

# TEMPERATURE/PROCESS CONTROLLERS



## Dual-output Temperature/Process Controllers

### Flexible Control Modes

The following four types of control modes can be selected: PID, ON/OFF, Manual, and PID programmable control (Ramp/Soak control).

### PID Program Control

PID Control is available with eight patterns. Each pattern contains eight step and eight time settings.

### Dual Output Control (Heating/Cooling Control)

Two built-in control outputs are provided for heating/cooling applications. Temperature control is achieved rapidly and accurately and both outputs can be operated simultaneously.

### RS-485 (MODBUS ASCII/RTU) Communication

Easily communicate with other external devices (i.e. HMI Touch Screens, PCs, and PLCs) for data trending and system integration. Up to 247 communication addresses are available with transmission speeds of 2400 to 38400 bps.

### Universal Sensor Inputs

- Thermocouple (K, J, T, E, N, R, S, B, L, U, TXK)
- 3 wire platinum RTD (pt100, jpt100)
- Analog Input (0-5V, 0-10V, 0-20mA, 4-20mA, 0-50mV)

### Multiple Output Configurations

#### Output 1

- R: Relay Output (250VAC, 5A max.)
- V: SSR Driver Output (14V, 49mV, PWM)
- C: DC Current Output (4-20mA)
- L: Linear Voltage Output (0-5V, 0-10V)

#### Output 2

- R: Relay Output (250VAC, 5A max.)
- V: SSR Driver Output (14V, 49mV, PWM)

Size	Part Number	Description	Price
1/32 DIN	DTB4824CR	Output 1 - DC Current, Output 2 - Relay	\$79
	DTB4824CV	Output 1 - DC Current, Output 2 - SSR Driver	\$79
	DTB4824LR	Output 1 - Linear Voltage, Output 2 - Relay	\$79
	DTB4824LV	Output 1 - Linear Voltage, Output 2 - SSR Driver	\$79
	DTB4824RR	Output 1 - Relay, Output 2 - Relay	\$79
	DTB4824VR	Output 1 - SSR Driver, Output 2 - Relay	\$79
	DTB4824VV	Output 1 - SSR Driver, Output 2 - SSR Driver	\$79
1/16 DIN	DTB4848CR	Output 1 - DC Current, Output 2 - Relay	\$89
	DTB4848CV	Output 1 - DC Current, Output 2 - SSR Driver	\$89
	DTB4848LR	Output 1 - Linear Voltage, Output 2 - Relay	\$89
	DTB4848LV	Output 1 - Linear Voltage, Output 2 - SSR Driver	\$89
	DTB4848RR	Output 1 - Relay, Output 2 - Relay	\$89
	DTB4848VR	Output 1 - SSR Driver, Output 2 - Relay	\$89
	DTB4848VV	Output 1 - SSR Driver, Output 2 - SSR Driver	\$89
1/8 DIN	DTB4896CRE	Event input, Output 1 - DC Current, Output 2 - Relay	\$99
	DTB4896CVE	Event input, Output 1 - DC Current, Output 2 - SSR Driver	\$99
	DTB4896LRE	Event input, Output 1 - Linear Voltage, Output 2 - Relay	\$99
	DTB4896LVE	Event input, Output 1 - Linear Voltage, Output 2 - SSR Driver	\$99
	DTB4896RRE	Event input, Output 1 - Relay, Output 2 - Relay	\$99
	DTB4896VRE	Event input, Output 1 - SSR Driver, Output 2 - Relay	\$99
	DTB4896VVE	Event input, Output 1 - SSR Driver, Output 2 - SSR Driver	\$99
1/4 DIN	DTB9696CRE	Event input, Output 1 - DC Current, Output 2 - Relay	\$119
	DTB9696CVE	Event input, Output 1 - DC Current, Output 2 - SSR Driver	\$119
	DTB9696LRE	Event input, Output 1 - Linear Voltage, Output 2 - Relay	\$119
	DTB9696LVE	Event input, Output 1 - Linear Voltage, Output 2 - SSR Driver	\$119
	DTB9696RRE	Event input, Output 1 - Relay, Output 2 - Relay	\$119
	DTB9696VRE	Event input, Output 1 - SSR Driver, Output 2 - Relay	\$119
	DTB9696VVE	Event input, Output 1 - SSR Driver, Output 2 - SSR Driver	\$119
<b>Accessories</b>			
VFD-USB01	Delta Communication Interface, USB-to-RS485 converter		\$43

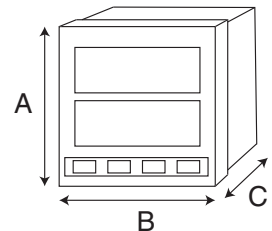
## General Specifications

Input Voltage	100 to 240VAC, 50/60Hz (-85% to +110% of rated voltage)
Power Consumption	5VA max.
Sampling Rate	Analog input: 150 msec/ per scan Thermocouple or Platinum RTD: 400 msec/per scan
Vibration Resistance	10 to 55Hz, 10m/s <sup>2</sup> for 10min, each in X, Y and Z directions
Shock Resistance	Max. 300m/s <sup>2</sup> , 3 times in each 3 axes, 6 directions
Ambient Temperature	32°F to 131°F (0°C to +50°C)
Storage Temperature	-4°F to 149°F (-20°C to +65°C)
Altitude	2000m or less
Relative Humidity	35% to 80% (non-condensing)

## Dimensions

Part Number	Overall			Cutout	
	A	B	C	A	B
DTB4824xx	24.0 mm (0.94")	48.0 mm (1.89")	103.2 mm (4.06")	22.0 mm (0.87")	44.8 mm (1.76")
DTB4848xx	48.0 mm (1.89")	48.0 mm (1.89")	89.5 mm (3.52")	45.0 mm (1.77")	45.0 mm (1.77")
DTB4896xxE	98.2 mm (3.87")	48.0 mm (1.89")	92.0 mm (3.62")	91.5 mm (3.60")	44.5 mm (1.75")
DTB9696xxE	96.0 mm (3.78")	96.0 mm (3.78")	95.0 mm (3.74")	91.0 mm (3.58")	91.0 mm (3.58")

## DTCOM Programming Software



# DIN-rail Mount Temperature Controllers



RS-485 MODBUS

\$65

NEW!

