Automation for a Changing World

Delta Temperature Controller

DT Series

www.delta.com.tw/ia

Smarter. Greener. Together.

Features

Many Sizes Available:

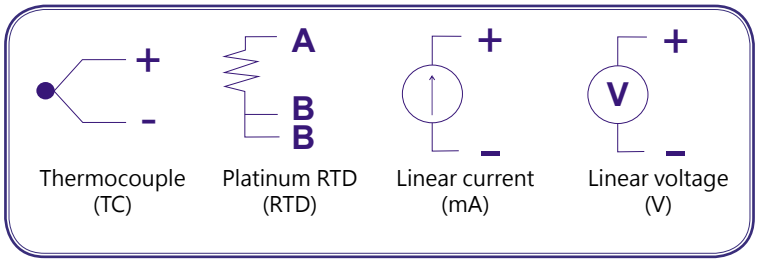
- From 48x24mm to 96x96mm, all panel sizes comply with international standards.

Quality Assurance:

- All temperature controllers adopt an isolated switching power supply.
- 100 ~ 240VAC input power supply, applicable in all countries of the world.
- CE, UL and C-Tick certified

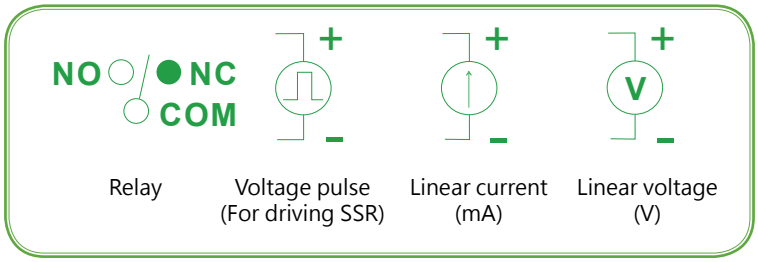
Supports Various Sensors:

- Built-in various sensor input modes: Thermocouple, platinum RTD or linear voltage/current.



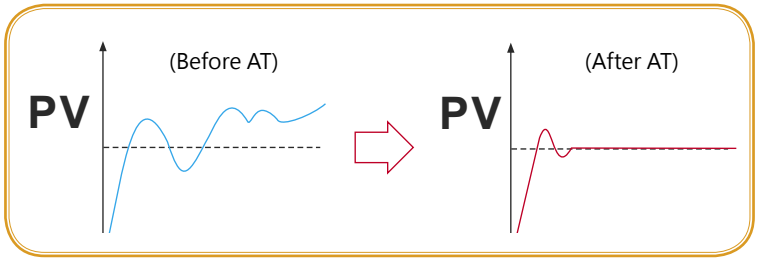
Various Output Modes:

- Relay, voltage pulse, linear voltage, and linear current



Stable Control:

- Built-in PID control function, with accurate auto-tuning (AT).
- PID parameters are automatically calculated, which enhances the stability of the system and accuracy of control.

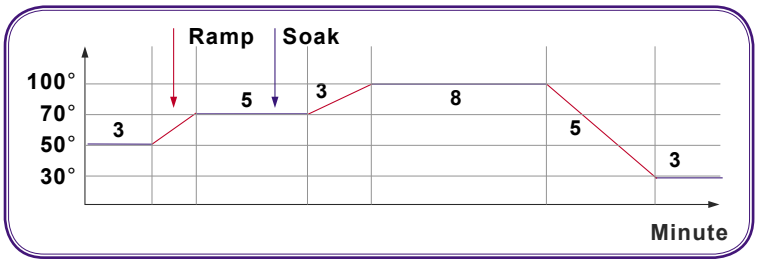


Current Transformer (CT):

- CT can enable the off-line alarm and can detect if the current is overloaded.

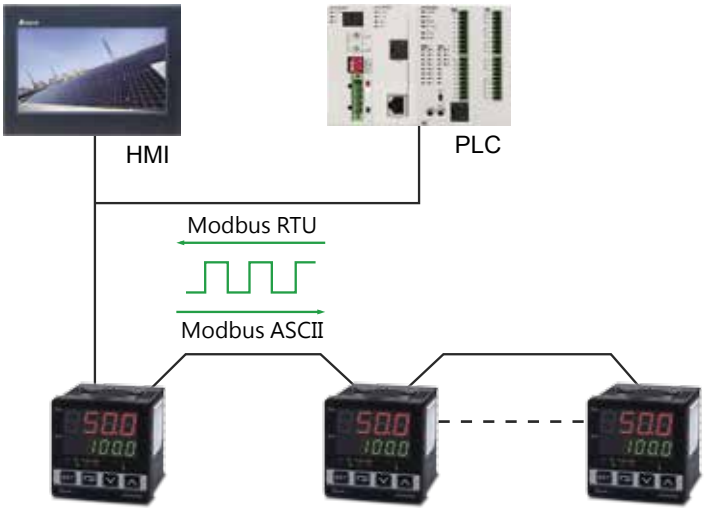
Programmable Control:

- Max. 8 patterns available, with 8 steps in each pattern. No master controller is required for planning many kinds of temperature control curves.



Communication:

- RS-485 communication interface, supporting Modbus ASCII/RTU communication

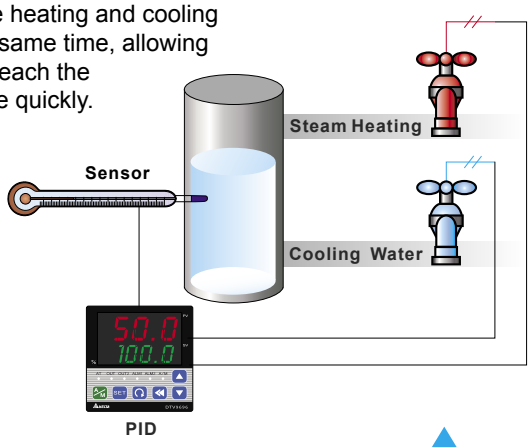


Safety:

- The key-locking function and communication protection prevents malfunction.

Dual Output Control:

- Able to execute heating and cooling controls at the same time, allowing the system to reach the set temperature quickly.



