



PRODUCT INTRODUCTION



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The 73 series programmable temperature controller is FineTek's most high-end controller. Equipped with a 24 bit analog/ digital converter core processor and with FUZZY and improved PID calculation microprocessor, the controller is capable of fast and accurate performance with reliable results. Double row of 4 digit displays indicates Present Value and Set Value (except PT7310), enables user friendly readings and coupled with 3 button operation, makes operating the controller very convenient.

High Sampling Rate, High Accuracy

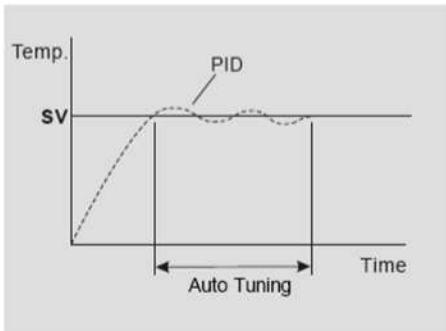
Sampling rate of 5 times per second (equivalent to 0.2sec per sampling) enables the controller to achieve high accuracy readings and accurate operations.

PID + FUZZY Control

Addition of FUZZY technology to PID control enables the controller to use the shortest time required as well as the smallest transients in order to achieve stability at the set value required by the user.

Auto-tuning

Artificial intelligence technology enables the controller to calculate the most efficient parameters to suit each and every application, thereby increasing the efficiency of the process to the maximum.



Sensor Break Alarm:

If the temperature sensor malfunctions / breaks, an alarm figure will be displayed on the panel to notify users.



Lock Protection for Control Parameters

Provides 3 levels of lock protection available should the user choose to lock the parameters in case of parameters change by accident.

Heating / Cooling Bi-directional Control

Enables the user to select between both heating and cooling processes, reduces inconveniences of single direction control methodology and reduces inventory.

Multi-inputs Function

Accepts 8 types of thermocouple inputs, DC voltage input and 2 types of RTD inputs. Convenience of use.

Switching Power Supply

Accepts 85 ~ 265VAC, 50/60Hz power supply, able to prevent controller from being affected by interferences due to ripples in power supply.

RS485 (Modbus) Communication:

Both RTU and ASCII communication modes for selection



SIGNAL INPUT

Signal Input	Range	Accuracy	
Thermocouple	K	-200~1370°C	0.3% ± 1digit
	J	-210~1200°C	0.3% ± 1digit
	R	-50~1760°C	0.3% ± 1digit
	S	-50~1760°C	0.3% ± 1digit
	B	250~1820°C	± 8°C ± 1digit
	E	-200~1000°C	0.3% ± 1digit
	N	-200~1300°C	0.3% ± 1digit
	T	-200~400°C	± 2°C ± 1digit
RTD	PT100	-200~850°C	0.3% ± 1digit
	JPT100	-200~850°C	0.3% ± 1digit
Direct Voltage	0~350mV	0.3% ± 1digit	
	0-10 VDC	0.3% ± 1digit	
	4-20 mA	0.3% ± 1digit	

CONTROL FUNCTION

Control Method	ON/OFF PID+Auto Tuning +Fuzzy PID+Auto Tuning
Fraction Value	0~9999
Integral time	0~9999
Differential time	0~9999
Alarm / Output Hysteresis setting	0~9999
Sampling Interval	0.2s
Output Control Cycle	0.1~999.9s

* Accuracy ± 9°C for R and S in 0~500°C range
 * For 0 ~ 400°C range, it does not guarantee accuracy on B type.

ALARM FUNCTION

Alarm Types	Absolute Value Alarm, Discrepancy Alarm, Area Alarm,
Set Value	0 ~ 99s
Alarm Output	SPST- ON, 3A-250VAC (Resistance Load) (PT-7320, 3A)
Action Method	Alarm Activation / De-Activation delay
Signal Output	Relay Output

MAIN CONTROL OUTPUT

Specifications / Model / Module	7310	7320	7330	7331	7340	7350
Relay	SPST-ON 5A/250Vac	SPST-ON 3A/250Vac	SPST-ON 5A/250Vac	SPDT 5A/250Vac	SPST-ON 5A/250Vac	SPDT 5A/250Vac
Pulse Output (SSR)	0/12Vdc (NPN), Max.20 mA					
Analog (Re-transmission)	4~20 mA					
	0~10Vdc Max.600Ω					

