DT Heaters & Controls

Single Loop Controls Product Catalog

CE

DTC

DTA

DTB

- TEMPERATURE CONTROLLER
- SOLID STATE RELAY

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HEATERS & CONTROLS

Low Cost Version

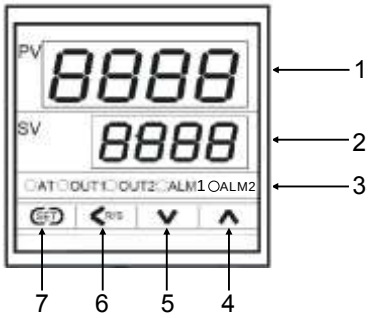
Digital Temperature Controller

DTB Series

Four digits PID

- Selectable input(TC,RTD,Analog)
- PID with auto-tuning
- Accuracy 0.5%F.S
- 90~260 VAC Power supply
- SSR drive/Relay/4-20mA output
- Dual line four digits display
- Panel mount
- Maximum two control outputs
- Maximum two alarms

Panel Description



1:Process value or parameter dispaly
2:Setting value or parameter value display
3:Indication lamps
AT---Auto-tuning indication
OUT1---For output 1 indication
OUT2---For output 2 indication
ALM1 ---For first alarm indication
ALM 2---For second alarm indication
4:Increase key
5:Decrease key
6:Shift key or Run/Stop key
7:Set key

Ordering Information

DTB -□□□□□
1 2 3 4 5

1:Size Information
- 48: 48mm(Width)*48mm(Height)
- 49: 48mm(Width)*96mm(Height)
- 72: 72mm(Width)*72mm(Height)
- 96: 96mm(Width)*96mm(Height)
- 94: 96mm(Width)*48mm(Height)

2:Output 1(Heating)
- R: Relay
- V: SSR drive
- D: 4-20mA

Remark: When OUT1 selected as 4-20mA, OUT2 is not available.

3:Output 2(Cooling)
- R: Relay
- N: Without output 2

4:Alarm options
- 1: 1 alarm
- 2: 2 alarms

5:Power Supply
- 96: 90~260VAC

6:Auxiliary Power Supply
- 24: 24VDC AUX power
- N: Without auxiliary power

Specifications

Power Supply	:90~260VAC
Power Consumption	:5 VA(Maximum)
Display	:Dual Line four digits.7 segments LED display in degrees C
Control method	:P,PID,PI, PD,ON/OFF(P=0)
Input	:Thermocouple(K,J,R,S,B,E,N,T,U,L,PLII,W5Re/W26Re) RTD(Pt100, JPT100) Voltage and Current(0-5VDC,1-5VDC,0-20mADC,4-20mADC)
Output	:Relay(3A /220VAC) SSR DRIVE(12VDC 50mA max) Current output(4-20mA/0-10mA)
Measuring Accuracy	:0.5%F.S
Control Accuracy	:+/- 1 Celsious
Alarm output	:1 alarm or 2 alarms optional
Alarm mode	:Deviation high Deviation low Deviation high/low Band alarm Process high Process low
Proportional band(P)	:0.1-999.9/1-9999(default 30)
Integral time(I)	:1-3600S(default 240S)
Derivative times(D)	:1-3600S(default 60S)
Control Time(T)	:1-100S(default 20S for replay output, 2S for SSR drive and 4-20mA output)
Sampling time(T)	:0.5 second
Ambient Temperature	:0°C~50°C
Memory retention	:yes
Ambient humidity	:45%-85% RH(None Freeze)
Weight	:DTB-48(0.17kg) DTB-49(0.22kg) DTB-94(0.22kg) DTB-72(0.22kg) DTB-96:(0.31kg)
Size and dimensions	:DTB48--48mm*48mm cutout(45mm*45mm*78mm) DTB-49--48mm*96mm cutout(45mm*91.5mm*70mm) DTB-72--72mm*72mm cutout(67.5mm*67.5mm*92mm) DTB-96--96mm*96mm cutout(91.5mm*91.5mm*70mm) DTB-94--96mm*48mm cutout(91.5mm*45mm*70mm)

Input Signals

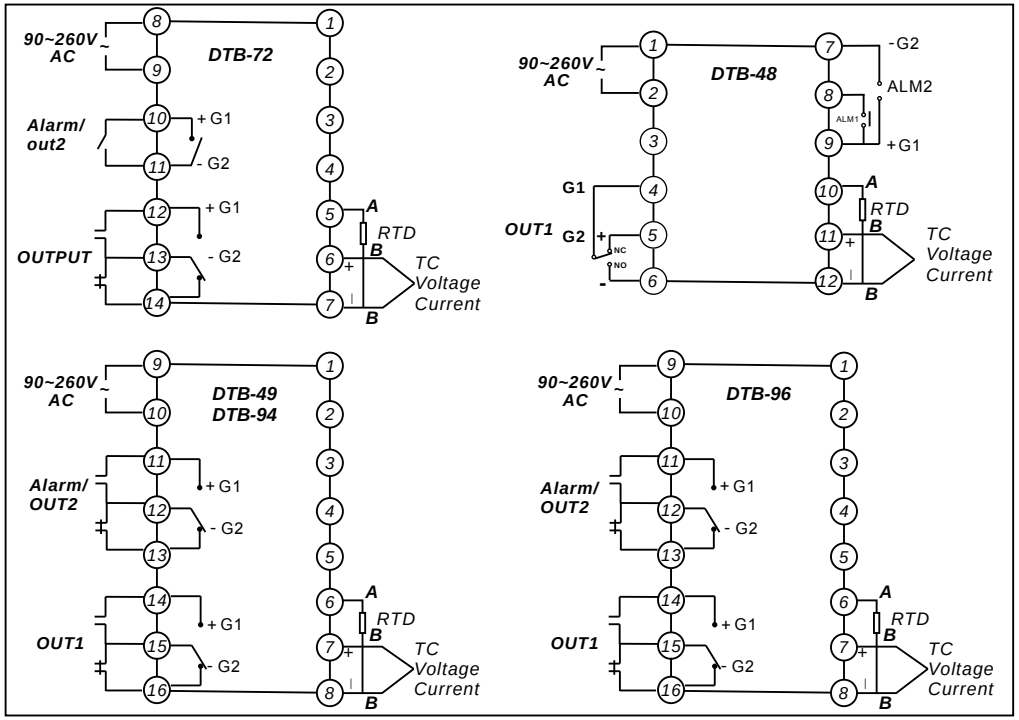
Thermocouple :K(0°C-1372°C) J(0°C-1200°C) R(0°C-1769°C)
S(0°C-1769°C) B(0°C-1820°C) E(0°C-1000°C)
T(-199°C-400°C) N(0°C-1300°C) U(-199°C-600°C)
L(0°C-900°C) PLII(0°C-1390°C)
W5Re/W26Re(0°C-2320°C)

