

Field Operation and Control Device

MST20V(-H)

LCD Control Panel with Sensor

【Description】

MST20V LCD temperature (MST20V-H with humidity) control panel is designed to work with DPC, DSC, DAC, and VAV series microcomputer programmable controllers, it has a large-scale LCD, which can display input point values of the controller (temperature sensor, humidity sensor, etc.). This panel has eight control keys for start, stop, change humidity or temperature setting values etc. This panel adapt to be used for user request at scene need timely examine all sorts of numerical value or timely make operation.



【Features】

- 16 bit microprocessor, high precise operation.
- Adopt RS-485 two-wire communication network (4 wires in total with power line), consists with MODBUS RTU format.
- Large size back light LCD panel. Convenience during the night operation.
- Selectable usage for air conditioning, central heating, constant temperature, constant temperature and humidity application.
- Can show temperature, humidity, dew point, temperature/Humidity set point values, fan coil running state and cooling, heating, de-humidify status.
- Can set temperature, humidity values and control fan start/stop.
- Celsius or Fahrenheit unit selectable for Temperature display.
- Can display DPC time format, time coincident by the time synchronization.
- Can manual control cooling, heating, humidify, dehumidify for maintenance testing. When in manual operation, an icon will be displayed for user's attention.
- Display alarm code and buzzer for a new alarm. It has alarm history for logging. The alarm history can be deleted by authorized personnel. Buzzer can be turned off.
- Included self wakeup function (Watch Dog) when software is down.
- Password lock.
- Has parameter mode, which can display and control input (AI/ BI) and output (AO/ BO) status and all internal numerical parameter values (AV/ BV) of DPC, DAC, and VAV. In parameter mode, output (AO/ BO) points permit priority control.

【Specification】

Model	Temperature Sensor	Temp. Sensing Range	Humidity Sensor	Humidity Sensing Range
MST20V	10KΩ NTC Thermistor	0~50 °C	Non	-
MST20V-H	CMOS chip	0~50 °C	CMOS chip	0~100% RH

Power Supply : 5VDC, 35mA Max. Power supply by DPC Series controller is available.

Microprocessor : 16 bit high speed processor

LCD Display : 45mm*35mm LCD display, having dynamic graphic display with back light.

Keypad : Eight operation buttons.

SCnet Port : 2-wire MODBUS RTU RS-485 bus, communication speed 9,600 bps, maximum length 100 meters.

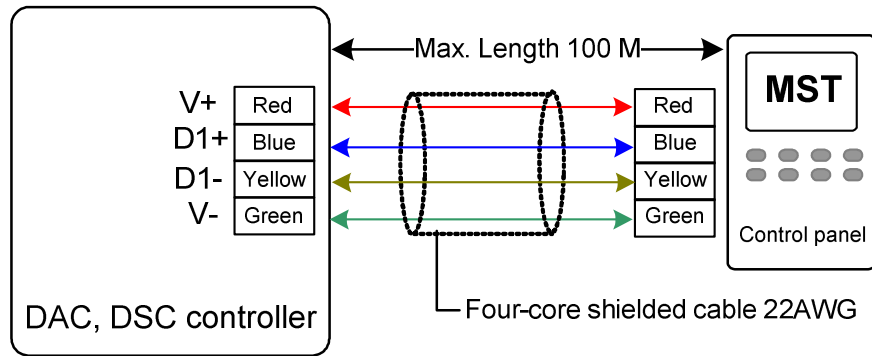
Temp. Sensor : 10KΩ NTC thermistor, accuracy $\pm 0.25@25^{\circ}\text{C}$.

CMOS Sensor : Temp. accuracy $\pm 0.4@25^{\circ}\text{C}$, Humidity accuracy 20~80% $\pm 3\%\text{RH}$ @ 25°C , $>80\% \& <20\% \pm 3\%\text{RH}$ @ 25°C .

Environment : 0~70°C, 0~95%RH non-condensing.

【Installation】

- Read and follow the installation instruction in this document for installation to prevent danger or damage.
- Check if this product meets your application requirement.
- Installer should be a trained and an experienced technician.
- Turn off power when installation. Electric shock or equipment damage may cause serious injury.
- For optimal control effect, it is recommended to use AWG22 two-core shielded cable with exclusive EMT piping for transmission. Do not share the pipe with other power cable.
- Wall mount the parts after wiring. Fix the parts with care. Make base plate flat without twist to prevent damage.
- Please refer to the "DPC serial Digital Programmable Controller Technical Manual".

【Wiring】**Figure 1 MST20V & MST20V-H control panel wiring diagram****【Parameters List】**

Parameter	Description	Read write	Parameter	Description	Read write	Parameter	Description	Read write
AV 0	Temperature sensor value	R	AV 14	Cooling output	R	BV 0	Motion control	RW
AV 1	Humidity sensor value	R	AV 15	Humidify output	R	BV 1	Fan status	R
AV 2	Dew point sensor value	R	AV 16	Dehumidify output	R	BV 2	Temperature unit choice	R
AV 3	Temperature sets up	RW	AV 17	Ices water output	R	BV 3	Buzzer control	R
AV 4	Humidity set up	RW	AV 18	Ordinary operates password	R	BV 4	Fire alarm	RW
AV 5	Enforced Heating control	RW	AV 19	Special parameter	R	BV 5	Fan off alarm	RW
AV 6	Enforced cooling control	RW	AV 20	Switches alternative parameter	R	BV 6	Temperature high limits alarm	RW
AV 7	Enforced humidify control	RW	AV 21	Control mode parameter	R	BV 7	Temperature low limits alarm	RW
AV 8	Enforced dehumidify control	RW	AV 22	Time form factor	R	BV 8	Humidify high limit alarm	RW
AV 9	Temperature sets up high limit	R				BV 9	Humidify low limit alarm	RW
AV 10	Temperature sets up low limit	R				BV 10	Fan fails alarm	RW
AV 11	Humidity sets up high limit	R				BV 11	Filter dirty alarm	RW
AV 12	Humidity sets up low limit	R				BV 12	Temperature Sensor	R
AV 13	Heating output	R				BV 13	Humidity Sensor	R

Note: 1. Above listed parameters are for MST20V or MST20V-H to communicate with DPC, DSC, DAC, and VAV.

2. "Read/Write" item in the above list, "R" means read only, "RW" means MST20V will replace its value after its assigned operation.

3. All sensor value, output and alarm operation is working in DPC, DSC, DAC, or VAV, not in MST20V.

4. MST20V displays and controls by following the above list.

【Dimensions】 Unit : mm