# EDGE CONTROL CONTROLLER

Edge Control Series-ECC200


## High Performance edge controller

The ECC200 series network controller is a member of the edge control series family. It is a compact high-performance embedded controller, dual-core processor, more capacity. It supports multiple protocols at the same time, which is convenient for connecting remote I/O and field controller. Integrates the functions of alarm, schedule, trend log, event management and network management, complies with BACnet B-BC standard. It is an ideal choice for distributed control and management in building automation systems.

The appearance of the ECC200 inherits the classic matte black and Honeywell red family design, calm and elegant. Equipped with Linux operating system, the kernel is more efficient and stable, following Honeywell network security standards and international industrial automation control system security standards, to reduce network security risks.

Two Ethernet ports, support ring, daisy chain and star system topology, support RSTP rapid spanning tree protocol, when the network structure changes, faster network convergence, maximum utilization of network resources, and reduced system commissioning costs. while ensuring the real-time performance of the data. It has BACnet broadcast management function, (B-BBMD), to ensure each subnet network device interconnection and secure communication.

Support free programable, the upgraded programming tool inherits the original tool style, is more concise and easy to use, program can compatible with The original, support for offline simulation and more functions, improve the efficiency of engineering commissioning.

## APPLICATIONS

ECC200 series edge controllers can be used in HVAC, lighting, water supply and drainage control, power transformation and distribution in intelligent buildings

The equipment management and control of sub-systems such as commercial buildings, office , data centers, public facilities, industries, medical care, hotels, etc., to help users realize the smart and security and efficient management.

## PRODUCT CHARACTERISTICS

- Dual-core high-performance processor: Arm Cortex-A9, 800 MHz; Arm Cortex-M4 227MHz
- Random Access Memory (RAM): 1 GB
- Flash memory: 4 GB
- Operating system: LINUX / RTOS
- System Real Time Clock
- Compliant with BACnet standard, BACnet Building Controller(B-BC), BACnet routing device (B-RTR) BACnet Broadcast Management Device (B-BBMD) Two Ethernet ports, BACnet IP protocol, support Ring, Daisy Chain, star topology, support RSTP Rapid Spanning Tree Protocol.
- Three-trunks fully isolated RS485 ports, maximum isolation, Distance voltage 2500V(rms for 1 min), support BACnet MS/TP protocol, Modbus RTU Protocol (customer-defined) and EM bus extensions.
- BACnet MS/TP communication rate support: 9.6, 19.2, 38.4, 76.8, 115.2 Kbps
- Modbus RTU communication rate support: 4.8, 9.6, 19.2, 38.4, 57.6, 115.2 Kbps
- Three pairs of LED indicators for RS485 communication channel communication status
- Independent LED breathing light for quick mastering Operational status of Data Manager
- UL60730 Compliant: Automatic Action Type 1, operational control