RTD :PT100(-199.9°C-649.0°C) Jpt100(-199.9C-649.0°C)

Analog :0-5VDC(-1999-9999 range configurable)
1-5VDC(-1999-9999 range configurable)
0-10mADC(-1999-9999 range configurable)
4-20mADC(-1999-9999 range configurable)

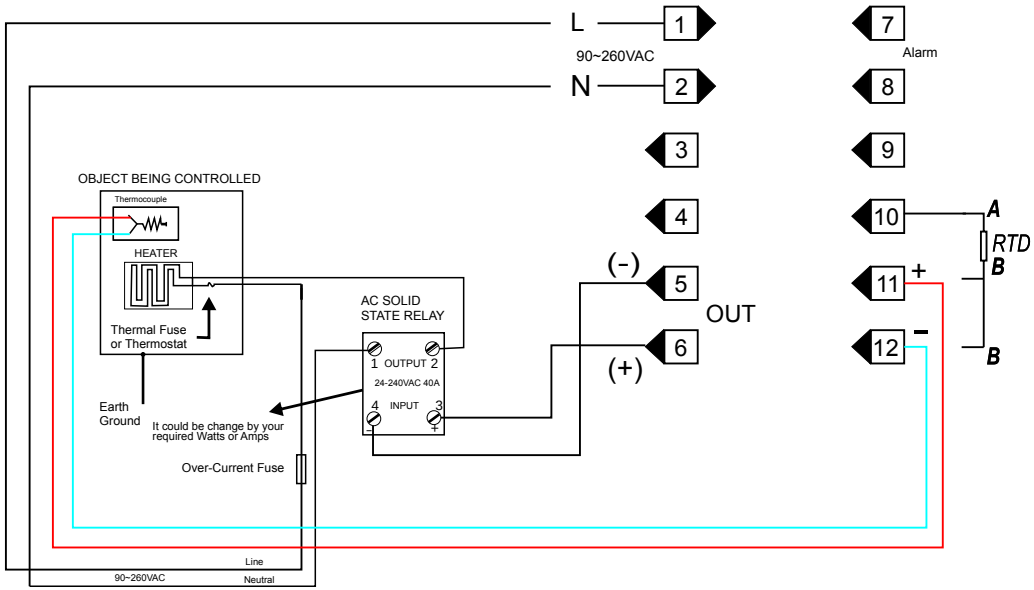
Remark:Be sure to parallel connect a 250 ohm to the input terminal when input is 0-10mA or 4-20mA

Terminal Arrangement

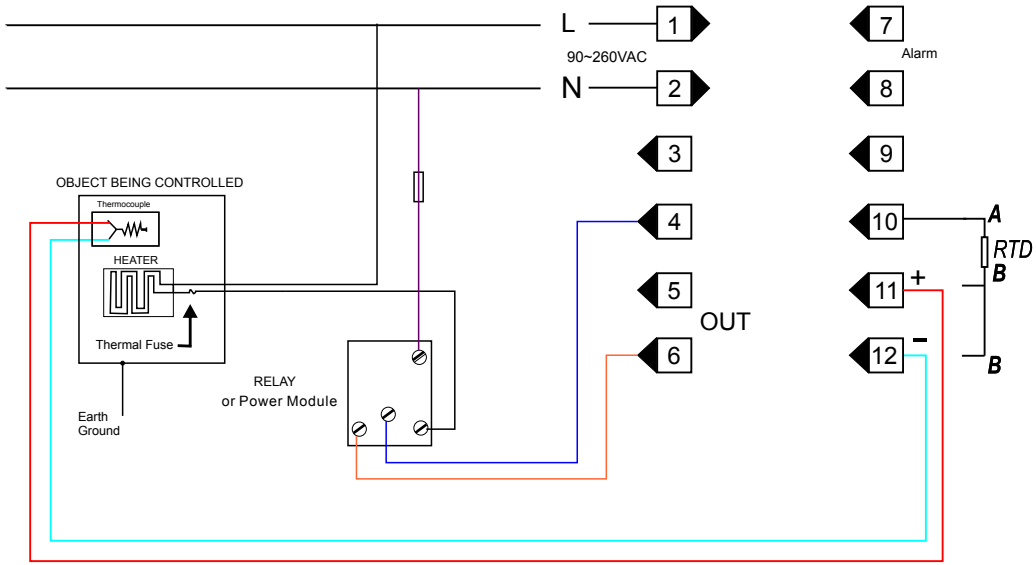


Remark:Parallel a 250 Ohm resistor to the input terminal when input is current(0-10mA/4-20mA)

