THERMO ELECTRIC PELTIER CONTROLLER
Model TA-151

◆ Features ◆

Downsizing High Precision Peltier Controller

Temperature Control ◆ ±0.1 °C
External Dimension ◆ W 120 × D 100 × H 44 mm
(Except for the protrusions)

High Cost Performance by Simple Basic Function

Input Volt ◆ 8 V ~ 24 V
Output Current ◆ 8 A max.
Temp. Control Range ◆ −80 °C ~ +150 °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.

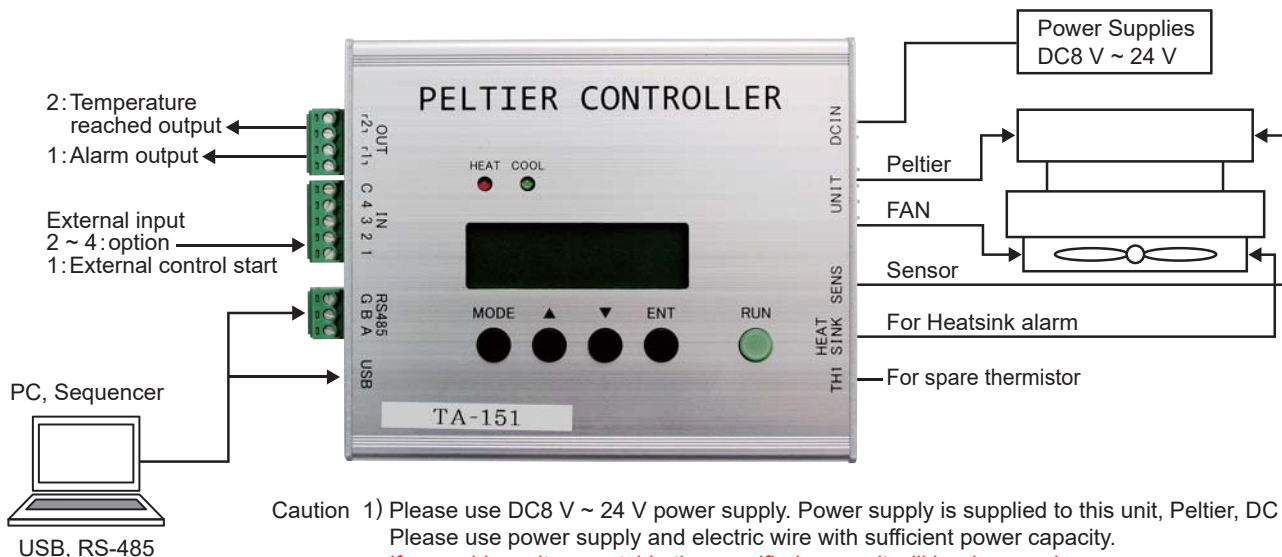Please consult for needs of a substrate.

Specifications

Temperature Range	−80 °C ~ +150 °C
Temperature Setting	Possible in increments of 0.1 °C
Temperature Indication	Possible in increments of 0.1 °C
Indicator, Function	Red LED in heating, Green LED in cooling, Red LED in alarming
Control Method	PI control
P Range	0.1 to 99.9 °C
I Range	1 to 1999 sec.
Peltier Drive Method	PWM drive
Temp. Sensor	Pt100 Ω
Safety Function	At braking a sensor, the power is off. At alarm a Heatsink, the power is off.
Auxiliary Input / Output Signal	Temperature control start input, Spare input: 3, Alarm contact output (B contact), Setting temperature reaching contact output (A contact)
Input / Output Connector	2P connector for Power Supplies, 4P connector for Peltier, FAN 3P connector for Pt100 Ω Sensor, 2P connector for Heatsink Sensor, USB connector, connector for RS-485
Recommended Sensor	Pt100 Ω : in conformity with New JIS standard C-1604-1989 (Temperature precision depends on sensor precision.If you use a sensor other than the above standard, Accurate display and control are impossible.)
Peltier Power Supply	The same voltage as the input power supply.
Peltier Drive Capability	DC 24 V 8 A (at Maximum)
Input Power Supply	DC 8 V ~ 24 V ±5 %
Electric Current	0.2 A (Controller Unit)
Communication	USB(micro B), RS-485
Working Environment	Inside area
Working Temp. Range	+10 °C ~ +40 °C
Working Humidity Range	85 % max. (No evidence of dew)
Outer Dimensions	W 120 × D 100 × H 44 mm (Except projection)
Weight	285 g (for the main unit only)

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

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Connect Diagram

2：Temperature reached output

1：Alarm output

External input
2 ~ 4：option
1：External control start

PC, Sequencer

USB, RS-485

PELTIER CONTROLLER

HEAT COOL

MODE　▲　▼　ENT　RUN

TA-151

Power Supplies DC8 V ~ 24 V

Peltier

FAN

Sensor

For Heatsink alarm

For spare thermistor

Caution 1) Please use DC8 V ~ 24 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 Power Supplies	VHR-2N	JST Mfg.Co.,Ltd.
For Peltier,FAN	VHR-4N	JST Mfg.Co.,Ltd.
（Matching Contact	SVH-21T-P1.1	JST Mfg.Co.,Ltd.）

For Sensor	H3P-SHF-AA	JST Mfg.Co.,Ltd.
For HeatsinkALM	H2P-SHF-AA	JST Mfg.Co.,Ltd.
For Spare Thermistor	H2P-SHF-AA	JST Mfg.Co.,Ltd.
（Matching Contact	SHF-001T-0.8BS	JST Mfg.Co.,Ltd.）

● Left side external connection connector and pin assign

■ Communication with PC / Sequencer

You can communicate with either USB or RS-485.

USB connector

Please use the micro B connector on the controller side.

RS-485

pin	1	A(+)
	2	B(−)
	3	G

Terminating resistance ON / OFF SW
On termination, please turn it on.

■ External control input / output

External input

pin	1	IN1
	2	IN2
	3	IN3
	4	IN4
	5	COM

IN1 : External control ON / OFF
IN2 : spare
IN3 : spare
IN4 : spare
COM : ＋or －

*The input power source polarity can be either ＋or －.

External contact output

pin	1	[1]
	2	
	3	[2]
	4	

[1] : Alarm contact output
[2] : Setting temperature arrival output
(within ± 3 ℃)
Use relay : G6K-2P (OMRON made)
Maximum opening and closing ability（Resistive load）：
AC125 V 0.3 A, DC30 V 1 A, No exchange
Used terminal block :
XW4B Socket（OMRON made）
The wiring material is AWG 28 to AWG 16,
The peeling length of the wire is about 7 mm.

● Right side external connection connector and pin assign
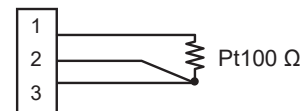
DCIN : for Power Supplies

pin	1	+V
	2	0V

UNIT : for Peltier, DC FAN

pin	1	Peltier +V
	2	Peltier –V
	3	FAN +V
	4	FAN –V

SENS : For sensor input

pin	1	A
	2	B
	3	B

1
2 Pt100 Ω
3

HEATSINK : For HeatsinkALM

pin	1	TH
	2	TH

1
2 Thermistor
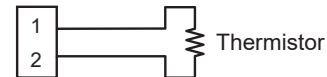
TH1 : For spare thermistor

pin	1	TH
	2	TH

1
2 Thermistor
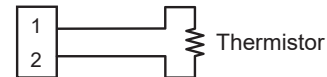
(Please refer to the recommended sensor in the specification column for recommended Pt100 Ω.)