Field Control Layer Device

VAV Controller with Actuator (B-ASC)

DSCV…B

【Application】

DSCV ... B is a BACnet (B-ASC) grade BTL approved programmable VAV box controller combined with a powerful 10nm actuator and independent pressure sensor that can be used to control a single duct VAV BOX. It uses 32 bits microprocessor, communication speed up to 76,800bps and Lan network distance up to 1,200 meters. There are 2 Universal inputs that accept digital or analog input signals, 3 digital output points and 2 Analog outputs (model specific). It is possible to connect a remote LCD or Color Touch screen or configure the MSnet port as a Master/Slave Modbus port for communication with other non BACnet devices for remote monitoring and or control. The controller is simple and quick to install and comes pre-programmed but can be reprogrammed to meet specific application making this device a powerful and flexible low investment product.

【Features】

- BACnet Application Specific Controller (B-ASC) class listed device.
- MS/TP (Master-Slave/Token-Passing) communication interface that connects to the upper layer, global controller.
- MSnet communication interface can connect a MST…, DSP…, DST… control panel or a MODBUS RTU master or slave device.
- High accuracy air pressure differential sensor for low air flow accuracy, fully IC packed to prevent dust ingress.
- BACnet Calibration points for accurate air flow readings.
- Using Airtek Bacsoft software the user can download, modify site specific programs and saved to the flash memory in the controller.
- Real-time debugging function, saves programming time.
- Can perform calculations such as proportional, integral, differential, floating, logic, arithmetic and etc.
- Onboard 100 BV and 100 AV points.
- Standard floating point operation for analog point. (Large value range saves additional work for ratio multiplication).
- Power failure backup function for all AI/BO/AO/BV/AV (values kept in FRAM for at least 10 years).
- 16 Priority array for all BO, AO and BV.
- Combined Controller and actuator for fast and easy installation, built in clutch for manual adjustment, travel limiting stoppers.

【Specifications】

Model	Output torque	Action time	Damper size	Axis Dimension	Rotate Angle	MSnet	Flow	External points		Actuator		BV points	AV points
						AI	AI	UI	BO	AO	AI		
DSCVB	10 Nm	90 ~ 120 Sec	2 m²	Round φ10 ~ 16mm or Square 5 ~ 11mm	90° Set range 0 ~ 30° or 60 ~ 90°	1	1	0	0	0	1	100	100
DSCV002B						1	1	0	0	2	1		
DSCVD230B						1	1	2	3	0	1		
DSCVD232B						1	1	2	3	2	1		

Input power : 24VAC，6.5VA(motor running)，2VA(motor stopped).

Processor : 32-bit processor (MCU), with 20K RAM, 8K FRAM and 128K Flash memory storage.

Air flow sensor : Built-in air flow sensor, with 500 Pa differential pressure sensor, measurement accuracy of ± 4% in reading.

Dedicated AI Input : 12-bit resolution, dry contact jumper selector, 10KΩ NTC thermistor signal.

UI Input : 12-bit resolution, dry contact jumper selector, 10KΩ NTC thermistor signal, 4~20mA or 0~10VDCsignal.

BO output : 0.5A/24VAC Hot-switched triac's output.

AO output : 12-bit resolution, 0~10VDC output signal.

MS/TP Port : 2-wire MS/TP RS-485 bus, communication speed 9,600/ 19,200/ 38,400/ 76,800 bps, auto select, max. length 1,200 meters, 2500Vrms optical isolated and TVS ARRAY surge protection.

MSnet port : 2-wire MODBUS RTU RS-485 bus, communication speed 9,600 bps, can connect a MST20V, MST20S, DSP20U, DST28U, DST35U control panels or MODBUS RTU devices, maximum length 100 meters.

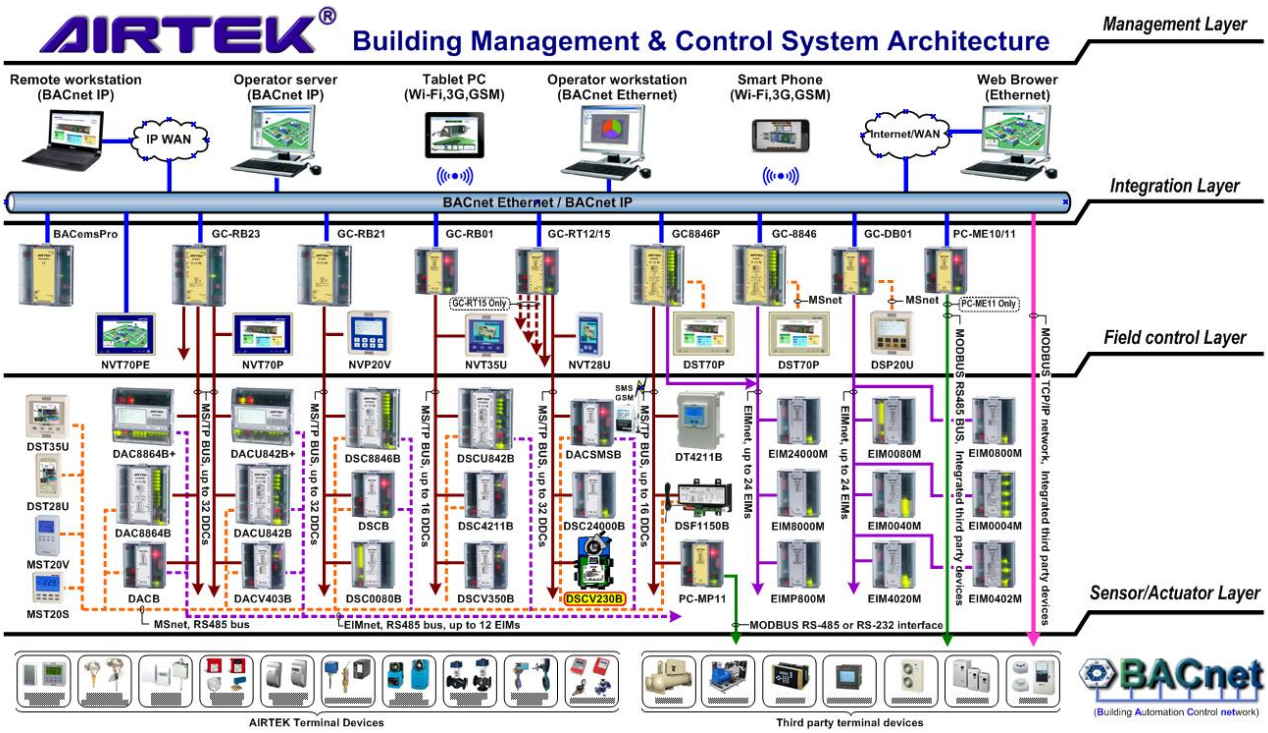
Rotate angle : 90°(range adjustable)

