Integration Layer Device

Web Embedded BACnet Building Controller

WC8846P

【Description】

WC8846P is a building controller that has passed BTL BACnet B-BC certification. It has a Web Embeded operating system, router functions, programmable functions, stand alone capabilities, and time support BACnet standard objects such as Schedule, Calendar, and Event enrollment. It can be used to monitor and control the electromechanical equipment in the building, such as air-conditioning boxes, water pumps, fans, exhaust cabinets... and other equipment. It uses a 32-bit microprocessor to produce super-strong functions and superior performance. WC8846P itself has physical digital and analog input and output points, and MS/TP network can connect 32 DDC controllers, EIMnet network can connect 24 EIM series expansion modules, allowing you to flexibly combine points for different occasions Demand; In addition, it also has an MSnet communication port that can be connected to an external LCD screen control panel, so that users can check the operation status and information of the equipment at any time. WC8846P can translate the BACsoft software screen into a web page format, so as to provide users of the corporate intranet or Internet to manage the mechanical and electrical equipment in the building anytime and anywhere through the browser of the 3C device.

【Features】

- Made in accordance with the BACnet communication protocol established by the American Heating, Refrigeration and Air-Conditioning Association (ASHRAE), and passed the BTL B-BC level certification.
- Built-in 32-bit microprocessor, with Peer to Peer peer-to-peer data transmission and sharing functions and programmable, independent operation, alarm and event management, calendar, timetable, trend record, device and network management functions.
- Built-in Web Embeded operating system, compatible with desktop computers (PC), notebook computers (NB), tablet computers (Tablet), smart phones (Smart phone) and other hardware. It can also be operated with AIRTEK's dedicated mobile phone App, so that the monitoring system has a more convenient and comfortable operating environment and interface when monitoring the system through a mobile phone.
- Built-in MS/TP master and servant token communication interface, with 2,500Vrms anti-interference potential isolation design.
- Built-in RS-232 communication interface, through the AD-Linker connection line and hyper terminal machine program, the initial value of the device can be set or parameter modification.
- Digital input point (BI), with 5,000Vrms anti-interference optical coupling isolation capability and status indicator design.
- Analog input point (AI), with 16-bit resolution, can accept 3K or 10KΩ NTC thermistor, 4~20mA or 0~10VDC and other signals.
- Digital output point (BO), with 24VAC, 0.5A, hot-switched triacs (Hot-switched triacs), with 7,500Vpeak anti-interference optical coupling isolation device, status indicator light and HOA (manual/stop/automatic) switch And with the switching state feedback monitoring function.
- Analog output point (AO), with 16-bit resolution, 0~10VDC output signal, with HA (manual/automatic) switch and with switching state feedback monitoring function and manual signal output adjustment knob to facilitate on-site test run Adjustment and maintenance work is carried out.
- With online program editing, debugging, online program download and online firmware update functions.
- It has functions of common HVAC functions such as enthalpy, dew point temperature, PID control, and advanced mathematical functions such as logarithm, trigonometric function, and root sign.
- It has 1,000 digital software points (BV) and 1,000 analog software points (AV), which can be used as calculation values, set points, timers or warning points.
- All analog input cumulative value (AI), digital output value (BO), analog output value (AO), digital software point (BV), analog software point (AV) all have power-off memory function, which can be automatically when power is off Data can be stored in FRAM for more than 10 years.
- All BO, AO and BV points support 16-bit priority control function.
- With the AIRTEK WC-Recorder tool, the required data can be automatically converted into an Excel file and saved to the PC in units of days or months for use as long-term data storage and subsequent analysis applications.
- E-mail and Line alarm push function; different alarms can be set and notified to different E-mail and Line users.
- With the JSON data conversion function, the BACnet information in the system can be set to the corresponding JSON format for reading, which facilitates the information integration between the BACnet system and the third-party cloud/big data analysis software platform.

【Specification】

Model	BI	AI	BO	AO	DDC QTY	EIM QTY	Calendar	Schedule	Notification	Event	Trend-log
WC8846P	8	8	4	6	32	24	20	200	20	200	200
WC8846P-S	8	8	4	6	4	12	2	20	2	20	20

Power Supply : 24VAC, 35VA.

Microprocessor : 32-bit dual-CPU microprocessor (MCU), containing 512K FRAM, 64MB SDRAM and 128MB Flash memory.

Binary Input (BI) : 12VDC detection voltage, 5,000Vrms anti-interference optical coupling isolation capability, accept dry contact or open collector input signal.

