Field Control Layer Device

LCD Temperature (Humidity) VAV Group Control Panel

NST32V(-H)

【Description】

The NST32V(-H) LCD temperature (humidity) sensor group control panel is designed to be used with VAV series microcomputer programmable controllers. It has a two-wire RS485 network communication capability and can communicate with up to 32 units. The programmable controller is connected to a community network. It has a large LCD backlit screen that can display the monitoring input points of the programmable controller (such as temperature sensing values, humidity sensing values, etc.) and six operating buttons to issue various commands (For example, start, stop, change the temperature and humidity setting value, etc.), this operator contains a temperature (humidity) sensor, and also has group control and channel selection buttons, you can select a single operation command or group operation according to your needs Group operation. It is suitable for occasions where the user needs to view various values or issue instructions in real time on the spot.

【Features】

- Made with microcomputer chip.
- It adopts RS-485 communication two-wire network communication transmission (including power supply must be equipped with four-core wire), compatible with MODBUS RTU format, and the information is accurate and stable.
- With software program crash self-wake-up function (WATCH DOG).
- Parameter selection can be used in applications for air conditioning, heating, and air volume control.
- The standard built-in temperature sensor can sense the temperature value of the position where the panel is located. Another type of built-in temperature and humidity sensor can be selected, and the controller can program various energy-saving control requirements.
- The temperature setting value and humidity setting value can be set, and the setting accuracy can be programmed, up to 0.1. The temperature display can be parameterized and displayed in Celsius or Fahrenheit units.
- With group and channel selection buttons, it is convenient for users to operate any single controller or perform global group operations.
- It can display the sensored air volume and wind speed parameter settings (maximum wind speed, minimum wind speed, damper opening degree...)
- With LED backlight function, various values can be set and output, and the range, type and display unit of the value can be specified through the internal program planning.
- With real-time clock display, the internal clock format of the display controller can be controlled by parameters. Through the system time synchronization action, the function of master clock and master clock can be achieved.
- The output of cooling and heating can be directly controlled manually to facilitate maintenance and testing. When any item is output manually, the attention graphic will be displayed as a reminder.
- With general operation password control function, to avoid improper operation by unauthorized personnel.
- With parameter mode, it can display and control the advanced parameters in the VAV controller.

【Specification】

Model	Temperature	Temp. Range	Humidity	Humi. Range	Device Control
NST32V	10KΩ	0~50 ℃	X	-	32
NST32V-H	CMOS	0~50 ℃	CMOS	0~100% RH	32

Power supply ：5VDC, 1VA .

LCD display ：3.2”(42m(W)*63(H)mm) display, STN liquid crystal display screen, with dynamic graphic display and blue inverse backlight.

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

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

Buttons ：8 capacitive touch buttons with blue backlight. If they are not operated for a long time, the brightness of the backlight will be reduced, which is energy-saving.

MSnet Port ：RS-485 communication interface, the maximum transmission distance is 1,200 meters.

Temperature ：10KΩ NTC thermistor, accuracy ±0.2℃ (at room temperature 25℃).

CMOS ：Temperature accuracy is ±0.4℃, humidity accuracy is ±3%RH in the range of 20～80%, ±5%RH when greater than 80% and less than 20%
(The above accuracy is measured at room temperature 25℃).

Environment ：0～50℃, 5～95%RH non-condensing.

Certified ：Comply with RoHS environmental protection standards.

【Installation】

- Please read the catalog carefully before installation. Failure to follow the instructions in the catalog may cause danger or cause unpredictable results such as product damage.
- Do not connect the panel to the power supply during installation, because of the danger of electric shock or equipment damage, which may cause personal injury or damage the electrical circuit.
- Please install the control panel on the wall about 1.2 meters above the ground and in a location with good ventilation and circulation. Do not install it in a location that is directly exposed to heat, damp, dusty or vibrating, 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 use aluminum foil isolation shielding cable configuration above AWG22#4C and covered with EMT metal conduit. Do not share the same pipeline wiring with the power line or power line to avoid noise interference. Communication effect.
- After the wiring is completed, install and fix the bottom plate on the wall. When fixing the bottom plate, pay attention to its flatness and avoid distortion to avoid damage to the controller.

