Integration Layer Device

BACnet Ethernet FCU Protocol Interface

PF-BM12

【Description】

PF-BM12 is a protocol converter specially designed to work with the DF series of networked fan coil controllers. It converts MODBUS RTU to BACnet Ethernet and MODBUS/TCP communication formats for system integration. Users can manage the equipment in the building through the workstation monitoring software or the network control panel.The PF-BM12 has logic algorithms for customisation and can also be programmed with external B-AAC level controllers for locking control.The PF-BM12 adopts the international BACnet protocol, which allows it to be interconnected and inter-controllable with any brand of BACnet monitoring system, and also supports MODBUS/TCP protocol. In addition, it also supports MODBUS/TCP protocol and can be integrated with any brand of MODBUS system, which is definitely the best product for you to build a surveillance system.

【Features】

- Follow the BACnet Advanced Application Controller (B-AAC) level communication protocol specification formulated by the American Heating, Refrigeration and Air-Conditioning Association (ASHRAE), compatible with the BACnet system.
- With Ethernet communication interface * 3, BACnet Ethernet or BACnet /IP communication layer communication mode can be selected
- With MODBUS/TCP Server communication function, it will automatically map the internal BACnet data (AV/BV) to the preset MODBUS data address (Register/Coil) for other MODBUS/TCP Client devices to read the information.
- It has FCnet communication interface with communication indicator, which can display the transmission and reception communication status. Each communication interface can connect 32 DF devices.
- USB Type-C interface, connected to a PC, allows you to configure the controller's internal network parameters using terminal software.
- When connecting with the monitoring system, it has the network time synchronization function, which can accept the network time correction of the central monitoring, so that the FCnet controller time is the same.
- The operating status and command parameters of the DF fan controller on the network can be converted into standard BACnet objects, and the operating parameters can be fully edited (Note: each DFD has up to 60 points (AI*10 /AO*10 / AV*10 /BI*10 /BO*10 /BV*10).
- With online firmware update and DDC control functions, online editing/downloading of control logic programs and real-time debugging, and support for reading and writing external device points. .
- It has the 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 a hardware clock with a gold capacitor for continuous power backup design, which can provide normal operation of the clock after power failure.
- With network time automatic synchronization, it can accept the network time correction of central monitoring, so that the controller time in all systems is the same.
- With 200/500 BACnet analog software points (AV), digital software points (BV) and 10 digital output (BO) objects, the parameters are automatically stored in FRAM when the value/status changes, which can be used as billing or other For calculations such as energy management, a total of 10 BO points from BO0 to 9 support the priority function.

【Specification】

Model	Ethernet Port	FCnet Port	DFD QT'Y	Calendar	Schedule	Notification	Even Log	AV/BV Points
PF-BM12	3	2	64	2	16	2	16	200 points each.

Power Supply： 24VAC, 5VA.

Processor： 32 bits High Speed Micro Controller Unit (MCU)，128K RAM、32K FRAM 及 1024K Flash Memory

Config Interface： USB Type-C interface, connected to a PC, allows you to set the controller's internal network parameters using terminal software.

Ethernet Port： 10/100M Ethernet interface * 3 complying with BACnet Ethernet and MODBUS/TCP Sever standard protocol