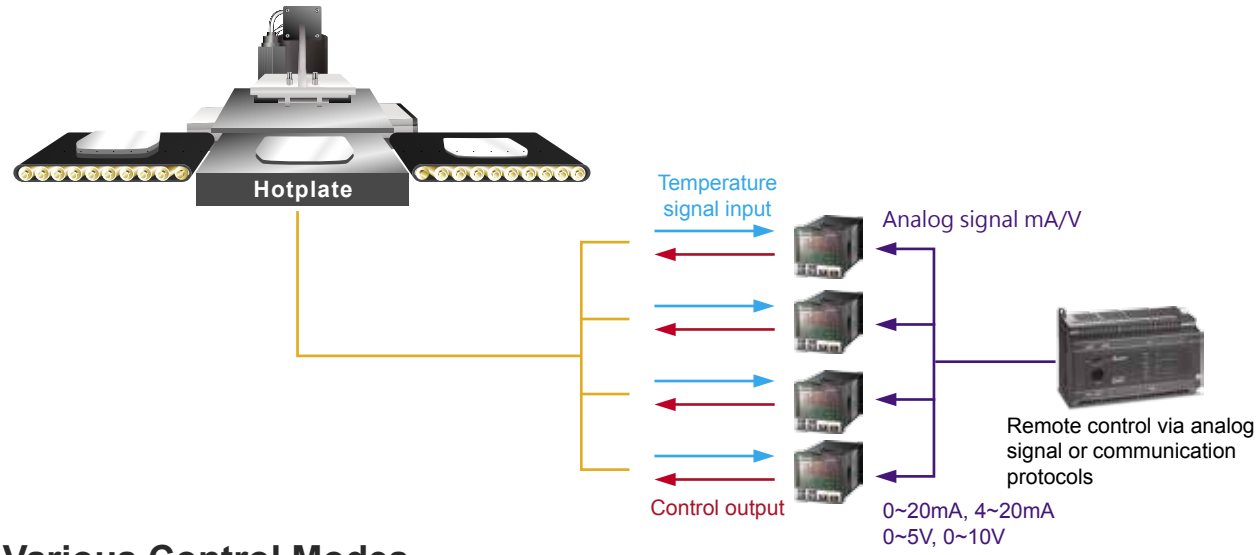
Products

DT3 Next Generation Temperature Controller

The Delta temperature controller DT3 series is designed with upgraded hardware and higher specifications as well as smart operation, fast response, easy modularization, plus user-friendly and user-defined function keys. With Self-Tuning and FUZZY temperature control functions, controllers can be installed in open space and confined space applications and are capable of presenting a smooth temperature control curve. In addition, the innovative design enables customers to replace the module with new functions to attain the ultimate in extension flexibility.

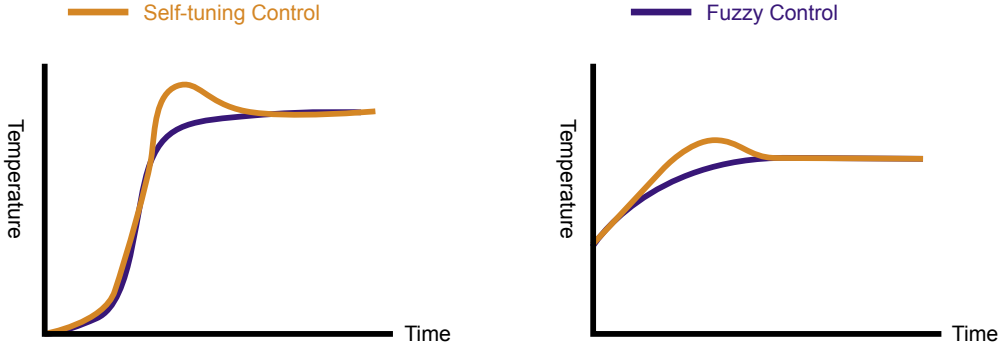
Remote Control

Sets DT3 temperature via analog output of host controller



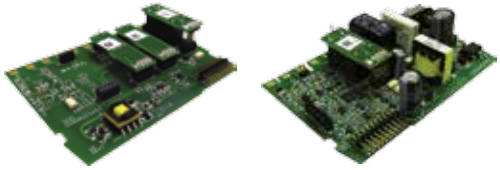
Various Control Modes

- Self Tuning
- FUZZY
- Auto - tuning
- ON/OFF
- Manual



Extension Ability

Modular design of functional devices lets users replace the module as needed for application flexibility



User-defined Function Keys

- Menu
- Auto - tuning
- Control modes selection
- RUN/STOP Mode
- Program hold

Large 3-color LCD Display

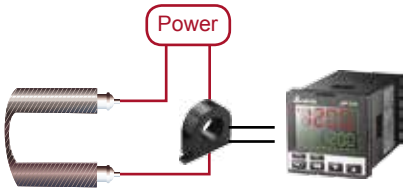
The 1st 3-color LCD temperature controller in Taiwan.

Point-to-Point Control (Proportional Output mA/V)

Sets the Present Value by point-to-point control.

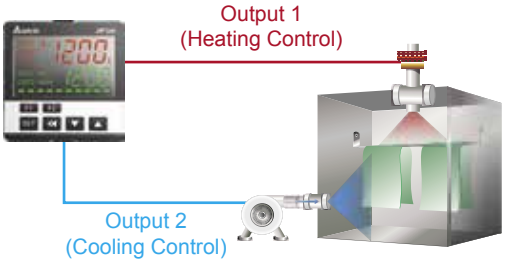
Heater Disconnection Detection

Measurable up to 100A

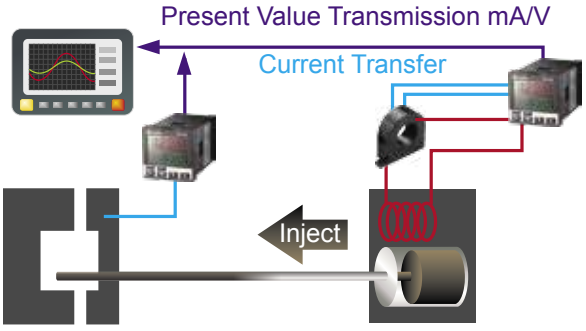


Dual Output Control

- Preset temperature is rapidly attained using two sets of outputs for heating and cooling control.
- This function is used to automatically calculate two sets of PID parameters, one for heating and one for cooling.