2nd CONTROL OUTPUT

Specifications / Model / Module	7310	7320	7330	7331	7340	7350
Relay		SPST-ON 3A/250Vac	SPST-ON 5A/250Vac	SPST-ON 5A/250Vac	SPST-ON 5A/250Vac	SPST-ON 5A/250Vac
Pulse Output (SSR)	0/12Vdc (NPN), Max.20 mA					
Analog (Re-transmission)	4~20 mA					
	0~10Vdc Max.600Ω					



OTHER FUNCTIONS

Temperature Sensor Break Detection	Error Indication on display panel (Only PT-7320)
Heater Feedback Irregularities Detection	Alarm when no current or user- set current value are encountered
Remote Setting	Able to change SV set value
Parameters Lock	3 tier protection
1st Tier	Adjustable: Input signal, alarm setpoint, set values, control type (All parameters)
2nd Tier	Adjustable: alarm setpoint, set values, control type (Auto-tuning)
3rd Tier	Total lock of program

OPERATING & STORAGE ENVIRONMENT

Operation Temperature	0~50°C
Operation Humidity	20~85%RH
Storage Temperature	-20°~60°C

STRUCTURE

Installation	Panel Mounted using 2 locking clips					
Casing Material	Plastic					
Dimensions	Refer to page 4 and 5					
Colour	Black					
Protection Rating	7310 IP-54	7320 IP-65	7330 IP-54	7331 IP-54	7340 IP-65	7350 IP-65

STANDARD SPECIFICATIONS

Power Supply	85~265Vac,50/60Hz
Power Consumption	7VA
Input Resistance	> 1MΩ
Input Compensation	-1999~9999
Digit Filter	10~100 Times
International Standard	CE
Settings Range	-1999~9999

COMMUNICATIONS

Communication Interface	RS-485
Communication Protocol	Modbus RTU or ASCII
Data Format	8 bits, Bit check: odd/even/none. Stop Bit: 1 or 2bits
Communication Speed	600 · 1200 · 2400 · 4800 · 9600 · 19200 · 38400 bps
Address	000~255

DISPLAY CAPABILITIES

Digit Size \ Model	7310	7320	7330	7331	7340	7350
Display						
PV (red)	0.31"	0.36"	0.39"	0.36"	0.56"	0.56"
SV (green)		0.28"	0.28"	0.36"	0.36"	0.36"

LED Indicators

Digit Size \ Model	7310	7320	7330	7331	7340	7350
Display						
Control Output	X 1	X 1	X 2	X 2	X 2	X 2
Alarm Output	X 1	X 1	X 2	X 2	X 2	X 2
Celsius Display	X 1				X 1	X 1
Fahrenheit Display	X 1				X 1	X 1

BLACKOUT PROTECTION

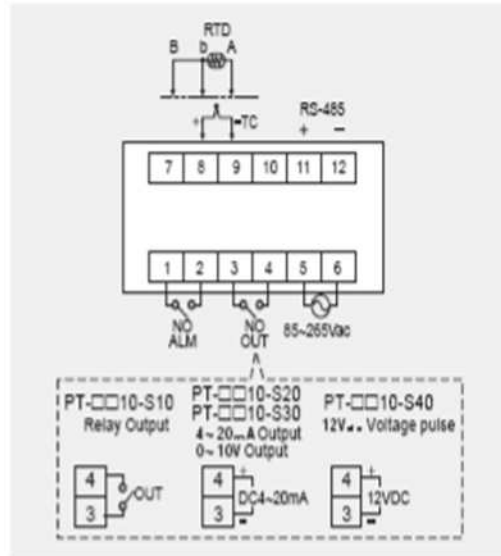
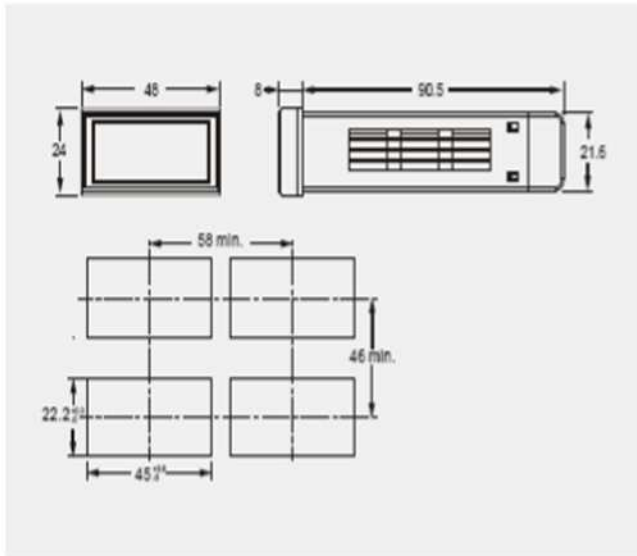
Memory Retention	EEPROM
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DIMENSION / PANEL CUTOUT & WIRING DIAGRAM

