

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

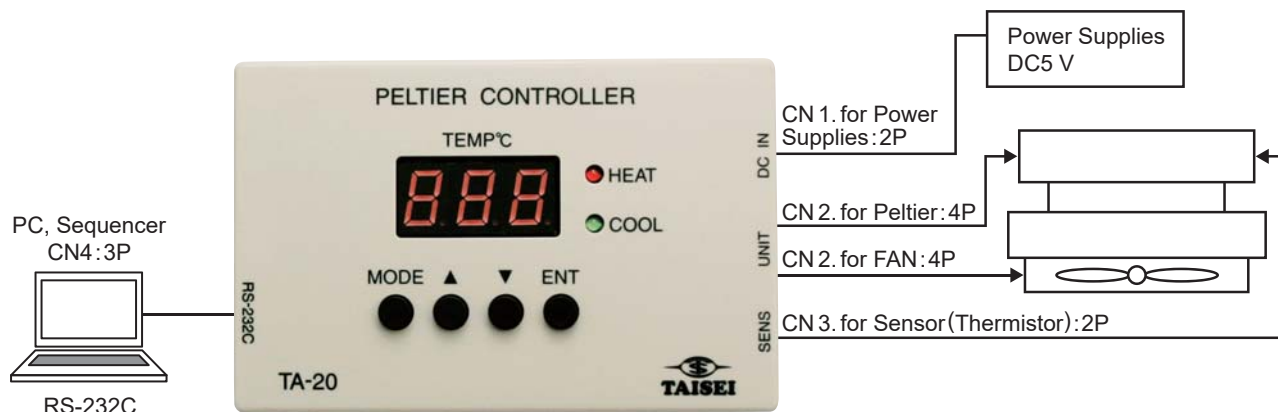
Temperature Range	$-20\text{ }^{\circ}\text{C} \sim +110\text{ }^{\circ}\text{C}$
Temperature Setting	Possible in increments of $1\text{ }^{\circ}\text{C}$
Temperature Indication	Possible in increments of $1\text{ }^{\circ}\text{C}$
Indicator, Function	Red LED in heating, Green LED in cooling
Control 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.)

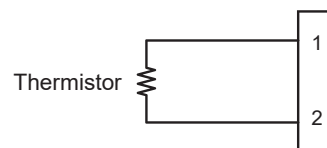
● External connection connector and pin assign

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

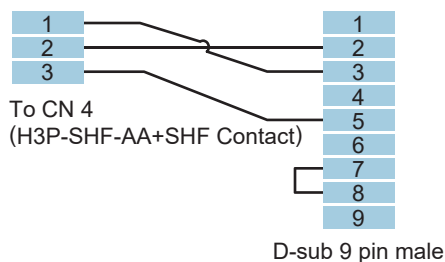


(Please refer to the recommended sensor in the specification column for recommended Thermistor.)

● 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