Retransmission Output

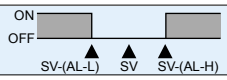
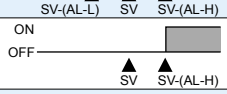
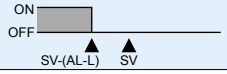
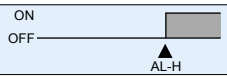
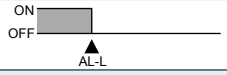
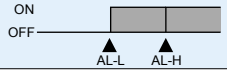
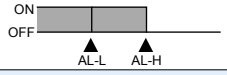


Specifications

Input power supply	AC 80 to 260 V, 50/60Hz, DC 24 V ±10%
Display method	LCD. Present temperature: red, Set temperature: green
Input sensors	Thermocouple: K, J, T, E, N, R, S, B, L, U, TXK
	Platinum RTD: Pt100, JPt100
	Analog input: 0 to 5 V, 0 to 10 V, 0 to 20 mA, 4 to 20 mA, 0 to 50 mV
Control modes	PID, PID programmable, Fuzzy, Self-tuning, manual, ON/OFF
Display accuracy	0 or 1 digit to the right of the decimal point
Sampling rate	Analog input: 0.1s, Thermocouple or platinum RTD: 0.1s
Ambient temperature	0 ~ +50℃
Ambient humidity	35 to 80% RH (non-condensing)

Alarm Outputs

The DT3 offers 3 alarm outputs, and each alarm output has 12 alarm modes to choose from in the initial setting mode. When the target temperature exceeds or falls below the set point, the alarm output is enabled.

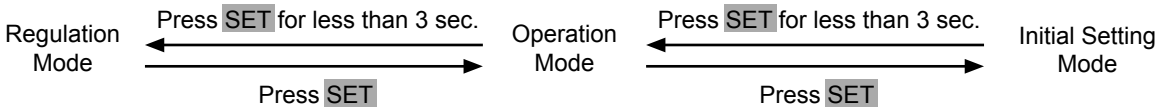
SV	Alarm mode	Alarm output operation
0	No alarm	
1	Alarm output will be enabled when the temperature reaches upper or lower limit: The alarm will be enabled when the PV exceeds SV + AL-H or falls below SV AL-L.	
2	Alarm output will be enabled when the temperature reaches the upper limit: The alarm will be enabled when the PV exceeds SV + AL-H.	
3	Alarm output will be enabled when the temperature reaches the lower limit: The alarm will be enabled when the PV falls below SV AL-L.	
4	Alarm output will be enabled when the temperature reaches the absolute value of the upper or lower limit: The alarm will be enabled when the PV exceeds AL-H or falls below AL-L.	
5	Alarm output will be enabled when the temperature reaches the absolute value of the upper limit: The alarm will be enabled when the PV exceeds AL-H.	
6	Alarm output will be enabled when the temperature reaches the absolute value of the lower limit: The alarm will be enabled when the PV falls below AL-L.	
7	Upper limit hysteresis alarm: The alarm will be enabled when the PV exceeds SV + AL-H. The alarm will be disabled when the PV falls below SV + AL-L.	
8	Lower limit hysteresis alarm: The alarm will be enabled when the PV below SV AL-H. The alarm will be disabled when the PV exceeds SV AL-L.	
9	Offline alarm: The alarm will be enabled when the input sensor is not correct or offline.	
10	Timing alarm	
11	Ct1 alarm: The alarm will be enabled when the CT1 value falls below AL-L or exceeds AL-H.	
12	Ct2 alarm: The alarm will be enabled when the CT2 value falls below AL-L or exceeds AL-H.	

RS-485 Communication

DT3 supports baudrate 2,400 to 38,400 bps, MODBUS ASCII/RTU protocol, function code 03H and reads maximum 8 words from the register.

Address	Content	Definition
1000H	Present value (PV)	Measuring unit: 0.1 scale. The following values read mean error occurs. 8002H: Temperature not yet acquired 8003H: Not connected to sensor 8004H: Incorrect sensor
1001H	Set value (SV)	Measuring unit: 0.1 scale.
1002H	Upper limit of temp. range	Cannot exceed the default value
1003H	Lower limit of temp. range	Cannot fall below the default value
1005H	Control mode	0: PID, 1: ON/OFF, 2: Manual, 3: PID programmable
1006H	Heating/cooling control	0: Heating, 1: Cooling, 2: Heating/cooling, 3: Cooling/heating
1007H	1st heating/cooling control cycle	0 ~ 99 sec. 0: 0.5 sec.
1008H	2nd heating/cooling control cycle	0 ~ 99 sec. 0: 0.5 sec.
1009H	Proportional band (PB)	0.1 ~ 999.9
100AH	Ti value	0 ~ 9999
100BH	Td value	0 ~ 9999
1012H	Read/write Output 1 volume	Unit: 0.1%, only valid in manual control mode
1013H	Read/write Output 2 volume	Unit: 0.1%, only valid in manual control mode
1016H	Regulated temp. value	-99.9 ~ +99.9, Unit: 0.1
102AH	Read/write LED status	b0 : ALM3 · b1 : ALM2 · b2 : F · b3 : C · b4 : ALM1 · b5 : OUT2 · b6 : OUT1 · b7 : AT
102BH	Read/write key status	b0: Set, b1: Select, b2: Up, b3: Down, 0: Press it
102CH	Panel lockup status	0: Normal, 1: Fully locked, 11: SV adjustable
102DH	CT value	Unit: 0.1A
1815H	Programmable control Run or Stop	0: Run (default), 1: Stop
1816H	Programmable control Run or Pause	0: Run (default), 1: Pause