Detailed Wiring Diagram For Most Popular Size 48mm*48mm



SSR Drive output



Relay output

HEATERS & CONTROLS

Advanced Version

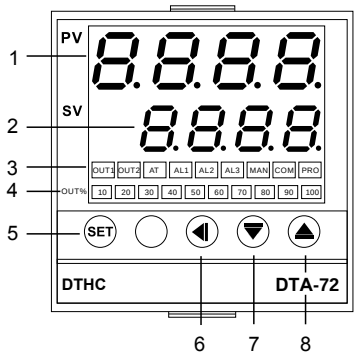
Digital Temperature Controller

DTA Series

Advanced PID Temperature Controller

- Selectable input from panel(TC,RTD,Analog)
- **PID**, Initial power-up overshoot suppression function
- Super large and bright LED Display
- High Measuring accuracy, 0.2%F.S
- Wide range of power supply 85~265VAC
- SSR drive/Relay/4-20mA/Triac output
- Dual Line 4 digits display
- RS-485, 4-20mA Re-Transmission optional
- Decimal points for all input signals.
- C or F display selected on user's discretion
- Alarm standby function intergrated
- Output graphic bar indication
- Soft-start function(analog output only)

Panel Description



1: Measured value (PV) display [RED]
2: Set value(SV)display [GREEN]
3: OUT1lamp: Output indication
OUT2 lamp: Remark lamp
AT lamp: Auto-tuning indication
AL1 lamp: Alarm 1 output indication
AL2 lamp: Alarm 2 output indication
AL3 lamp: Remark lamp
MAN lamp: Remark lamp
COM lamp: Communication indication
PRG lamp: Remark lamp
4 LED bar: Output1 % value indication
5 SET key: Used for parameter calling up and set Value registration
6 ◀ : Shift key and setting SV key
7 ▼ : Down key, decrease numbers
8 ▲ : Up key ,increase numbers

Ordering Information

BR?-□□□□□□
1 2 3 4 5 6

1:Size Information

48: 48mm(Width)*48mm(Height)
49: 48mm(Width)*96mm(Height)
72: 72mm(Width)*72mm(Height)
96: 96mm(Width)*96mm(Height)
94: 96mm(Width)*48mm(Height)

2:Output

R: Relay
V: SSR drive
D: 4-20mA
M: Triac

3:Alarm

1: 1 alarm
2: 2 alarms

4:Power Supply

96: 85~265VAC

5:PV or SV Re-Transmission Output

N: Without PV or SV re-transmission
P42: PV re-transmission as 4-20mA
P005: PV re-transmission as 0-5VDC
P010: PV re-transmission as 0-10VDC
S42: SV re-transmission as 4-20mA
S005: SV re-transmission as 0-5VDC
S010: SV re-transmission as 0-10VDC

6:Modus-RTU RS-485 Communication

N: Without RS-485 Communication
K: With RS-485 Communication

①②③④ ⑤⑥

Example: DTA-48-R-1-96-N -K DTA controller, size 48mm*48mm, Relay output, 1 alarm, 85~265VAC source, with RS-485 communication.

General Specifications

Power Supply	:85~265VAC/24DC
Power Consumption	:5 VA(Maximum)
Display	:Dual Line four digits.7 segments LED display
Control method	:P, PID ,PI, PD, ON/OFF(P=0)
Control action	:Reverse(heating) or direct(cooling)
Input	:Thermocouple(K,E,J,N,Wu3_Re25,S,T,R,B,) Pt100(Up to 800 C) Voltage and Current(0-5VDC,0-10VDC,0-50mV,0-20mV,0-20mA 2-10VDC, 1-5VDC, 4-20mA)
Measuring Accuracy	:0.2%F.S
Control Accuracy	:+/- 1 Celsious
Alarm output	:1 alarm/2 alarms
Proportional band(P)	:0.0-200.0
Integral time(I)	:1-3600S
Derivative times(D)	:1-3600S
Control Time(T)	:1-999S
Sampling time(T)	:0.25 second/4 times per second
Ambient Temperature	:0°C~50°C
Memory retention	:yes
Ambient humidity	:45%-85% RH(None Freeze)
Package size	:48mm*48mm(6.5CM*6.8CM*12.5CM),48mm*96mm(10.8cm*12.5cm*6cm) :72mm*72mm(12.5CM*8CM*8.2CM),96mm*96mm(12.5cm*10.1cm*11cm)
Unit Weight	:48mm*48mm(0.18kg),48mm*96mm(0.22kg) :72mm*72mm(0.26kg),96mm*96mm(0.32kg)
Communication	:RS-485 modbus RTU

Power Up Overshoot Supression

The overshoot is common when controller just power up during the PV is getting closer to SV, this controller offers a useful features for application where the overshoot can not be tolerated

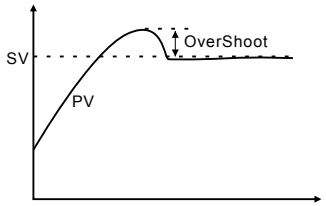


Figure 1

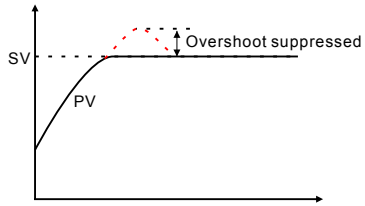
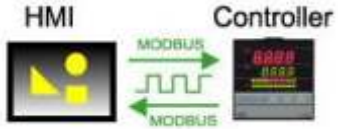


Figure 2

The figure 1 shows significant overshoot after PV reaches to SV, this is harmful to some of system, DTA offers a feature to suppress the overshoot, the PV getting close to SV slowly therefore the overshoot suppressed.

