

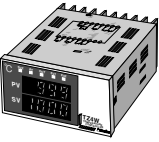
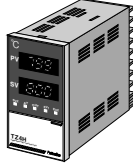
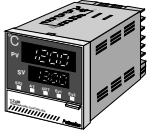
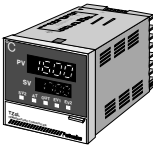



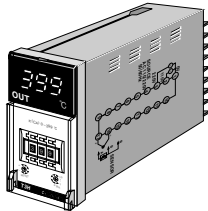
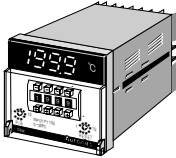
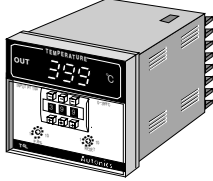
## SELECTION GUIDE

### TEMPERATURE CONTROLLER(DUAL PID AUTO TUNING TYPE)

Model	TZ4SP	TZ4ST	TZ4W	TZ4H	TZ4M	TZ4L
Appearances & Dimensions						
	[W48×H48×L95mm]	[W48×H48×L95mm]	[W96×H48×L100mm]	[W48×H96×L100mm]	[W72×H72×L100mm]	[W96×H96×L100mm]
Power supply	100 to 240VAC 50/60Hz					
Display type	7Segment LED display [Processing value(PV):Red, Setting value(SV):Green]					
Input	Thermocouple	K(CA), J(IC), R(PR), E(CR), T(CC), S(PR), N(NN), W(TT)				
	RTD	DIN Pt100Ω, JIS Pt100Ω 3 wires type<Tolerance line resistance is max. 5Ω>				
	Analog	Voltage:1 to 5VDC, 0 to 10VDC, Current:4 to 20mADC				
Output	Relay	250VAC 3A SPDT(1c)				
	SSR	12VDC ±2V 30mA Max.				
	Current	4 to 20mADC(load : Max. 600Ω)				
	Transmission	_____	PV value : 4 to 20mADC(load : Max. 600Ω)			
	SUB	EV1:Contact capacity 250VAC 1A 1a	EV1, EV2:Contact capacity 250VAC 1A 1a			
Communication function	_____	PV value, SV Setting				
Control type	ON/OFF, P, PI, PD, PIDF, PIDS					
Indicating accuracy	±0.3% based on SV or 3℃ Max.					
Setting method	Setting by front push buttons					
Hysteresis	Adjustable 1 to 100(0.1 to 100.0)℃					

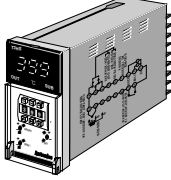
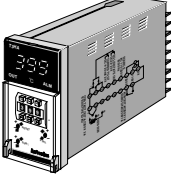

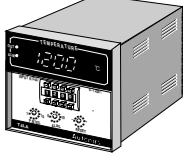
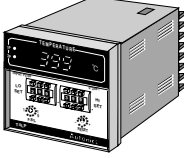
\*Upgraded on Jan. 2004:Communication function, auto-tuning function, Decimal point(Dot) setting, Lamp function (setting ascent/descent function), Setting ALARM hysteresis function, Setting ON/OFF hysteresis function.

### TEMPERATURE CONTROLLER(STANDARD TYPE)



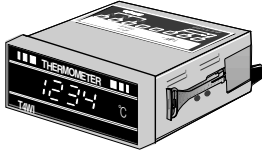
Model	T3S	T3H	T4M	T4L
Appearances & Dimensions				
	[W48×H48×L88mm]	[W48×H96×L134mm]	[W72×H72×L112mm]	[W96×H96×L100mm]
Features	<ul style="list-style-type: none"> <li>• High accuracy : F • S ±0.5%</li> <li>• Wide range power voltage(T3S Series)</li> </ul>			
Power supply	100 to 240VAC 50/60Hz	110/220VAC 50/60Hz		
Input sensor	Thermocouple:K(CA), J(IC)/ RTD:Pt100Ω		Thermocouple:K(CA), J(IC), R(PR) / RTD:Pt100Ω	
Tolerance line resistance	Thermocouple:Max. 100Ω, RTD:Max. 5Ω per a wire			
Control output	<ul style="list-style-type: none"> <li>• Contact output: 250VAC 2A 1c</li> <li>• SSR OUTPUT: 12VDC ±3V 20mA Max.</li> <li>• CURRENT OUTPUT: 4 to 20mADC LOAD 600Ω Max.</li> </ul>		<ul style="list-style-type: none"> <li>• Contact output:250VAC 3A 1c</li> <li>• SSR OUTPUT:24VDC ±3V 20mA Max.</li> <li>• CURRENT OUTPUT:4 to 20mADC LOAD 600Ω Max.</li> </ul>	
Control type	ON/OFF control	Hysteresis:F • S 0.2 to 3% variable		
	Proportional control	Width:F • S 1 to 10% variable, Cycle:20sec. fixed		

