

Integration Layer Device

BACnet Building Controller

GC8846(P)-x

【 Description 】

GC8846(P)-x is a BTL BACnet B-BC certified building controller. With Router function, programmable function, stand alone capability, and support BACnet standard objects such as calendar, time table, notice type, alarm record, trend record, etc... It is often used to monitor and control electrical and mechanical equipment in buildings, such as air conditioners, pumps, fans, exhaust cabinets.... etc. Adopting the international BACnet protocol standard, it can be integrated with any brand of BACnet surveillance system, which is definitely the best equipment for you to build a surveillance system.



【 Features 】

- Developed in compliance with the BACnet communication protocol established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and certified as compliant with the BTL B-BC level.
- Built-in 32-bit microprocessor with peer-to-peer data transmission and sharing capabilities, programmable and standalone operation, alarm logging, calendar, schedule, trend recording, device and network management functions.
- Built-in Web Embedded operating system compatible with desktop computers (PC), notebook computers (NB), tablets, and smartphones. Additionally, it can be operated with AIRTEK's dedicated mobile app, providing a more convenient and comfortable operating environment and interface when monitoring the system via mobile devices.
- 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 HVAC functions such as enthalpy value, dew point temperature, and PID control, along with advanced mathematical functions including logarithms, trigonometric functions, and square roots.
- Features 1,000 digital software points (BV) and 1,000 analog software points (AV), which can be used for calculations, 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.
- When paired with the AIRTEK WC-Recorder tool, required data can be automatically converted into Excel files on a daily or monthly basis and saved to a PC. This facilitates long-term data storage and subsequent analysis applications.
- Features email and LINE alert push notifications; different alerts can be configured to notify specific email and LINE users.
- Features JSON data conversion functionality, enabling BACnet information within the system to be configured into corresponding JSON format for reading. This facilitates information integration between the BACnet system and third-party cloud/big data analytics software platforms.
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【 Specification 】

| Model | BI / AI / BO / AO | MS/TP | EIMnet | Calendar | Schedule | Notification | Alarm | Trend-log |
|--------------------|-------------------|-------|--------|----------|----------|--------------|-------|-----------|
| GC8846-A | 8 / 8 / 4 / 6 | × | 24 | 10 | 100 | 10 | 100 | 100 |
| GC8846-A-S | 8 / 8 / 4 / 6 | × | 12 | 2 | 20 | 2 | 20 | 20 |
| GC8846P-A | 8 / 8 / 4 / 6 | 32 | 24 | 10 | 100 | 10 | 100 | 100 |
| GC8846P-A-S | 8 / 8 / 4 / 6 | 4 | 12 | 2 | 20 | 2 | 20 | 20 |

【 Hardware Specifications 】

◆ Power Supply :

* 24VAC, 35VA.

◆ Microprocessor :

* 32-bit dual-CPU microprocessor (MCU) with 128K +32K*2
FRAM、1M+128K+16K SRAM 及 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.

◆ Ethernet interface :

* 100M Ethernet communication interface*4, BACnet Ethernet or
BACnet/IP communication layer is optional. A physical firewall
is required when connecting to an external network.

◆ 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,
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 or 24
EIM.M expansion modules, communication rate 38,400
BPS, transmission distance 1,200 meters.

◆ Auxiliary Power Output :

* 24VDC, 200mA · for use with sensors.

◆ Real Time Clock :

* Real-time Clock with Gold Capacitor Uninterruptible
Backup Design for normal operation after power failure.