Parameters Operation



Regulation Mode	Operation Mode	Initial Setting Mode
AT Auto-tuning (Set in PID control and RUN mode) Press ◀◀ ▽	1234 Use ▲ ▼ to set up target temperature Press ◀◀ ▽	INPT Set up input type Press ◀◀ ▽
ST Self-tuning switch (set when in PID control and the TUNE parameter = ST)	R-S Control loop RUN or STOP	tPUN Set up temperature unit (not displayed when in analog input)
Pidn Select the nth (n = 0 ~ 5) PID. When n = 6, PID is auto-selected.	PtRN Set up start pattern (when in PID programmable control and PSTP)	EP.H Set up upper temperature limit
PdoF Set up PID control offset	STEP Set up start step (when in programmable control)	EP.L Set up upper temperature limit
FZ-R Set up Fuzzy gain value	SP Set up the position of decimal point	CtRI Select control modes
FZdb Set up Fuzzy Deadband	LoCK Lock the keys	CtRS Select SV control modes
o1-S Adjust Output 1 hysteresis (when in ON/OFF control)	AL1H Set up upper limit of Alarm 1	WtSV Set up waiting temperature (when in programmable control)
o2-S Adjust Output 2 hysteresis (when in ON/OFF control)	AL1L Set up lower limit of Alarm 1	W.tM Set up waiting time (when in programmable control)
o1-H o1-C Control cycle for Output 1 (except in ON/OFF control)	AL2H Set up upper limit of Alarm 2	SLoP Set up start slope (when in programmable control)
o2-H o2-C Control cycle for Output 2 (except in ON/OFF control)	AL2L Set up lower limit of Alarm 3	PRtN Select pattern to be edited
CoEF Ratio of Output 1 against Output 2 when in dual output control (set when in PID and dual output control)	AL3H Set up upper limit of Alarm 2	tUNE Select AT or ST
dEAd Set up deadband (when in dual output)	AL3L Set up lower limit of Alarm 3	S.HC Select heating, cooling or dual output heating and cooling
PV.F Set up input filter factor	A1HP Record highest temperature of Alarm 1	ALA1 ALA2 ALA3 Set up Alarm 1 mode
PVoR Set up input filter range	A1LP Record lowest temperature of Alarm 1	AL1o AL2o AL3o Set up Alarm 1 options
PVoF Adjust input compensation	A2HP Record highest temperature of Alarm 2	AL1d AL2d AL3d Set up Alarm 1 delay
PVGR Adjust input gain	A2LP Record lowest temperature of Alarm 2	otCN Set up reverse alarm output
SVSL Set up rising slope (when CRTS = SLOP)	A3HP Record highest temperature of Alarm 3	RMtP Set up Remote type
AIMR Adjust upper limit compensation for analog Output 1*	A3LP Record lowest temperature of Alarm 3	EXEC Select auxiliary function

Regulation Mode	Operation Mode	Initial Setting Mode
AIMC Adjust lower limit compensation for analog Output 1*	oUt1 Display and adjust Output 1 volume	CoSH Enable/disable communication write-in
A2MA Adjust upper limit compensation for analog Output 2*	oUt2 Display and adjust Output 2 volume	C-SL Select ASCII or RTU format
A2MC Adjust lower limit compensation for analog Output 2*	o1MA Set up upper limit percentage for Output 1	C-Ad Set up communication address
AtMA Adjust upper limit compensation for Retransmission*	o1Mc Set up lower limit percentage for Output 1	bPS Set up baudrate
AtMC Adjust lower limit compensation for Retransmission*	o2MA Set up upper limit percentage for Output 2	LEN Set up data length
AM-G Adjust Remote gain	o2Mc Set up lower limit percentage for Output 2	StoP Set up stop bit
AM-F Adjust Remote compensation	Lt1 Display current measured at CT1	PrtY Set up parity bit
Evt1 Set up EVENT1 function	Ct2 Display current measured at CT2	
Evt2 Set up EVENT2 function		
Evt3 Set up EVENT3 function Press ◀◀ to return to auto-tuning	Press ◀◀ to return to set up target temperature	Press ◀◀ to return to set up input type

*1 scale = 1μA; 1scale = 1mV
PID mode: Any of the 6 PID groups can be selected. When n = 6, the program will automatically select the PID group that is the closest to the target temperature.

Pdn Select the nth PID (n = 0 ~ 5)	SV0 Set up the 0th PID temperature value Press ◀◀ ▽	SV5 Set up the 5th PID temperature value Press ◀◀ ▽
	P0 Set up the 0th proportional band value	P5 Set up the 5th proportional band value
	I0 Set up the 0th Ti value	I5 Set up the 5th Ti value
	d0 Set up the 0th Td value	d5 Set up the 5th Td value
	CoF0 Set up the 0th PID integral deviation Press ◀◀ to return to PID deviation	CoF5 Set up the 5th PID integral deviation Press ◀◀ to return to PID deviation
Press ◀◀ ▷ 0 ~ 5th PID		

Patterns and steps: Edit PRoG in CtRL parameter. Take editing pattern 0 for example:

PtRN Select the pattern number to be edited Select number ▷ Press ◀◀ ▽ to select OFF	SP00 Edit temperature for Step 0 Press ◀◀ ▽	PSt0 Select actual number of steps when the program is executing Press ◀◀ ▽
Exit pattern and step editing and switch to S-HC to continue the setup process	tM00 Edit time for Step 0 (time unit: hr, min)	CyC0 Set up additional cycles (0 ~ 99) for the pattern execution
	Set up Step 0 ~ 15 in order	LcN0 Set up link pattern. OFF refers to the program end. Press ◀◀ to return to select the pattern number to be edited
	SP15 Edit temperature for Step 15 tM15 Edit time for Step 15 Press ◀◀ to set up actual step numbers	

Products

DTA Standard Type

DTA is designed for practical applications, offering the 3 most frequently adopted output types in the market. DTA has many user-friendly functions built-in and a handy transmission structure, ensuring fast and stable data transmission.

Optional functions: RS-485 communication interface (MODBUS ASCII/RTU, 2,400 ~ 38,400bps), CT (current transformer)

Electrical Specifications

Power supply	100 ~ 240VAC, 50/60Hz
Voltage range	85 ~ 110% rated voltage
Power consumption	5VA Max.
Display	2-line 7-segment LED display, PV: red; SV: green
Input temperature sensors	Thermocouple: K, J, T, E, N, R, S, B, U, L, TXK
	Platinum RTD: Pt100, JPt100
Display scale	0.1% full scale
Control methods	PID, ON/OFF, Manual
Output types	Relay: 250VAC, 5A, SPDT (DTA4848: SPST)
	Voltage pulse: 14VDC, Max. output current: 40mA
	Current: DC 4 ~ 20mA (Load resistance: < 600W)
Sampling rate	0.5 second
Communication	RS-485 digital communication, 2,400 ~ 38,400bps (optional)
Communication protocol	MODBUS protocol, ASCII/RTU format (optional)
Vibration resistance	10 ~ 55Hz, 10m/s² for 10 mins in X, Y, Z direction
Shock resistance	Max. 300m/s² , 3 times in each of 3 axes, 6 directions
Ambient temperature	0℃ ~ 50℃
Storage temperature	- 20℃ ~ + 65℃
Altitude	< 2,000m
Ambient humidity	35 ~ 85% RH (non-condensing)
Waterproof degree	IP56

DTB Advanced Type

Compared to the DTA, DTB has an added linear voltage output and adopts dual-loop output control, able to execute heating and cooling controls at the same time in a temperature control system.

