

# Monitoring equipment

## MST32V(-H)

### Liquid crystal temperature (humidity) VAV control panel

#### 【Application】

MST32V (-H) liquid crystal temperature (humidity) sensing control panel is designed to be used with VAV series microcomputer programmable controllers. It has a large LCD backlight screen which can display the monitoring input points of programmable controller (such as temperature sensing value, humidity sensing value, etc.) and six operation buttons which can issue various instructions (such as starting up, stopping, changing temperature and humidity setting value, etc.). The operator contains a temperature (humidity) sensor, which is suitable for the occasion where the user requires to check various values or give instructions immediately.



#### 【Product Features】

- It is made by microcomputer chip.
- Adopt RS-485 communication two-wire network communication transmission (including power supply must be equipped with four-core wire), compatible with MODBUS RTU format, accurate and stable information.
- With software program crash self-wake function (WATCH DOG).
- Parameter selection can be applied to cold air, heating and air volume control applications.
- Standard built-in temperature sensor can sense the temperature value of the panel position, and can choose the type of built-in temperature and humidity sensor, which can program various energy-saving control requirements with the controller.
- The temperature setting value and humidity setting value can be set, the setting accuracy can be programmed, up to 0.1, and the temperature display can be controlled by parameters to display in units of Celsius or Fahrenheit.
- It can display the sensed air volume and wind speed parameter settings (maximum / minimum wind speed, damper opening ...)
- With LED backlight illumination function, it can set and output various numerical values, set its range through internal program planning, specify its numerical type and display unit, etc.
- It has real-time clock display, which can control the clock format inside the controller by parameters. Through the synchronous action of system time, it can achieve the function of sub-clock and mother clock.
- It can directly and manually control the output of cooling, heating, etc., so as to facilitate maintenance and testing. When any item is output manually, a notice graphic will be displayed as a prompt.
- It has the function of general operation password control to avoid improper operation by unauthorized personnel.
- With parameter mode, it can display and control advanced parameters in VAV controller.

#### 【Specifications】

Model	Temperature element	Temperature sensing range	Humidity element	Humidity sensing range
<b>MST32V</b>	10 K $\Omega$ thermistor	0 ~ 50 °C	None	-
<b>MST32V-H</b>	CMOS semiconductor wafer	0 ~ 50 °C	CMOS semiconductor wafer	0 ~ 100% RH

**Supply power** : 5VDC, 1VA .

**LCD display screen** : 3.2"(42m(w)\*63(h)mm) display, STN LCD screen with dynamic graphic display and blue backlight.

**Display accuracy** : The display accuracy of temperature and humidity can reach 0.1, and the accuracy of air volume and CO2 can reach 1.

**Microprocessor** : Adopt 8-bit high-speed microcomputer processor with 64KB Flash memory space.

**Operation key** : 6 capacitive touch buttons with blue backlight. If they are not operated for a long time, the backlight brightness will be reduced, which has energy-saving effect.

**MSnet interface** : RS-485 communication interface with a maximum transmission distance of 1,200 meters.

**Temperature element** : 10 K  $\Omega$  NTC thermistor with accuracy of 0.2 °C (at room temperature of 25 °C).

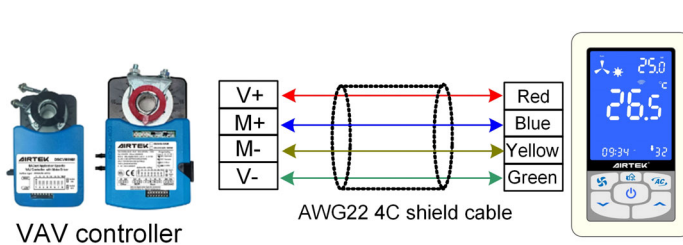
**CMOS element** : The temperature accuracy is  $\pm 0.4$  °C, the humidity accuracy is  $\pm 3\%$  RH in the range of 20 ~ 80%, and it is  $\pm 5\%$  RH when it is greater than 80% and less than 20% . (The accuracy is measured at room temperature of 25 °C).