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# APPEARANCE AND TERMINAL

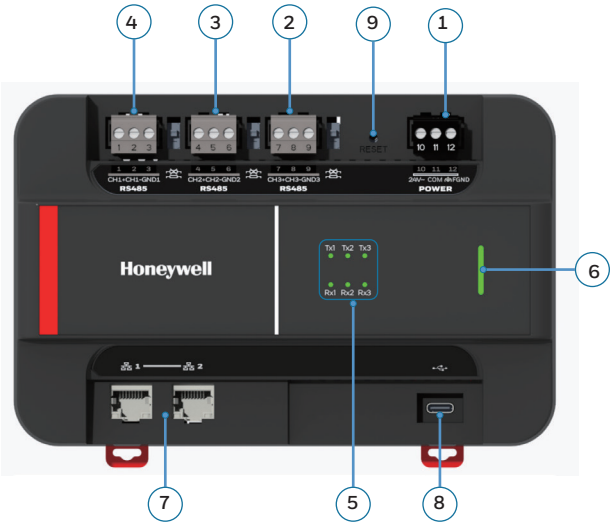



**Table 1**

| Type | Legend | Logo | Description |
|---|---|---|---|
| Power terminal | 1 | GND | Connect to site ground |
| | | 24V0 | Controller common terminal |
| | | 24V~ | Controller (24Vac/dc) |
| RS485 port 3 | 2 | CH3+ | Port 3 RS485(+) |
| | | CH3- | Port 3 RS485(-) |
| | | GND3 | Port 3 ground |
| RS485 port 2 | 3 | CH2+ | Port 2 RS485(+) |
| | | CH2- | Port 2 RS485(-) |
| | | GND2 | Port 2 ground |
| RS485 port 1 | 4 | CH1+ | Port 1 RS485(+) |
| | | CH1- | Port 1 RS485(-) |
| | | GND1 | Port 1 ground |
| LED | 5 | Tx1 LED (green) | RS485 port 1 to 3 send and receive instructions |
| | | Rx1 LED (green) | |
| | | Tx2 LED (green) | |
| | | Rx2 LED (green) | |
| | | Tx3 LED (green) | |
| | | Rx3LED (green) | |
| | 6 | Columnar LED | Operating status indicator light |
| RJ45 port | 7 | Ethernet 1 | 10/100 base-T/Tx |
| | | Ethernet 2 | |
| USB interface | 8 | | TYPE-C developer debug port |
| Reset key | 9 | | Press hold for 10s to restore the factory default settings. |

# Tx AND Rx LED INDICATORS

ECC200-PE has three pairs of transmit (Tx) and receive (Rx) LEDs, for display the transmitting and receiving status of RS485 communication.

**Table 2 Status information of RS485 LED indicator**

| LED lamp status | Description |
|---|---|
| Not bright | The corresponding RS485 channel has no communication. |
| Tx bright | The corresponding RS485 channel is sending data |
| Rx bright | The corresponding RS485 channel is receiving data |

# LED BREATHING LIGHT

**Table 3 Status information of LED breathing light**

| LED lamp status | Description |
|---|---|
| Not bright | The product is not powered on or damaged. |
| Green light is always on | The product works normally |
| Green light is flashing | During the configuration file download process |
| Red, green and yellow are alternating | During the product startup process |

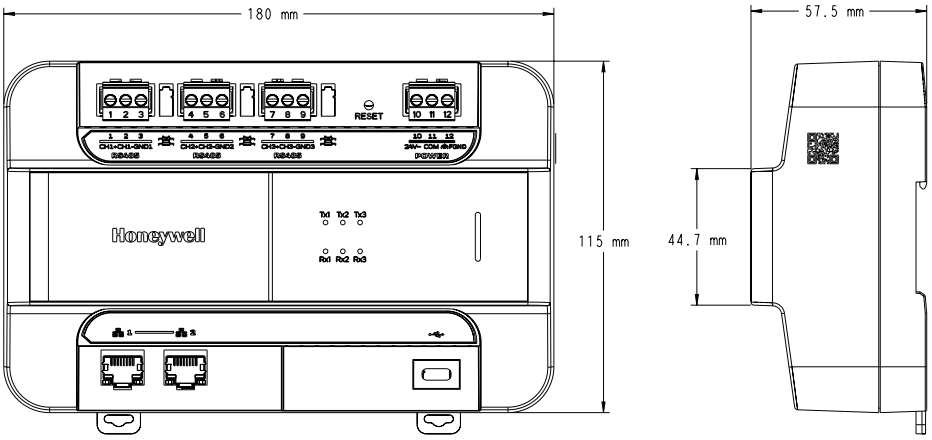
# ETHERNET 1 AND 2 INTERFACE

Two RJ45 ports, 10/100Mbps adaptive, default IP: 192.168.1.97, supporting star and daisy chain connection, and ring redundant link connection. It is recommended to use super-category five network cables for cables.

