

Autonics
Sensors & Controllers
Made in Korea



جهت اطلاع از قیمت تعداد کالا با شماره های زیر تماس بگیرید:

خط 031-32680335

حرارت سنجهای اتونیکس ساخت کره با قیمتی مناسب و با قابلیت ساپورت سنسور های تیپ J , K , PT100 و با 1 خروجی رله و یک SSR است در این مدل کنترل کننده با یک سگمنت کار میکند.

Main features

- Realizes ideal temp. controlling with newly developed PID control algorithm and 100ms high speed sampling
- **Built-in relay output or SSR output selectable**
- **: Enables to phase control and cycle control with SSR drive output(SSRP function)**
- Dramatically increased visibility using wide display part
- Mounting space saving with compact design
- : Approx. 38% reduced size compared with existing model(depth-based)
- SV/PV deviation indicatable

Ordering Information

T C 4 S - 1 4 R			
Control output	N	Indicator - Without control output	
	R	Relay output+SSR drive output ^{※1}	
Power supply	2	24VAC 50/60Hz, 24-48VDC	
	4	100-240VAC 50/60Hz	
Sub output	N	No alarm output	
	1	Alarm1 output	
	2	Alarm1 + Alarm2 output ^{※2}	
Size	S	DIN W48 × H48mm(terminal block type)	
	SP	DIN W48 × H48mm(11pin plug type) ^{※3}	
	Y	DIN W72 × H36mm	
	M	DIN W72 × H72mm	
	H	DIN W48 × H96mm	
	W	DIN W96 × H48mm	
	L	DIN W96 × H96mm	
Digit	4	9999(4 Digit)	
Setting type	C	Set by touch switch	
Item	T	Temperature controller	

※1: In case of the AC voltage model, SSR drive output method (standard ON/OFF control, cycle control, phase control) is available to select.

※2: It is unavailable for TC4SP, TC4Y.

※3: Socket for TC4SP (PG-11, PS-11) is sold separately.

※The above specifications are subject to change without notice.

Specification Table

Series		TC4S	TC4SP	TC4Y	TC4M	TC4W	TC4H	TC4L
Power supply	AC power	100-240VAC 50/60Hz						
	AC/DC power	24VAC 50/60HZ, 24-48VDC						
Allowable voltage range		90 to 110% of rated voltage						

Power consumption	AC power	Max. 5VA(100-240VAC 50/60Hz)
	AC/DC power	Max. 5VA(24VAC 50/60Hz), Max. 3W(24-48VDC)
Display method		7Segment(Red), Other display(Green, Yellow, Red) LED
Character size		W7×H15mm W7.4×H15m W9.5×H20m W9.5×H20m W7.0×H14.6m W11×H22m m m m m m
Input type	RTD	DPT100Ω(Allowable line resistance max. 5Ω per a wire)
	Thermocouple	K(CA), J(IC), L(IC)
Display accuracy ^{*1}	RTD,	● At room temperature(23°C±5°C): (PV ±0.5% or ±1°C, select the higher one) ±1digit
	Thermocouple	● Out of room temperature range: (PV ±0.5% or ±2°C, select the higher one) ±1digit ※In case of TC4SP Series, ±1°C will be added.
Control output	Relay	250VAC 3A 1 a
	SSR	12VDC ±2V 20mA Max.
Sub output		AL1, AL2 relay output : 250VAC 1A 1a(※TC4SP, TC4Y have AL1 only.)
Control method		ON/OFF and P, PI, PD, PID control
Hysteresis		1 to 100°C/°F(0.1 to 50.0°C/°F) variable
Proportional band(P)		0.1 to 999.9°C/°F
Integral time(I)		9999sec.
Derivative time(D)		9999sec.
Control period		0.5 to 120.0sec.
Manual reset		0.0 to 100.0%
Sampling period		100ms
Dielectric strength	AC power	2000VAC 50/60Hzfor 1min.(Between input terminal and power terminal)
	AC/DC power	1000VAC 50/60Hzfor 1min.(Between input terminal and power terminal)
Vibration		0.75mm amplitude at frequency of 5 to 55Hz(for 1 mln.) In each of X, Y, Z directions for 2 hours
	Mechanical	OUT: Over 5,000,000 times, AL1/2: Over 5,000,000 times

