Field Control Layer Device

BACnet Application Specific Controller

DSC8846B

[Description]

DSC8846B is a standalone BTL listed BACnet B-ASC class programmable controller. It is designed for monitor and control of building mechanical Plant such as large AHU's, clean rooms, fume hoods, chillers, boilers etc. It uses 32-bit microprocessor, communication speeds up to 76,800 bps, transmission distance up to 1,200 meters. DSC8864B has 8 Binary Inputs(BI), 8 Analog Inputs(AI), 4 Binary Outputs (BO) and 6 Analog Outputs (AO). In addition, it has an EIMnet port can connect up to 12 EIM series of expansion modules, allowing an expandion in response to the needs of various applications. The MSnet port can connect to an external LCD control panel or Modbus devices using RTU protocol. The DSC8846B is a BTL listed device, and is fully compatible with any BACnet system.



BV Dointe



AV Dainte

[Features]

- BACnet Application Specific Controller (B-ASC) class listed device.
- An MS/TP (Master-Slave/Token-Passing) communication interface connect to the upper layer, global controller.
- An MSnet communication interface can connect an MST, DSP, DST control panel or a MODBUS RTU device.
- An ElMnet communication interface can connect up to 12 ElM I/O expansion modules, in response to the needs of various points
- RS-232 interface can be connected via an AD Linker cable any Terminal program for change of configuration.
- Binary inputs (BI) with 1,000VDC optical coupling isolate capabilities and status indicators.
- Digital outputs (BO) optical coupling with 1,000 VDC isolation, status indicators, Triac. Each BO point has manually A-O-M toggle switch that can override the internal program, the toggle switch is internally monitored.
- Analog Inpust (AI) have 16-bit resolution, they can be jumper selected to accept 10KΩ NTC thermistor, 0~10VDC or 4~20mA input signal and binary input (dry contact).
- Analog Outputs (AO) have 16-bit resolution, 0~10VDC standard output signal. Each AO point has a manual A-M toggle switch with a
 adjustable pot that can override the internal program, the toggle switch is internally monitored.
- DDC control programs can be edited online, downloaded live and real-time debugging. Program algerithms such as enthalpy, dew
 point temperature, PID control, HVAC common computing functions, logarithms, trigonometric functions, roots and Advanced Math
 functions.
- All analog input (AI), digital output value (BO), analog output (AO), digital software point (BV), analog software point (AV) write to the FRAM. Gold capacitor hold the memory for up to 10 years.
- Onboard 100 By points (supports 16 Priority Array) and 100 Ay points for calculation values, set points etc.

[Specification]

Wodei	DI	AI	ВО	AU	EINIQIT	BV POIIIS	AV POIIIS	
DSC8846B	8	8	4	6	12	100	100	
Power Supply	: 24VAC/Dc, 5VA.							
Microprocessor	: Dual 32-bit high performance MCU, 128K FRAM1M+128K+16K SRAM, 8M+1M+64K Flash memory.							
Binary Input (BI)	: 12VDC detection voltage, 1,000VDC optical coupling isolates, accepts dry contact or open collector signal.							

Analog Input (AI) : 12-VDC detection voltage, 1,000 VDC optical coupling isolates, accepts dry contact or open collector sign.

Analog Input (AI) : 16-bit resolution, jumper selectable to accept 10KΩ NTC thermistor, 10VDC, or 4~20mA signal & Bi.

Binary Output (BO) : With 0.5A/24VAC/DC (Hot-switched triacs) outputs. With A-O-M switchs, (internally monitored).

Analog Output (AO) : 16-bit resolution, 0~10VDC. With A-M switch and output signals with adjust pot (internally monitored).

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, having 2500Vrms optical coupling isolate and TVS ARRAY surge protection.

MSnet Port : meters, or connect to MST, DSP or DST control panels.

EIMnet Port : RS-485 bus, communication speed 38,400 bps, max. length 1,200 meters, up to 12 EIMs.

Environment : 0~50°C, 20~90%RH, non-condensing

Certification : CE (EMC Directive 2004/108/EC), FCC(Part 15,Subpart B,Class A), UL916, BTL(BACnet Testing Laboratory

Listed BACnet Application Specific Controller (B-ASC)).



[Network Architecture] Management Layer **Building Management & Control System Architecture** Tablet PC (Wi-Fi,3G,GSM) Operator workstation (BACnet Ethernet) 200 (((••1))) (((••1))) Integration Layer BACnet Ether Field control Layer 4 DST28U Sensor/Actuator Layer 00 [Wiring Diagram] - BO Auto Mode Status Indicator - BO Manual/Auto Output Switch - BO Action(ON)Indicator Bl Input Indicator Al Input selector Jumper 0 BIO 24VAC 24VAC Power Input BI1 GND 0 BI 2 во0 BO0 24VAC triac output **JIRTEK** BI3 000 BI4 0000 DSC8846B BI0~BI7 Digital Input B01 BO1 24VAC triac output BI5 COM BI6 **ⓐ (€ Æ** BO2 BO2 24VAC triac output BI7 0 BI COM signal setting 0 BO3 BO3 24VAC triac output AI 0 COM 0 AO Manual/Auto Output Switch 3K or 10KO NTC AI1 000 A00 AO0 0~10Vdc Temperature AI2 AO1 0~10Vdc AO2 0~10Vdc 0000000 A01 Thermistor AI3 0~10 VDC Signal AO2 000 AI4 COM 000 AI5 AO3 AO3 0~10Vdc AO4 0~10Vdc 4~20m A Signal ...↑ | □€‡.... 05. AI6 **□** 0 00 AO4 AI7 AO5 0~10Vdc AO5 AI COM 12345678 2 wire 4~20 mA Input COM AO Manual Output Signal 24 VDC Adjustment Knob 24 VDC Auxiliary Power output Configure Terminal 0 GND 24VDC Failsafe Jumper ry Power 24VDC 0 MSnet V+ GND **→** M+ E+ M+ EIMnet Port / RS-485 Max_12 EIM Module MSnetPort 0 ElMnet E+ 0 M V-E-Msnet Comm. Indicator Failsafe Jumper **₄** B+ MS/TP B+ 000 ElMnet Comm. Indicator B-GND BACnet MS/TP Port R_ Address Setting (DIP) GND BACnet Application Specific Controller Airtek International Inchttp://www.intekgroup.com Failsafe Jumper MS/TP Comm. Indicator Ethernet Status Indicator Equipment Status Indicator [Dimension] Unit: mm 1 0000) \odot 0 ⊿IRTEK° 0 0 п nnnn Ç