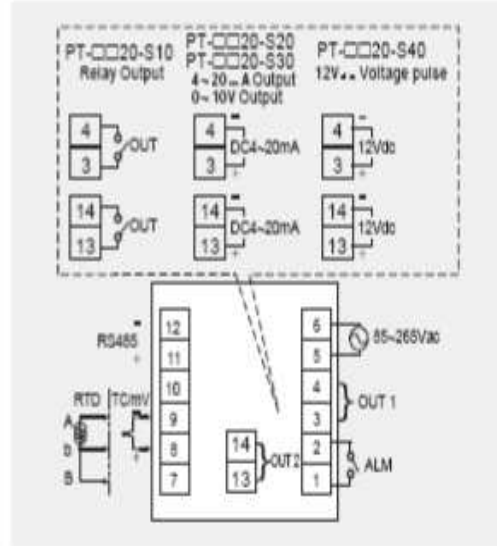
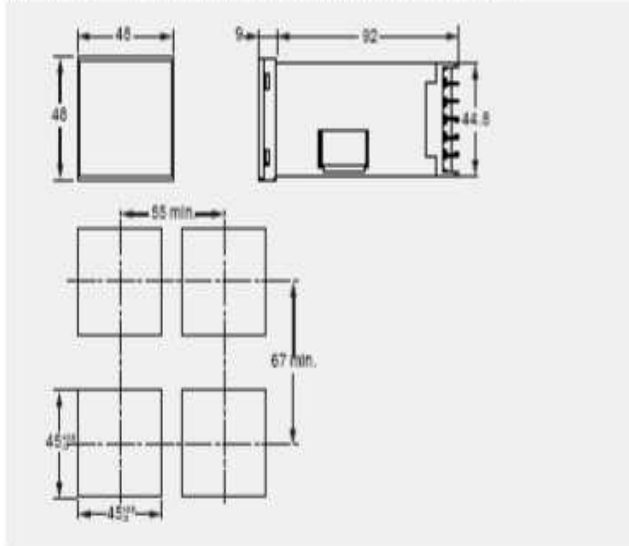
DIMENSION / PANEL CUTOUT & WIRING DIAGRAM



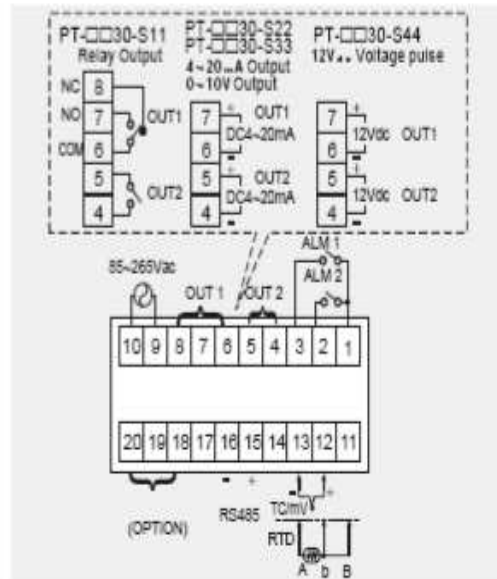
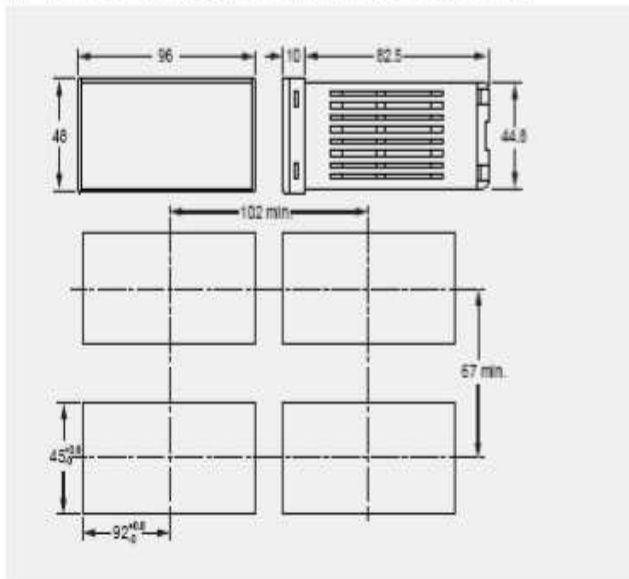
P T-7310 : 48mm(H) x 24mm(W) x 98.5mm(D)