Analog Input (AI) : 16-bit resolution, can accept 3K or 10KΩ NTC thermistor, 4~20mA or 0~10VDC and other signals.

Binary Output (BO) : 24VAC, 0.5A, hot-switched triacs (Hot-switched triacs) with 7,500Vpeak anti-interference optical coupling isolation device, Status indicator light and HOA (manual/stop/automatic) switch with switching status feedback monitoring function.

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

Ethernet Port : 100M Ethernet communication interface, you can choose BACnet Ethernet or BACnet/IP communication layer communication mode. When connecting to an external network, a physical firewall must be installed.

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

MSnet Port : RS-485 communication interface, which can be connected to a man-machine control panel, the communication rate is 9,600/19,200/38,400 BPS optional, The transmission distance is 1,200 meters.

EIMnet Port : The RS-485 communication interface can be connected to 24 EIM.M expansion modules, the communication rate is 38,400 BPS, and the transmission distance is 1,200 meters.

Auxiliary power out : 24VDC, 200mA, for sensor use.

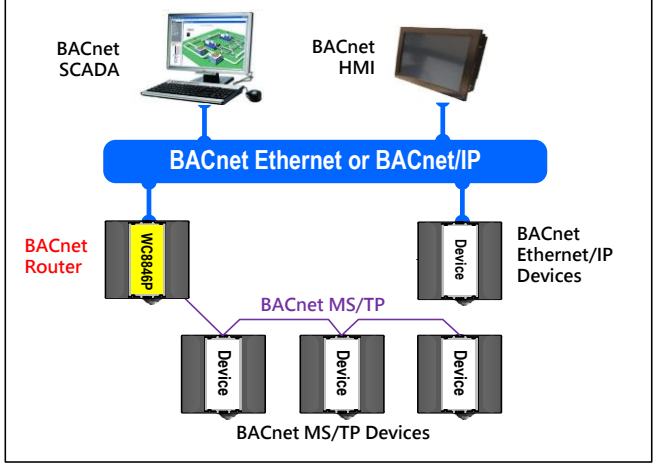
Clock : A build-in gold capacitor can back up real time clock after power failure.

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

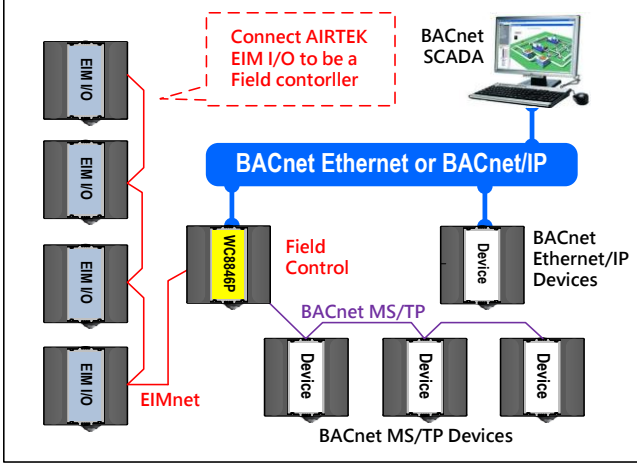
Certification : It has passed BTL (B-BC), UL916, FCC, CE certification and meets RoHS environmental protection standards.

