

# Protocol Converter/Gateway

# PV-BMx1

## Panasonic Rs485 to BACnet Ethernet/IP & MODBUS TCP

### 【Description】

**PV-BMx1** has been specially designed to connect to the Panasonic CZ-CFUNC2 module and act as a Protocol converter (gateway) device to allow third party control systems to communicate (Control & Monitor) via BACnet (B-AS) or MODBUS/TCP protocols. The PV-BMx1 can Read/Write to the Panasonic VRF system giving the user more options to choose from. Airtek “add on” suite of touch screens and Web interface module will enhance the Panasonic VRF system to meet the expectations of modern control system.



### 【Features】

- BACnet Application Specific Controller (B-ASC). °
- Uses BACnet Ethernet or BACnet/IP, MODBUS TCP.
- MSnet port is used to connect Airtek DST color graphic touch screens. °
- One to One connection. One PV-BMx1 to one CZ-CFUNC2 only. The RS-485 port is Optically Isolated to 1,000VDC. °
- RS-232port is used to set up communication parameters via Airtek AD-Linker cable. A standard terminal software such as HyperTerminal or Airtek’s free terminal software.
- Standard BACnet Objects (Bv & Av) a total of 2500 for PV-BM11 and 5,000 for PV-BM21.
- MODBUS TCP Server/Client protocol translates the CZ-CFUNC2 point’s to industry standard Modbus protocol. (Register/Coils).
- Last point values are stored in FRAM (eeprom) memory during power outage.
- Communication Fault monitoring to the CZ-CFUNC2 is provided.

### 【Specification】

| Model          | Indoor Room units | BACnet                              | MODBUS TCP | CZ-CFUNC2 | BACnet Objects | MODBUS TCP |
|----------------|-------------------|-------------------------------------|------------|-----------|----------------|------------|
| <b>PV-BM11</b> | 64                | BACnet Ethernet<br>or<br>BACnet /IP | Server     | RS-485    | 912            | 912        |
| <b>PV-BM21</b> | 128               |                                     |            |           | 1808           | 1808       |

**Power Supply** : 24VAC/DC, 5VA.

**CPU & Memory** : 32 (CPU), 128K RAM, 32K FRAM. 1024K Flash Memory.

**Ethernet Port** : 10/100M Ethernet , Select BACnet Ethernet or BACnet/IP or MODBUS TCP communications.

**TDnet Port** : RS-485 Network communication 19,200 BPS.

1 x CZ-CFUNC2 per PV-BMx1/ Maximum of 128 indoor units.

**MSnet Port** : MODBUS RTU RS-485 selectable 9,600/19,200/38,400 BPS, Max distance 1200m.

Port can be set for Airtek Screens or MODBUS Master/Slave RTU.