PT-7320 : 48mm(H) x 48mm(W) x 101mm(D)

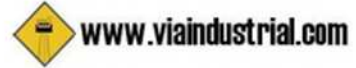


PT-7330 : 96mm(H) x 48mm(W) x 92.5mm(D)

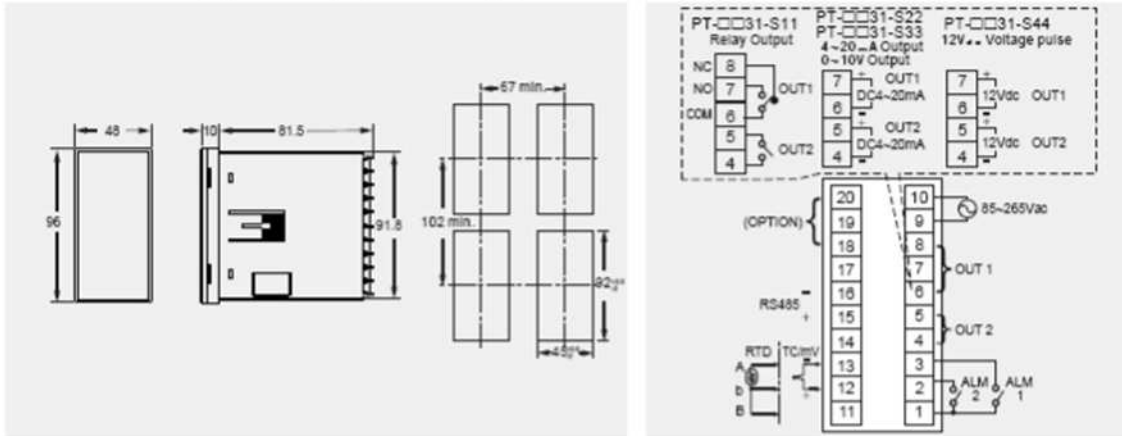


DIMENSION / PANEL CUTOUT & WIRING DIAGRAM

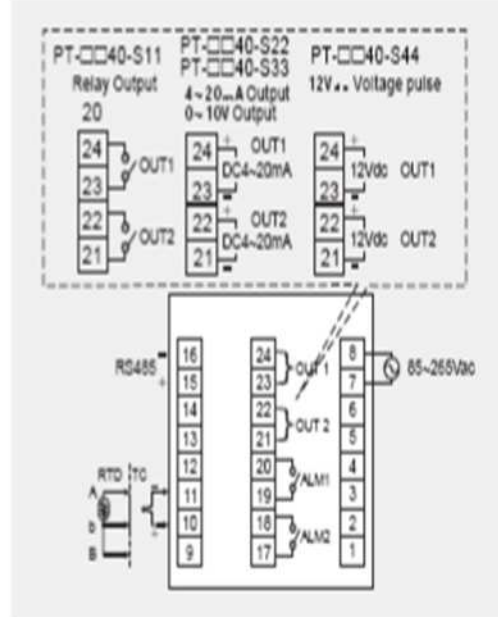
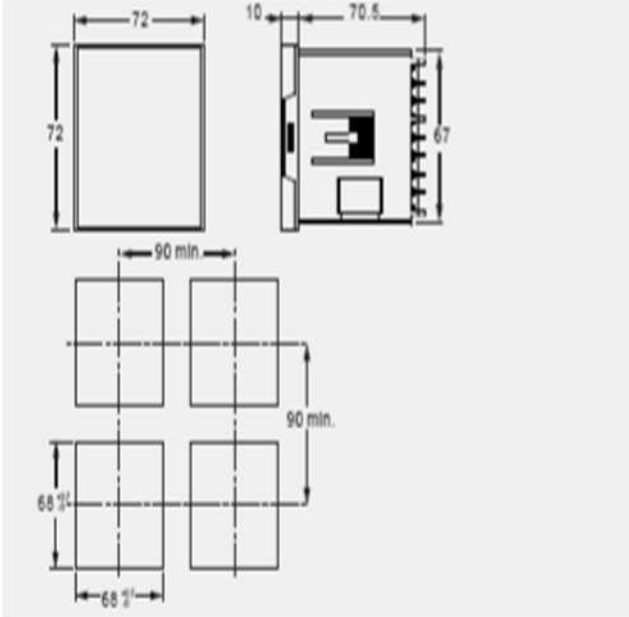
DIMENSION / PANEL CUTOUT & WIRING DIAGRAM