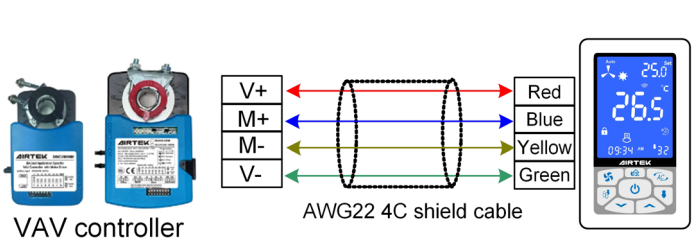


FIG.1 NST32V Wiring diagram

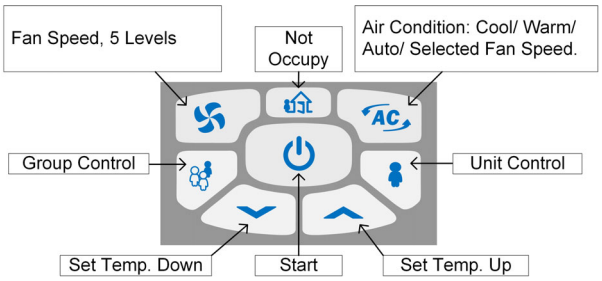


FIG.2 NST32V Key diagram

【Control Point List】

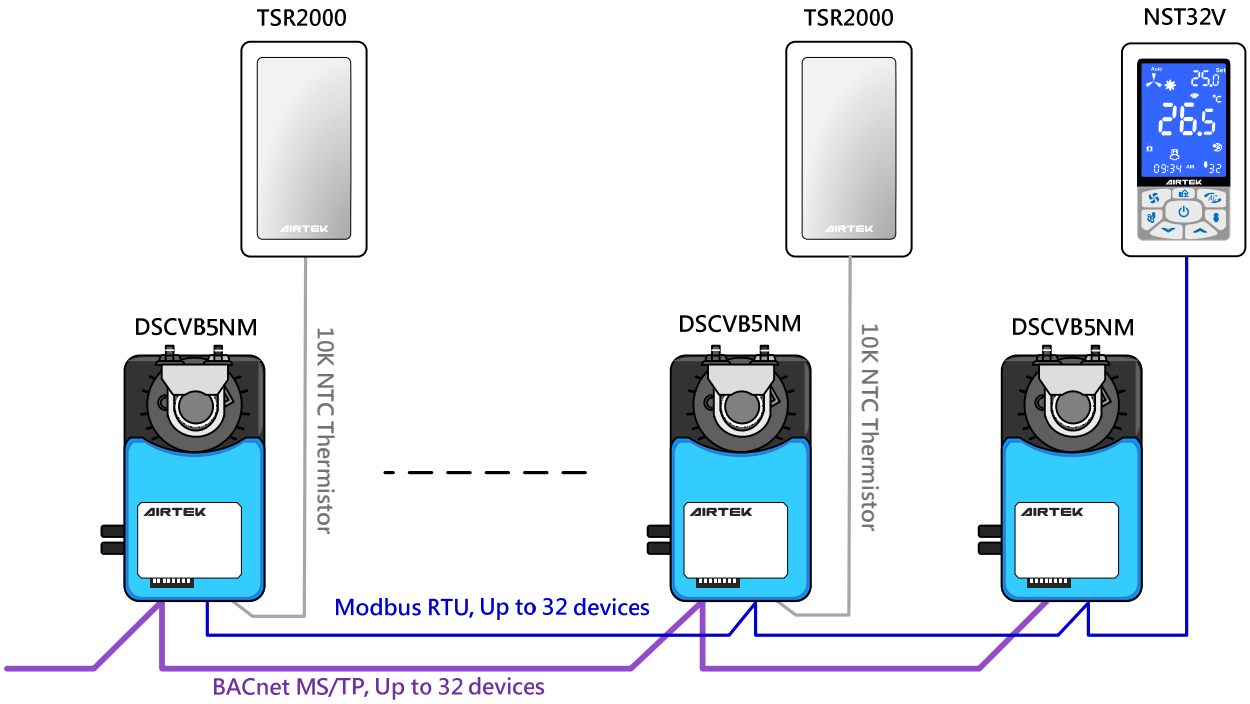
Point		Function	R/W	Point		Function	R/W	Point		Function	R/W
AV	0	Temperature sensing value	R	AV	21	Fan shutdown delay	RW	AV	98	Air volume correction coefficient	RW
AV	1	Humidity sensing value	R	AV	22	Parallel fan offset value	RW	AV	99	Duct diameter	RW
AV	2	CO2 sensing value	R	AV	23	Starting air volume of parallel fans	RW	BV	0	Energy saving mode	RW
AV	3	Temperature setting	RW	AV	24	Parallel fan stop air volume	RW	BV	1	Equipment start and stop	RW
AV	4	Air conditioning mode setting	RW	AV	30	Heating type setting	RW	BV	2	Temperature unit	RW
AV	5	Throttle opening lower limit	RW	AV	32	Hot water valve travel time	RW	BV	3	Independent temperature control mode	RW
AV	6	Wind speed setting	RW	AV	35	Turn on auxiliary heater air volume	RW	BV	4	Current air volume	R
AV	7	Sub-display area information	RW	AV	71	Maximum air volume setting	RW	BV	5	Humidity display	RW
AV	8	Air volume sensing value	R	AV	72	Minimum air volume setting	RW	BV	6	Parameter initialization	RW
AV	9	Temperature setting high limit	RW	AV	83	Lower temperature limit of energy saving mode	RW	BV	10	Forced air	R
AV	10	Temperature setting lower limit	RW	AV	84	Upper temperature limit of energy saving mode	RW	BV	12	Temperature sensing source	RW
AV	11	Key lock level	RW	AV	85	Proportional parameter	RW	BV	13	Humidity sensing source	RW
AV	16	Temperature correction value	RW	AV	86	Integration parameters	RW	BV	98	Motor steering	RW
AV	20	Fan mode setting	RW	AV	97	Throttle travel time	RW	BV	99	Air volume unit	RW

Note:

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 and write items, "R" means read-only, "RW" means NST32V will overwrite its value after operation
3. The calculations of various sensed values, output and alarm generation should be completed in the controller, and NST32V does not perform sensed value and control calculations
4. The display and control mode of NST32V is controlled by the listed parameters.

【**Network**】

Group control example: With DSCVB5NM as VAV group control network architecture example is as follows:



Instructions for modifying DSCV...B settings when used with NST32V panel for group control application：

1. Change MSnet from the default [View port] to [Modbus Slave], communication format [9600/8/N/1], and set Slave ID.
2. Set Bv12 to ON, so that DSCV...B will detect temperature from TSR2000 instead of NST32V.

【**Dimension**】Unit：mm