## SELECTION GUIDE

### TEMPERATURE CONTROLLER(ALARM OUTPUT/DOUBLE SETTING)

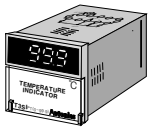
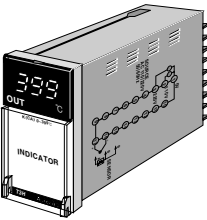
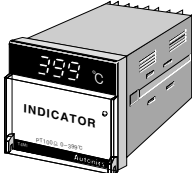
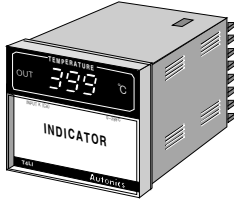
Model	T3HS	T3HA	T4MA	T4LA	T4LP
Appearances & Dimensions	 [W48×H96×L134mm]	 [W48×H96×L134mm]	 [W72×H72×L112mm]	 [W96×H96×L100mm]	 [W96×H96×L100mm] *Double setting type
Features	<ul style="list-style-type: none"> <li>• SUB output</li> <li>• High accuracy:0.5%</li> <li>• Controls Auto-soldering machine or solder port</li> </ul>		<ul style="list-style-type: none"> <li>• ALARM output</li> <li>• High accuracy : F • S±0.5%</li> </ul>		<ul style="list-style-type: none"> <li>• Double setting type</li> <li>• High accuracy : 0.5%</li> <li>• Controlling for heating &amp; cooling system etc</li> </ul>
Power supply	110/220VAC 50/60Hz				
Input sensor	Thermocouple:K(CA), J(IC) / RTD:Pt100Ω		Thermocouple:K(CA), J(IC), R(PR) / RTD:Pt100Ω		
Tolerance line resistance	Thermocouple:Max. 100Ω, RTD:Max. 5Ω per a wire				
Control output	Relay	250VAC 3A 1c			
	SSR	Output voltage 24VDC ±3V 20mA			
	Current	4 to 20mADC LOAD 600Ω Max.			
Alarm	SUB OUT: 250VAC 1A 1a	Alarm out: 250VAC 1A 1a	Alarm out: 250VAC 1A 1c	1set OUT:250VAC 3A 1c 1set OUT:250VAC 2A 1c	
Control type	ON/OFF control	Hysteresis:F • S 0.2 to 3% variable			
	Proportional control	Width:F • S 1 to 10% variable, Cycle:20sec. fixed			
Alarm output	SUB: 0 to -50℃ variable	Alarm:F • S 0 to 10% variable			

### TEMPERATURE INDICATOR


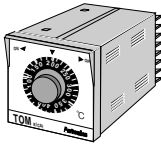
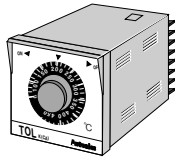
Model	T3NI	T4YI	T4WI
Appearances & Dimensions	 [W48×H24×L48mm]	 [W72×H36×L93mm]	 [W96×H48×L99.6mm]
Features	<ul style="list-style-type: none"> <li>• Indication only, No output</li> <li>• High accuracy : 0.3%(T3NI), 0.5%(T4YI, T4WI)</li> <li>• Various size</li> </ul>		
Power supply	12 to 24VDC	100 to 240VAC 50/60Hz	110/220VAC 50/60Hz
Input sensor	Pt100Ω	Thermocouple:K(CA), J(IC) / RTD:Pt100Ω	
Tolerance line resistance	Max. 5Ω per a wire	Thermocouple:Max. 100Ω, RTD:Max. 5Ω per a wire	

