

# BACnet Field Control Device

## MODBUS to MS/TP protocol interface

# PC-MP11

### 【Description】

PC-MP11 is a protocol converter for integration of automation control system in industrial or commercial buildings. Integrating two different communication systems by using MODBUS RTU/ASCII protocol and BACnet MS/TP protocol. PC-MP11 is used to integrate MODBUS RTU/ASCII communication devices such as AHU, FCU network, chiller system, lighting system, multi-function meters, fire alarm system, and elevator control system to BACnet MSTP communicating devices. The BACnet MS/TP protocol of PC-MP11 conform ANSI, ASHRAE, European, and ISO standard and fully compatible to any BACnet MS/TP system.



### 【Features】

- Conforms to ASHRAE and ISO16484-1 defined BACnet B-ASC standard communication protocol, compatible with BACnet system.
- One BACnet MS/TP RS-485 port.
- One MODBUS RTU/ASCII Master RS-485 port and one RS-232 port for connect to MODBUS RTU/ASCII Slave devices. RS-485 port has 1000VDC electrical isolated protection that can effectively avoid network abnormality signal influences. LED send/receive communication indicator shows data transmission status.
- 500 data exchange command can be made online by using AIRTEK BACsoft program. These command read data from Slave devices to AV or BV points. It can also write its AV or BV data into Slave devices.
- 500 AV or BV points for data exchange between different protocol sources. These points can be used for other purpose when they are not used for data transfer purpose.
- AV points can operate with floating point, double precision, long integer, BCD code and many other types of numbers.
- Each analog point can be selectable do one times add/subtract/multiply/divide operation to adjust its value. This function eliminates the ratio or value adjustment operation at the BACnet application level. The conditional "write" and "write when change" functions minimises communication traffic.
- User can set a "block data transfer" which minimises communication traffic rather than one-by-one data transfer. Block size depend on the maximum size of the MODBUS buffer available.
- Programmable, online edit mathematic operations such as add/subtract/multiply/divide and logic operations such as AND, OR in program for flexible data usage and control.
- Power failure backup function, data stored in FRAM.

### 【Specification】

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

**Microprocessor** : 32-bit high performance MCU, 64K RAM, 32K FRAM and 384K Flash memory.

**MS/TP Port** : 19,200/ 38,400/ 76,800 BPS. 2500Vrms electrical isolated protection and TVS ARRAY surge protection.

**TD net Port** : One MODBUS RTU RS-485 Port, speed 9,800/19,200/38,400bps adjustable. Work with 32 master or slave devices.

**TD net Port** : One MODBUS RTU RS-232 Port, speed 9,800/19,200/38,400bps adjustable. Work with 1 master or slave devices. DB-9 connector, support peer to peer communication.

**Protocol Convert** : 500 data transfer commands for AV and BV points transfer between two different communication protocols.  
Online protocol setting is available.

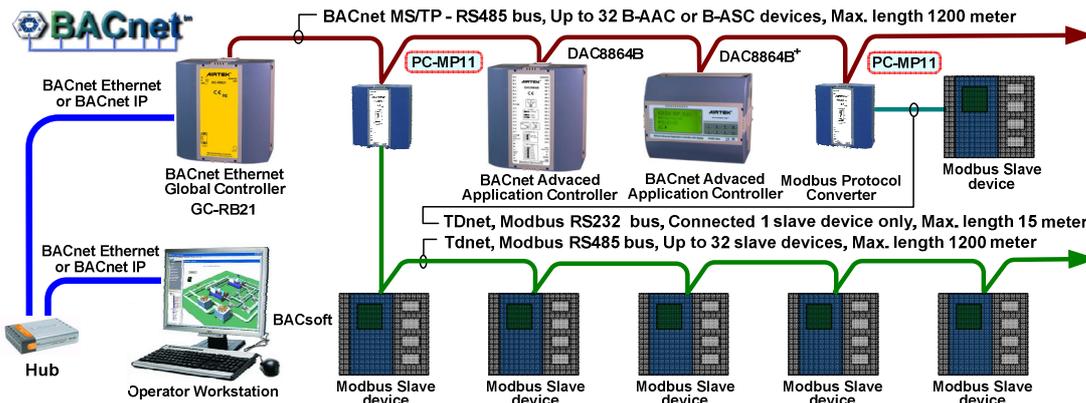
**Environment** : 0~50℃, 20~90%RH.

