

# THERMO ELECTRIC PELTIER CONTROLLER

## Model TA-20

### ◆ Features ◆

#### Downsizing High Precision Peltier Controller

- Temperature Control ◆  $\pm 1\text{ }^{\circ}\text{C}$
- External Dimension ◆ W 100 × D 65 × H 35 mm  
(Except for the protrusions)

#### High Cost Performance by Simple Basic Function

- Input Volt ◆ 5 V
- Output Current ◆ 5 A max.
- Temp. Control Range ◆  $-20\text{ }^{\circ}\text{C} \sim +110\text{ }^{\circ}\text{C}$

#### Simple Method of Handling

The method of Temperature and parameters are very simple and easy.

#### PC Communication function loaded


Temperature setting and supervision are possible from PC by communication function.

Please consult for needs of a substrate.



### Specifications

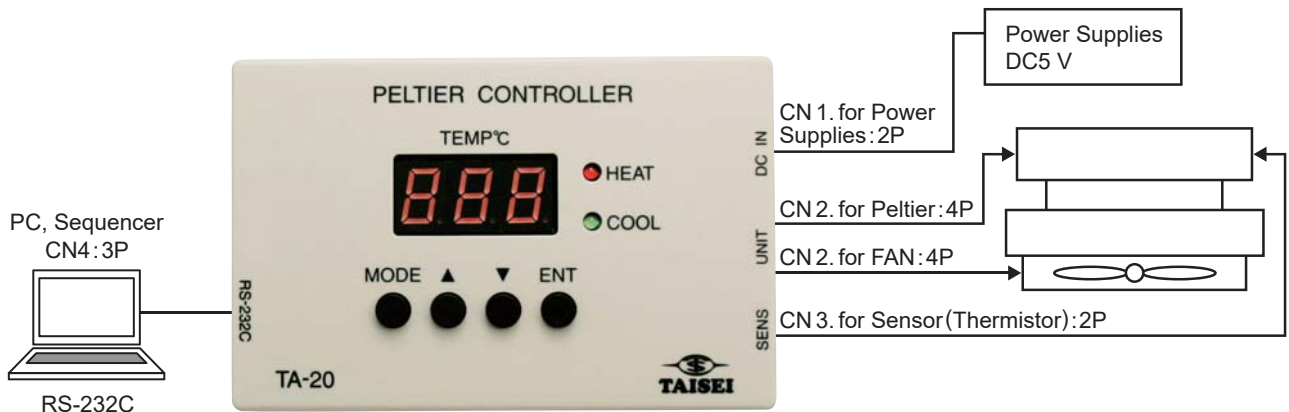
Temperature Range	$-20\text{ }^{\circ}\text{C} \sim +110\text{ }^{\circ}\text{C}$
Temperature Setting	Possible in increments of $1\text{ }^{\circ}\text{C}$
Temperature Indication	Possible in increments of $1\text{ }^{\circ}\text{C}$
Indicator, Function	Red LED in heating, Green LED in cooling
Control Method	PI control
P Range	$0.1$ to $99.9\text{ }^{\circ}\text{C}$
I Range	$1$ to $1999$ sec.
Peltier Drive Method	PWM drive
Temp. Sensor	Thermistor
Safety Function	At braking a sensor, the power is off.
Input / Output Connector	2P connector for Power Supplies, 4P connector for Peltier, FAN 2P connector for thermistor, 3P terminal for RS-232C
Recommended Sensor	thermistor : $10\text{ k}\Omega$ at $25\text{ }^{\circ}\text{C}$ tolerance: $\pm 1\%$ , B constant: $3435\text{ K} \pm 1\%$ (Temperature precision depends on sensor precision.If you use a sensor other than the above standard, Accurate display and control are impossible.)
Power Supplies	Supplied from outside (DC 5 V)
Electric Current	DC 5 V 0.08 A (Controller Unit)
Peltier Drive Capability	DC 5 V 5 A (at Maximum)
Communication	RS-232C
Working Environment	Inside area
Working Temp. Range	$+10\text{ }^{\circ}\text{C} \sim +40\text{ }^{\circ}\text{C}$
Working Humidity Range	$85\%$ max. (No evidence of dew)
Outer Dimensions	W 100 × D 65 × H 35 mm (Except projection)
Weight	100 g (for the main unit only)

 \* Specifications of products are subject to change without notice.

**TAISEI Co.,Ltd.**



### Connect Diagram



Caution 1) Please use DC 5 V power supply. Power supply is supplied to this unit, Peltier, DC fan.  
Please use power supply and electric wire with sufficient power capacity.  
**If you add a voltage outside the specified range, it will be damaged.**  
2) Please use the same power supply for Peltier element and DC fan.

### ● Matching Connector Housing and Contact

For RS-232C	H3P-SHF-AA	JST Mfg.Co.,Ltd.	For Peltier,FAN	VHR-4N	JST Mfg.Co.,Ltd.
For Thermistor	H2P-SHF-AA	JST Mfg.Co.,Ltd.	For Power Supplies	VHR-2N	JST Mfg.Co.,Ltd.
(Matching Contact)	SHF-001T-0.8BS	JST Mfg.Co.,Ltd.)	(Matching Contact)	SVH-21T-P1.1	JST Mfg.Co.,Ltd.)

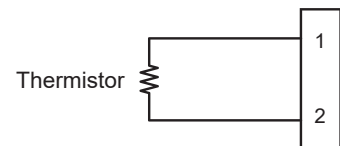
### ● External connection connector and pin assign

CN 4. for RS-232C:3P		
pin	1	TXD
	2	RXD
	3	GND

CN 2. for Peltier, DC FAN		
pin	1	Peltier +V
	2	Peltier -V
	3	FAN +V
	4	FAN -V

CN 1. for Power Supplies		
pin	1	+V
	2	0V

CN 3.(TH) for Thermistor:2P

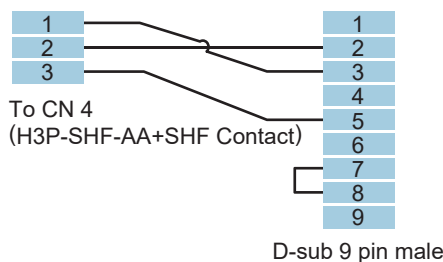


(Please refer to the recommended sensor in the specification column for recommended Thermistor.)

### ● Connection between CN 4 and RS-232C

(Please use a cross cable for the RS-232C cable.)

Connect the VPE-20-5V and PC with the following cables.



#### ■ D-sub 9 pin Cross Cable

