

Monitoring equipment

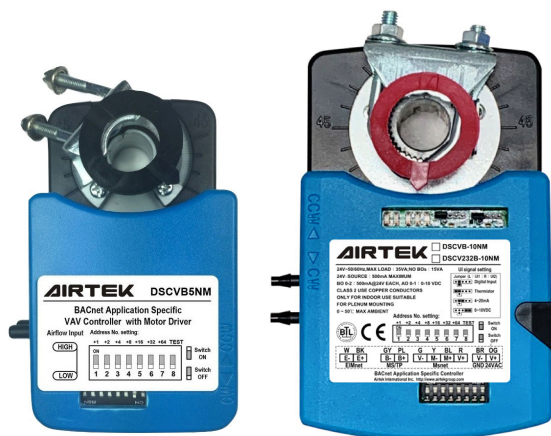
BACnet Programmable Damper Actuator Controller

DSCVB-5NM/10NM

【 Application Notes 】

DSCVB-xNM is a combined controller and driver with BTL certification; it is a BACnet Application Specific Controller (B-ASC) class programmable controller with independent air pressure sensor for controlling a single duct type variable air volume box (VAV BOX).

The 32-bit microprocessor provides superior performance and communication rate up to 76,800BPS; with MSnet communication port for external LCD control panel, convenient for immediate operation and viewing by on-site personnel. The EIMnet communication port can be connected to 12 EIM series expansion modules, allowing you to flexibly combine them to meet the needs of different occasions.



DSCVB-5NM

DSCVB-10NM



【 Product Features 】

- Manufactured in accordance with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) BACnet communication protocol, it meets the BTL B-ASC level certification specifications.
- Built-in MS/TP master-servant communication interface with communication rate up to 76,800BPS.
- Built-in MSnet communication interface, which can be connected to MST32V or NST32V field display operation panel.
- The motor control adopts the actual position return signal, which is more accurate than the general floating control.
- Highly accurate double single pressure sensor, non-hot wire type penetration type sensor, microcomputer technology, fully integrated circuit package, can resist the influence of contaminants.
- Online program editing, debugging, online program download and online firmware update.
- With enthalpy, dew point temperature, PID control and other common HVAC functions and advanced mathematical functions such as logarithm, trigonometric function, open root, etc.
- With VAV standard program, including temperature control, series or parallel fan, heating or cooling valve, etc. control functions can be matched with different application environments.
- With 100 digital software points (BV) and 100 analog software points (AV), it can be used as software computing and control parameters.
- Analog points are calculated using standard floating point numbers with wide numerical range and accuracy, eliminating the need for multiplication in control logic programs and graphical control applications.
- All analog input values (AI), analog output values (AO), digital software points (BV), and analog software points (AV) have a power-off memory function. The data can be automatically written to FRAM when power is off, and can be stored for more than 10 years.
- Analog output (AO) and digital software point (BV) with 16 levels of priority control can determine the actual output according to the command priority order.

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【 Specification 】

Type	Output Torque	Action Time	Dampers Size	Rotation angle	Axis size	Sensing range
DSCVB-5NM	5NM	70~100s	1m ²	90°	round φ 6~16mm	500pa±4%
DSCVB-10NM	10NM	90~120s	2m ²	90°	round φ 10~16mm	500pa±4%
DSCV232B-10NM	10NM	90~120s	2m ²	90°	round φ 10~16mm	500pa±4%

Type	UI	BO	AO	BV	AV	NTC.Conn	Msnet	EIMnet	BACnet MSTP
DSCVB-5NM	X	X	X	100	100	To TSR2000	○	○	○
DSCVB-10NM	X	X	X	100	100	To TSR2000	○	○	○
DSCV232B-10NM	2	3	2	100	100	To TSR2000	○	○	○

◆ Supply power :

* 24VAC · 5VA ◦ (Half-wave rectification)

◆ Processor :

* 32-bit high-speed computing microprocessor (MCU) with 20K SRAM, 8K FRAM and 128K Flash memory.

