

Analog Non-Indication Type PID Temperature Controllers



TA Series CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Auto-tuning PID temperature control
- PID and ON/OFF control : toggle via external switch
- Deviation indicators (green, red LED)
- Control output indicator (red LED)
- Stop control output function using analog dial
- Sensor disconnect display function
- Built-in microprocessor

Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website .

T A ① - B 4 ② ③ ④ ⑤

① Size

S: DIN W 48 × H 48 mm
(8 pin plug type)
M: DIN W 72 × H 72 mm
L: DIN W 96 × H 96 mm

② Control output

R: Relay
S: SSR drive

③ Input sensor

K: K(CA)
J: J(IC)
P: DPT100 Ω

④ Temperature range for each sensor
Refer to 'Input Type and Using Range'.

⑤ Temperature unit

C: Celsius (°C)
F: Fahrenheit (°F)

Product Components

- Product
- Instruction manual
- Bracket

Specifications

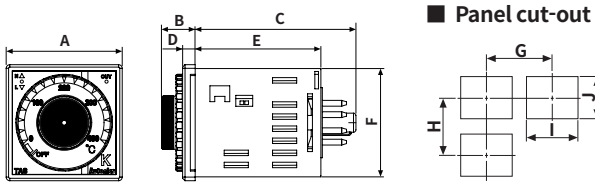
Series	TA Series	
Power supply	100 - 240 VAC ~ 50/60 Hz ± 10%	
Power consumption	≤ 4 VA	
Sampling period	100 ms	
Input specification	• RTD: DPT100Ω (allowable line resistance per a wire: ≤ 5 Ω) • Thermocouple: K (CA), J (IC)	
Control output	Relay	250 VAC ~ 3 A, 30 VDC = 1 A 1c
	SSR	12 VDC = ± 2 V, ≤ 20 mA
Display type	PV deviation, Error display (red, green), LED type	
Setting method	Front dial	
Setting accuracy	• At room temperature (23 °C ± 5 °C) Over 100 °C model: F.S. ± 2%, below 100 °C model: F.S. ± 3% • Out of room temperature range Over 100 °C model: F.S. ± 3%, below 100 °C model: F.S. ± 4%	
Control type	ON/OFF	Hysteresis: 2°C (fixed)
	PID Control	Control cycle: relay output 20 sec / SSR drive output 2 sec
Relay life cycle	Mechanical	≥ 10,000,000 operations (18,000 operations/time)
	Electrical	≥ 100,000 operations (900 operations/time)
Dielectric strength	Between input terminal and power terminal: 2,000 VAC ~ 50/60 Hz for 1 min	
Vibration	0.75 mm amplitude at frequency of 5 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours	
Insulation resistance	≥ 100 MΩ (500 VDC = megger)	
Noise immunity	Square shaped noise (pulse width: 1 μs) by noise simulator ± 2 kV R-phase, S-phase	
Memory retention	≈ 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	Double or reinforced insulation (mark: □), dielectric strength between the measuring input part and the power part: 2 kV)	
Approval	CE, RoHS, ENEC	
Unit weight (packaged)	• TAS: ≈ 69 g (≈ 107 g) • TAM: ≈ 109 g (≈ 171 g)	• TAL: ≈ 147 g (≈ 232 g)

Input Type and Using Range

PN	Input type	Using range (°C)	Using range (°F)	
1	Thermocouple	K(CA)	0 ~ 100	32 ~ 212
2			0 ~ 200	32 ~ 392
4			0 ~ 400	32 ~ 752
6			0 ~ 600	32 ~ 1,112
8			0 ~ 800	32 ~ 1,472
C			0 ~ 1,200	32 ~ 2,192
2	J(IC)	J(IC)	0 ~ 200	32 ~ 392
3			0 ~ 300	32 ~ 572
4			0 ~ 400	32 ~ 752
0	RTD	DPT100Ω	-50 ~ 100	-58 ~ 212
1			0 ~ 100	32 ~ 212
2			0 ~ 200	32 ~ 392
4			0 ~ 400	32 ~ 752

Dimensions

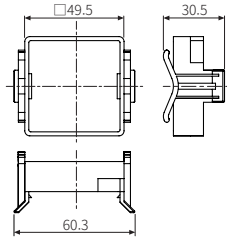
- Unit: mm, For the detailed drawings, follow the Autonics website.



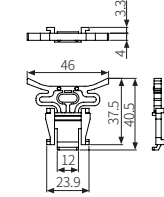
Series	Body						Panel cut-out			
	A	B	C	D	E	F	G	H	I	J
TAS	□48	14	66.7	5.2	52	44.8	≥ 65	≥ 65	45 ^{+0.5} ₀	45 ^{+0.5} ₀
TAM	□72	14.7	64.5	6.5	-	-	≥ 90	≥ 90	68 ^{+0.7} ₀	68 ^{+0.7} ₀
TAL	□96	14.7	64.5	6.5	-	-	≥ 115	≥ 115	92 ^{+0.8} ₀	92 ^{+0.8} ₀

Bracket

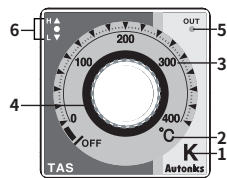
TAS Series



TAM, TAL Series



Unit Descriptions



1. Input type of sensor

Temperature can be set within the input range of sensor. Refer to 'Input Type and Using Range'.

2. Temperature unit display

3. Temperature range display

4. SV (setting value) dial

When changing SV, it is applied after 2 sec for the stable input.

5. Control output Indicator (OUT)

Turns ON when control output is ON (relay/SSR drive).



6. Deviation indicator

Displays deviation of PV (present value) based on SV.

Condition	▲ (Red)	● (Green)	▼ (Red)
Over 10 °C	ON	-	-
2 to 10 °C	ON	ON	-
Under ±2 °C (control output stop)	-	ON	-
-2 to -10 °C	-	ON	ON
Over -10 °C	-	-	ON

7. Control type selection switch

Select PID control (front part) or ON/OFF control (rear part) using switch.

TAS	Right side relative to front	 PID ON/OFF
TAM TAL	Left side relative to the front	 ON/OFF PID

Sold Separately

- 8 pin socket: PG-08, PS-08(N)
- Terminal protection cover: RMA / RLA Cover