



**Texmate Advanced PID Controllers**

Texmate's TC Series of **Fuzzy Logic PID Controllers** with **"One Button Auto Tune Function"** is perfect for turning almost any process optimally. These versatile controllers are designed specifically for controlling Temperature, Humidity, Pressure, Air-Conditioning, Gas Detection, DC Current, Voltage and more.

**Control Options**

PID - Auto  
 PID - Manual  
 PI  
 PD  
 P  
 ON/OFF

**Input Options**

Thermocouples  
 RTD (PT-100)  
 DC Current  
 (e.g., 4-20mA)  
 DC Voltage (wide range)

**Display**

Process Value  
 Setting Value  
 Auto Tune Mode LED  
 Manual Tune Mode LED  
 Alarm 1 & 2 Status LEDs  
 Output 1 & 2 Status LED

**Output Options**

Relay NO,  
 NC operation  
 programmable  
 SSR Drive  
 4-20mA  
 DC Voltage

Ratings		
Power Supply	Consumption	5VA maximum
	Mains Tolerance	+/- 10%
Input Accuracy	Thermocouple	+/- 1°C
	RTD	+/- 0.2°C
	Current (0-20mA) range	+/- 20µA
	Voltage (0-10mV) low range	+/- 3µV
	Voltage (0-10V) high range	+/- 500µV
Sampling Time		0.25sec
Environmental	Operating Temperature	0-50°C
	Operating Humidity	0-90%RH, noncondensing
	Storage	-25 - 65°C, noncondensing
Control Method	Proportional band	0.0 - 300.0%F.S.
	Integral time	0 - 3600sec
	Derivative time	0 - 900sec
	Hysteresis	0.0 - 200.0 or 0 - 2000
	Cycle Time	0 - 100sec
Weight	TC-48	125g
	TC-72	200g
	TC-96H	215g
	TC-96V	215g
	TC-96	280g

**Ordering Information**

TC - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

Case	Code	Input	Code	Output 1	Code	Output 2	Code	Comm.	Code	Power supply	Code
48x48x100	48	T/C	TD	Relay	RL	None	N	None	N	100-240VAC, 50/60HZ	HV
72x72x80	72	RTD	RT	SSR	SR	Relay	RL	RS-485	RS	24 AC, 50/60HZ 19-36VDC	LV
96x96x80	96	0-60mVDC	MV	4-20mA	MA	Alarm 2*	AA				
96x48x80	96H	0-10VDC	VV	Voltage	LV	SSR	SR				
48x96x80	96V	0-24mA	MA			4-20mA	MA				
						Voltage	LV				
						Retransmission	RT				

WxHxD mm

Standard Features			TEXMATE PID METERS				
			TC-48	TC-72	TC-96H	TC-96V	TC-96
PID Control	Fuzzy Logic Auto-Tune PID Parameters		✓	✓	✓	✓	✓
	Standard Auto-Tune PID Parameters						
	Manually Tune PID Parameters		✓	✓	✓	✓	✓
Input <sup>7</sup> (Select one when ordering)	Thermocouple	J, K, T, E, B, R, S, N, C	✓	✓	✓	✓	✓
	PT-100 (RTD)	PT-100 (DIN, JIS)	✓	✓	✓	✓	✓
	Linear Current Range	0-24mA (4-20mA)	✓	✓	✓	✓	✓
	Linear Voltage - Unipolar Range	0-60mVDC, 0-10VDC	✓	✓	✓	✓	✓
	Linear Voltage - Bipolar Range	± 60 mVDC, or ±10 VDC					
Control Output 1 (Select one when ordering)	Relay	NO, 240VAC, 5A, resistive	✓	✓	✓	✓	✓
	Relay	NO, NC, 240VAC, 5A resistive					
	SSR Drive Voltage <sup>1</sup>	0-24VDC, 1sec pulse PWM	✓	✓	✓	✓	✓
	Current Loop <sup>2</sup>	4-20mA	✓	✓	✓	✓	✓
	Linear Voltage <sup>3</sup>	Adjustable, 0-50mV, 0-10V	✓	✓	✓	✓	✓
	Linear Voltage (limited) <sup>3</sup>	Adjustable 0-10V					
	Other (Customer Specific)						
Dedicated Alarm 1	Relay	NO, 240VAC, 5A, resistive <sup>6</sup>	✓	✓	✓	✓	✓
Dedicated Alarm 2	Relay	NO, 240VAC, 5A, resistive <sup>6</sup>		✓			
Power Supply (Select one when ordering)	AC Standard	100-240VAC(±10%), 50/60Hz	✓	✓	✓	✓	✓
	Low Voltage DC Only	24VDC					
	Low Voltage	24V AC 50/60Hz, 19-36VDC	✓	✓	✓	✓	✓
	AC Rugged	100-270VAC (±10%), 50/60Hz					
Indicators (Front Panel)	Process Value (PV)	7-Seg LED, Red, 4 Char.	✓	✓	✓	✓	✓
	Setting Value (SV)	7-Seg LED, Green, 4 Char.	✓	✓	✓	✓	✓
	Control Output Percentage (OP)	10-Seg LED Bargraph, Red					
	Temperature Scale ( °C or °F)	7-Seg LED, Green, 1 Char.					
	Alarm 1 (A1) / Alarm 2 (A2)	LED, Red	✓	✓	✓	✓	✓
	Control 1 (C1) / Control 2 (C2)	LED, Red	✓	✓	✓	✓	✓
	Auto Tuning Mode (AT)	LED, Red	✓	✓	✓	✓	✓
	Manual Tuning Mode (MA)	LED, Red	✓	✓	✓	✓	✓
Controls (Front Panel)	SET Key	Button	✓	✓	✓	✓	✓
	Up Key	Button	✓	✓	✓	✓	✓
	Down Key	Button	✓	✓	✓	✓	✓
	Shift Key	Button	✓	✓	✓	✓	✓
24VDC Excitation	Output, Rear Panel	50mA max. current		✓	✓	✓	✓
	Output, Rear Panel	25mA max. current			✓	✓	✓

<sup>1</sup> 250 ohm minimum load (TC-480: 1.2 Kohm minimum)

<sup>2</sup> 600 ohm maximum load

<sup>3</sup> 600 ohm minimum load

Ⓢ Output2 and PV or SV Retransmission are mutually exclusive.

<sup>6</sup> For Alarm relays, NC (Form B) operation can be simulated using meter programming.

<sup>7</sup> For TC-480 only, Linear input is selectable via menu. For all other models, Linear input is specified at order.

Optional (OPT) Features			TEXMATE PID METERS				
			TC-48	TC-72	TC-96H	TC-96V	TC-96
Control Output 2A (select one when ordering)	None		✓	✓	✓	✓	✓
	Alarm 1	NO, 240VAC, 5A, resistive					
	Alarm 2	NO, 240VAC, 5A, resistive	✓		✓	✓	✓
	Relay	NO, 240VAC, 5A, resistive	✓	Ⓢ	✓	✓	✓
Control Output 2B (select one when ordering)	Relay	NO, 240VAC, 5A, resistive	Ⓢ		Ⓢ	Ⓢ	Ⓢ
	SSR Drive Voltage <sup>1</sup>	0-24VDC, 1sec pulse	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
	Linear Voltage <sup>3</sup>	Adjustable, 0-50mV, 0-10V	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Retransmission		PV or SV	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
System	None		✓	✓	✓	✓	✓
Communication	RS-485	MODBUS RTU	✓	✓	✓	✓	✓