Relay life cycle	Electrical	OUT: Over 200,000 times(250VAC 3A resistive load) AL1/2: Over 300,000 times(250VAC 1A resistive load)
Insulation resistance		Min. 100MΩ(at 500VDC megger)
Noise resistance		±2kV R-phase, S-phase the square wave noise (pulse width: 1us) by the noise simulator
Memory retention		Approx. 10 years (when using non-volatile semiconductor memory type)
Environ-ment		-10 to 50°C, storage: -20 to 60°C 35 to 85%RH, storage: 35 to 85%RH
Insulation type		Double insulation or reinforced insulation (mark: □, Dielectric strength between the measuring input part and the power part: AC power 2kV, AC/DC Power 1kV)
Approval		CE, UL (Except for AC/DC power type), RoHS (TC4S)
Unit weight		Appro x. 97g Appro x. 84g Approx. 127g Approx. 127g Approx. 118g Approx. 118g Approx. 172g Approx. 172g

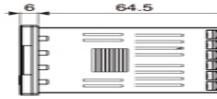
※1: Thermocouple L(IC) type, RTD Cu50Ω

- At room temperature (23°C ±5°C): (PV ±0.5% or ±3°C, select the higher one) ±1digit
- Out of room temperature range: (PV ±0.5% or ±4°C, select the higher one) ±1digit In case of TC4SP Series, ±1°C will be added.

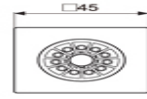
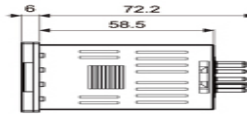
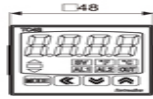
※Environment resistance is rated at no freezing or condensation.

Dimensions

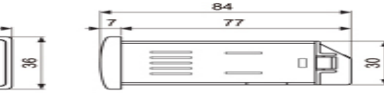
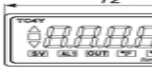
● **TC4S Series**



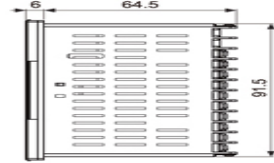
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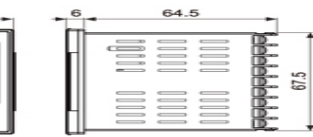
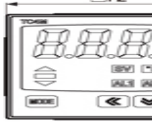
● **TC4Y Series**



● **TC4H Series**

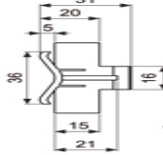
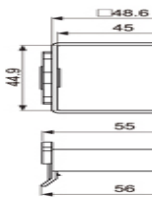


● **TC4M Series**

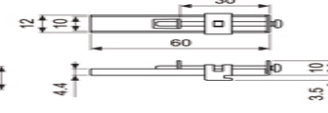


● **Bracket**

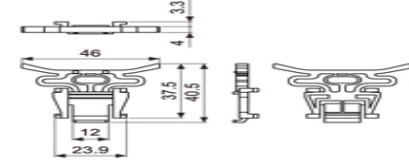
● **TC4S/TC4SP Series**



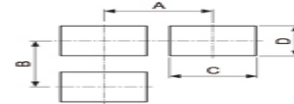
● **TC4Y Series**



● **TC4M, TC4W, TC4H, TC4L Series**

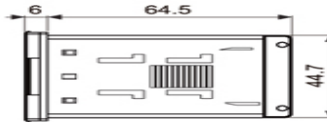
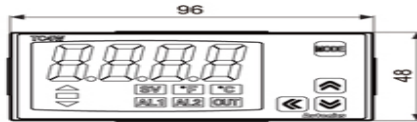


● **Panel cut-out**

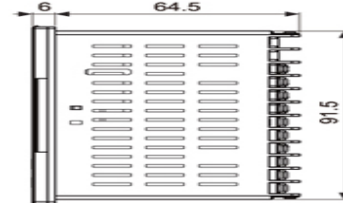
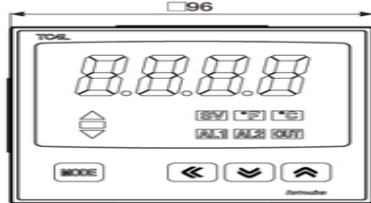


Model	Size	A	B	C	D
TC4S	Min. 65	Min. 65	45 ^{±0.5}	45 ^{±0.5}	
TC4SP	Min. 65	Min. 65	45 ^{±0.5}	45 ^{±0.5}	
TC4Y	Min. 91	Min. 40	68 ^{±0.5}	31.5 ^{±0.5}	
TC4M	Min. 90	Min. 90	68 ^{±0.5}	68 ^{±0.5}	
TC4H	Min. 65	Min. 115	45 ^{±0.5}	92 ^{±0.5}	
TC4W	Min. 115	Min. 65	92 ^{±0.5}	45 ^{±0.5}	
TC4L	Min. 115	Min. 115	92 ^{±0.5}	92 ^{±0.5}	

