Integration Layer Device
BACnet Ethernet Router

GC-RT12

【 Description 】

The GC-RT12 is a BACnet B-ASC compliant Ethernet router with Router function, which can provide the values of any of its BACnet objects and allow other devices to modify its BACnet object values; it also has the ability to manage devices and networks. Users can choose between BACnet Ethernet or BACnet/IP communication layers, and up to 32 B-AAC or B-ASC field controllers can be connected to each MS/TP network. It can be integrated with any brand of BACnet surveillance system without switching interfaces, which is definitely the best product for your surveillance system.

【 Features 】

- Compliant with the BACnet Application Specific Controller (B-ASC) class communication protocol established by the American Society of Heating, Refrigerating and Air Conditioning (ASHRAE) and compatible with BACnet systems.
- Peer to Peer peer-to-peer data transfer and sharing with programmable, standalone, device and network management.
- Built-in 32-bit microprocessor with router, programmable, standalone and data sharing features.
- Built-in 10/100M Ethernet interfaces*3 for BACnet Ethernet or BACnet/IP communication layer communication.
- Built-in MS/TP master-slave scepter communication interface with 2,500Vrms anti-interference potential isolation design, Peer to Peer data transfer and sharing function, and read/write capability of external DDC object, which can read single or multiple data at a time (DS-RP-A/DS-RPM-A) and change the value (DS-WP-A).
- USB Type-C interface, connected to a PC, can configure the controller's internal network parameters using terminal software.
- Online program editing, debugging, online program download and online firmware update.
- With enthalpy, dew point temperature, PID control and other common HVAC functions, and logarithmic, trigonometric functions, open root sign and other advanced mathematical functions.
- Digital software points and analogue software points are available for calculating values, setting points, timers or warning points.
- With Foreign Device capability, you can log in to BBMD to achieve Internet connectivity.
- With Slave Proxy function, it can connect to MS/TP Slave devices and provide third-party device connection requirements.

【 Specification 】

Model	Ethernet Port	MS/TP Port	DDC QT'Y	DDC Program	BV Points	AV Points
GC-RT12	3	2	32 x 2	○	150	150
GC-RT12-N	3	2	32 x 2	×	150	150

Power Supply : 24VAC, 4VA.

Microprocessor : 32-bit high-speed computing microprocessor (MCU) with 128K SRAM, 32K FRAM and 1024K Flash memory.

Config Interface : USB Type-C , connected to a PC, can use terminal software to set the controller's internal network parameters.

Ethernet Port : 10/100Mbps Ethernet communication interface*3 with Hub function for simultaneous BACnet (Ethernet or /IP).

MS/TP Port : RS-485 communication interface, built-in anti-interference isolator with rated isolation voltage of 2,500Vrms and maximum working insulation voltage of 560Vpeak.

Each loop can be connected to 32 field controllers with selectable communication rates of 9,600/19,200/38,400/76,800 BPS. Transmission distance 1,200 meters.

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

Certificate : CE certified and RoHS compliant.

AIRTEK

【 Network Architecture 】

AIRTEK® Building Management & Control System Architecture

Management Layer

Remote workstation (BACnet IP)	Operator server (BACnet IP)	Tablet PC (Wi-Fi,4G,GSM)	Operator workstation (BACnet Ethernet)	Smart Phone (Wi-Fi,3G,GSM)	Web Brower (Ethernet)

IP WAN — Internet/WAN

Integration Layer

BACnet Ethernet / BACnet IP

WC8846P | GC-RB32 | GC-RB31 | GC-RB01-x | GC-RT12 | GC8846P | GC8846 | GC-DB01-x | PC-ME10/11

MSnet — PC-ME11 Only

Field control Layer

NVT70PE | NVT70P | NVT35U | DST70P | DST70P

DST35U

DAC8846BT | DACU842BT | DSC8846B | DSCU842B | DACSMSB | EIM24000M | EIM0080M | EIM0800M

DAC8846B | DACU842B | DSCB | DSC4211B | DSC24000B | EIM8000M | EIM0040M | EIM0004M

DACB | DSC0080B | DSF1150B | EIMP800M | EIM4020M | EIM4020M | EIM0402M

PC-MP11

MSnet, RS485 bus — EIMnet, RS485 bus, up to 12 EIMs — MODBUS RS-485 or RS-232 interface

MS/TP BUS, up to 32 DDCs | MS/TP BUS, up to 16 DDCs | MS/TP BUS, up to 32 DDCs | MS/TP BUS, up to 32 DDCs | MS/TP BUS, up to 16 DDCs

EIMnet, up to 24 EIMs | EIMnet, up to 24 EIMs | MODBUS RS485 BUS, integrated third party devices | MODBUS TCP/IP network, Integrated third party devices

SMS GSM

Sensor/Actuator Layer

| ROOM TEMP. SENSORS | IMMERSION TEMP. SENSOR | HUMIDITY SENSORS | PRESSURE SENSORS | AIR QUALITY SENSORS | FLOW SENSOR | DAPMER ACTUATORS | MOTORIZED VALVES | BUTTERFLY VALVES | HEAT METERS | | CHILLER | GENERATOR | LIGHTING | POWER METER | VRV SYSTEM | INVERTER | FIRE SYS |

AIRTEK Terminal Devices — Third party terminal devices

BACnet (Building Automation Control network)

【 Wiring Diagram 】

24VAC Power Supply: + / −

24VAC GND

AIRTEK GC-RT12

ON (1 2 3 4 5 6 7 8)

Msnet Status LED

BACnet-1 port MS/TP RS485: B1+ / B1- / GND (Rx, Tx)

BACnet-2 port MS/TP RS485: B2+ / B2- / GND (Rx, Tx)

MS/TP 1: B1+ / B1– / GND
MS/TP 2: B2+ / B2– / GND

Eth LAN-1 / Eth LAN-2 / Eth LAN-3

BACnet Ethernet/ BACnet IP

CE RoHS

BACnet Ethernet Router
Airtek International Inc. http://www.airtekgroup.com

【 Dimension 】 Unit：mm

100 / 103
27 / 22
99 / 103
92
47