# TECHNICAL PARAMETER

| | | | | |
|---|---|---|---|---|
| **Product model** | **ECC200-PE** | | | |
| **Hardware parameters** | | | | |
| Central processing unit (CPU) | Dual-core: Arm Cortex-A9 main frequency: 800 MHz; Cortex -M4 frequency: 227MHz | | | |
| Operating system | LINUX / RTOS | | | |
| Random Access Memory (RAM) | DDR3L: 1 GB | | | |
| Flash memory | EMMC : 4 GB | | | |
| Real time clock accuracy | +/ — 2.63 minutes/year (+/ — 0.43 seconds/day) | | | |
| Real-time clock power-down holding time | 72 hours | | | |
| BACnet Object | 2000 points | | | |
| **System data** | | | | |
| Operating voltage (AC) | 19 to 29 Vac (50/60Hz) | | | |
| Operating voltage (DC) | 19 to 29 V DC | | | |
| Overvoltage protection | Maximum overvoltage protection 29V AC or 40V DC. Terminals have short-circuit protection. | | | |
| Power consumption | 4 W / 11 VA @ 24 VAC; 4 W / 4 VA @ 24 VDC; | | | |
| **Standard** | | | | |
| Protection grades | IP20 | | | |
| Test rules for electronic products | IEC68 | | | |
| Certification and standards | CUL60730-1<br>UL60730-1<br>EN60730-1<br>CE<br>RoHS 2.0<br>IEEE 802.3<br>BTL B-BC , B-RTR，B-BBMD （Rev 18） | | | |
| System transformer | The system transformer must be a safety isolation transformer conforming to IEC 61558-2-6. In America and Canada, NEC Class 2 transformers must be used. | | | |
| **Working environment** | | | | |
| Ambient working temperature | 0 to 50 ° C (32 to 122 ° F) | | | |
| Working humidity | 5 to 95% relative humidity (no condensation) | | | |
| Storage temperature | -28.9 to +70 ° C ( — 20 to 158 ° F) | | | |
| Storage humidity | 5 to 95% relative humidity (no condensation) | | | |
| Dust, vibration | Comply with EN60730-1 | | | |
| **Controller parameters** | | | | |
| Protocol | Maximum number of devices per trunk | RS485-1 | RS485-2 | RS485-3 |
| BACnet MS/TP | 64 ( load > 24kΩ) | YES | YES | YES |
| Modbus RTU | 31 ( load > 12kΩ) | YES | YES | YES |
| EM extension IO module | Max. 16 | YES | YES | YES |
| RS485 trunks | Three-trunk fully isolated RS485 ports, maximum isolation voltage 2500V (rms for 1 min) | | | |
| Ethernet | Two Ethernet ports, BACnet IP protocol, support Ring, Daisy Chain, star topology, support RSTP(Rapid Spanning Tree Protocol). | | | |
| BACnet MS/TP communication rate: | 9.6, 19.2, 38.4, 76.8, 115.2 Kbps | | | |
| Modbus RTU communication rate: | 4.8, 9.6, 19.2, 38.4, 57.6, 115.2 Kbps | | | |
| **Automated management function (BACnet B-BC)** | | | | |
| Alarm | Dynamically create standard BACnet trend alarm objects, ≥400 Records. | | | |
| Schedule | Dynamically create standard BACnet trend schedule objects, ≥150 Records. | | | |
| Calendar | Dynamically create standard BACnet trend calendar objects, ≥100 Records. | | | |
| Trend Log | Dynamically create standard BACnet trend log objects, ≥400 Records. | | | |

# DIMENSIONS (MM)




# ORDERING INFORMATION

| Model | Product Description |
|---|---|
| ECC200-PE | Edge network controller, dual-core high-performance processor, larger capacity; dual Ethernet interfaces, support multiple Topological and rapid spanning tree protocol; three RS485 fully isolated trunks, support BACnet MS/TP protocol or Modbus RTU protocol and EM bus. BACnet standard building control(B-BC), including alarm, schedule, calendar, and trend log functions; supports BACnet broadcast Management device (B-BBMD) function and BACnet routing(B-RTR) function. |

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