your Experimental Setup

› Peltier modules: Air cooler/heater, Plate cooler/heater
› Connecting cables
› Temperature sensors
› Heating and Peltier elements
› Individual sets, fast and easy plug-and-play
› Customization of controller firmware

Learn more about the quality standards of BELEKTRONIG and easily request a quote for your individual experimental setups.
Dr.-Ing. Glen Guhr and Dr.-Ing. Raimund Bruenig



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