**Use environment** : 0 ~ 50 °C, 5 ~ 95% RH does not condense.

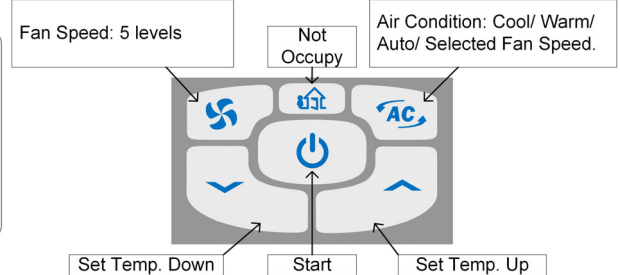
**Product certification** : Passed CE certification and met RoHS environmental protection standards.

## 【Installation】

- Please read the catalogue carefully before installation. Failure to follow the catalogue instructions may cause danger or unforeseen adverse results such as product damage.
- Please do not connect the panel to the power supply during installation, because of the danger caused by electric shock or equipment damage, which may cause personal injury or damage to electrical circuits.
- Please install the panel on the wall about 1.2 meters above the ground and in a well ventilated and circulating position. Stay away in direct heat source, damp, dusty and vibrating position, so as not to affect the control effect or product life.
- Please use 5VDC independent dedicated power supply, and do not share power supply with other equipment, so as to avoid short circuit burning due to circuit design differences.
- The communication network route between the panel and the controller is recommended to adopt AWG22#4C aluminum foil isolation and shielding cable configuration, and be covered with EMT metal conduit, and do not share the same pipeline wiring with power line or power line, so as to avoid noise interference and obtain good communication effect.
- After the connection is completed, install and fix the bottom plate on the wall. When fixing the bottom plate, pay attention to its flatness without distortion, so as to avoid damage to the controller.



**Fig. 1 MST32V Wiring diagram**



**Fig. 2 MST32V Key diagram**

## 【Parameter List】

Parameter	Describe	R/W	Parameter	Describe	R/W	Parameter	Describe	R/W
AV 0	Temperature sensing value	R	AV 22	Offset value of parallel fan	RW	AV 99	Duct diameter	RW
AV 1	Moisture sensed value	R	AV 23	Starting air volume of parallel fans	RW	BV 0	Energy saving mode	RW
AV 2	CO2 sensed value	R	AV 24	Stopping air volume of parallel fans	RW	BV 1	Start and stop of equipment	RW
AV 3	Temperature setting value	RW	AV 30	Heating type setting	RW	BV 2	Temperature unit	RW
AV 4	Air conditioning mode setting	RW	AV 32	Hot water valve travel time	RW	BV 3	Independent temperature control mode	RW
AV 5	Low limit of damper opening	RW	AV 35	Air volume of auxiliary heater	RW	BV 4	Current air volume	R
AV 6	Wind speed setting	RW	AV 71	Maximum air volume setting	RW	BV 5	Humidity display	RW
AV 7	Secondary display area information	RW	AV 72	Minimum air volume setting	RW	BV 6	Parameter initialization	RW
AV 8	Air volume sensing value	R	AV 83	Low temperature limit of energy saving mode	RW	BV 10	Forced air supply	R
AV 9	Temperature setting high limit	RW	AV 84	Upper temperature limit of energy saving mode	RW	BV 12	Temperature sensing source	RW
AV 10	Low temperature setting limit	RW	AV 85	Proportional parameter	RW	BV 13	Humidity sensing source	RW
AV 11	Key lock level	RW	AV 86	Integral parameter	RW	BV 98	Motor steering	RW
AV 20	Fan mode setting	RW	AV 97	Throttle travel time	RW	BV 99	Air volume unit	RW
AV 21	Fan shutdown delay	RW	AV 98	Air volume correction coefficient	RW			

**Description:**

1. The listed parameters are the main parameters of communication between MST32V and VAV controllers, which are not limited in internal parameter mode.
2. In the read-write entry, "R" means read-only, and "RW" means overwrite its value after operation.
3. All sensed values, output and alarm generation operations should be completed by the controller, and MST32V does not perform sensed values and control operations.
4. MST32V display and control mode is controlled by table parameters.

## 【Dimension】 Unit: mm