● **TC4W Series**

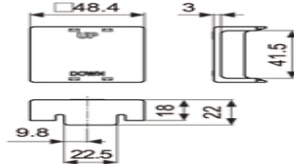


● **TC4L Series**

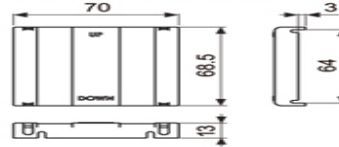


● **Terminal cover(sold separately)**

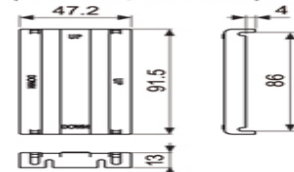
● **RSA-COVER(48×48mm)**



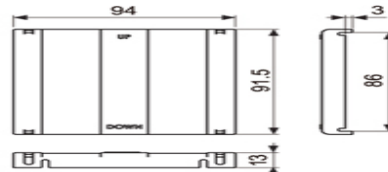
● **RMA-COVER(72×72mm)**



● **RHA-COVER (48×96mm, 96×48mm)**



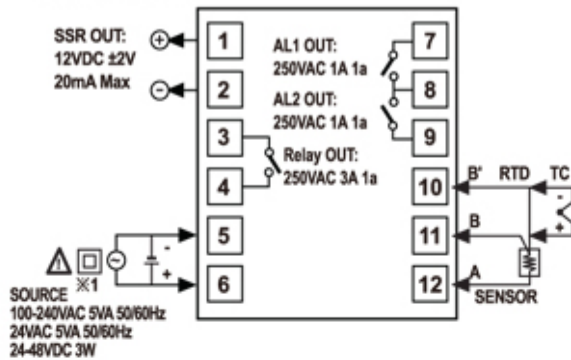
● **RLA-COVER(96×96mm)**



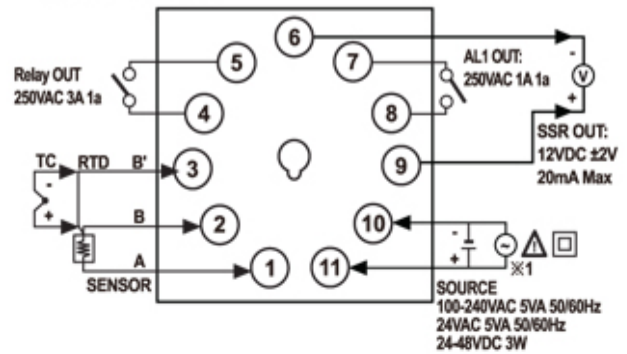
Connections

※TC4 Series has selectable control output; Relay output, and SSR drive output.
AC/DC power type does not have SSRP function.