RS-485 Communication(Optional function)



Controller supports Modbus RS-485 RTU protocal, communication between controller and HMI or other equipment is very convenient.

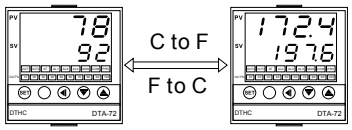
LED display and indicator built together on ONE PCB board

The LED display and LED indicators was built as one panel ,most of controller with their LED display and LED indicator installed separately, the chance of the malfunction is high. This controller with all the display and indicator units built together on one board, makes it easier to install and easy to test with higher reliability.

PV/SV Re-transmission(Optional function)

The PV or SV value can be re-transmitted as analog signal 0-5VDC,0-10VDC,4-20mA, and the re-transmission signal can be feed to recorder, digital display or other device

C or F display selectable



This controller offers display based on Celcius and Fahrenheit. and the display is switchable between C and F.

Decimal points for all input signals

The decimal points display is available for all input signals. For TC and RTD sensors, the resolution is 0.1, for analog signal, the resolution is 0.001.

Alarm standby/Suppression function

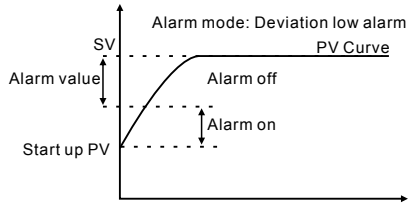


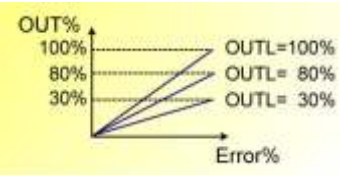
Figure 3

Refer to figure 3, in an application, the alarm mode is deviation low alarm, when machine just powered up, the ambient temperature is within the alarm range, the alarm should be activated but actually there is no problem in the system, the alarm will be suppressed first time.use this function can avoid alarm acts at start-up. the alarm action is suppressed at start-up until PV enters to non-alarm range.

Output graphic bar indication

Output percentage displayed on the bar-graphic in 10 LEDs resolution it's easier to have a close and direct monitor on the output.

Output high/low limit setting

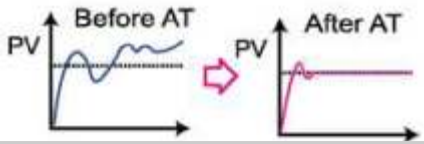


Controller with built-in output limit function, use this function user can set the output high/low limit

Soft-Start function

Controller offers soft-start function when output is analog such as 4-20mA, to maintain a stable system, the output changing rate can be restrained in a certain range, for example, if the output changes from 4mA to 8mA in 1 seconds, then the changing rate is 4mA/S, the changing rate can be restrained within 5%,means in the next seconds, the output only changes between 4mA*(1-5%) to 4mA*(1+5%). which is 3.8mA to 4.2mA. this is very useful features for some of system where the load is sensitive to rapid output changes. it can protect the load from being damaged.

Auto-tuning function



Auto-tuning function can calculate optimized PID values for the control system, best control result can be achieved.

Various input and output

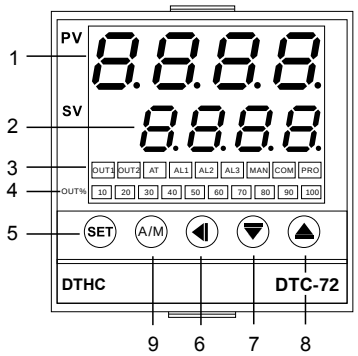
HEATERS & CONTROLS

Heating+Cooling Temperature Controller

DTC-HC Series

- Selectable input from panel(TC,RTD,Analog)
- Soft-start function
- Super large and bright LED Display
- High Measuring accuracy, 0.2%F.S
- Wide range of power supply 90~260VAC
- SSR drive/Relay/4-20mA/Triac
- Dual Line 4 digits display
- RS-485, 4-20mA Re-Transmission optional
- Decimal points for all input signals.
- C or F display selected on user's discretion
- Alarm standby function intergrated
- Output graphic bar indication
- Heating+cooling control
- 24VDC auxiliary power available

Panel Description



1: Measured value (PV) display [RED]
2: Set value(SV)display [GREEN]
3: OUT1lamp: Output1 indication
OUT2 lamp: Output 2 indicaton
AT lamp: Auto-tuning indication
AL1 lamp: Alarm 1 output indication
AL2 lamp: Alarm 2 output indication
AL3 lamp: Alarm 3 output indication
MAN lamp: Manual control mode indication
COM lamp: Communication indication
PRG lamp: Remark lamp
4 LED bar: Output1 % value indication
5 SET key: Used for parameter calling up and set Value registration
6 ◀ : Shift key and setting SV key
7 ▼ : Down key, decrease numbers
8 ▲ : Up key ,increase numbers
9 (A/M) :Manual/auto control mode switch key

Ordering Information

BRA - □□ □ □ □ □ □ □ □
HC
1 2 3 4 5 6 7 8

1:Size Information

- **48**: 48mm(Width)*48mm(Height)
- **49**: 48mm(Width)*96mm(Height)
- **72**: 72mm(Width)*72mm(Height)
- **96**: 96mm(Width)*96mm(Height)
- **94**: 96mm(Width)*48mm(Height)

