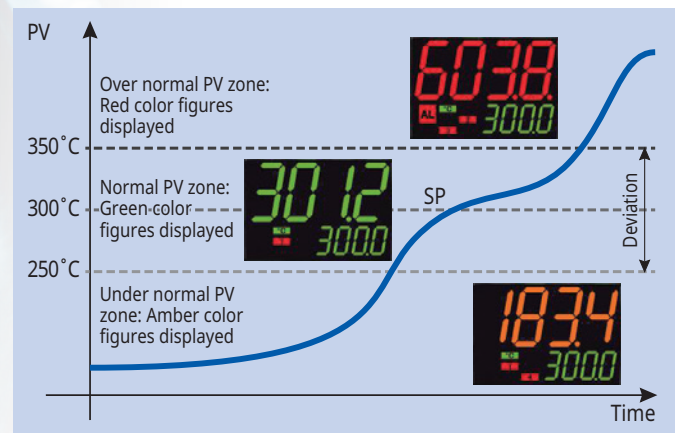# TC10

Small Cubic Controller

The TC10 is a compact single loop temperature controller with easy-to-read 3 dynamic colors led display. The short depth of the controller helps to save instrument panel space. The TC10 supports easy configuration with codes for quick start-up.

- ■ **Compact size**
- ■ **Universal Input**
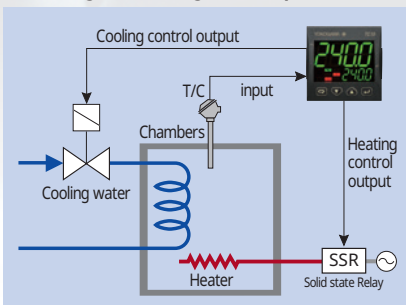- ■ **3 colors active display**
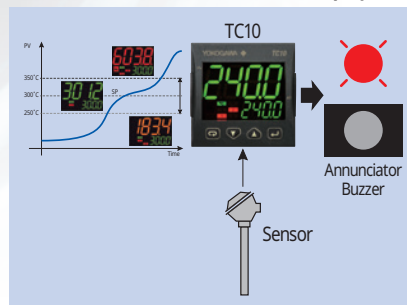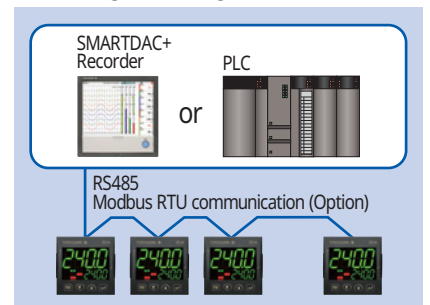- ■ **Serial Communication***

PV

Over normal PV zone: Red color figures displayed

350˚C

Normal PV zone: Green color figures displayed   SP

300˚C

250˚C

Deviation

Under normal PV zone: Amber color figures displayed

Time

*: Option

CE c UL US

■ Application

Heating and cooling (two outputs model)

Cooling control output

T/C   input

Chambers

Cooling water

Heater

Heating control output

SSR

Solid state Relay

Alarm detection with active display

TC10

PV

350˚C

300˚C   SP

250˚C

Time

Annunciator Buzzer

Sensor

Monitoring and setting from external device

SMARTDAC+ Recorder

PLC

or

RS485
Modbus RTU communication (Option)

Temperature Controller TC10

Specificaton Table

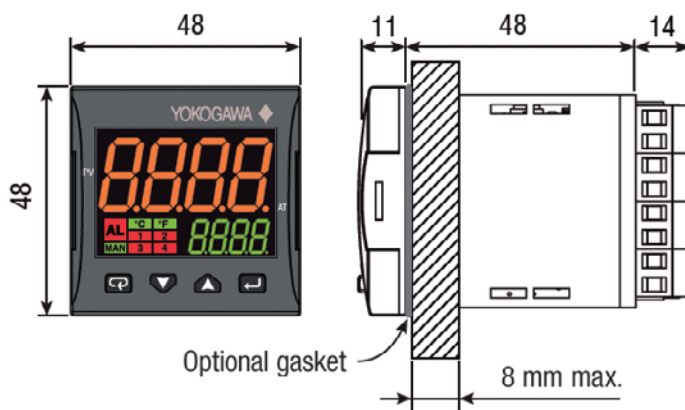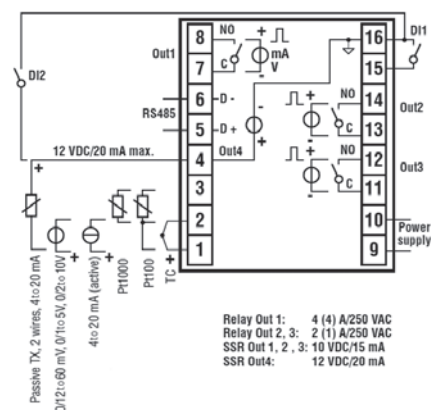|	TC10
PV/SP Data display	4 digits 3 colors active display
PV Input	1 Universal (TC, mV, V, mA, Pt100-Pt1000)
Accuracy	±0.5% of span ±1 digit
Display updating time	500 ms
Number of Set points (SP)	4
Control type	ON/OFF, PID, Heat/Cool control
Tuning	Auto-tuning, Self-tuning, Overshoot control
Control Output	Relay, Voltage Pulse or Analog
Control Output for Cooling output	Relay or Voltage Pulse
Contact Input/Output	1 logic input, and 1 selectable I/O

	TC10
Alarm	9 Types
Communication	RS-485 Protocol: Modbus RTU
Power supply	24 VAC/DC (Custom order), 100 to 240 VAC. Power consumption: 4.5 VA max. (24 VAC/DC) 6.0 VA max. (100 to 240 VAC)
Regulatory Compliance	CE, cULus
Front panel protection	IP65 (Optional)
Size	48 × 48, depth 62 mm, (1.77 × 1.77 × 2.97 in.)
Ambient Temperature, R.H.	Operating temperature: 0 to 50˚C (32 to 122˚F) Operating humidity: 20 to 90% RH (no condensation)

External Dimensions and Panel Cutout Dimensions

Optional gasket

8 mm max.

Terminal Arrangement

Relay Out 1: 4 (4) A/250 VAC
Relay Out 2, 3: 2 (1) A/250 VAC
SSR Out 1, 2, 3: 10 VDC/15 mA
SSR Out4: 12 VDC/20 mA

Model and Suffix Code

Model Code	Suffix codes									Description
TC10	-N	□	C	□	□	□	D	□	F	/□	Temperature Controller with an universal input, one logic input, and one selectable I/O
Fixed code	-N										Always "-N"
Power supply		L									24 VAC/DC (Custom order)
		H									100 to 240 VAC
Fixed code			C								Always "C"
OUT1-3				R	N	N					Relay output for On/Off control
				R	R	R					Relay output with two alarm relays, or On/Off Heat/Cool control with one alarm
				V	N	N					DCV output for SSR
				V	R	R					DCV output for SSR with two alarm relays, or DCV and Relay output for Heat/Cool control with one alarm
				V	V	R					Two DCV outputs for SSR with one relay (Custom order)
				A	R	R					Analog output with two alarm relays, or Analog output and Relay output for Heat/Cool control with one alarm
IN/OUT4 (Fixed code)							D				Always "D" Selectable I/O (logic input / 12 V SSR drive output / 12 VDC 20 mA transmitter power supply)
Serial communication								S			RS485 Modbus
								N			None
Fixed code									F		Always "F"
Option code										/GK	Panel gasket for IP65

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