Production discontinued, successor model under development.

THERMO ELECTRIC PELTIER CONTROLLER

Model TA-PB-1

◆ Features ◆

Patent acquisition *1

Downsizing High Precision Peltier (Uni-Thermo recommended) Controller

Temperature Control ◆ ±0.1 °C

External Dimension ◆ W 178 × D 93(D107.5*) × H 44.5 mm
(*: Including protrusions such as connectors)

High Cost Performance by Simple Basic Function

Drive voltage ◆ 5 V ~ 25 V 10 A max.

Temp. Control Range ◆ – 100 °C ~ + 150 °C

Simple Method of Handling

Temperature setting, parameter setting are simple
(TFT touch screen, free PC application, homepage, etc.)

PC Communication Function Loaded

Setting, monitoring is possible from the outside
such as a PC, PLC via 3 wire type RS232

WiFi Communication Function Loaded

Setting, monitoring is possible by the browsers such as a PC, tablet, smartphone via WiFi. Or setting, monitoring is possible from the cloud corresponding to the MQTT format.

Corresponds to Various Sensor Types

Standard Correspondence is Pt 100. When purchasing, you can select thermistor, Pt 100, thermocouple.
(after purchase, it can be changed for a fee.)

Connect Diagram and Extensibility (Semi Custom, Full Custom Correspondence)

AUX output (cooling FAN etc.)
Independence and joint ownership are possible to the driving power supply.

20 series, 30 series, 40 series, 70 series
Corresponds to various Peltier
Peltier drive output corresponds to 5 V to 25 V, up to 10 A

WiFi

Loaded with a Simple WiFi server
Operable with browsers such as smartphone (iOS and Android), tablet (including iPad), PC (Win, Mac, Linux)
MQTT compatible cloud
LOSANT (Paid option)

PC, PLC and RS 232 mounted controller
And various interface converters
USB, RS485, Ethernet, BT, BLE, ZIGBEE, LoRa, SigFox, Optic fiber communication etc.

Drive power supply input 5 V ~ 25 V 10 A
And DC output power supply input 5 V to 25 V 10 A

Temperature sensor input 2 system
Pt 100 (standard)
As purchase option
- Thermistor specified by our company 10K @ 25 °C
- Select one type of K, J, N, R, S, T, E, B thermocouples
- Compatible with Pt100, thermistor and thermocouple combinations
  Other sensors can be customized

CAUTION : Sensor, Peltier product, power supply, connectable equipment etc. are all sold separately.
*1: Acquired patent: Patent No. 6627951

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Specifications

Temperature Range	−100 °C ~ +150 °C
Temperature Setting	Possible in increments of 0.1 °C
Temperature Indication	Possible in increments of 0.1 °C
Indicator, Function	●Temperature display, graph display, device control and setting input with 2.4 inch TFT touch screen. ●Connection via WiFi by built-in WiFi server in the main unit. PC (Win, Mac, Linux) with browser, Tablet (including iPad), Smartphone (iOS and Android). ●Operation is possible by cloud corresponding to MQTT format message.(Custom support)
Control Method	PID control (also supports P control and PI control)
PID parameter	For Kp, Ki and Kd, the numerical value setting of the main body can be entered in 0.1 steps from 0 to 999. (However, As for the number of the indication figures, indication setting is possible with up to 3 digits of 0.0-99.9-999 including after the decimal point.)
Peltier Drive Method	PWM drive
Temp. Sensor	2 systems loading. Standard Pt 100. As purchase option, thermistor and thermocouple can be selected. Also, after purchase, it can be changed for a fee. **In addition, Each sensor, offset function and gain adjustment function Loaded.**
Safety Function	More equipped, such as runaway measures due to sensor unconnected state.
Safety operation function	Operation management of the main unit setting screen with PIN is possible.
Drive command	Language used for input and output with PC, PLC, cloud, etc. The grasp of the control and main body state is possible.
Script command	Supports macro languages, conditional expressions, and theoretical expressions for assembly languages that can operate at high speed inside the main unit. Supports startup from drive commands and startup scripts.
Log function	Recording to microSD card (16GB or less) that can be set inside, or output in MQTT format via 3 wire type RS232 port and via WiFi.
Input / Output Connector (Standard loading*) **Use a terminal block made by Pheonix which can insert and remove all except DC jack and D-sub 9. Special connector etc. unnecessary.**	input : Main unit, for AUX (including for DC OUTLET) Sensor 1, Sensor 2 output : Peltier output, AUX output 1, AUX output 2, DC OUTLET 2 systems. (AUX and DC output can be set independently of drive voltage, and AUX1 and 2 can be ON / OFF controlled) Input / output : 3 wire type RS232 (Tx, Rx, GND) *: TTL level serial output (Tx, Rx), USB output, additional interface, Peltier output, sensor type, input / output port can be customized for a fee.
Power Supplies	For driving : +5 ~ 25 V ±5 %
Input Power Supply	Max. +25 V 10A
Communication	RS232 (Easy to connect to converters such as RS485 and USB because it is a 3-wire system), WiFi (with a WEB server), I2C (for custom use, no external terminals are exposed for standard products).
Working Environment	Inside area
Working Temp. Range	+5 °C ~ +60 °C
Working Humidity Range	85 % max. (No evidence of dew)
Outer Dimensions	W 178 × D 93 (D107.5*) × H 44.5 mm (Including protrusions such as connectors)
Weight	395 ± 5 g (Standard product for Pt100)

⚠ * The content of this catalog is based on the information as of January 2020. Specifications of products are subject to change without notice.

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