



TC548E

ON/OFF - PID Temperature Controller



Masibus TC548E On/Off - PID temperature controller is a cost effective model designed to offer outstanding control performance in a compact package providing a comprehensive solution for a wide variety of applications: such as plastic manufacturing, packaging machinery and food processing applications requiring precise control.

TC548E On/Off - PID temperature controller accepts process input suitable for Thermocouple, RTD. It also has average energy demand parameter used for diagnosing the process healthiness.

TC548E controller has one 0.4", 4 digit white LED display for process value and 0.31", 4-digit Green LED display for set point value. Configuration is done with three front tactile keys that ensures easy programming.

TC548E has one 10A relay output for On/Off, Control function auto-tuning adjusts the PID parameters for desired set-point according to the current process dynamics so it has no harmful effect on the current operation. model TC548E has 2nd 5A relay (alarm output) & SSR (control o/p).

Features

- Thermocouple/RTD input
- Average energy demand parameter for process diagnosis
- 10A relay for On/Off or PID controlling
- PV display: 0.4" 7-segment white LED 4-digit
SV display in TC548E: 0.31" 7-segment green LED 4-digit
- Fail-safe design protecting the process in case of system malfunctioning
- Three years calibration with auto zero and auto span
- PV bias for input correction
- Settable digital filter
- Settable manual reset to prevent overshoot
- Relay / SSR control output option
- Selectable ramp and 1 soak

Applications

- Food and beverages
- Industrial ovens
- Plastic industry
- Hot stamping machines
- Injection molding machines

TECHNICAL SPECIFICATIONS

Input		Power Supply	
Input Type	Thermocouple, RTD (Pt100)	Standard	85-265VAC/ 100-300VDC
Display Range	Refer table-1.1	Power Consumption	<3 VA
Accuracy	±0.25% of full span ±1 count	Isolation (Withstanding voltage) Between primary terminals* and secondary terminals**: At least 1500 V AC for 1 minute Between primary terminals*: At least 1500 V AC for 1 minute * Primary terminals indicate power terminals and Relay output terminals. ** Secondary terminals indicate analog I/O signal Insulation resistance: 20MΩ or more at 500 V DC between terminals	
ADC Resolution	16 bits		
Display Resolution	0.1°C / 1 °C		
Sampling Rate	5 samples/sec		
CJC Error	±3.0 °C max		
Sensor Burnout Current	0.25uA	Physical	
RTD Excitation Current	0.166mA (Approx)	Model	
Allowable Wiring Resistance for RTD	Maximum 15 Ω/wire (Resistance between three wires should be equal)	Mounting Type	Panel mount
NMRR	> 40 dB	Size H x W x D (in mm)	50 x 50 x 74
CMRR	> 120 dB	Front Bezel (in mm)	50 x 50
Temp-co	< 100ppm/°C	Panel Cutout (in mm)	45 x 45
Input Impedance	> 1MΩ	Depth Behind the Panel	70 mm (Including terminal)
Max Voltage	20V DC	Weight	110g Approx.
Display & Keys		Enclosure Material	Polycarbonate
PV Display	0.4" 7-segment white LED 4-digit	Enclosure Protection	IP20
SV Display TC548E	0.31" 7-segment green LED 4-digit	Terminal & Cable Size	Barrier type terminal, cable 2.5 mm²
Status Indication	Individual red led for relay/SSR and alarm status	Environmental	
Keys	Enter, Increment, Decrement	Humidity	30% to 95% RH (Non-Condensing)
Output		Instrument Warm-up Time	15 min Approx.
Output type		Ambient Temperature	0 to 55°C
Relay-1 (PID or ON/OFF Controlling)*	10A @ 230VAC / 28VDC	Storage Temperature	0 to 80°C
Relay-2 (Alarm)	5A @ 230VAC / 28VDC	Table-1.1	
Relay Type	Single change over, 3 terminals (C, NO, NC)	Input type	Temperature Range °C
SSR (Control o/p)*	Yes	Pt100 (0.1°C)	-199.9 to 850.0
SSR Rating	11VDC or more / 2VDC or less	Pt100 (1°C)	-200 to 850
SSR Resolution	10mSec	E	-200 to 1000
<i>*If SSR is selected as a Control o/p then Relay-1 will function as an Alarm o/p</i>		J	-200 to 1200
		K	-200 to 1372
		T	-200 to 400
		B	450 to 1800
		R	0 to 1768
		S	0 to 1768

Ordering Code

Model		Input Type		Auxillary Power Supply		Output	
TC548E		X		XX		X	
		1	E	U1	85-256 VAC/ 125-300 VDC	1	Relay-1
		2	J			2	Relay-1 + Relay-2
		3	K				
		4	T				
		5	B				
		6	R				
		7	S				
		9	Pt100				