

# Field Control Device

## MODBUS LCD PID temperature controller

# DT4211M

### 【Description】

DT4211M LCD PID temperature controller is microcomputer control unit for temperature control of an air condition system. An all-in-one control box is ready for wall mount. Temperature setting and current value are display on a large size backlight LCD displayer. Fail-safe function. Password to prevent unauthorized operation. Adjustable PID control is suitable for accurate temperature control to save energy.



### 【Features】

- A stand alone 32 bits CPU with preset control firmware.
- Large LCD display, show setting and actual temperatures with four characters each line. Show unit for these two values with three characters each. High lumen backlight.
- Two wires RS485 MODBUS RTU port.
- A control panel ready design. Installation in a control room directly. Save time to design and make panel.
- Four digital inputs (BI) to monitor running status, overload interrupt, filter, smoke detector.
- Two 12bit analog inputs (AI), the first one for 10K $\Omega$  (25 $^{\circ}$ C) NTC thermistor, range 0~70  $^{\circ}$ C, the second one for 0~10Vdc or 4~20mA signal inputs, to monitor valve position, humidity sensor, CO2 sensor. Input signal type is selectable by the system management software.
- One 8A/250VAC dry contact output (BO) can drive fan directly.
- One PID analog output (AO), output signal can be 4~20mA or 0~10Vdc, control damper or valve motor.
- Eight operation buttons for start/stop, temperature setting, alarm confirm, and setting.
- Selectable alarm style as LCD code display, LCD backlight flash, or buzzer
- Password setting for each user group. Time display, show current system time.
- Fail-save function, keep save all setting status in flash memory.

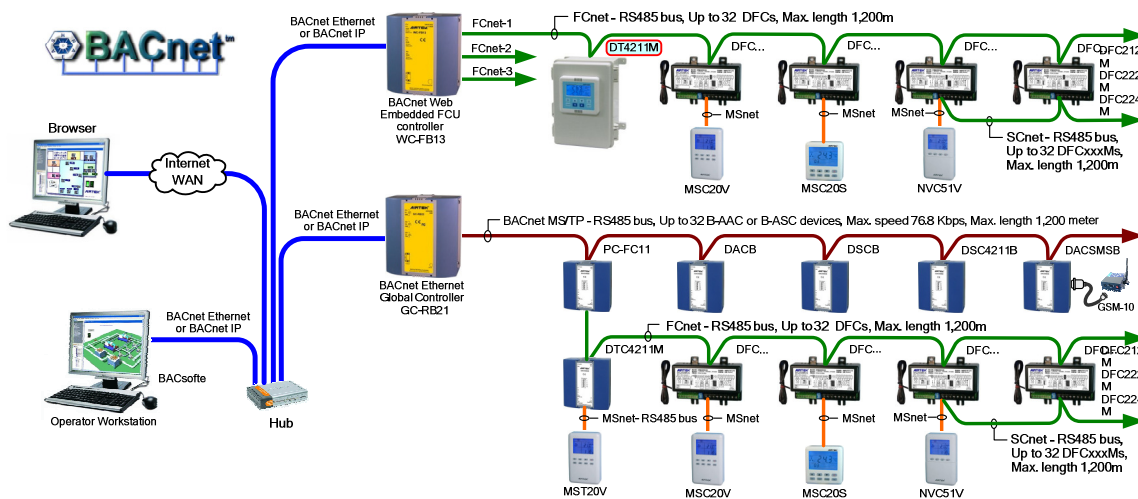
### 【Specification】DT4211M comes with DT4211M-LCD, DT4211-IOB, PPC, and TL

Accessories List	Model	Name	Model	Name	Model	Name
	<b>DT4211M-LCD</b>	Control Panel	<b>PPC01902914</b>	PC Box	<b>TL220T24015</b>	Transformer 220/24&12,15VA
	<b>DT4211-IOB</b>	I/O board	<b>PGS01902914</b>	Metal Box	<b>TL380T24015</b>	Transformer 380/24&12,15VA

Power Input	: 220 or 380VAC power input, a 220 or 380 to 24 VAC 15VA transformer is included in box. (Standard is 220VAC)
Power Output	: 24 VAC, 12VA power output for valve, 12 VAC, 3VA for control board, 16 VDC for two wire sensor
Digital Input (BI)	: Four 12VDC dry contact inputs
Analog Input (AI)	: Two 12bit analog inputs, the first one for 10K $\Omega$ (25 $^{\circ}$ C) NTC thermistor, the second one for 0~10Vdc or 4~20mA signal input
Digital Output (BO)	: One 5A/250VAC SPST Relay output
Analog Output (AO)	: An eight bit analog output, jumper select 0~10Vdc or 4~20mA
LCD Display	: Eight 7- segment display, six 8-segment display, icon display, 160 pixels in total, with back light
FCnet Port	: A RS-485 MODBUS RTU port, speed 9,600bps.
Box Material	: PC fire resistant, UL-94V2, light gray (Default)
Envirenment	: 0~70 $^{\circ}$ C, 0~95%RH, non-condense
Certification	: EMC Directive 89/336/EEC (European CE Mark)

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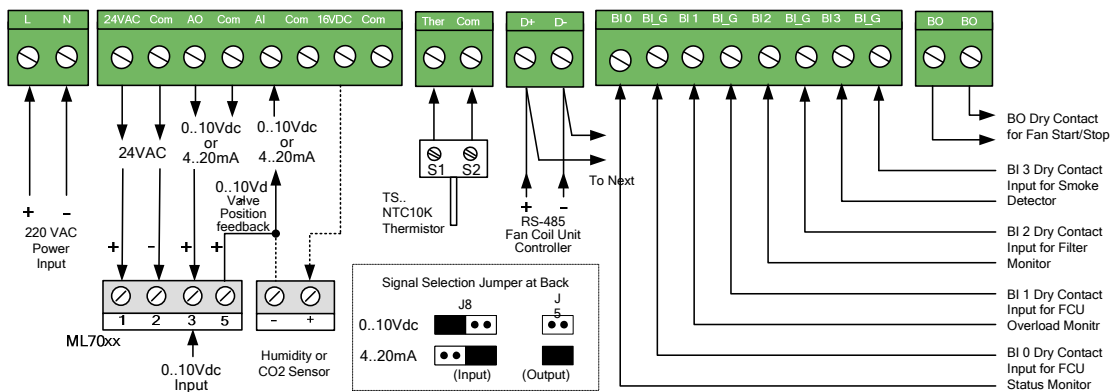
## 【 Network 】



## 【 Installation 】

- When the controller and the PID control valve use the same power supply transformer, their common pole should connect to the same terminal of the transformer to prevent damage.
- Use a 1.25mm<sup>2</sup> control wire for start/stop control in its own EMT pipe. Do not go with other wires to prevent signal noise.
- Except Start/Stop control, all communication wire should be 2 twisted AWG22 shield wire and put in an EMT pipe without power line together.
- RS-485 network have to be wired one by one in serial. No T type or star type wiring. Maximum length is 1,200M. Put 120Ω end resistance at both side.
- Install this package a one set, do not remove the control panel and install it separate with the box. It may not work.
- Selectable time display, it can be time synchronized by its control system.
- To install the control panel, install the mounting plate first, then put the panel on it and push down.
- Jumper select input signal to be 0~10Vdc or 4~20mA for AI and AO at back of the panel.
- Button set a unique network address for each DT4211M.

## 【Wiring】



**【 Dimension 】** Unit : mm (This is the dimension of PC box)

