Field Control Layer Device

BACnet Application Specific Controller+Touch panel

DSC8846B-x

【 Description 】

DSC8846B-x is a dedicated, programmable, standalone logic controller that complies with the BTL B-ASC protocol specification. It is designed for monitor and control building electromechanical device, large AHU, clean room, fume hood, large-scale end device control. It uses 32-bit microprocessor core, communication speed up to 76,800 bps, transmission distance up to 1,200 meters. In addition, it has an EIMnet port can connect up to 12 EIM series of expansion modules, allowing you to expand in response to the needs of various points. Another MSnet port can connect an external LCD control panel to make user operation and control easily at the job site. DSC8846B is a BTL listed device, and is fully compatible with any BACnet system. It is absolutely the best product for your building.

DSC8846B-A **DSC8846B-A-T**

【 Features 】

• Developed in compliance with the BACnet communication protocol established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), compliant with BACnet protocol and relevant test specifications.

• Built-in 32-bit microprocessor, 128K FRAM, 1M+128K+16K SRAM, and 8M+1M+64K Flash memory.

• Built-in MS/TP master-slave communication interface with 2,500Vrms interference-resistant potential isolation design.

• Features online program editing, debugging, online program download, and online firmware update capabilities.

• Features common function operations such as enthalpy value, dew point temperature, and PID control, along with advanced mathematical functions including logarithms, trigonometric functions, and square roots.

• Features 100 digital software points (BV) and 100 analog software points (AV), which can be used as calculation values, setpoints, timers, or alarm points.

• All analog input accumulated values (AI), digital output values (BO), analog output values (AO), digital software points (BV), and analog software points (AV) feature power-off memory functionality. Data is automatically written to FRAM during power loss and can be retained for over 10 years.

• All BO, AO, and BV points support 16-level priority control functionality.

【 Specification 】

Model	BI / AI / BO / AO	EIMnet	Digital Software Point	Analog Software Point	Touch Operation screen
DSC8846B-A	8 / 8 / 4 / 6	12	100	100	✗
DSC8846B-A-T	8 / 8 / 4 / 6	12	100	100	✓

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【Hardware Specifications】

◆ Power Supply :

 * 24VAC, 35VA.

◆ Microprocessor :

 * 32-bit dual-CPU microprocessor (MCU) with 128K FRAM、
   1M+128K+16K SRAM and 8M+1M+64K Flash.

◆ Digital Input(BI) :

 * 12VDC detection voltage, 5,000Vrms interference-resistant
   optically coupled isolation, accepts dry contact or open
   collector input signals.

◆ Analog Input(AI) :

 * 16-bit resolution, can accept 3K or 10KΩ NTC thermistor,
   4~20mA or 0~10VDC signals.

◆ Digital Output(BO) :

 * 250VAC,7A,SPST Dry contact relay with 5,000Vrms
   interference immunity optically coupled isolation, status
   indicator and HOA (manual/stop/automatic) toggle switch with
   toggle status feedback monitoring.

◆ Analog Output(AO) :

 * 16-bit resolution, 0~10VDC output signal, HA
   (manual/automatic) switch with switching status feedback
   monitoring function and manual signal output adjustment knob.

◆ CONFIG :

 * Built-in USB Type-C to connect to PC Super Terminal program
   for device initial value setting or parameter modification.

◆ MS/TP interface :

 * RS-485 communication interface, built-in anti-interference
   isolator with rated isolation voltage of 2,500Vrms and
   maximum working insulation voltage of 560Vpeak, can be
   connected to 32 controllers, communication rate of
   9,600/19,200/38,400/76,800 BPS is selectable,
   transmission distance of 1,200 meters.

◆ MSnet interface :

 * RS-485 communication interface, can be connected to a
   panel, communication rate 9,600/19,200/38,400 BPS
   selectable, transmission distance 1,200 meters.

◆ EIMnet interface :

 * RS-485 communication interface, can connect 12 EIM.M
   expansion modules, communication rate 38,400 BPS,
   transmission distance 1,200 meters.

◆ Auxiliary Power Output :

 * 24VDC, 200mA，for use with sensors.

◆ Environment :

 * 0～50℃, 5～95%RH without condensation.

◆ Product Certification :

 * CE certified and BTL、RoHS compliant.