◆ Wind pressure sensor :

* Sensing range ±500 Pa differential pressure sensor. Accuracy ±3% of the measurement reading, can be converted into air volume.

◆ Universal Input (UI) :

* 12-bit resolution, accepts dry contact, 3K or 10KΩ NTC Thermal resistance, 4~20mA or 0~10VDC signals.

◆ Digital Output(BO) :

* 250VAC, 8A, SPST dry contact relay.

◆ Analog output (AO) :

* 12-bit resolution, 0~10VDC output signal. HA switch and switch status feedback monitoring function and manual signal output adjustment knob.

◆ MS/TP interface :

* RS-485 communication interface, communication rate 9,600/19,200/38,400/76,800 BPS can be switched automatically.

◆ MSnet interface :

* RS-485 communication interface and 12VDC power supply interface can be connected to MST field display operation panel with communication rate of 9,600BPS.

◆ EIMnet interface :

* RS-485 communication interface, can connect 12 EIM expansion modules, communication rate 38,400 BPS.

◆ Usage environment :

* 0 ~ 55°C, 5 ~ 95%RH without condensation.

◆ Product Certification :

* CE certified and RoHS compliant.

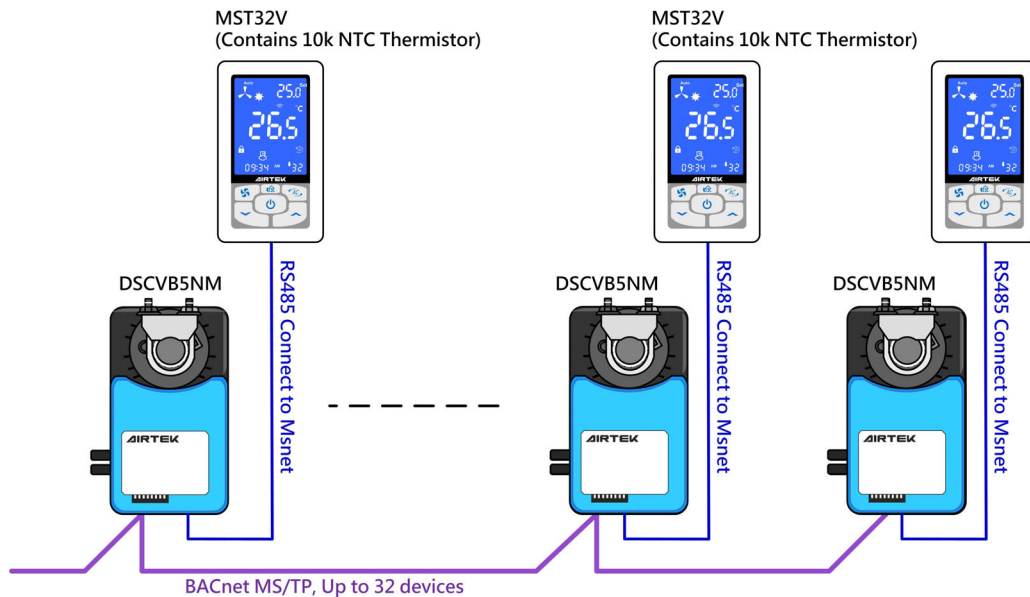
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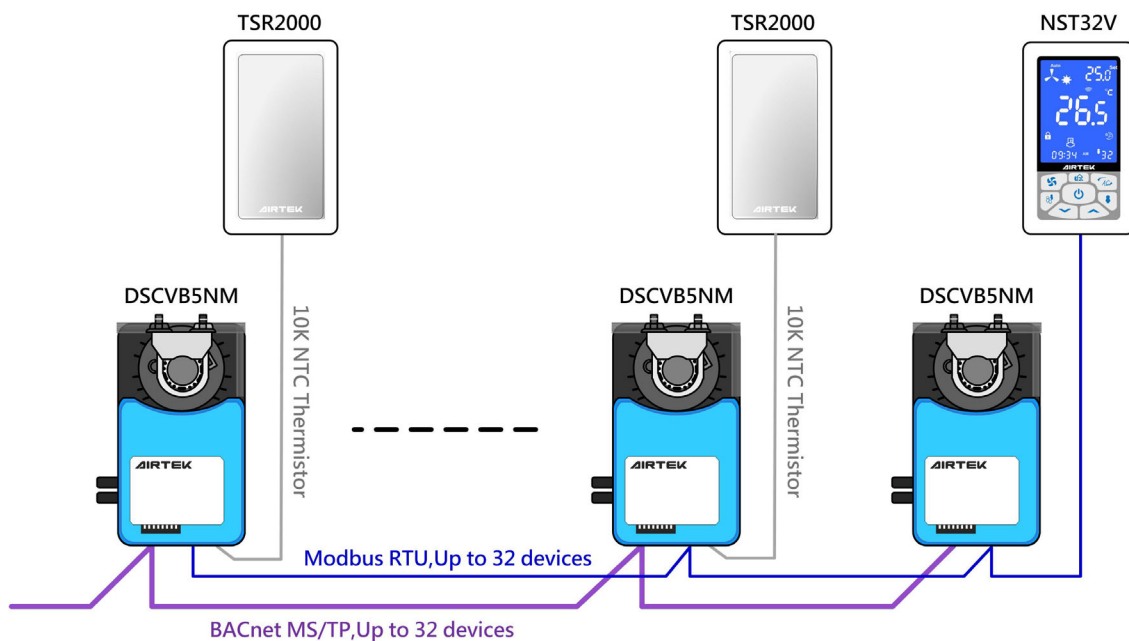
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【 Network Architecture 】