DTB series has a built-in RS-485 communication interface (MODBUS ASCII/RTU, 2,400 ~ 38,400bps). The programmable PID control function allows the DTB to set up 64 sets of temperature and control times.

Optional functions:
- CT (current transformer), output by alarm.
- EVENT function, switching between 2 SVs by using PLC or switches.
- Valve models are able to adjust the openness of valves depending on the SV.

Electrical Specifications

Power supply	100 ~ 240VAC, 50/60Hz
Voltage range	85 ~ 110% rated voltage
Power consumption	< 5VA
Display	2-line 7-segment LED display, 4 digits available, PV: red, SV: green
Input temperature sensors	Thermocouple: K, J, T, E, N, R, S, B, L, U, TXK
	Platinum RTD: Pt100, JPt100
	Analog input: 0 ~ 5V, 0 ~ 10V, 0 ~ 20mA, 4 ~ 20mA, 0 ~ 50mV
Display scale	1 digit after decimal point, or no decimal point
Control methods	PID, programmable PID, ON/OFF, Manual
Output types	Relay: SPDT (DTB4848/4824: SPST), Max. load: 250VAC, Resistive load: 5A
	Voltage pulse: 14VDC, Max. output current: 40mA
	Current: DC 4 ~ 20mA (Load resistance: < 600WΩ)
	Analog voltage: 0 ~ 10V
Sampling rate	Analog input: 0.15 second, Thermocouple or platinum RTD: 0.4 second
Communication	RS-485 digital communication, 2,400 ~ 38,400bps
Communication protocol	MODBUS protocol, ASCII/RTU format
Vibration resistance	10 ~ 55Hz, 10m/s² for 10 mins in X, Y, Z direction
Shock resistance	Max. 300m/s², 3 times in each of 3 axes, 6 directions
Ambient temperature	0℃ ~ 50℃
Storage temperature	- 20℃ ~ + 65℃
Altitude	< 2,000m
Ambient humidity	35 ~ 85% RH (non-condensing)
Waterproof degree	IP56

Products

DTC Modular Type

DTC features a modular and wire-saving structure, and is able to monitor many temperature points by parallel and modular extension. The user is able to set up the suitable output method according to actual demand. The built-in password protection prevents unauthorized operation or malicious damage from staff.

DTC series has a built-in RS-485 communication interface (MODBUS ASCII/RTU, 2,400 ~ 38,400bps). The programmable PID control function allows the DTC to set up 64 sets of temperature and control times. DTC also supports 3 levels of password protection, synchronous communication protocol and auto ID setup.

Electrical Specifications

Power supply	24VDC, isolated switching power supply
Voltage range	90 ~ 110% rated voltage
Power consumption	3W + 3W x number of DTC2000 controllers connected in parallel (Max. 7)
Input temperature sensors	Thermocouple: K, J, T, E, N, R, S, B, L, U, TXK
	Platinum RTD: Pt100, JPt100
	Linear current: 0 ~ 5V, 0 ~ 10V, 0 ~ 20mA, 4 ~ 20mA, 0 ~ 50mV
Control methods	PID, programmable PID, ON/OFF, Manual
Output types	Relay: SPST, Max. load: 250VAC, Resistive load: 3A
	Voltage pulse: 12VDC, Max. output current: 40mA
	Current: DC 4 ~ 20mA (Load resistance: < 500WΩ)
	Analog voltage: 0 ~ 10V (Load resistance: > 1,000WΩ)
Sampling rate	Analog input: 0.15 second, Thermocouple or platinum RTD: 0.4 second
Communication	RS-485 digital communication, 2,400 ~ 38,400bps
Communication protocol	MODBUS protocol, ASCII/RTU format
Vibration resistance	10 ~ 55Hz, 10m/s2 for 10 mins in X, Y, Z direction
Shock resistance	Max. 300m/s², 3 times in each of 3 axes, 6 directions
Ambient temperature	0℃ ~ 50℃
Storage temperature	- 20℃ ~ + 65℃
Altitude	< 2,000m
Ambient humidity	35 ~ 85% RH (non-condensing)

DTD Economical Type

DTD series offers PID, programmable PID, ON/OFF and Manual control modes and supports 1 alarm output with 8 alarm modes, which reduces cost but enhances functions.

The programmable PID control function allows the DTD to set up 8 sets of temperature and control times.

Electrical Specifications

Power supply	100 ~ 240VAC, 50/60Hz	
Voltage range	85 ~ 110% rated voltage	
Power consumption	6VA Max.	
Display	7-segment LED display, PV: red, SV: green	
Input temperature sensors	Thermocouple: K, J, T, E, N, R, S, B, L, U, TXK	
	Platinum RTD: Pt100, JPt100	Copper resistance: Cu50
	Current: 0 ~ 20mA, 4 ~ 20mA	Voltage: 0 ~ 5V, 0 ~ 10V, 0 ~ 70mV
Display scale	K2, J2, T2, Pt100-2, JPt100, Cu50: 0.1°, Others: 1°	
Control methods	PID, programmable PID, ON/OFF, Manual	
Output types	Relay: 250VAC, 5A, SPST	
	Voltage pulse: 14VDC, Max. output current: 40mA	
Sampling rate	0.4 second (analog input and sensor input)	
Vibration resistance	10 ~ 55Hz, 10m/s2 for 10 mins in X, Y, Z direction	
Shock resistance	Max. 300m/s², 3 times in each of 3 axes, 6 directions	
Ambient temperature	0℃ ~ 50℃	
Storage temperature	- 20℃ ~ + 65℃	
Altitude	< 2,000m	
Ambient humidity	35 ~ 85% RH (non-condensing)	
Waterproof degree	IP56	

Products

DTE Multi-Channel Modular Type

DTE series is a multi-channel modular type temperature controller. The DTE10T supports 8 thermocouple inputs and the DTE10P supports 6 platinum RTD inputs. The DTE series is installed on DIN rail, and each channel operates independently. DTE series offers many optional output modules (relay, voltage pulse, current and linear current). The built-in RS-485 2-wire communication allows transmission of up to 115,200bps.

The programmable PID control function allows the DTE to set up 64 sets of temperature and control times. Maximum 7 DTC2000 controllers are extendable to DTE, and DTE supports the same synchronous communication protocol and auto ID setup which DTC supports.