2:Version Code

- **HC**: Heating+Cooling Controller

3:Output 1(Heating/Reverse control)

- **R**: Relay
- **V**: SSR drive
- **D**: 4-20mA
- **2**: 0-20mA
- **5**: 0-5VDC
- **6**: 0-10VDC
- **7**: 1-5VDC

3:Output 2(Cooling/Direct control)

- **R**: Relay
- **V**: SSR drive
- **D**: 4-20mA
- **2**: 0-20mA
- **5**: 0-5VDC
- **6**: 0-10VDC
- **7**: 1-5VDC

Remark: *Alarm 2 and re-transmission can not be selected at the same as they share the same terminals

*Analog output and re-transmission can not be selected at the same time

4:Alarm options

- **1**: 1 alarm
- **2**: 2 alarms

5:Power supply

- **96**: 85~265VAC

6:Re-transmission

- **N**: Without re-transmission
- **P42**: PV re-transmission as 4-20mA
- **P005**: PV re-transmission as 0-5VDC
- **P010**: PV re-transmission as 0-10VDC
- **S42**: SV re-transmission as 4-20mA
- **S005**: SV re-transmission as 0-5VDC
- **S010**: SV re-transmission as 0-10VDC

7:Communication

- **N**: Without communication
- **K**: RS-485 Modbus RTU

8:Auxiliary Power supply

- **N**: Without auxiliary power supply
- **24**: 24VDC

General Specifications

Power Supply	:85~265VAC
Power Consumption	:5 VA(Maximum)
Display	:Dual Line four digits.7 segments LED display
Control method	:P, PID ,PI, PD, ON/OFF(P=0)
Control action	:Reverse(heating) or direct(cooling), reverse+direct(heating+cooling)
Input	:Thermocouple(K,E,J,N,Wu3_Re25,S,T,R,B,) Pt100(Up to 800 C) Voltage and Current(0-5VDC,0-10VDC,0-50mV,4-20mV,0-20mA 2-10VDC, 1-5VDC, 4-20mA)
Sensor Power	:24VDC available on request
Measuring Accuracy	:0.2%F.S
Output	:Relay/SSR Drive/4-20mA/Triac/Analog
Alarm output	:1 alarm/2 alarms
Proportional band(P)	:0.0-200.0
Integral time(I)	:1-3600S
Derivative times(D)	:1-3600S
Control Time(T)	:1-999S
Sampling time(T)	:4 times/second
Ambient Temperature	:0°C~50°C
Memory retention	:yes
Ambient humidity	:45%-85% RH(None Freeze)
Package size	:48mm*48mm(6.5CM*6.8CM*12.5CM),48mm*96mm(10.8cm*12.5cm*6cm) :72mm*72mm(12.5CM*8CM*8.2CM),96mm*96mm(12.5cm*10.1cm*11cm)
Unit Weight	:48mm*48mm(0.18kg),48mm*96mm(0.22kg) :72mm*72mm(0.26kg),96mm*96mm(0.32kg)

Power Up Overshoot Supression

The overshoot is common when controller just power up during PV is getting closer to SV, this controller offers a useful features for application where the overshoot can not be tolerated

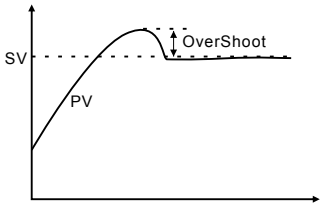


Figure 1

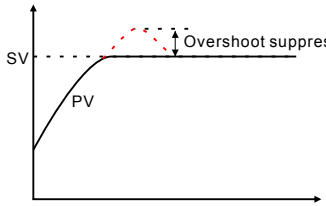
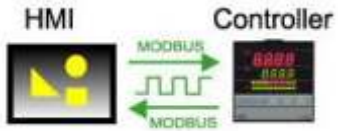


Figure 2

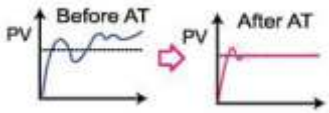
The figure 1 shows significant overshoot after PV reaches to SV, this is harmful to some of system, DTC-HC offers a feature to suppress the overshoot

RS-485 Communication(Optional function)



Controller supports Modbus RS-485 RTU protocal, communication between controller and HMI or other equipment is very convenient

Auto-tuning(AT)



Auto-tuning function can calculate the optimize PID value for your control system to achieve a perfect control result and reduce the workload.

Auto/Manual Control bumpless transfer

Click!

Auto/Manual control switch key offers conveniently option to switch between auto control mode and manual control mode DTC-48 size 48mm*48mm is not available with this function

Various LED indicators

Real time monitor the status of output(OUT1/OUT2),AT, alarm (AL1/AL2/AL3),manual output(MAN) and program(PRO).

Output graphic bar indication

Output percentage displayed on the bar-graphic in 10 LEDs resolution it's easier to have a close and direct monitor on the output.

Parameter access protection

All parameters are distributed in three operation levels, each parameters can be locked to prevent unauthorized changes

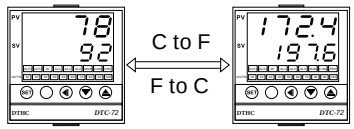
Decimal points for all input signals

The decimal points display is available for all input signals. For TC and RTD sensors, the resolution is 0.1, for analog signal, the resolution is 0.001.

Various input/output types

Input:TC/RTD/Analog
Output:Relay/SSR Drive /analog

C or F display selectable



This controller offers display based on Celcius and Fahrenheit. and the display is switchable between C and F.

