

# THERMO ELECTRIC PELTIER CONTROLLER

## Model TA-PB-1

### ◆ Features ◆

#### Downsizing High Precision Peltier (Uni-Thermo recommended) Controller

Temperature Control ◆  $\pm 0.1\text{ }^{\circ}\text{C}$   
 External Dimension ◆ W 176 × D 91 × H 44 mm  
 (Except for the protrusions)

#### High Cost Performance by Simple Basic Function

Drive voltage ◆ 5 V ~ 25 V 10 A max.  
 Temp. Control Range ◆  $-100\text{ }^{\circ}\text{C} \sim +150\text{ }^{\circ}\text{C}$

#### Simple Method of Handling

Temperature setting, parameter setting are simple  
 (TFT touch screen and via WiFi)

#### 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.

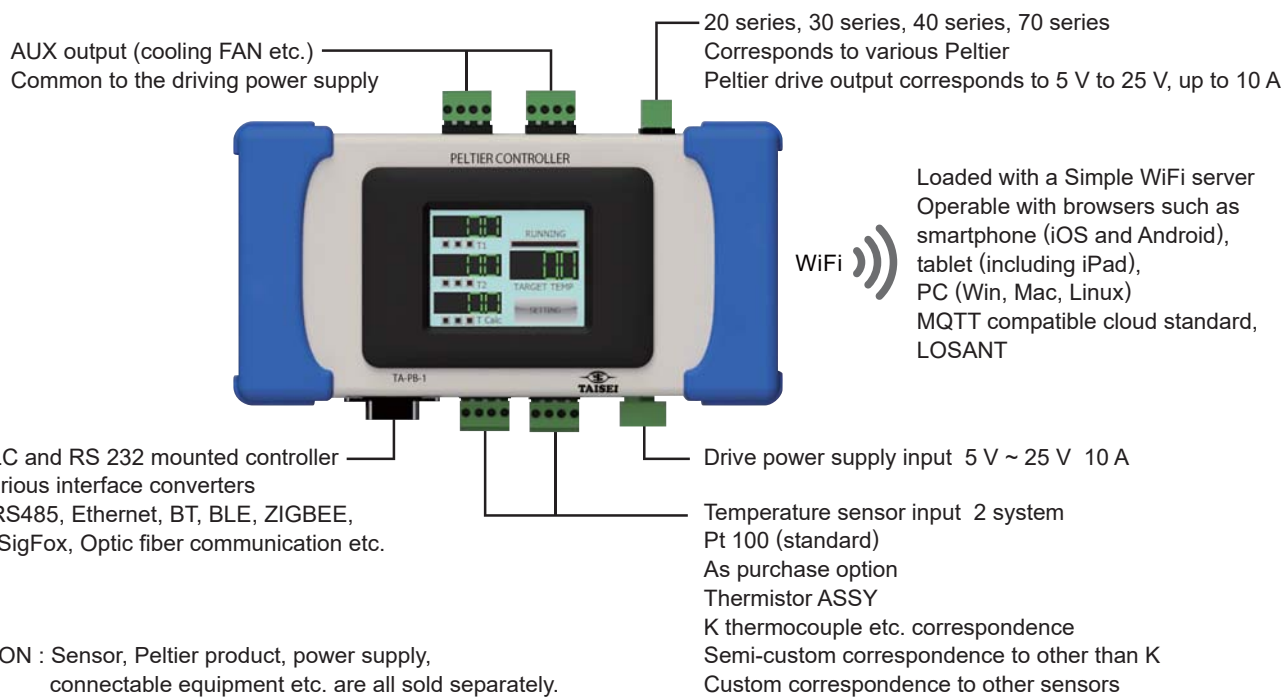
#### Corresponds to Various Sensor Types

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

Patent  
Pending



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



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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	<ul style="list-style-type: none"><li>●Temperature display, graph display, device control and setting input with 2.4 inch TFT touch screen.</li><li>●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).</li><li>●Operation is possible by cloud corresponding to MQTT format message.</li></ul>
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. <b>In addition, Each sensor, offset function Loaded.</b>
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
Script command	Language used for input and output with PC, PLC, cloud, etc. The grasp of the control and main body state is possible. Conditional expression correspondence.
Script file	Automatic operation is possible by a file listing script commands. In addition, it corresponds to the start-up script.
Log function	Log output to MQTT, PC (Standard, via RS 232 port) and internal microSD card is possible.
Input / Output Connector (Standard loading*) Use a terminal block made by Phoenix which can insert and remove all except DC jack and D-sub 9. Special connector etc. unnecessary.	input : power supply for Peltier, power supply for Logic (DC jack), Sensor 1, sensor 2, power supply for AUX. output : Peltier output, AUX output 1, AUX output 2, DC output 2 systems. (The AUX and DC outputs are common to the drive voltage, and AUX 1 and 2 can be ON / OFF controllable.) Input / output : 3 wire type RS232 (Tx, Rx, GND) *: TTL level serial output (Tx, Rx), additional interface, Peltier output, Sensor input, Sensor type, Input and output port are provided with fee-based semi-custom.
Power Supplies	For driving : + 5 ~ 25 V ± 5 %
Input Power Supply	Max. + 25 V 10A
Communication	RS232 (Easy to connect with converters such as RS485, USB etc. because of 3 wire type.) WiFi (WEB server Loaded.), I2C (For semi custom and custom. For standard products, no external terminal exposure.)
Working Environment	Inside area
Working Temp. Range	+ 5 °C ~ + 60 °C
Working Humidity Range	85 % max. (No evidence of dew)
Outer Dimensions	W 176 × D 91 × H 44 mm (Excluding protrusions such as connectors etc.)
Weight	410 g (Excluding wiring etc.)

 \* The content of this catalog is based on the information as of November 2018. Specifications of products are subject to change without notice.