**Environment** : 0 ~ 50°C, 20 ~ 90%RH.

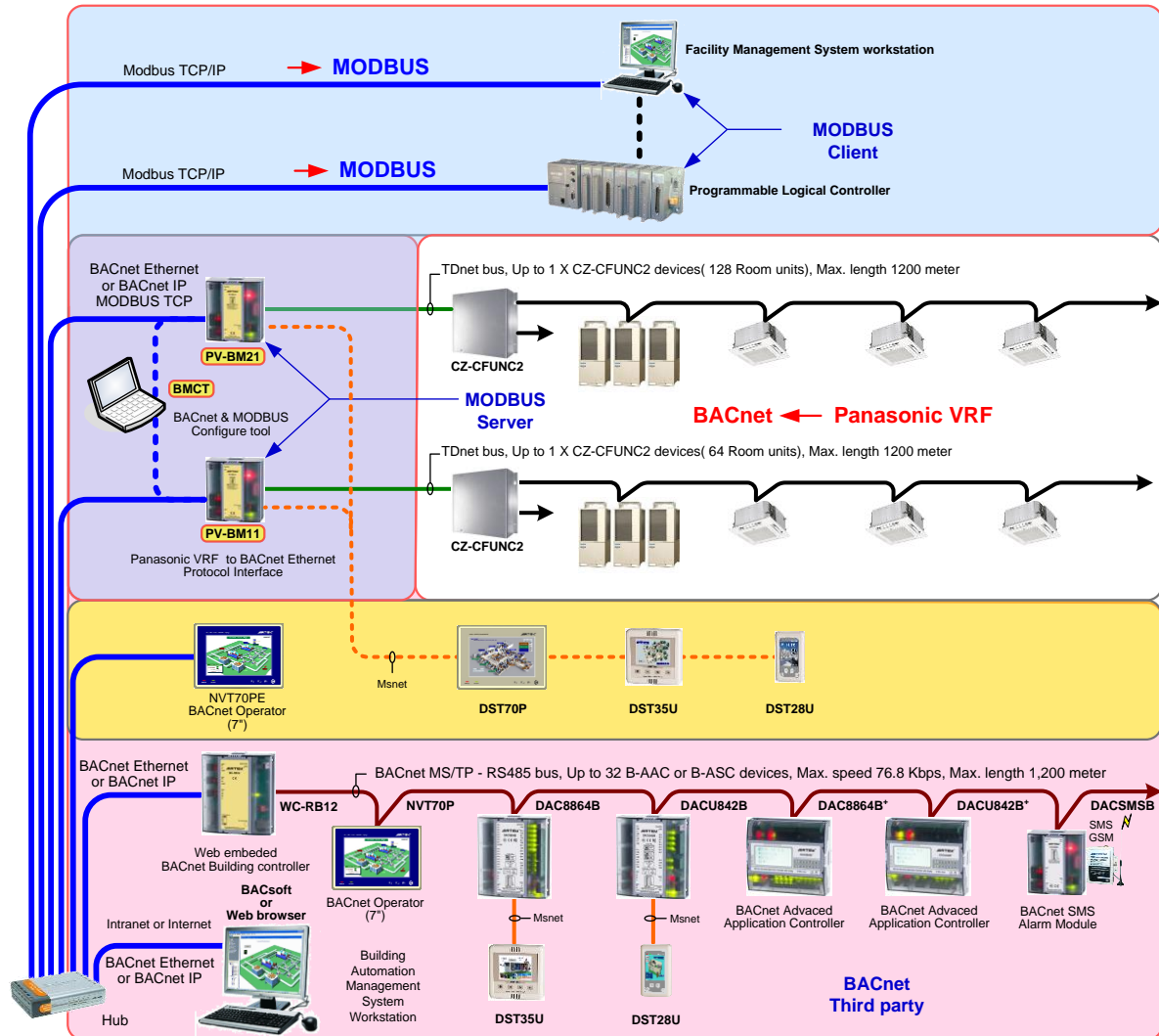
**Approvals** : Panasonic Lab Tested.

**Certification** : CE (EMC Directive 2004/108/EC).

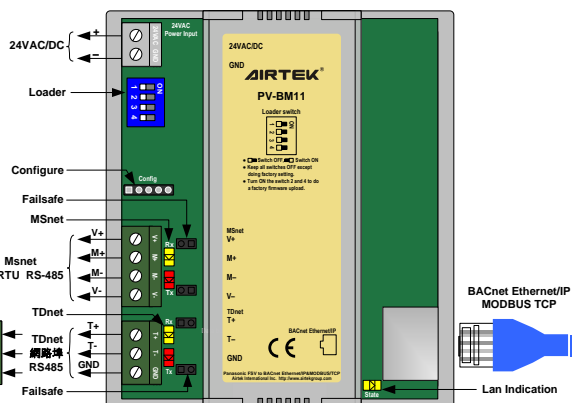
## 【Installation】

- Recommend using separate transformer power supply for each device.
- Allow other TCP Client to Read/Write , TCP/IP Port default to 502 selectable.
- RS485 communications are limited by the number of communication points. Limit 1 x PV-BMx1 to 1 x CZ-CFUNC2, Use PV-BM21 for up to 128 indoor units.
- Airtek Bacsof Software is required to bind the Bacnet/Modbus points to the CZ-CFUNC2 and set the MSnet port.

## 【Network Options】



## 【Wiring】



## 【Dimensions】 (mm)