PV/SV Re-transmission(Optional function)

The PV or SV value can be re-transmitted as analog signal 0-5VDC,0-10VDC,4-20mA, and the re-transmission signal can be feed to recorder, digital display or other device

Alarm standby/Suppression function

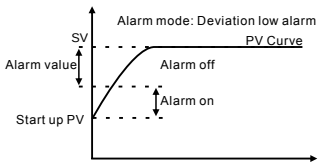
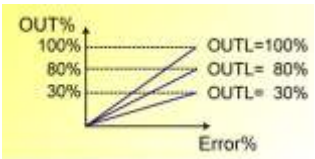


Figure 3

Refer to figure 3, in an application, the alarm mode is deviation low alarm, when machine just powered up, the ambient temperature is within the alarm range, the alarm should be activated, but actually there is no problem in the system, the alarm will be suppressed first time.use this function can avoid alarm acts at start-up. the alarm action is suppressed at start-up until PV enters to non-alarm range.

Output limit setting

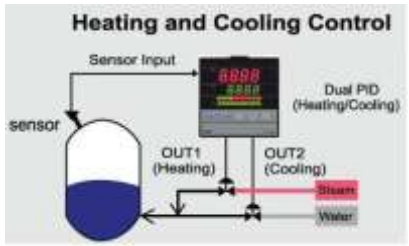


Controller with built-in output limit function, use this function to set high/low limit output value

Soft-Start Function

Controller offers a function when output is analog such as 4-20mA, to maintain a stable system, the output changing rate can be restrained in a certain range, for example, if the output changes from 4mA to 8mA in 1 seconds, then the changing rate is 4mA/S, the changing rate can be restrained within 5%,means in the next seconds, the output only changes between 4mA*(1-5%) to 4mA*(1+5%). which is 3.8mA to 4.2mA.

Heating+Cooling Control



Dual separate PID to maximize the control result
Offers high precision heating+cooling control

HEATERS & CONTROLS UT

Ramp and Soak Controller/Profile Controller

Programmable Controller

DTC-P Series

Maximum 32 segments
4 different programs
Easy to operate

- Power supply 85~265Vac 50/60Hz
- High accuracy 0.2%F.S
- Selectable input from panel(TC,RTD,Analog)
- Relay/SSR Drive/4-20mA output
- Heating or cooling control mode
- Various alarm mode
- Auto/Manual bumpless transfer from front panel
- PV/SV re-transmission output optional
- RS-485 communication optional
- Master/Slave communication mode
- 24VDC auxiliary power supply available
- Various program execution mode
- User friendly

Ordering Information

DTC-□P□□□□□□□
1 2 3 4 5 6 7 8

1:Size Information

- **48**: 48mm(Width)*48mm(Height)
- **49**: 48mm(Width)*96mm(Height)
- **72**: 72mm(Width)*72mm(Height)
- **96**: 96mm(Width)*96mm(Height)
- **94**: 96mm(Width)*48mm(Height)

2:Version Code

- **P:** Programmable temperature controller also known as Ramp and soak controller

3:Output

- **R**: Relay
- **V**: SSR drive
- **D**: 4-20mA
- **2**: 0-20mA
- **5**: 0-5VDC
- **6**: 0-10VDC
- **7**: 1-5VDC

4:Alarm options

- **1**: 1 alarm
- **2**: 2 alarms
- **3**: 3 alarms

5:Power supply

- **96:** 85~265VAC

6:Re-transmission

- **N:** Without re-transmission
- **P42:** PV re-transmission as 4-20mA
- **P005:** PV re-transmission as 0-5VDC
- **P010:** PV re-transmission as 0-10VDC
- **S42:** SV re-transmission as 4-20mA
- **S005:** SV re-transmission as 0-5VDC
- **S010:** SV re-transmission as 0-10VDC

7:Communication

- **N:** Without communication
- **K:** RS-485 Modbus RTU

8:Auxiliary Power supply

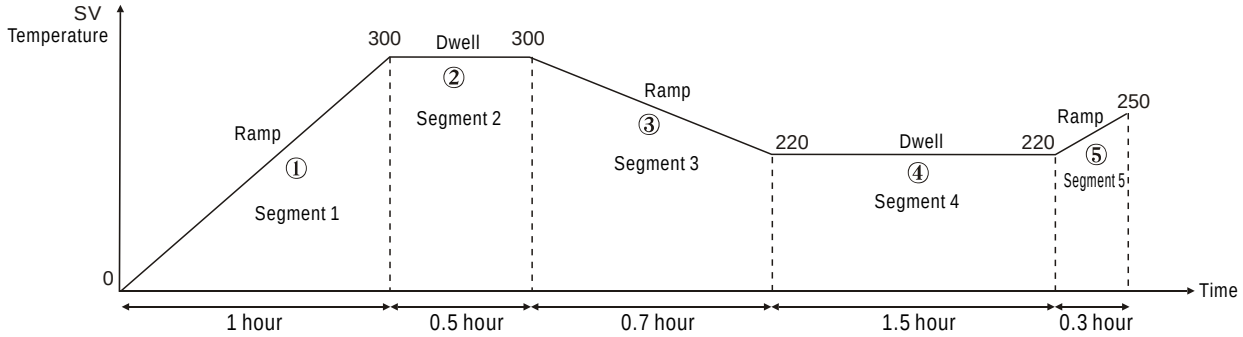
- **N:** Without auxiliary power supply
- **24**: 24VDC