**Certification** : EMC Directive 89/336/EEC (European CE Mark).

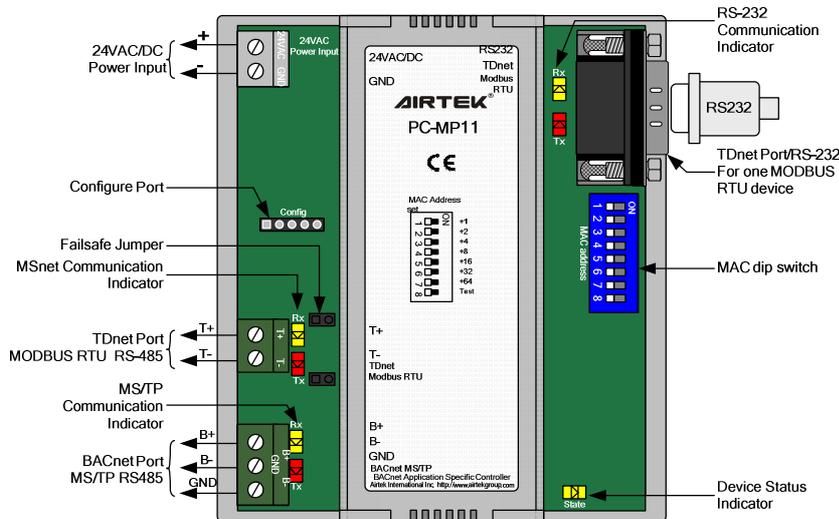
## 【Installation】

- A separate transformer is required. Do not share power supply with other devices.
- User can select only one MODBUS port at a time. Either RS-485 or RS-232.
- Total number of device can be connected to the MODBUS port is depends. Normally, it will be 32 devices for RS-485 network. A repeater is required for more devices. RS-232 can connect to one device. PC-MP11 protocol convertor is required for more than one device.
- MODBUS port for this device is a MODBUS Master, it can only connect to MODBUS Slave devices. Data format and communication speed of the devices on the same network should be the same speed.
- Install 120ohm "end of line" resistor at both end of the network Lan to prevent weak signals.
- Devices to be integrated should use MODBUS RS-485 or RS-232 standard MODBUS RTU/ASCII protocol and in Slave mode.

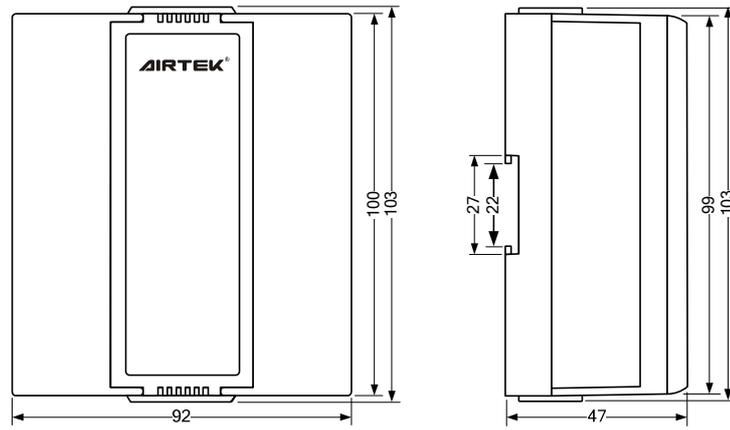
## 【Network】



## 【Wiring】



**【Dimension】** Unit : mm



Please refer to <http://www.airtek.com.au> for the most recent updated information.