【Network Architecture】

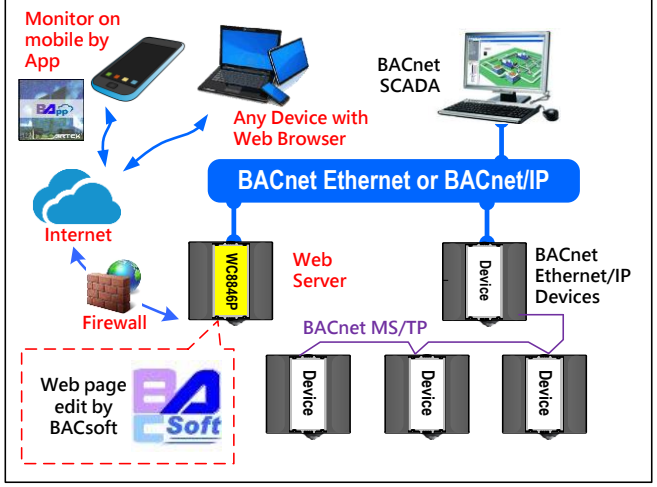
BACnet Ethernet to RS-485 Data Router



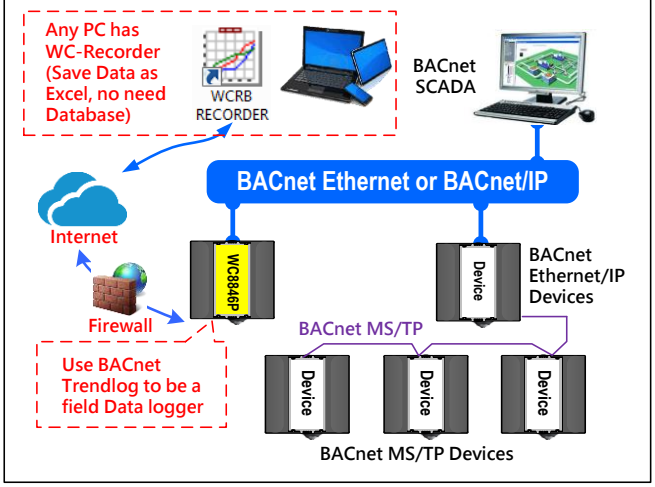
Field Control with EIM I/O



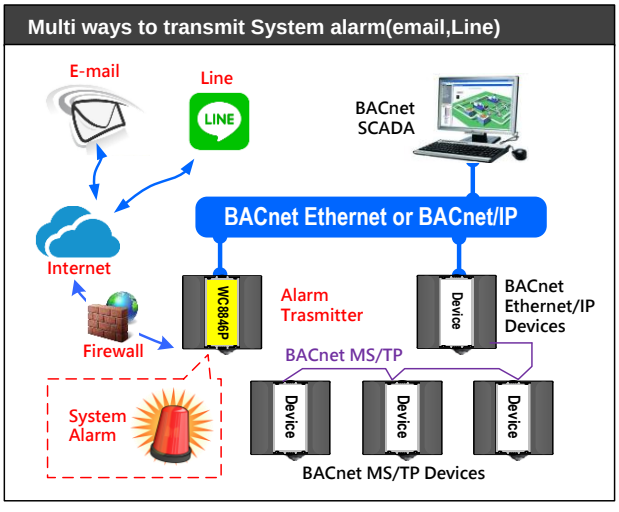
Web Browser system monitor



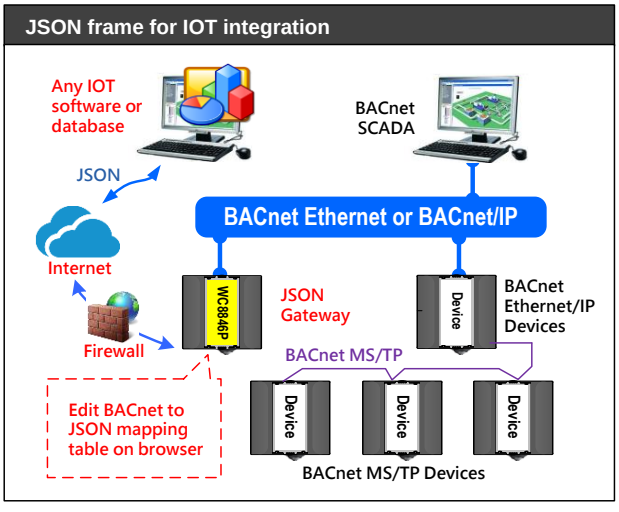
System Data logger (with WC-Recorder)