## SELECTION GUIDE

### TEMPERATURE INDICATOR

Model	T3SI	T3HI	T4MI	T4LI
Appearances & Dimensions				
	[W48×H48×L88mm]	[W48×H96×L134mm]	[W72×H72×L112mm]	[W96×H96×L110mm]
Features	<ul style="list-style-type: none"> <li>• Indication only, No output</li> <li>• High accuracy : 0.5%</li> <li>• Various size</li> </ul>			
Power supply	100 to 240VAC 50/60Hz	110/220VAC 50/60Hz		
Input sensor	Thermocouple:K(CA), J(IC), R(PR) / RTD:Pt100Ω			
Tolerance line resistance	Thermocouple:Max. 100Ω, RTD:Max. 5Ω per a wire			

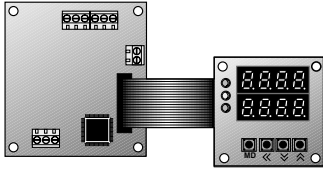

### TEMPERATURE CONTROLLER(ANALOG SETTING/NON INDICATOR DEVIATION)

Model	TOS	TOM	TOL
Appearances & Dimensions			
	[W48×H48×L79mm]	[W72×H72×L112mm]	[W96×H96×L100mm]
Features	Non-indication type		
Features	<ul style="list-style-type: none"> <li>• ON/OFF indicator</li> <li>• 8 Pin plug in type</li> </ul>	Setting by the dial handle	
Power supply	100 to 240VAC 50/60Hz	110/220VAC 50/60Hz	
Display method	LED ON display	LED ON/OFF display	
Setting accuracy	F • S ±2%		
Input sensor	Thermocouple:K(CA), J(IC) / RTD:Pt100Ω		
Tolerance line resistance	Thermocouple:Max. 100Ω, RTD:Max. 5Ω per a wire		
Control type	ON/OFF control	Hysteresis:F • S 0.5% ±0.2% fixed	
	Proportional control	Width:F • S 3% ±0.5%fixed, Cycle: 20sec ±0.5secfixed	Width:F • S 3% fixed, Cycle:20sec fixed
Control output	<ul style="list-style-type: none"> <li>• Contact output : 250VAC 2A 1c</li> <li>• SSR OUTPUT:12VDC ±3V Load 20mA Max.</li> </ul>		<ul style="list-style-type: none"> <li>• Contact output:250VAC 3A 1c</li> <li>• SSR output:12VDC ±2V Load 20mA Max.</li> </ul>

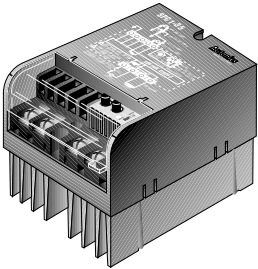
## SELECTION GUIDE

### TEMPERATURE CONTROLLER (BOARD TYPE)

### 5POINT INPUT TEMPERATURE INDICATOR




Model	TB42	T4WM	
Appearances & Dimensions	 <p>[Display board : W60×H60mm] [Control board : W65×H78mm]</p>	 <p>※ 7 point of temperature display and alarm function. 7 point of temperature display and communication output function. Coming soon</p> <p>[W96×H48×L99.6mm]</p>	
Features	<ul style="list-style-type: none"> <li>• High quality and cost save</li> <li>• Convenient to install at any user's applications</li> <li>• Display board size can be changed by option</li> </ul>	<ul style="list-style-type: none"> <li>• This unit can control 5point connected sensors</li> <li>• High accuracy:F · S ±0.5%</li> <li>• It automatically indicates the processing value each sensor periodically</li> </ul>	
Power supply	100 to 240VAC 50/60Hz (Allowable operating voltage:90 to 110%)	110/220VAC 50/60Hz	
Input	Thermocouple:K(CA), J(IC) RTD:DIN Pt100Ω, JIS Pt100Ω 3wire	Thermocouple:K(CA), J(IC) / RTD:Pt100Ω	
Control type	ON/OFF, P, PI, PD, PIDF, PIDS Control	—————	
Output	Relay	250VAC 3A 1a	—————
	SSR	12VDC ±3V Load Max. 30mA	—————
	Current	4 to 20mADC Load Max. 600Ω	—————
	Transmission	4 to 20mADC Load Max. 600Ω for PV value	—————
	Sub	EVENT1 output : Relay contact output(250VAC 0.5A 1a), EVENT2 output : Display OK monitoring by LED	—————