With MST32V single control panel (panel with built-in temperature sensor) for field area control :



With NST32V group control panel and TSR2000 temperature sensor for live area control :



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.

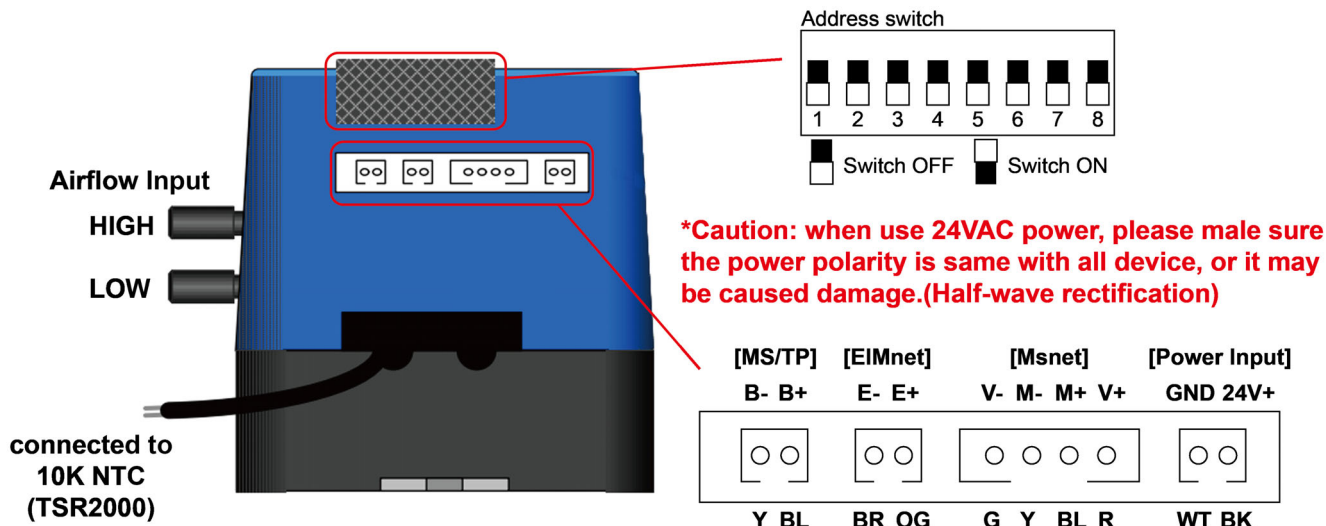