Electrical Specifications

Power supply	24VDC, isolated switching power supply
Voltage range	90 ~ 110% rated voltage
Power consumption	Max. 10W + 3W + 3W x number of DTC2000 controllers connected in parallel (Max. 7)
Input temperature sensors	Thermocouple: K, J, T, E, N, R, S, B, L, U, TXK
	Platinum RTD: Pt100, JPt100 Copper resistance: Cu50
Control methods	PID, programmable PID, ON/OFF, Manual
Output types	Relay: SPST, Max. load: 250VAC, Resistive load: 3A
	Voltage pulse: 24VDC, Max. output current: 40mA
	Current: DC 4~20mA (Load resistance: < 500WΩ)
	Analog voltage: 0 ~ 10V (Load resistance: > 1,000Ω)
Sampling rate	Thermocouple or platinum RTD: 1.0 second/all inputs
Communication	RS-485 digital communication, 2,400 ~ 115,200bps
Communication protocol	MODBUS protocol, ASCII/RTU format
Vibration resistance	10 ~ 55Hz, 10m/s² for 10 mins in X, Y, Z direction
Shock resistance	Max. 300m/s², 3 times in each of 3 axes, 6 directions
Ambient temperature	0℃ ~ 50℃
Storage temperature	- 20℃ ~ + 65℃
Altitude	< 2,000m
Ambient humidity	35 ~ 85% RH (non-condensing)

DTV Valve Type

DTV series is designed for electronic valve applications. It is user-friendly and easy to use.
DTV has built-in MODBUS communication, which allows handier data collection.

DTV also features:
- Auto/manual mode switching by a single key.
- "Left" key makes the parameter setting faster.
- Real-time output percentage display, for the user to check the openness of the valve.
- 2 alarm outputs, 17 alarm modes.
- RS-485 communication interface for DTV to monitor and collect data from other temperature controllers on the network.

Electrical Specifications

Power supply	100 ~ 240VAC, 50/60Hz
Voltage range	85 ~ 110% rated voltage
Power consumption	< 5VA
Display	2-line 7-segment LED display, 4-bit or 2-bit valve openness display available
	PV: red, SV & openness of valve: green
Input temperature sensors	Thermocouple: K, J, T, E, N, R, S, B, L, U, TXK
	Platinum RTD: Pt100, JPt100
	Analog input: 0 ~ 5V, 0 ~ 10V, 0 ~ 20mA, 4 ~ 20mA, 0 ~ 50mA
Display scale	1 digit after decimal point, or no decimal point
Control methods	PID, programmable PID, ON/OFF, Manual
Output types	Relay: SPST
	Max. load: 250VAC, Resistive load: 5A
Sampling rate	Analog input: 0.15 second, Thermocouple or platinum RTD: 0.4 second
Communication	RS-485 digital communication, 2,400 ~ 38,400bps
Communication protocol	MODBUS protocol, ASCII/RTU format
Vibration resistance	10 ~ 55Hz, 10m/s² for 10 mins in X, Y, Z direction
Shock resistance	Max. 300m/s², 3 times in each of 3 axes, 6 directions
Ambient temperature	0℃ ~ 50℃
Storage temperature	- 20℃ ~ + 65℃
Altitude	< 2,000m
Ambient humidity	35 ~ 85% RH (non-condensing)
Waterproof degree	IP56

Ordering Information

DT3

1 2 3 4 5 6 7 8

Series Name	DT3 : Delta DT3 Series Temperature Controller	
1 2 Panel size (W x H)	20 : 4848 : 1/16 DIN W48 x H48 mm 30 : 7272 : W72 x H72mm	40 : 4896 : 1/8 DIN W48 x H96 mm 60 : 9696 : 1/4 DIN W96 x H96 mm
3 Output 1 options	R: Relay, 250 VAC, 5A V: Voltage pulse, 12V +10 to 20% C: DC current, 4 to 20m A L: Linear voltage, 0 to 10 VDC	
4 Power supply	A: AC 80 to 260V D: DC 24 V	
5 Output 2 options	R: Relay, 250 VAC, 5A V: Voltage pulse, 12V +10 to 20% C: DC current, 4 to 20 mA L: Linear voltage, 0 to 10 VDC	
6 Optional function 1	0: None, 1: Event input 3, 2: RS-485 communication	
7 Optional function 2	0: None, 1: Event input 2, 2: CT input 2, 3:Retransmission output	
8 Optional function 3	0: None, 1: Event input 1, 2: CT input 1, 3: Remote setup input	

DT3 Accessories Information

D T 3 - 1

Accessories	DT3 : Delta DT Series Temperature Controller	
1 Option 1	20ESTD : DT320 EXTENSION without RS-485 & EV3	R : Relay Output
	20ECOM : DT320 EXTENSION include RS-485	V : DC Voltage Pulse Output
	20EEV3 : DT320 EXTENSION include EVENT3	C : DC Current Output
	30ESTD : DT330 EXTENSION without RS-485 & EV3	L : DC Linear Voltage Output
	30ECOM : DT330 EXTENSION include RS-485	EVENT : Event Input
	40ESTD : DT340/DT360 EXTENSION without RS-485 & EV3	CTI : CT Input
	40ECOM : DT340/360 EXTENSION include RS-485	RETRANS : Retransmission
	40EEV3 : DT340/360 EXTENSION include EVENT3	REMOTE : Remote set point
		CT30A : 30A CT
		CT100A : 100A CT

Ordering Information

DTA

1 2 3 4 5 6 - 7 1 2

Series Name	DTA : Delta A Series Temperature Controller	
1 2 3 4 Panel size (W x H)	4848 : 1/16 DIN W48 x H48 mm 4896 : 1/8 DIN W48 x H96 mm 9696 : 1/4 DIN W96 x H96 mm	7272 : W72 x H72 mm 9648 : W96 x H48 mm
5 Output	R : Relay, SPST (4848: SPST), 250VAC, 5A V : Voltage pulse, 14V +10% ~ -20% (Max. 40mA) C : Current, 4~20mA	
6 Communication (optional)	0 : N/A	1 : RS-485 communication
7 CT (optional)	□ : N/A	T : With CT (only DTA7272R0)

DTB

1 2 3 4 5 6 7

*DTB4824 has no optional function and no extra alarm output. Output 2 can be set to alarm output.
*DTB4848 has only 1 optional alarm output. Output 2 can be set to the 2nd alarm output.
*DTB9696 has optional valve control function. Model name: DTB9696RRV.