Connect up to 8 modules

\$75

## Programmable Temperature Controllers

### Flexible Control Modes

Select from these popular control modes: PID, ON/OFF, Manual, and PID programmable control (Ramp/Soak control).

### PID Program Control

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Two built-in control outputs are provided for heating/cooling applications. Temperature control is achieved rapidly and accurately and both outputs can be operated simultaneously.

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### Universal Sensor Inputs

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- 3 wire platinum RTD (pt100, jpt100)
- Analog Input (0-5V, 0-10V, 0-20mA, 4-20mA, 0-50mV)

### Multiple Output Configurations

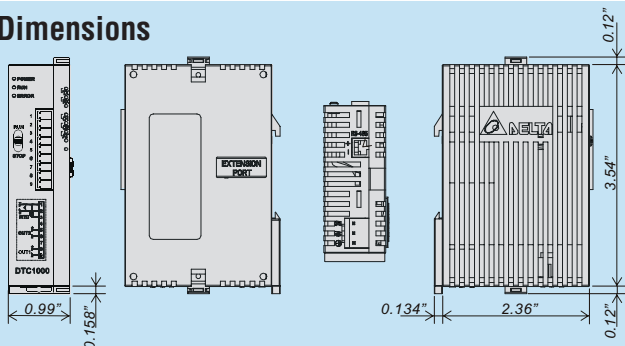
#### Output 1

R: Relay Output (250VAC, 3A max.), V: SSR Driver Output (12V, 40mA, PWM)  
C: DC Current Output (4-20mA), L: Linear Voltage Output (0-10V)

#### Output 2

R: Relay Output (250VAC, 3A max.)

### Dimensions



Part Number	Description	Price
<b>Master Modules (support up to 7 expansion modules)</b>		
DTC1000C	Output 1 - DC Current (4-20mA), Output 2 - Relay (250VAC, 3A max.)	\$75
DTC1000L	Output 1 - Linear Voltage (0-10V), Output 2 - Relay (250VAC, 3A max.)	\$75
DTC1000R	Output 1 - Relay (250VAC, 3A max.), Output 2 - Relay (250VAC, 3A max.)	\$75
DTC1000V	Output 1 - SSR Driver (12V, 40mA), Output 2 - Relay (250VAC, 3A max.)	\$75
<b>Expansion Modules</b>		
DTC2000C	Output 1 - DC Current (4-20mA), Output 2 - Relay (250VAC, 3A max.)	\$65
DTC2000L	Output 1 - Linear Voltage (0-10V), Output 2 - Relay (250VAC, 3A max.)	\$65
DTC2000R	Output 1 - Relay (250VAC, 5A max.), Output 2 - Relay (250VAC, 3A max.)	\$65
DTC2000V	Output 1 - SSR Driver (12V, 40mA), Output 2 - Relay (250VAC, 3A max.)	\$65
VFD-USB01	USB-to-RS485 converter	\$43

## General Specifications

Input Voltage	24VDC, (90% to 110% of rated voltage)
Power Consumption	3 W per module, 24 W maximum
Sampling Rate	Analog input: 150 msec/ per scan Thermocouple or Platinum RTD: 400 msec/per scan
Control Method	PID, PID Step (Ramp/Soak), Manual, ON/OFF
Output Rating	Relay output: SPST, Max. load 250VAC, 3A resistive SSR Driver output: 12VDC (+10% - -20%), 40mA max. Current output: 4-20mA, 500Ω max. load resistance Linear voltage output: 0-10V, load resistance must be > than 1kΩ
Output function	Control output, Alarm output, Retransmission output (Linear voltage and Current output types only)
Alarm function	12 mode selections
Communications	RS-485, 2400 - 38,400bps, MODBUS RTU/ASCII
Vibration Resistance	10 to 55Hz, 10m/s <sup>2</sup> for 10min, each in X, Y and Z directions
Shock Resistance	Max. 300m/s <sup>2</sup> , 3 times in each 3 axes, 6 directions
Ambient Temperature	32°F to 131°F (0°C to +50°C)
Storage Temperature	-4°F to 149°F (-20°C to +65°C)
Altitude	2000m or less
Relative Humidity	35% to 80% (non-condensing)

## DTCOM Programming Software for DTB and DTC

### Controller Parameter Setup

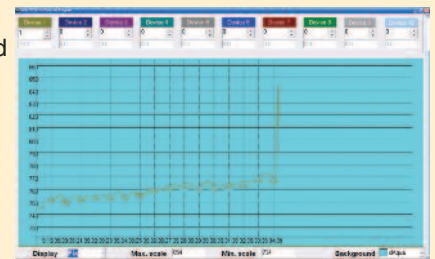
The DTCOM Software supports the DTB and DTC temperature controllers. Connection is made through the RS-485 communication interface on the controller (VFD-USB01 USB to RS-485 converter is available). The DTCOM can connect to multiple controllers at the same time and program and monitor the settings and status of the controllers.



Download FREE Software!

### Record Temperature

DTCOM is able to record and display input value history for up to 10 controllers at one time. The controller input values are recorded to a line chart and can be saved for future review.



FREE Ground Shipping!\*  
for online orders over \$500