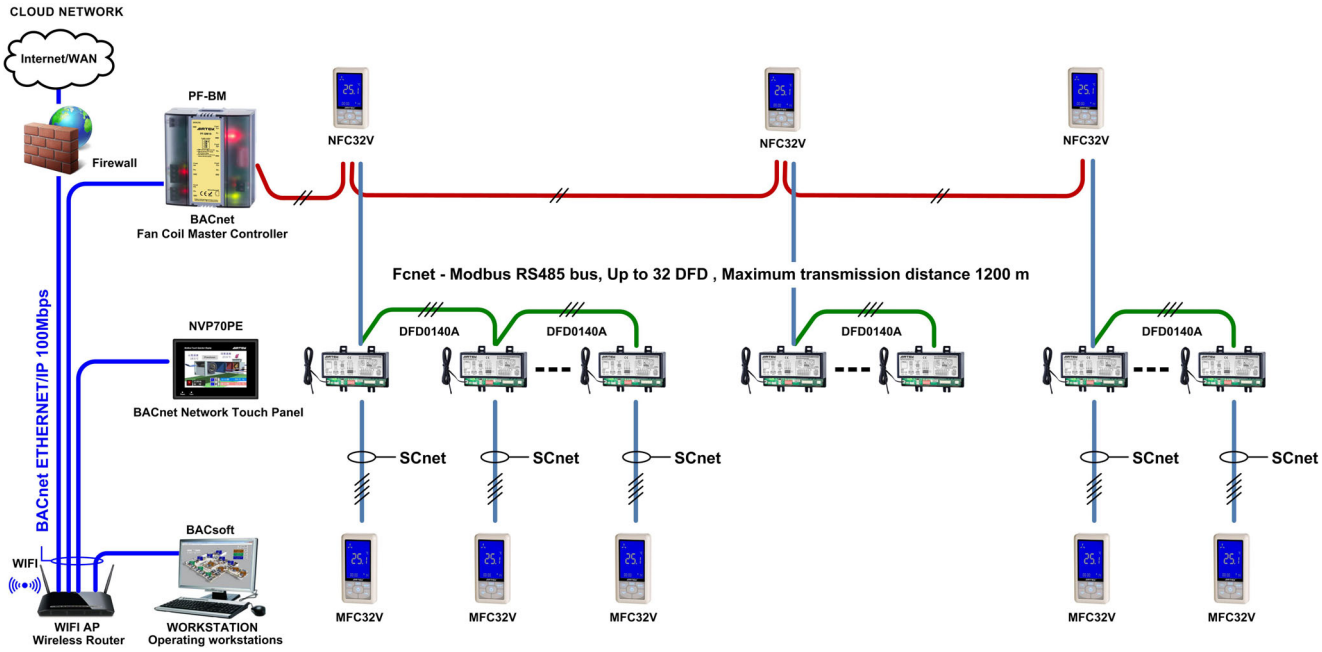
FCnet Port： MODBUS RTU RS-485 interface with baud rate 9,600 bps, each port can connect up to 32 DFD controllers.

Real time clock： With backup power to keep clock normal operation within 48 hours after power down.

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

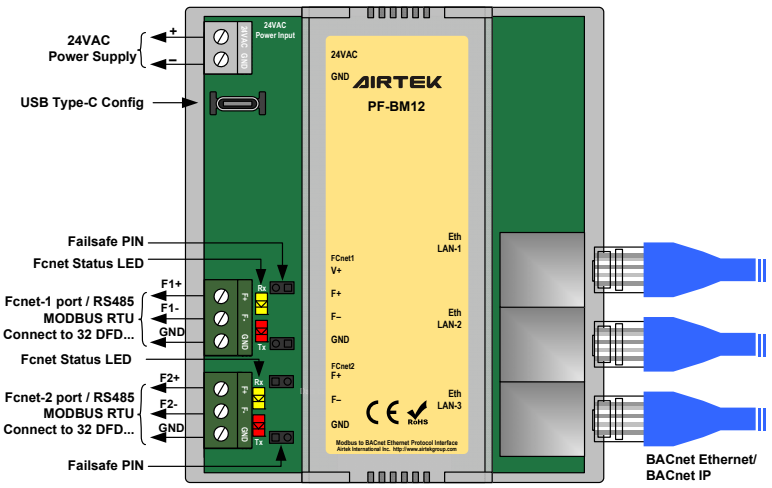
Certificate： CE, RoHS

【Network Architecture】

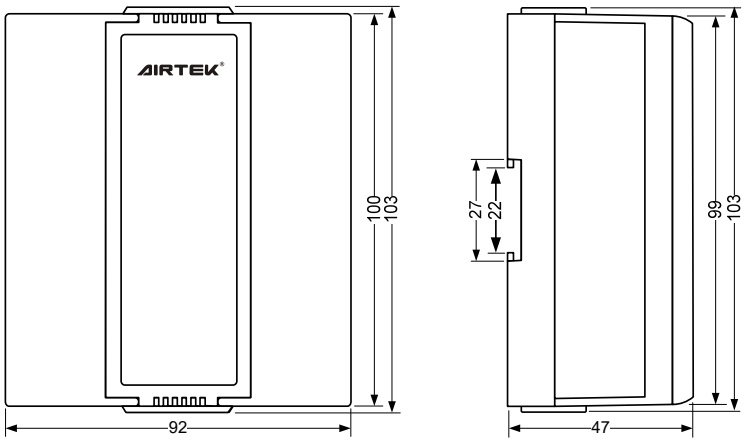


【Wiring Diagram】

- The power supply should be one to one configuration; the action of sharing power in conjunction with other controllers or converters is prohibited.
- FCnet communication port connects to Slave devices in Master mode and only support AIRTEK DFD series not for other models or other brands.
- The 120Ω termination resistor should be installed at FCnet serial end to avoid signal attenuation.



【Dimension】Unit：mm



Please refer to https://www.airtekgroup.com/ for the most recent update information.