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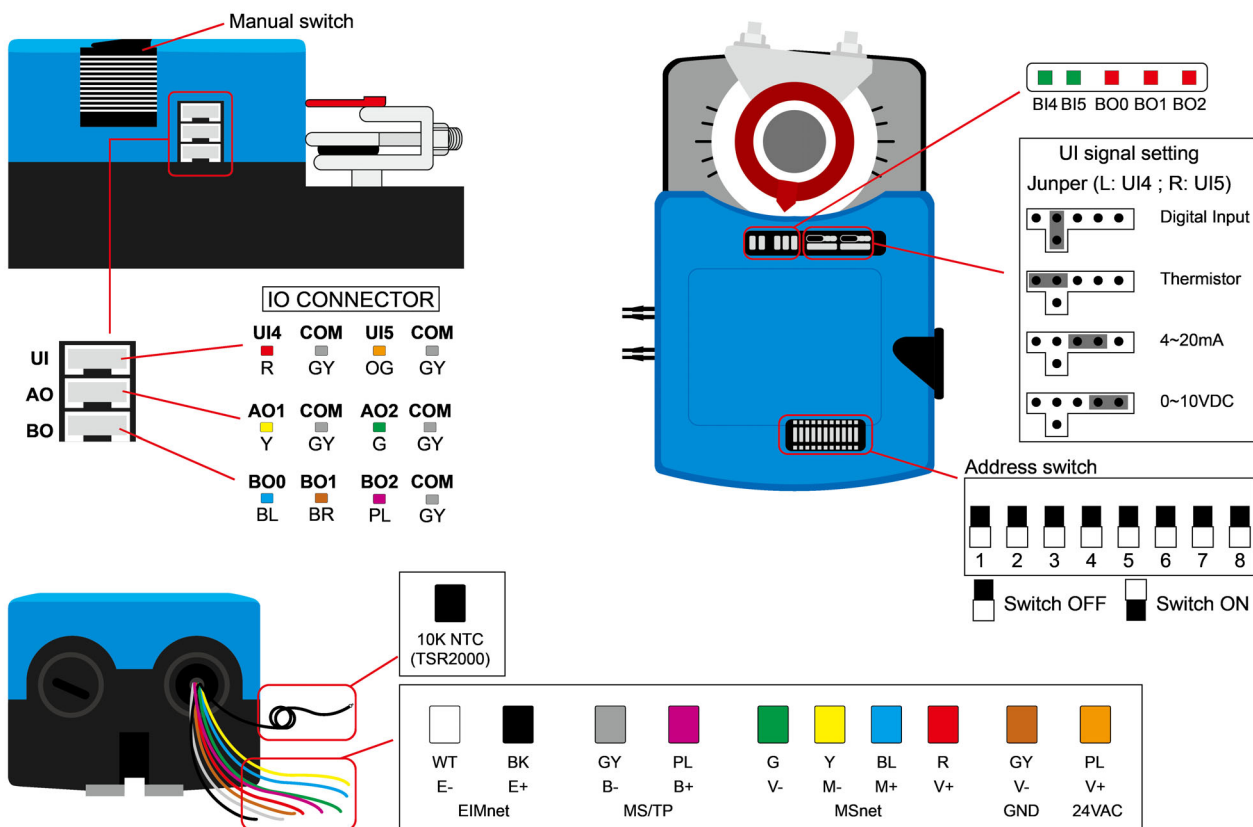
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【Wiring instructions】

5Nm :



10Nm :



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【Size】 Unit : mm