◆ Environment :

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

◆ Product Certification :

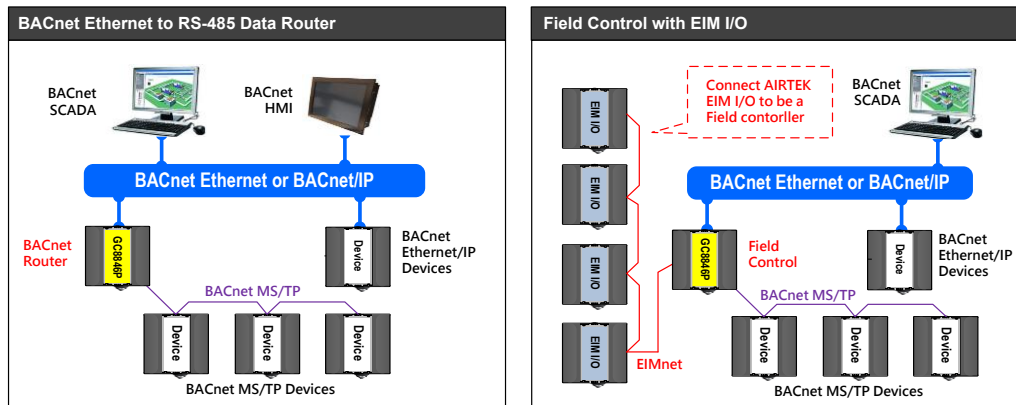
* BTL(B-BC), CE certified and RoHS compliant.

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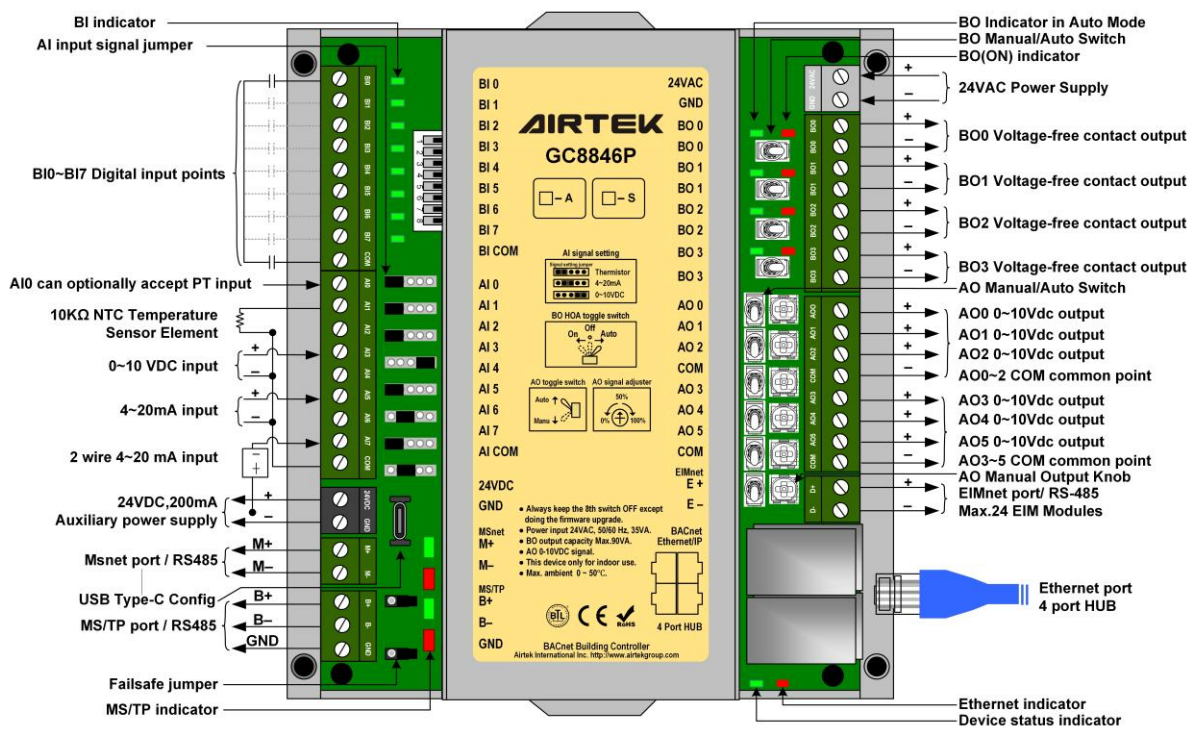
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【 Network Architecture 】



【 Wiring Diagram 】



【 Dimension 】 Unit : mm

