

# Single Display PID Temperature Controllers

## TC Series



### Features

- Single digital display (switch between PV and SV)
- 100 ms high-speed sampling rate and  $\pm 0.5\%$  display accuracy
- Switch between relay output and SSR drive output
- SSR drive output (SSRP function) control options: ON / OFF control, cycle control, phase control
- Compact design with large display panels for easier reading
- Connector plug types offer easier wiring and maintenance (TCN4S-□-P)

### Specifications

Series	TC4□-□2□	TC4□-□4□
Power supply	24 VAC~ 50/60 Hz $\pm 10\%$ 24-48 VDC $\pm 10\%$	100 - 240 VAC~ 50/60 Hz $\pm 10\%$
Power consumption	AC: $\leq 5$ VA, DC: $\leq 3$ W	$\leq 5$ VA
Sampling period	100 ms	
Input specification	Refer to Autonics website	
Control output	Relay	250 VAC~ 3 A, 30 VDC $\leq 3$ A, 1a
	SSR	12 VDC $\pm 2$ V, $\leq 20$ mA
Alarm output	250 VAC~ 1 A 1a	
Display type	7 Segment (red, green, yellow), LED type	
Control type	Heating	ON/OFF, P, PI, PD, PID Control
	Cooling	
Hysteresis	1 to 100 (0.1 to 50.0) °C/°F	
Proportional band (P)	0.1 to 999.9 °C/°F	
Integral time (I)	0 to 9,999 sec	
Derivative time (D)	0 to 9,999 sec	
Control cycle (T)	0.5 to 120.0 sec	
Manual reset	0.0 to 100.0%	
Relay life cycle	Mechanical	OUT1/2, AL1/2: $\geq 5,000,000$ operations
	Electrical	OUT1/2: $\geq 200,000$ operations (load resistance: 250 VAC~ 3A) AL1/2: $\geq 300,000$ operations (load resistance: 250 VAC~ 1 A)
Dielectric strength	Between input terminal and power terminal: 1,000 VAC~ 50/60 Hz for 1 min	Between input terminal and power terminal: 2,000 VAC~ 50/60 Hz 1 min
Vibration	0.75 mm amplitude at frequency 5 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours	
Insulation resistance	$\geq 100$ M $\Omega$ (500 VDC $\equiv$ megger)	
Noise immunity	Square shaped noise (pulse width: 1 $\mu$ s) by noise simulator $\pm 2$ kV R-phase, S-phase	
Memory retention	$\approx 10$ years (non-volatile semiconductor memory type)	
Ambient temperature	-10 to 50 °C, storage: -20 to 60 °C (no freezing or condensation)	
Ambient humidity	35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)	
Insulation type	Mark: □, double or reinforced insulation (dielectric strength between the measuring input part and the power part: 1 kV)	Mark: □, double or reinforced insulation (dielectric strength between the measuring input part and the power part: 2 kV)
Approval	CE	
Unit weight (packaged)	• TC4S: $\approx 94$ g ( $\approx 141$ g) • TC4SP: $\approx 76$ g ( $\approx 123$ g) • TC4Y: $\approx 85$ g ( $\approx 174$ g) • TC4M: $\approx 133$ g ( $\approx 204$ g) • TC4W: $\approx 122$ g ( $\approx 194$ g) • TC4H: $\approx 122$ g ( $\approx 194$ g) • TC4L: $\approx 155$ g ( $\approx 254$ g)	



View product detail