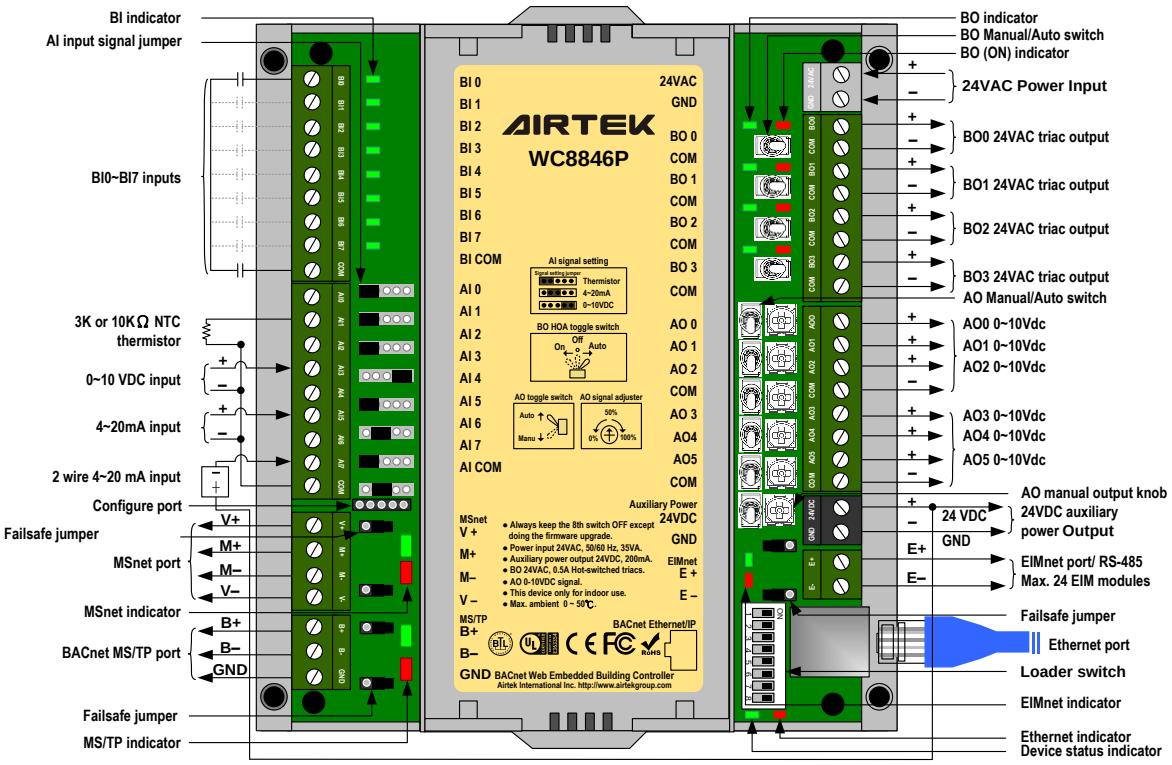
Multi ways to transmit System alarm(email,Line)



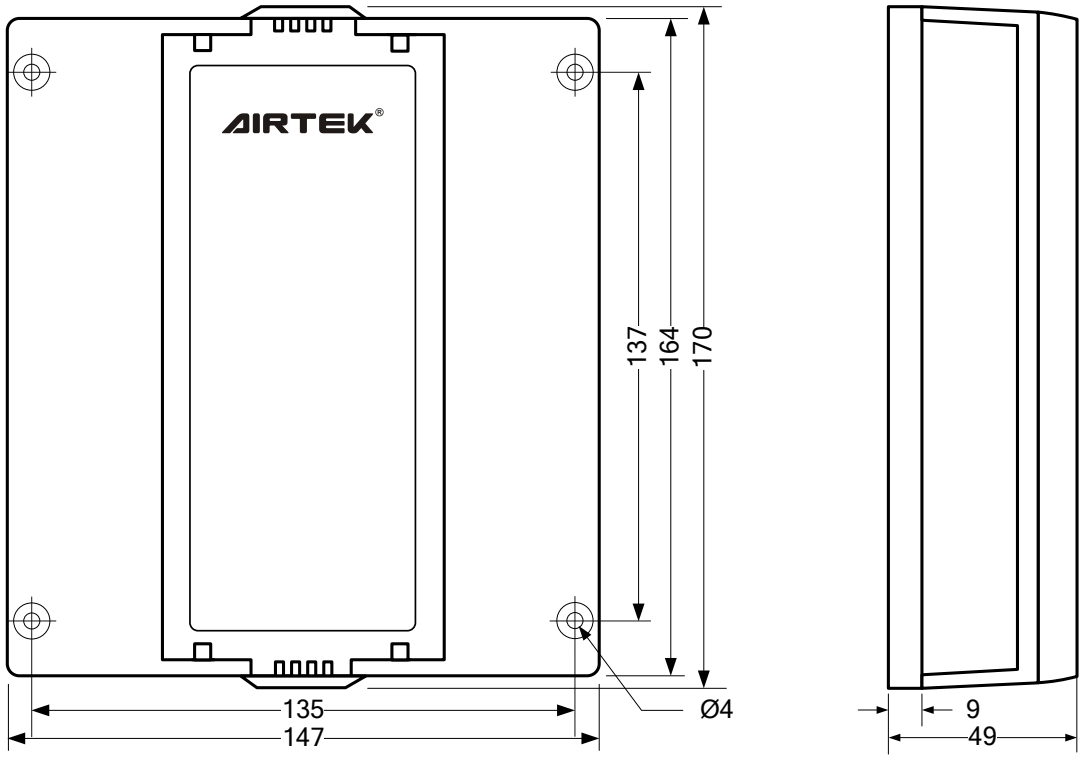
JSON frame for IOT integration



【Wiring Diagram】



【Dimension】Unit：mm



Please refer to http://www.airtekgroup.com for the most resent update information.