### POWER CONTROLLER(SPC1 SERIES)

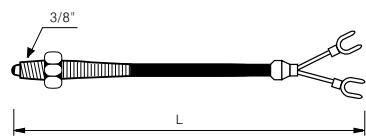
Type	Power controller	
Model	SPC1-35	SPC1-50
Appearances & Dimensions	 <p>[W94.6×H124.8×L92mm]</p>	
Power supply	220VAC 50/60Hz	
Allowable operating voltage	90 to 110% of rated voltage	
Maximum rated current	35A(Single phase)	50A(Single phase)
Control power	220VAC	
Control range	0 to 100%(Except triac voltage down)	
Applied load	Resistance load(Min. load:over 5% of rated current)	
Control input	<ul style="list-style-type: none"> <li>• 1 to 5VDC</li> <li>• 4 to 20mADC(250Ω)</li> <li>• ON/OFF(External connect point)</li> <li>• External VR(1kΩ)</li> <li>• Output limit input(Inner VR)</li> </ul>	
Control type	Phase control	
	Cycle control(ZERO CROSS)– Selectable period 0.5sec, 2.0, 10sec	
Starting type	ON/OFF control(ZERO CROSS)	
	SOFT START(0 to 50 sec. Variable)–Only for phase control and cycle control.	

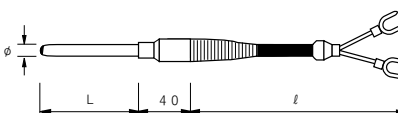
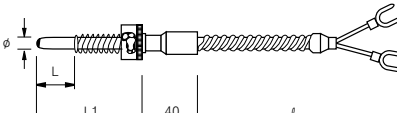
## SELECTION GUIDE

### TEMPERATURE/ HUMIDITY TRANSDUCER

Model	THD-RC THD-D□C THD-DD□C	THD-RV THD-D□V THD-DD□V	THD-RT THD-D□T THD-DD□T
Appearances & Dimensions	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p><b>THD-R□</b></p> </div> <div style="text-align: center;">  <p><b>THD-D□1□</b> *Comming soon</p> </div> <div style="text-align: center;">  <p><b>THD-D□2□</b> *Comming soon</p> </div> </div> <p style="text-align: center; font-size: small;">THD-R Series[W60×H33.5×L80mm], THD-D Series[W72×H34×L85mm]</p>		
Power supply	24VDC(Allowable operation voltage:90 to 110% rated voltage)		
Power consumption	Max. 2.4W		
Input	Temperature/Humidity sensor(Built in)		
Output	Current output : 4 to 20mA DC	Voltage output : 1 to 5VDC	RS485(MODBUS RTU)
Measuring range	Temp.	THD-R series : 0 to 50°C / THD-D series : 0 to 60°C	
	humidity	THD-R series : 0 to 90.0%RH / THD-D series : 0 to 99.9%RH	
Output accuracy	Temp.	Within ±0.8°C(5-40°C)	Within ±0.5°C(5-40°C)
	humidity	Max. ±3%RH(10 to 90%RH)	
sampling cycle	0.5sec fixed		

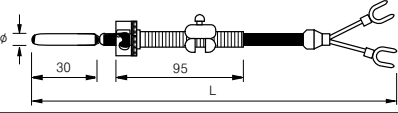
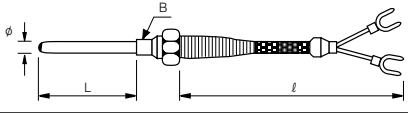
### THERMOCOUPLES & RTD