Detailed Features

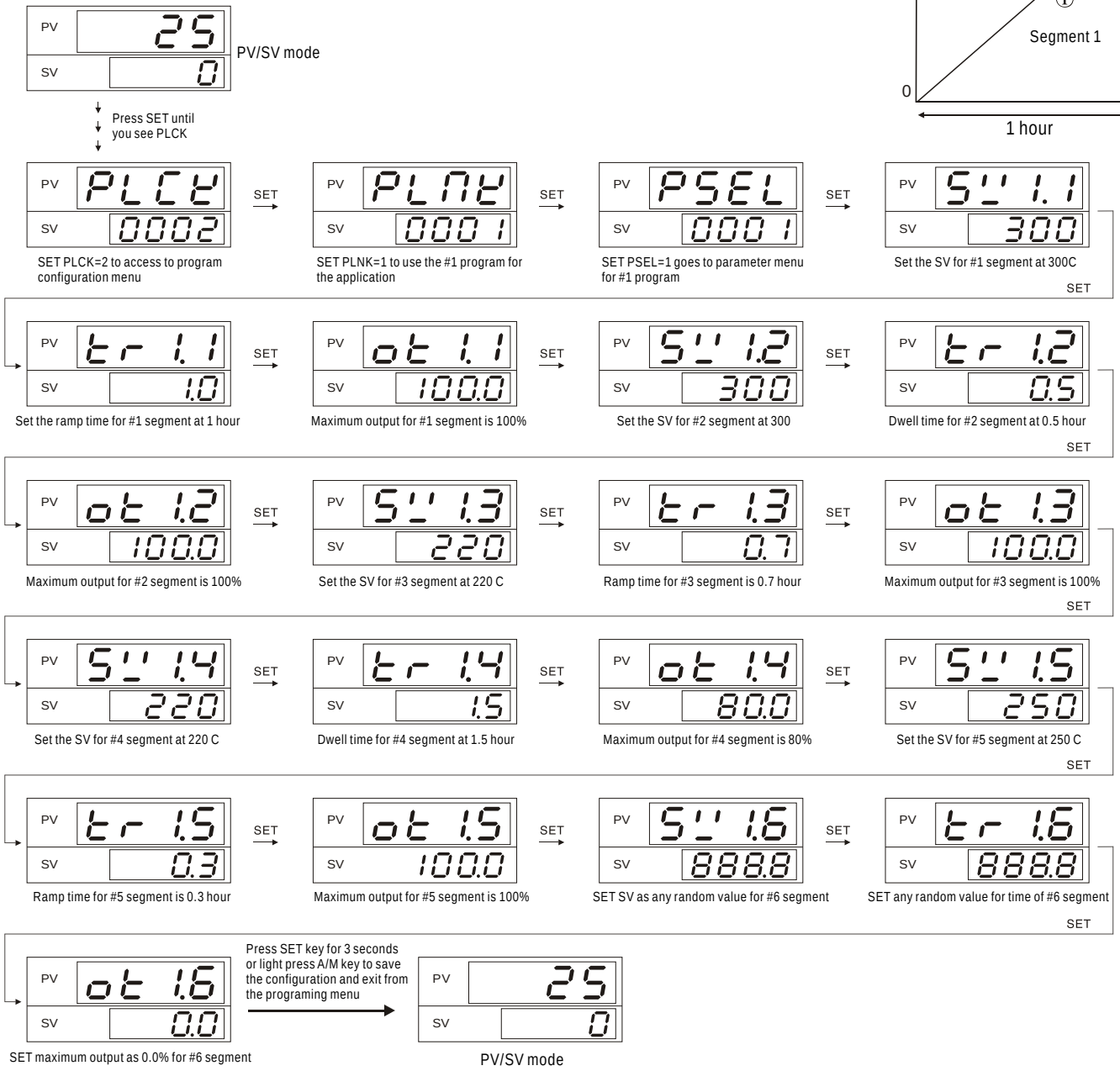
- **Input Signals**
  TC:K,S,E,J,T,B,N,R
  RTD:Pt100
  Analog signal:0-5V,1-5V,0-10V,2-10V,0-20mV,0-50mV,4-20mA, 0-10mA,0-20mA
- **Display**
  Dual line four digits LED display, bar graphic display. Celcius and Fahrenheit switchable
- **Measuring accuracy and resolution**
  0.2%F.S accuracy, maximum 0.1 resolution for TC and RTD input, 0.001 resolution for analog signal such as 4-20mA.
- **Main output**
  Relay contact output, SSR Drive output, 4-20mA output, 0-20mA output, 0-5Vdc output 0-10Vdc output, 1-5Vdc output
- **Control action**
  Heating or cooling control configurable, PID algorithm. when P=0, ON/OFF control.
- **Alarm and alarm mode**
  Maximum 3 alarms,15 different alarm modes, refer to user manual for detailed alarm modes
- **Auto/manual control switch**
  Auto/manual bumpless switch between each other, available for all sizes except size 48mm*48mm
- **PV/SV Re-transmission function**
  The process value or setting value can be re-transmitted as analog signal such as 4-20mA
- **Decimal pp**
  The process value or setting value can be re-transmitted as analog signal such as 4-20mA
- **Programming**
  Maximum 4 programs can be programmed, each program with maximum 8 segments, all different program can be linked as one program with maximum 32 segments.
- **Output restriction**
  The maximum output can be restrained in certain range, for example 80%, maximum output can be defined at specific segments
- **System timing**
  The system timing unit can be seconds, hours, or minutes and field configurable
- **Program monitoring**
  Be able to check current running segments and program running time. RS-485 optional for remote monitoring and configuration
- **Program control**
  >Program can be executed from “0" or from the process value
  >Program can be executed automatically right after power on
  >Program can be executed or terminated from front panel
  >Program can be restored after power failure situation.
  >Program can be configured to repeat itself after finish a program
  >Program can be configured to STOP itself after finish a program
- **Holdback function**
  Holdback indicates that the process value is lagging the set point by more than a preset amount and that the program is in HOLD, waiting for the process to catch up.
- **Master/Slave communication mode**
  Number of controllers can be connected to a master controller as slave controller, any setting you made to the master controller will be reflected to the slave controller, This will save a lot of time if more controllers are doing the same job at the same time with same settings.