Connect dimension : Round φ10 ~ 16mm, Square 5 ~ 11mm.

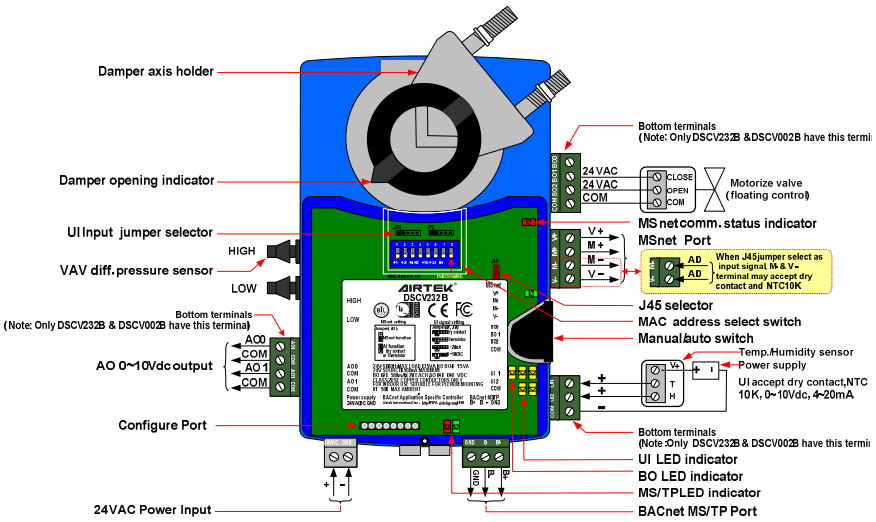
Operate enviroment : 0 ~ 55℃，5 ~ 95%RH non condensing.

Certification : CE(EMC Directive 2004/108/EC)、FCC(Part 15,Subpart B,Class A)、BTL(BACnet Testing Laboratory Listed BACnet Application Specific Controller (B-ASC).

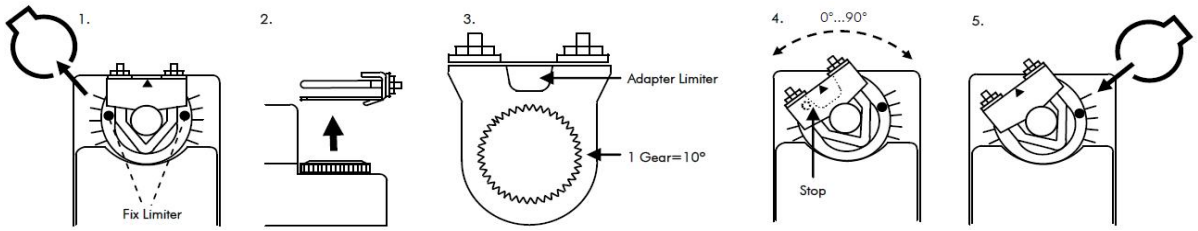
【Network Architecture】



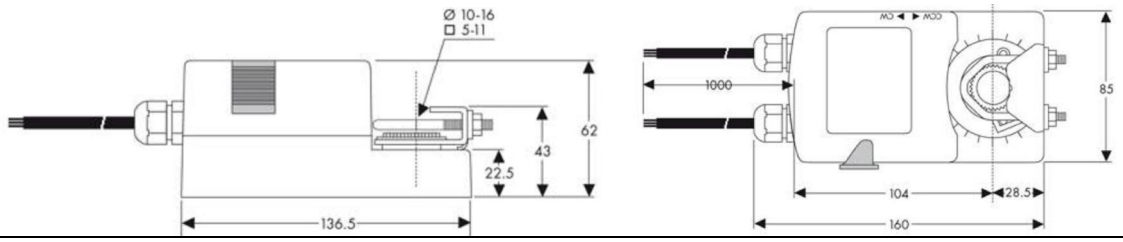
【Wiring】



【Rotate angle limitation】



【Dimension】 Units：mm



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