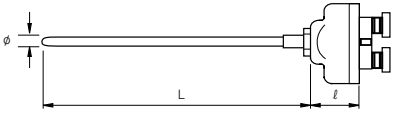
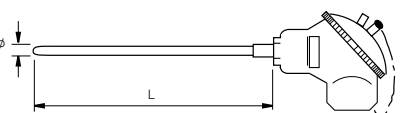
●Ordering information		Model	TW - V
<div style="display: flex; align-items: center; gap: 5px;"> <div style="border: 1px solid black; padding: 2px;">T</div> <div style="border: 1px solid black; padding: 2px;">W</div> <div style="border: 1px solid black; padding: 2px;">V</div> <div style="border: 1px solid black; padding: 2px;">1</div> <div style="border: 1px solid black; padding: 2px;">2</div> <div style="border: 1px solid black; padding: 2px;">3</div> <div style="border: 1px solid black; padding: 2px;">4</div> <div style="border: 1px solid black; padding: 2px;">5</div> <div style="border: 1px solid black; padding: 2px;">6</div> <div style="border: 1px solid black; padding: 2px;">7</div> </div>		Appearances & Dimensions	 <p style="text-align: center;">L</p>
<div style="margin-left: 20px;"> <div style="border: 1px solid black; padding: 2px; width: 100px;">1 Option for specification</div> <div style="border: 1px solid black; padding: 2px; width: 100px;">V The form of temperature sensor</div> <div style="border: 1px solid black; padding: 2px; width: 100px;">W Wire connection type</div> <div style="border: 1px solid black; padding: 2px; width: 100px;">H Terminal connector type</div> <div style="border: 1px solid black; padding: 2px; width: 100px;">T Temperature sensor</div> </div>		1 Input	K, J, T, E, Pt100Ω(CA, IC, CC, CRC)
		2 Inner compensation wire diameter(φ)	0.3 or 0.65mm/min
		3 Compensation cable length(L)	Standard:1.5m, option:?
		4 Screw spec.	Standard:3/8", option:?

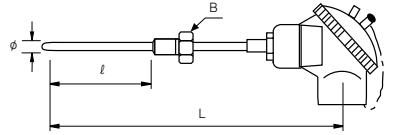
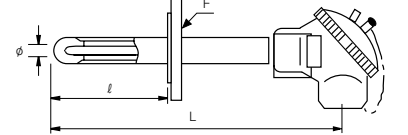
Model	TW - R	TW - E
Appearances & Dimensions	 <p style="text-align: center;">L    40    ℓ</p>	 <p style="text-align: center;">L    L1    40    ℓ</p>
1 Input	K, J, T, E, Pt100Ω(CA, IC, CC, CRC)	
2 Inner compensation wire diameter(φ)	0.3 or 0.65mm/min	
3 Detecting head length(L)	Standard:300mm, option:?	Standard:50mm, option:?
4 Head length(L1)	Standard:—	Standard:150mm, option:?(L)
5 Detecting head diameter(φ)	Standard:4.8φ, option:?	
6 Compensation cable length(ℓ)	Standard:1.5m, option:?	

## SELECTION GUIDE

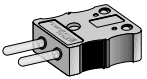
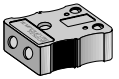
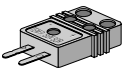
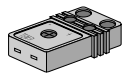
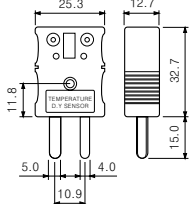
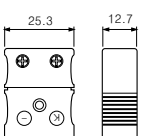
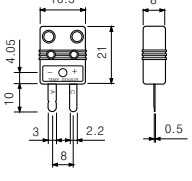
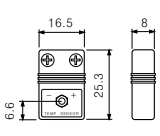
### THERMOCOUPLES & RTD

Model	TW - S	TW - N
Appearances & Dimensions		
1 Input	K, J, T, E, Pt100Ω (CA, IC, CC, CRC)	K, J, T, E, Pt100Ω (CA, IC, CC, CRC)
2 Inner compensation wire diameter (φ)	0.3 or 0.65mm/min	0.3 or 0.65mm/min
3 Detecting head length (l)	Standard:30mm, option:??	Standard:300mm, option:??
4 Detecting head diameter (φ)	Standard:4.8φ, option:??	Standard:4.8φ, option:??
5 Compensation cable length(L)	Standard:1.5m, option:??	Standard:1.5m, option:??
6 Screw spec. (B)	—————	Standard:1/8", option:??