Series Name	DTB : Delta B Series Temperature Controller	
1 2 3 4 Panel size (W x H)	4824 : 1/32 DIN W48 x H24 mm 4848 : 1/16 DIN W48 x H48 mm	4896 : 1/8 DIN W48 x H96 mm 9696 : 1/4 DIN W96 x H96 mm
5 Output 1 options	R : Relay, SPDT (4824/4848: SPST), 250VAC, 5A V : Voltage pulse: 14V +10% ~ -20% C : DC current: 4 ~ 20mA L : Linear voltage: 0 ~ 5V, 0 ~ 10VDC	
6 Output 2 options	R : Relay, SPDT (4824/4848: SPST), 250VAC, 5A V : Voltage pulse: 14V +10% ~ -20%	
7 Optional function	□ : Without CT, without EVENT input T : With CT, without EVENT input	E : Without CT, with EVENT input V : Valve contro

DTC

1 2 3 4 5

Series Name	DTC : Delta C Series Temperature Controller
1 Controller type	1 : Main unit 2 : Extension unit
2 Number of auxiliary outputs	0 : Standard 2 outputs, no auxiliary output
3 4 Optional function	00 : Standard function 01 : With CT input
5 Output	R : Relay, SPST, 250VAC, 3A V : Voltage pulse, 12V +10% ~ -20% C : Current, 4 ~ 20mA L : Linear voltage, 0 ~ 10V

DTD

1 2 3 4 5 0

Series Name	DTD : Delta D Series Temperature Controller	
1 2 3 4 Panel size (W x H)	4848 : 1/16 DIN W48 x H48 mm 4896 : 1/8 DIN W48 x H96 mm	7272 : W72 x H72 mm
5 Output	R : Relay, SPST, 250VAC, 5A V : Voltage pulse, 14V +10% ~ -20% (Max. 40mA)	
0 Optional function	0 : N/A	

DTE

1 2 3

Series Name	DTE : Delta E Series Temperature Controller	
1 Controller type	1 : Main unit 2 : Accessory	
2 3 Optional function	0T : 4-channel TC (main unit, accessory) 0P : 4-channel PT (main unit, accessory) 0V : 4 channels of voltage pulse output 0C : 4 channels of linear current output	0R : 4 channels of relay output 0L : 4 channels of linear voltage output 0D : 4 digital inputs & 4 digital outputs CT : 4 channels of current transformers DS : Display & setup module

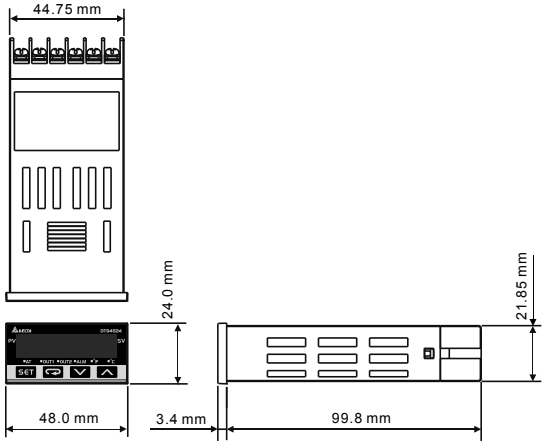
DTV

1 2 3 4 5

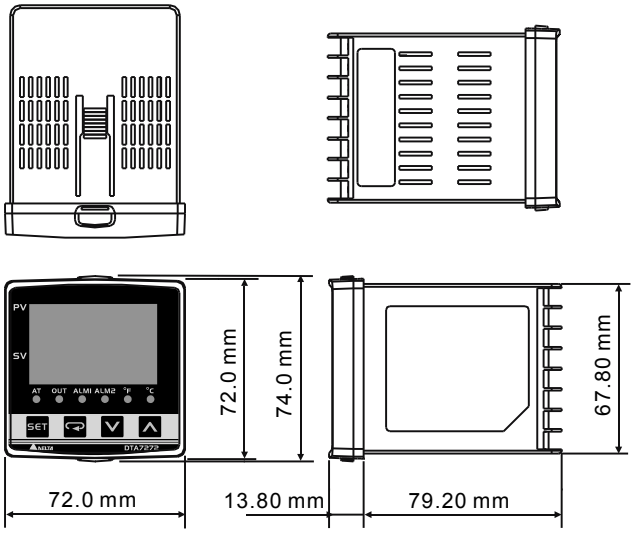
Series Name	DTV : Delta V Series Temperature Controller
1 2 3 4 Panel size (W x H)	4896 : 1/8 DIN W48 x H96 mm 9696 : 1/4 DIN W96 x H96 mm
5 Output	R : Relay, SPDT, 250VAC, 5A

