

Field Control Layer Device

NST32V(-H)

LCD Temperature (Humidity) VAV Group Control Panel

【Description】

The NST32V(-H) LCD temperature (humidity) sensor group control panel is designed to be used with DSC, DAC and 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 sensed 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 °C	X	-	32
NST32V-H	CMOS	0~50 °C	CMOS	0~100% RH	32

Power supply : 5VDC, 1VA (5VDC power supply provided by V+ and V- on AIRTEK DDC MSnet can be used).

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 $\pm 0.2^{\circ}\text{C}$ (at room temperature 25°C).

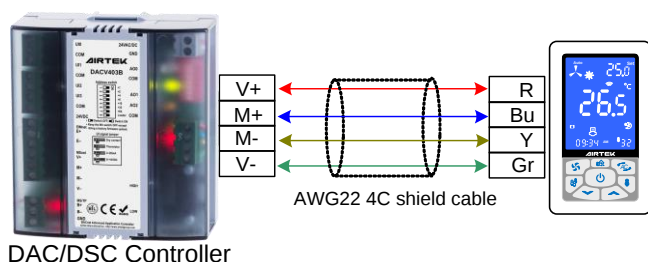
CMOS : Temperature accuracy is $\pm 0.4^{\circ}\text{C}$, humidity accuracy is $\pm 3\%\text{RH}$ in the range of 20~80%, $\pm 5\%\text{RH}$ when greater than 80% and less than 20%
(The above accuracy is measured at room temperature 25°C).

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

certified product : Comply with RoHS environmental protection standards.

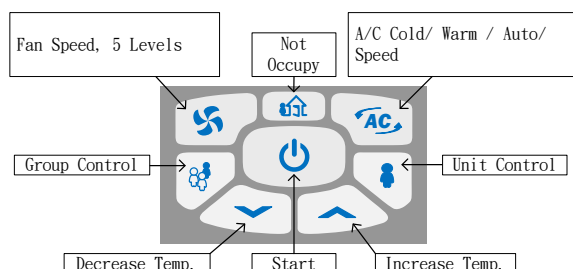
【Installation】

- 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 the 5DC independent dedicated power supply or use the 5VDC power supply provided by V+ and V- on the AIRTEK DDC MSnet. Do not share the power supply with other equipment to avoid the short circuit burnout caused by the difference in circuit design.
- 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.



DAC/DSC Controller

圖一 NST32V Wiring



圖二 NST32V Wiring

【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 the communication between NST32V and DAC, DSC, and other controllers. The internal parameter mode is not subject to this

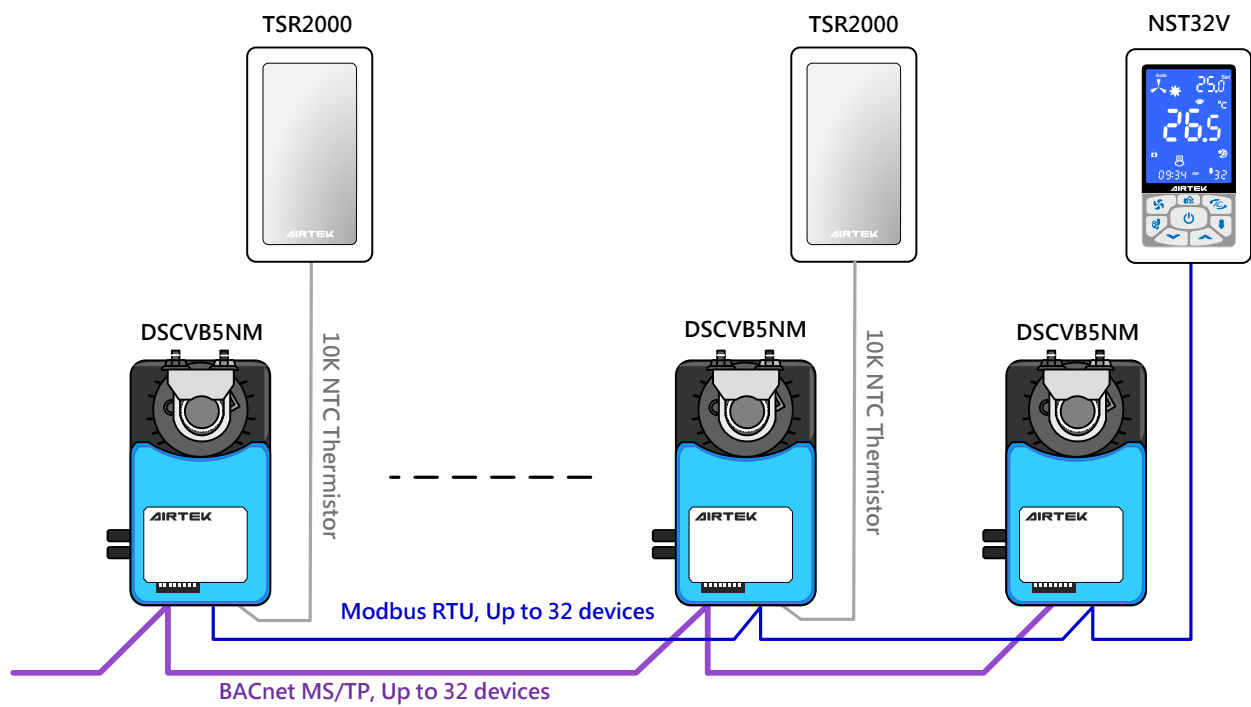
2. In the read and write items, "R" means read-only, "RW" means NST32V will overwrite its value after operation

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:



【Dimension】 Unit : mm