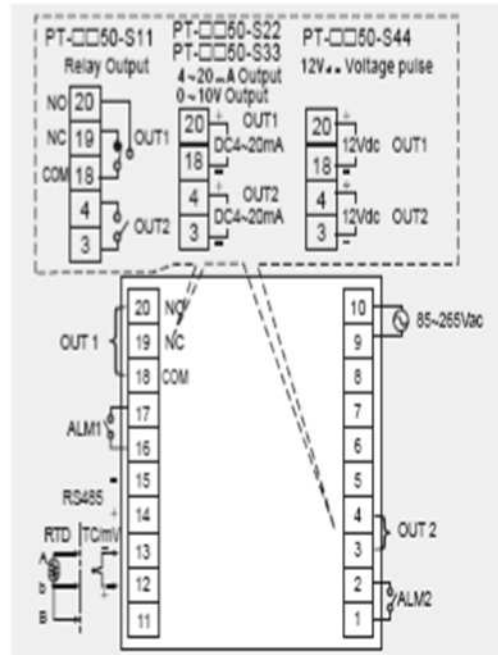
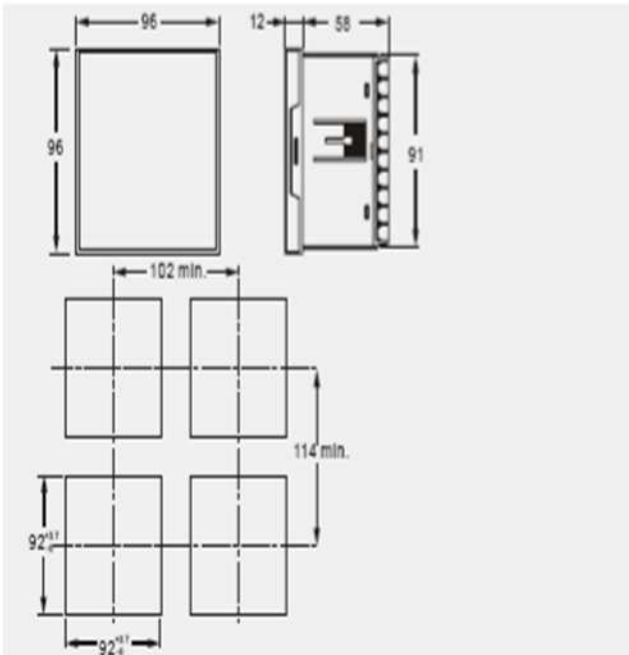
PT-7331 : 48mm(H) x 96mm(W) x 91.5mm(D)



PT-7340 : 72mm(H) x 72mm(W) x 80.5mm(D)



PT-7350 : 96mm(H) x 96mm(W) x 70mm(D)





ORDERING INFORMATION

PT-73 □ □ - S □ □ □ □ - □ (□)

Dimension	10---48x24 31---48x96 20---48x48 40---72x72 30---96x48 50---96x96	▲ ▲								
Control Output (1)	0---None 1---Relay Output 2---4~20mA Output	3---0~10Vdc Output 4---Voltage pulse (12Vdc) for SSR drive	▲							
Control Output (2)	0---None 1---Relay Output 2---4~20mA Output ※PT-7310 only Output (1), code is "0"	3---0~10Vdc Output 4---Voltage pulse (12Vdc) for SSR drive	▲							
Alarm Output	0---None 1---1 Set	2---2 Set (for PT-7320, 7330, 7331, 7340, 7350)	▲							
Analog Retransmit	0---None 1---4~20mA DC	2---0~10Vdc 3---0~10Vdc & 4~20mA DC	▲							
Communication	0---None 1---RS4 85 4---Heater Break Detection (Only PT-7320)		▲							
Input Signal	0---Thermocouple (T/C or PT 100) 1---4~20mA 2---0~10Vdc		▲							

For Example:

PT-7320-S1020-01

48x48mm, one relay output and one alarm output

★ Please call for customized specifications