【Network Architecture】
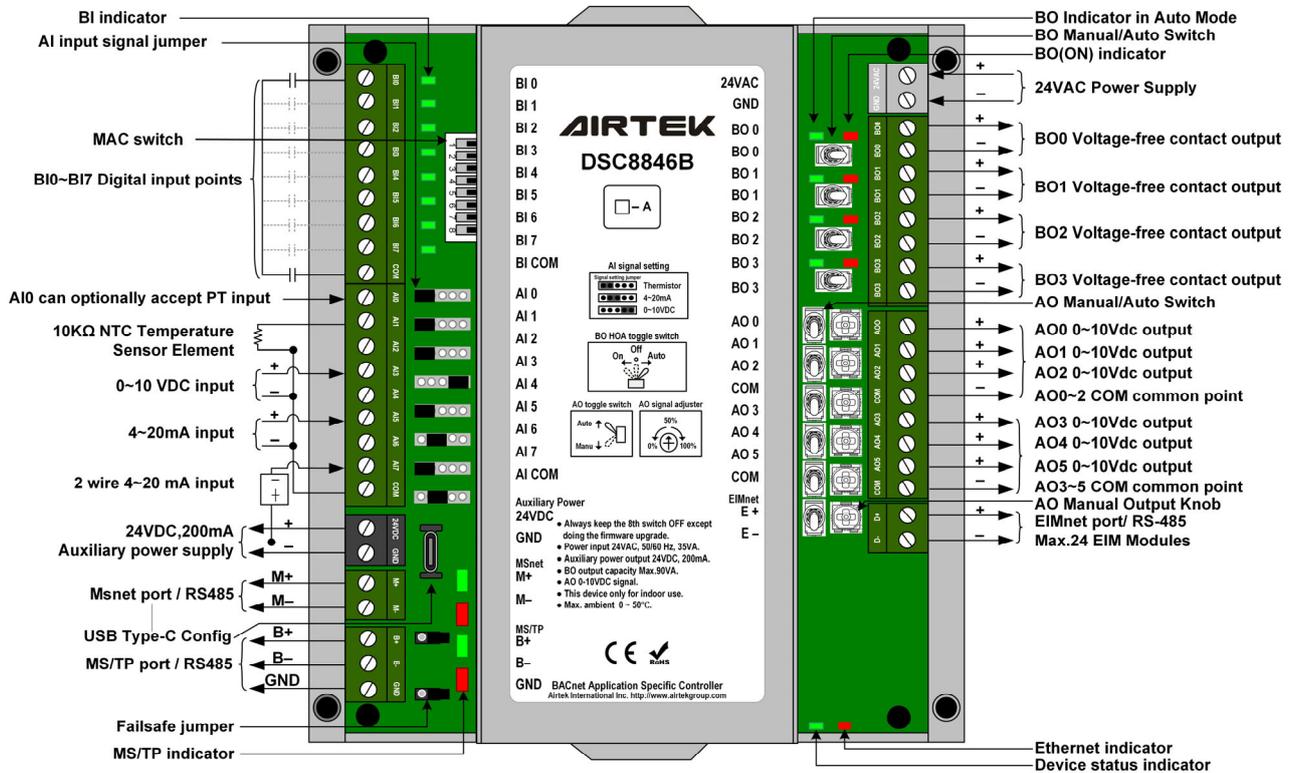

AIRTEK® Building Management & Control System Architecture

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Field Control Layer Device

BACnet Application Specific Controller+Touch panel

DSC8846B-x

【Wiring Diagram】

- BI indicator
- AI input signal jumper
- MAC switch
- BI0~BI7 Digital input points
- AI0 can optionally accept PT input
- 10KΩ NTC Temperature Sensor Element
- 0~10 VDC input
- 4~20mA input
- 2 wire 4~20 mA input
- 24VDC,200mA Auxiliary power supply
- Msnet port / RS485
- USB Type-C Config
- MS/TP port / RS485
- Failsafe jumper
- MS/TP indicator

- BO Indicator in Auto Mode
- BO Manual/Auto Switch
- BO(ON) indicator
- 24VAC Power Supply
- BO0 Voltage-free contact output
- BO1 Voltage-free contact output
- BO2 Voltage-free contact output
- BO3 Voltage-free contact output
- AO Manual/Auto Switch
- AO0 0~10Vdc output
- AO1 0~10Vdc output
- AO2 0~10Vdc output
- AO0~2 COM common point
- AO3 0~10Vdc output
- AO4 0~10Vdc output
- AO5 0~10Vdc output
- AO3~5 COM common point
- AO Manual Output Knob
- EIMnet port/ RS-485
- Max.24 EIM Modules
- Ethernet indicator
- Device status indicator

DSC8846B

BI 0, BI 1, BI 2, BI 3, BI 4, BI 5, BI 6, BI 7, BI COM
AI 0, AI 1, AI 2, AI 3, AI 4, AI 5, AI 6, AI 7, AI COM

□-A

AI signal setting
Signal setting jumper
Thermistor
4~20mA
0~10VDC

BO HOA toggle switch
On — Off — Auto

AO toggle switch
Auto ↑
Manu ↓

AO signal adjuster
50%
0% — 100%

Auxiliary Power
24VDC
GND
MSnet
M+
M−
MS/TP
B+
B−
GND

24VAC, GND
BO 0, BO 0, BO 1, BO 1, BO 2, BO 2, BO 3, BO 3
AO 0, AO 1, AO 2, COM, AO 3, AO 4, AO 5, COM
EIMnet
E +
E −

- Always keep the 8th switch OFF except doing the firmware upgrade.
- Power input 24VAC, 50/60 Hz, 35VA.
- Auxiliary power output 24VDC, 200mA.
- BO output capacity Max.90VA.
- AO 0-10VDC signal.
- This device only for indoor use.
- Max. ambient 0 ~ 50°C.

CE RoHS

BACnet Application Specific Controller
Airtek International Inc. http://www.airtekgroup.com

【Dimension】Unit：mm

137
164
170
135
147
Ø4
9
49

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