Model	TH - G	TH - L
Appearances & Dimensions		
1 Input	K, J, T, E, R, S, PT100Ω (CA, IC, CC, CRC)	K, J, T, E, R, S, PT100Ω (CA, IC, CC, CRC)
2 Inner compensation wire diameter (φ)	0.3 or 0.65mm/min	0.3 or 0.65mm/min
3 Detecting head length(L)	Standard:30mm, option:??	Standard:300mm, option:??
4 Detecting head diameter (φ)	Standard:6.4φ, option:??	Standard:6.4φ, option:??

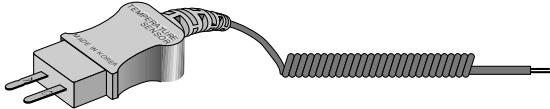
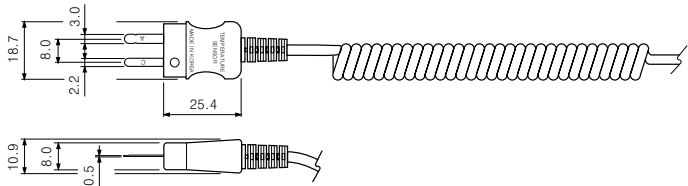
Model	TH - M	TH - F
Appearances & Dimensions		
1 Input	K, J, T, E, R, S, PT100Ω (CA, IC, CC, CRC)	K, J, T, E, R, S, PT100Ω (CA, IC, CC, CRC)
2 Inner compensation wire diameter (φ)	0.3 or 0.65mm/min	0.3 or 0.65mm/min
3 Detecting head length (l)	Standard:300mm, option:??	Standard:300mm, option:??
4 Detecting head diameter (φ)	Standard:8φ, option:??	Standard:22φ, option:??
5 Total head length(L)	Standard:400m, option:??	Standard:380mm, option:??
6 Screw spec. (B)	Standard:1/8", option:??	—————
7 Flange(F)	—————	Standard:10K20A, option:??

### THERMOCOUPLE CONNECTOR

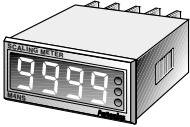
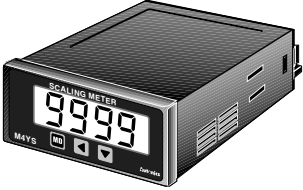
Model	DY - 1000 -1	DY - 1000 -2	DY - 2000 -1	DY - 2000 -2
Appearances				
Thermocouple	K, J, T, E, R/S(CA, IC, CC, CRC)		K, J, T, E, R/S(CA, IC, CC, CRC)	
Dimensions				

## SELECTION GUIDE

### THERMOCOUPLE CONNECTOR CABLE

Model	DY - 2100
Appearances	
Thermocouple	K, J, T, E, R/S(CA, IC, CC, CRC)
Dimensions	

### SCALING METER(INDICATOR) ※NON-VOLTAGE TYPE

Model	M4NS-NA	M4YS-NA
Appearances & Dimensions	<p>※It is available to set a various display value by prescale function.</p>  <p>[W48×H24×L53.5mm]</p>	 <p>[W72×H36×L106mm]      ※Coming soon</p>
Power supply	Loop powered type	
Input	4-20mADC	
Max. display range	-1999 to 9999	
Display method	7Segment LED Display(4digit)	
Display accuracy	0.3% full scale of ±1Digit	
Display cycle	Selectable 0.5sec/1sec/2sec/3sec/4sec/5sec	
Various display unit	<p>V <math>\bar{V}</math> kV <math>\bar{kV}</math> <math>\mu</math>V mV <math>\bar{mV}</math> A <math>\bar{A}</math> kA <math>\bar{kA}</math> mA <math>\bar{mA}</math> VA kVA W kW mm cm m km m<sup>2</sup>  m/s<sup>2</sup> m/s km/h M<sub>min</sub> kg<sub>cent</sub> kg<sub>cent</sub> mg kg g °C °F Ω kΩ rpm % %RH mmHg var kvar  dB N J <math>\mu</math>bar H<sub>P</sub> kWh cal cosφ Hz ℓ <math>\bar{CO}_2</math> lx</p>	
Resolution	12,000 resolution	
Setting type	Front push buttons	
Self-diagnosis function	Error display function(HHHH/LLLL)	
Prescale function	Input value × Scale value (1.000 to 5.000) = Display value (Changeable Dot position)	