A typical application

Suppose we need a program with 5 segments, using #1 program for the application, check below curve.
the maximum output ratio restricted to 80% at segment 4 to avoid damage.
system timing unit: hours



How to create a program like figure shows at right



*Program automatically terminated

Set the maximum output menu as 0.0% at certain segment if a program less than 8 segments and program ending when it comes to the last segment. in above case, the program only have 5 segments, then set the maximum output for #6 segment as 0.0%, program ends after 5 segments.

*Program automatically jumping

If a program needs to skip on certain segments, set the segment time as 0.0, when program runs to the segment where the time has been set as 0.0, it will go to next segment automatically, for example, in a program where we want to skip on segment 4, then SET the time for segment 4 as “0.0", then program automatically goes to segment 5 from segment 3.

HEATERS & CONTROLS UT

Ramp and Soak Controller/Profile Controller

Programmable Controller

DTC-P Series

Maximum 50 segments

- High accuracy 0.3%FS
- Guaranteed Soak
- Selectable input from panel(TC,RTD,Analog)
- Event output
- Different patterns can be programmed
- Alarm standby
- Auto/Manual bumpless transfer from front panel
- Process value re-transmission output optional
- Up to 50 segments

Ordering Information

DTC - □ P □ □ □ □

1 2 3 4 5 6 7

1:Basic Model Name

DTC Series Controller

2:Size information

48: 48mm*48mm
49: 48mm*96mm(Vertical)
72: 72mm*72mm
94: 96mm*48mm(Horizontal)
96: 96mm*96mm

3:Version code

P: Ramp and Soak Version

4:Output

R: Relay
V: SSR drive
D: 4-20mA

5:Alarm

1: 1 alarm
2: 2 alarms

6:PV Re-Transmission Output

N: Without PV re-transmission
P42: PV re-transmission as 4-20mA
P005: PV re-transmission as 0-5VDC
P010: PV re-transmission as 0-10VDC

7:Power Supply

96: 90~260VAC

Technical Specification

Input Signals

TC:K,S,E,J,T,B,N
RTD:Cu50, Pt100
Linear Voltage:0-5V,1-5V,0-1V,0-100mV,0-20mV,0-60mV,0.2-1V(100-500mV),-20- +20mV(0-10V)
-5V- +5V(0-50V), -100 - +100mV(2-10V)
Linear Resistor:0-80 Ohm, 0-400 Ohm

Measuring Range

K(-50 to +1300°C),S(-50 to +1700°C),R(-50 to +1650°C),T(-200 to +350°C),E(0-800°C),J(0-1000°C)
B(0-1800°C),N(0-1300°C),Cu50(-50 to 150°C),Pt100(-200 to +600°C)
Linear input: defined by user, range(-1999 to +9999)

Measuring accuracy

0.2%FS+0.1°C (Cu50 copper resistor compensation or ice point compensation)
0.2%FS+0.2°C (TC input and internal compenstation)

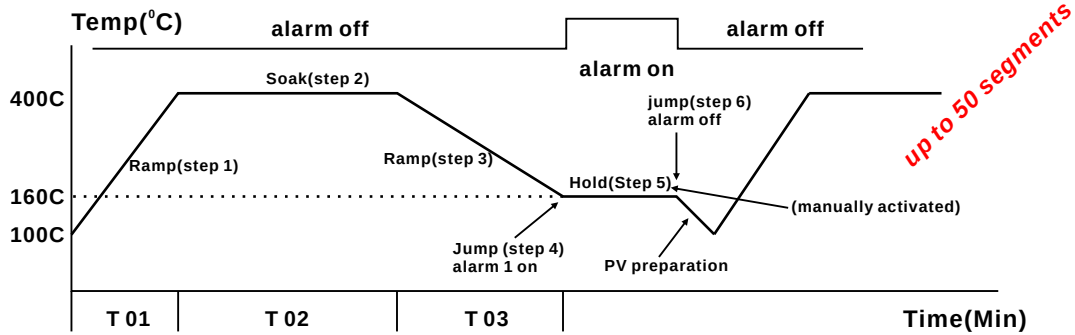
Resolution

0.1°C or 1°C selectable (Automatically change to 1°C when the temperature is high than 999.9°C)

Control Mode

on/off control mode(deadband adjustable)
AI MPT with auto tuning,adopting fuzzy logic PID algorithm

Typical Application



1.The maximum segments can be programmed to the profile is 50 segments
2.Event output available(Event is a pulse signal last for 0.5 seconds), event output can make this controller interact with other device, such as open a value, trigger a timer etc.
3.Multiple profile can be programmed, depends on different products, user can choose to perform which profile
4.Various shortcut key on the front panel which can “run” “hold” “stop” the program via set key on front panel
5.Flexible program, the basic status like “Run” “hold” “Stop” can be programed into the profile.
6.The unique “jump” function can make the controller jump to different segments and be able to implement a circle control.
7.The alarm can be triggered by configuring the program
8.Event input function offers a option to “run” “stop” “hold” the program with a on/off switch and the on/off switch will be connected to the terminal of controller.
9.PV startup and PV preparation will ensure the integrity of the control
10.Various options offered if the controller experience a sudden power cut and power resume incident

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