Dimensions

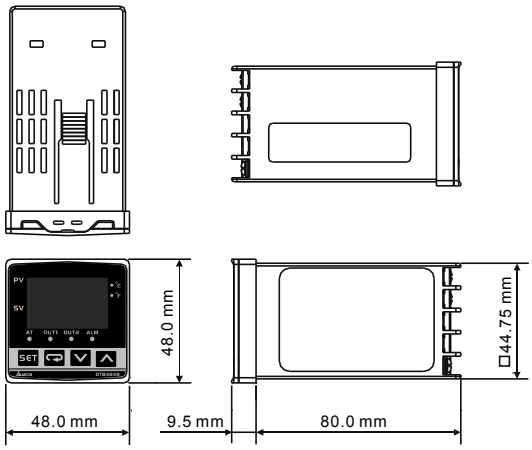
4824



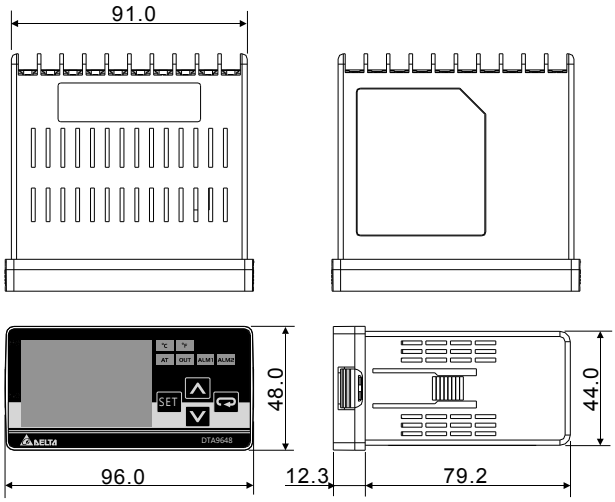
7272



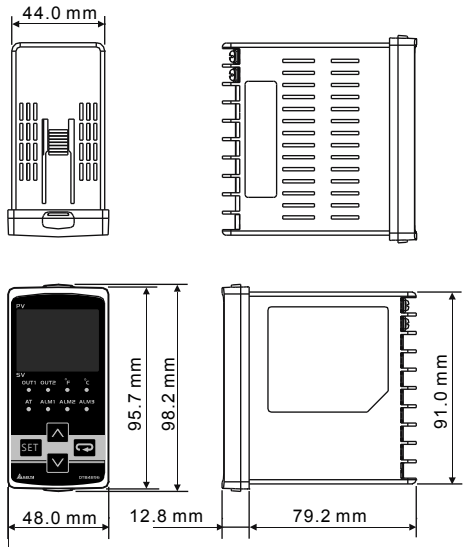
4848



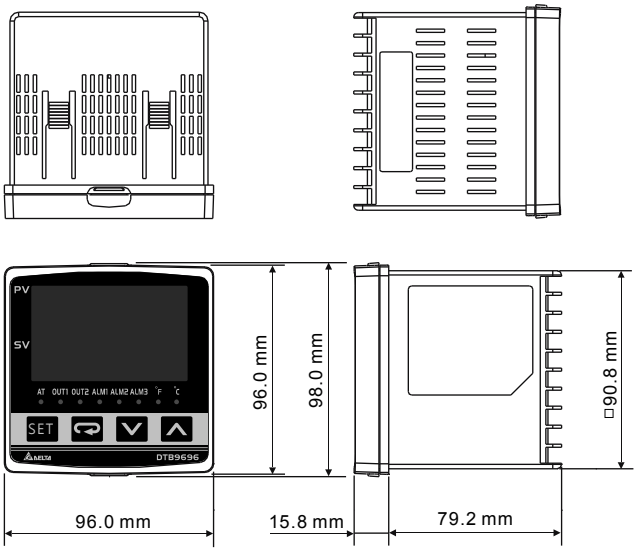
9648



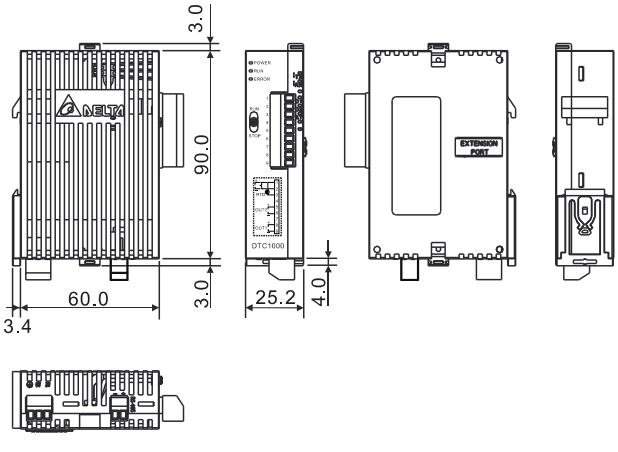
4896



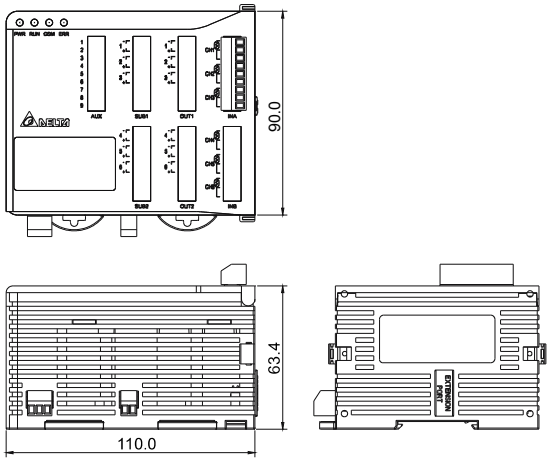
9696



DTC



DTE



Smarter. Greener. Together.

Industrial Automation Headquarters

Delta Electronics, Inc.
Taoyuan Technology Center
No.18, Xinglong Rd., Taoyuan City,
Taoyuan County 33068, Taiwan
TEL: 886-3-362-6301 / FAX: 886-3-371-6301

Asia

Delta Electronics (Jiangsu) Ltd.
Wujiang Plant 3
1688 Jiangxing East Road,
Wujiang Economic Development Zone
Wujiang City, Jiang Su Province,
People's Republic of China (Post code: 215200)
TEL: 86-512-6340-3008 / FAX: 86-769-6340-7290

Delta Greentech (China) Co., Ltd.
238 Min-Xia Road, Pudong District,
ShangHai, P.R.C.
Post code : 201209
TEL: 86-21-58635678 / FAX: 86-21-58630003

Delta Electronics (Japan), Inc.
Tokyo Office
2-1-14 Minato-ku Shibadaimon,
Tokyo 105-0012, Japan
TEL: 81-3-5733-1111 / FAX: 81-3-5733-1211

Delta Electronics (Korea), Inc.
1511, Byucksan Digital Valley 6-cha, Gasan-dong,
Geumcheon-gu, Seoul, Korea, 153-704
TEL: 82-2-515-5303 / FAX: 82-2-515-5302

Delta Electronics Int'l (S) Pte Ltd
4 Kaki Bukit Ave 1, #05-05, Singapore 417939
TEL: 65-6747-5155 / FAX: 65-6744-9228

Delta Electronics (India) Pvt. Ltd.
Plot No 43 Sector 35, HSIIDC
Gurgaon, PIN 122001, Haryana, India
TEL : 91-124-4874900 / FAX : 91-124-4874945

Americas

Delta Products Corporation (USA)
Raleigh Office
P.O. Box 12173,5101 Davis Drive,
Research Triangle Park, NC 27709, U.S.A.
TEL: 1-919-767-3800 / FAX: 1-919-767-8080

Delta Greentech (Brasil) S.A
Sao Paulo Office
Rua Itapeva, 26 - 3° andar Edificio Itapeva One-Bela Vista
01332-000-São Paulo-SP-Brazil
TEL: +55 11 3568-3855 / FAX: +55 11 3568-3865

Europe

Deltronics (The Netherlands) B.V.
Eindhoven Office
De Witbogt 15, 5652 AG Eindhoven, The Netherlands
TEL: 31-40-2592850 / FAX: 31-40-2592851