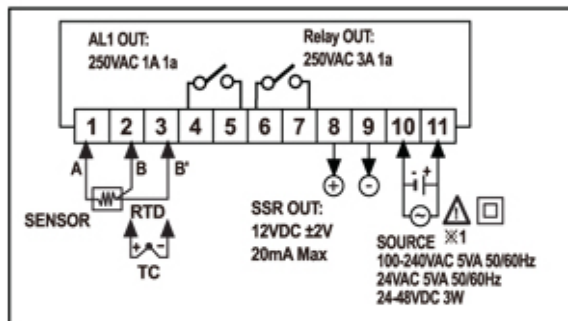
● TC4S Series



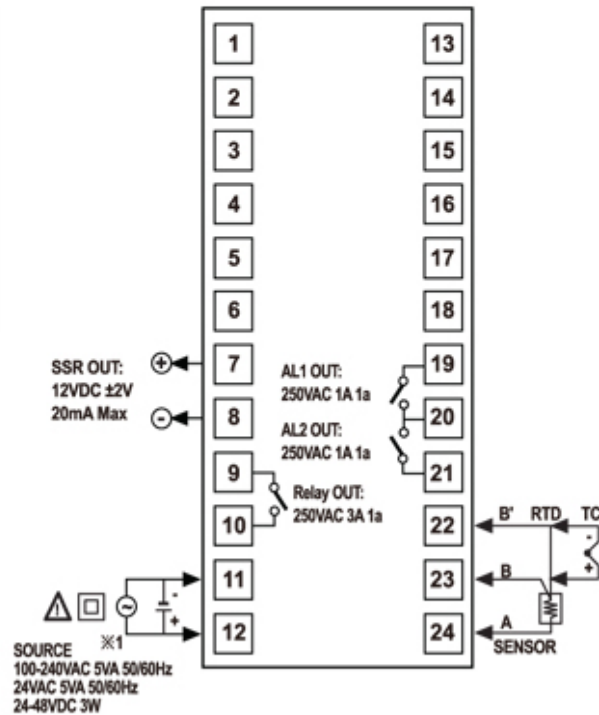
● TC4SP Series



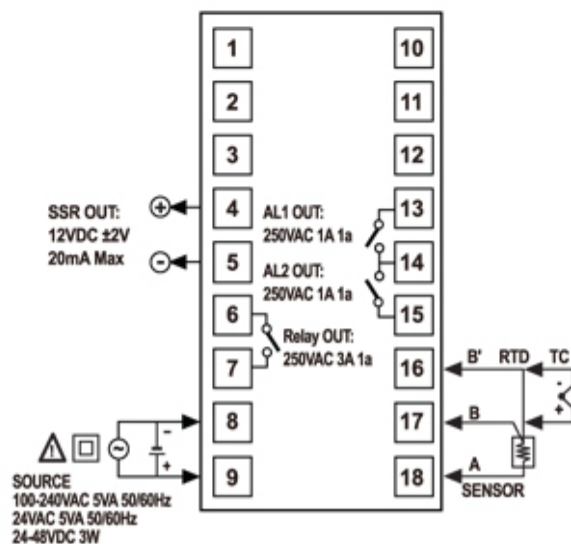
● TC4Y Series



● TC4H, TC4W, TC4L Series



● TC4M Series



※1: AC power: 100-240VAC 5VA 50/60Hz
AC/DC power: 24VAC 5VA 50/60Hz
24-48VDC 3W

User's Guide

1. Installation environment

- ①It shall be used indoor.
- ②Altitude Max. 2000m.
- ③Pollution Degree 2.
- ④Installation Category II.

2. Please install power switch or circuit-breaker in order to cut power supply off.

3. The switch or circuit-breaker should be installed near by users.

4. Do not use this product as Volt-meter or Ampere-meter, this is a temperature controller.

5. Be sure to use compensating wire when extends wire from controller to thermocouple, otherwise the temperature deviation will be occurred at the part where wires are connected to each other.

6. In case of using RTD sensor, 3 wire type must be used. If you need to extend the line, 3 wires must be used with the same thickness as the line. It might cause the deviation of temperature if the resistance of line is different.

7. In case of making power line and input signal line closely, line filter for noise protection should be installed at power line and input signal line should be shielded.

8. Keep away from the high frequency instruments.(High frequency welding machine & sewing machine, large capacity SCR controller)

※It may cause malfunction if above instructions are not followed.

Caution for your safety

※Please keep these instructions and review them before using this unit.

※Please observe the cautions that follow;

⚠ Warning Serious injury may result if instructions are not followed.

⚠ Caution Product may be damaged, or injury may result if instructions are not followed.

※The following is an explanation of the symbols used in the operation manual.

⚠ caution: Injury or danger may occur under special conditions.

⚠ Warning

1. In case of using this unit with machineries(Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it is required to install fail-safe device, or contact us.

It may cause fire, human injury or property loss.

2. Install the unit on a panel.

It may cause an electric shock.

3. Do not connect, inspect or repair when power is on.

It may cause an electric shock.

4. Wire properly after check terminal number.

It may cause a fire.

5. Do not disassemble the case. Please contact us if it is required.

It may cause an electric shock or a fire.

⚠ Caution

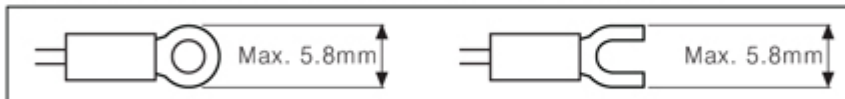
1. This unit shall not be used outdoors.

It might shorten the life cycle of the product or give an electric shock.

2. When connect wire, no.20AWG(0.50mm²) should be used and screw bolt on terminal block with 0.74N · m to 0.90N · m strength.

It may cause a malfunction or fire due to contact failure.

3. For crimped terminal, select following shaped terminal.



4. Please observe the rated specifications.

It might shorten the life cycle of the product and cause a fire.

5. Do not use beyond of the rated switching capacity of relay contact.

It may cause insulation failure, contact melt, contact failure, relay broken and fire etc.

6. In cleaning unit, do not use water or an oil-based detergent and use dry towels.

It may cause an electric shock or a fire.

7. Do not use this unit in place where there are flammable or explosive gas, humidity, direct ray of the light, radiant heat, vibration and impact etc.

It may cause a fire or an explosion.

8. Do not inflow dust or wire dregs into the unit.

It may cause a fire or a malfunction.

9. Please wire properly after check the terminal polarity when connect temperature sensor.

It may cause a fire or an explosion.

10. In order to install the units with reinforced insulation, use the power supply unit which basic insulation level is ensured.

(TC4SP is basic insulation only.)