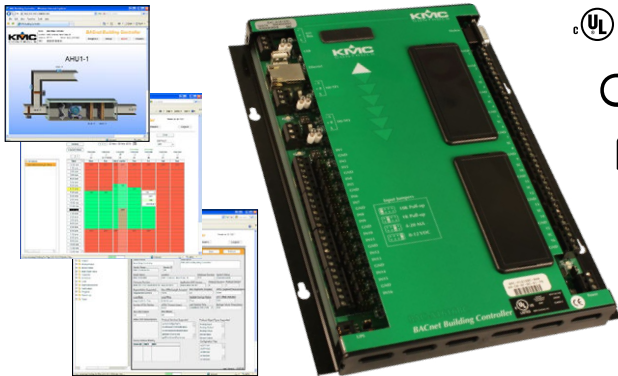




Building Controller (B-BC) and Router

BAC-A1616BC

BACnet Building Controller (16 x 16)



SEE ALSO: [Controller Selection Guide on page 6](#) and [BAC-A1616BC series](#) web page for details.

The BACnet Building Controller (B-BC) is a high-performance, native BACnet direct digital controller. As part of a complete interoperable building automation system, this 16 x 16 B-BC provides precise monitoring and control of connected points. Integrated into the controller is a BACnet router, a web server, and expandable I/O in a native BACnet device:

- Built-in web configuration pages allow web browser to configure I/Os and objects, monitor values and alarms (configuration/monitoring also available through TotalControl), and set-up users and passwords. Custom graphic interface (created/published in TotalControl) for remote web browser.
- Routes traffic between two MS/TP ports, one BACnet PTP (point-to-point) port, four (logical) BACnet IP ports, and one (logical) BACnet Ethernet port (BACnet IP and BACnet Ethernet are logical ports on the Ethernet physical port). Supports BACnet IP foreign device registration and Broadcast Management Device (BBMD), supports PTP modem communications, and performs IP packet assembling/disassembling (PAD) routing for up to four BACnet IP PAD networks. Each of the four (logical) BACnet IP ports can be configured for BACnet IP, BBMD, foreign device registration, or PAD.
- Firmware easily upgradable (without requiring physical access) through the Internet or Ethernet connection.
- Up to seven CAN-A168EIO expansion modules can be connected (via standard shielded twisted-pair wire up to 200 feet from the B-BC), each providing an additional 16 universal inputs and 8 universal outputs (for a maximum total of 128 inputs and 72 outputs).

Models

BAC-A1616BC-000	BACnet Building Controller
BAC-A1616BC-001	B-BC with web graphics pages

Main Features

Inputs

- Inputs configurable via jumper for 1K or 10K ohm pull-up resistors (for unpowered contacts or devices), 0–12 VDC, or 4–20 mA
- Analog inputs accept industry-standard 1K ohm platinum and 10K ohm thermistor sensors or 4–20 mA devices
- Binary inputs accept 0 or 12 VDC (on/off)
- Pulse (passive or active up to 12 VDC) counting to 16 Hz
- Input overvoltage protection (24 volts AC, continuous)
- 16-bit analog-to-digital conversion on inputs

Outputs

- Outputs protected against intermittent shorts; output current limited to 100 mA per output 100 mA (at 0–12 VDC) or 600 mA for all outputs
- 16 slots for HPO-6700 series output override cards
- 12-bit digital-to-analog conversion on outputs

Other Key Features

- Email notifications of alarms and events, using external or (with license) internal SMTP “server”
- Up to 32 Control Basic custom program sequences for optimal control of a central plant, air handlers, and other connected equipment
- Real-time clock with power backup for 72 hours
- High-performance 32-bit processor
- Meets or exceeds the specifications in ANSI/ASHRAE BACnet Standard 135-2004 for BACnet Building Controllers

Installation

- Dimensions: 8.4 x 11.2 x 1.1" (w/o HPO output card covers or 1.9 w/ covers) inches (283 x 214 x 27/48 mm)
- Weight: 2.3 lb. (1.0 kg)
- Supply Voltage: 24 volts AC (–15%, +20%), 25 VA, Class 2
- Case Material: Powder-coated steel

Approvals

- CE Compliant
- UL 916 Energy Management Equipment listed
- FCC Class B, Part 15, Subpart B
- Complies with Canadian ICES-003
- BACnet Testing Laboratory (BTL) listed
- SASO PCP Registration KSA R-103260

Accessories

CAN-A168EIO	I/O Expansion Module (see the next page)
HPO-6700 series	Output override boards
HCO-1035	Steel control panel enclosure, 20 W x 24 H x 6" D
HCO-1036	Steel control panel enclosure, 24 W x 36 H x 6" D
HPO-0054	Replacement fuse bulb
HPO-0063	Replacement two-pin jumper
KMD-5567	EIA-485 surge suppressor
KMD-5569	56K Faxmodem
KMD-5672	EIA-232 to female DB-9 connector
XEE-6000 series	Transformers



CAN-A168EIO I/O Expansion Module (16 x 8) for Building Controller



This module expands the inputs and outputs of the BAC-A1616BC:

- Onboard 16 universal inputs and 8 universal outputs, software selectable as analog or binary objects
- Each short-circuit protected output capable of driving up to 100 mA (at 0–12 VDC) or 450 mA for all outputs
- 8 slots for output override cards (e.g., triac, relays, 4–20 mA) for large relays or devices that cannot be powered from a standard universal output

- Can be installed up to 200 feet away from the BAC-A1616BC using standard shielded twisted-pair wiring on a serial bus connection
- One serial bus connection (terminal block) for daisy-chaining up to 7 expansion I/O modules
- Expansion I/O modules addressed with DIP switches

Main Features

Dimensions	8.4 x 8.2 x 1.1 (without HPO output card covers or 1.9 with covers) inches (214 x 207 x 27/48 mm)
Weight	1.6 lb. (0.7 kg)
Supply Voltage	24 volts AC (–15%, +20%), 19 VA, Class 2
Case Material	Powder-coated steel

Approvals

- CE Compliant
- UL 916 Energy Management Equipment listed
- FCC Class B, Part 15, Subpart B
- Complies with Canadian ICES-003
- SASO PCP Registration KSA R-103260

BAC-5050 FullBAC Multi-Port BACnet Router



SEE ALSO: [BAC-5050](#) web page for details.

The BAC-5050 FullBAC™ is a multi-port BACnet router for routing building automation data between BACnet IP, BACnet Ethernet, and MS/TP networks. It supports BACnet IP pad routing and also includes direct serial or modem (KMD-5569 is recommended) point-to-point connection. It conforms to ANSI/ASHRAE Standard 135-2001.

The BAC-5050 supports four IP networks. Each network can be configured as any of the following:

- BACnet broadcast management device (BBMD)
- Normal BACnet IP network
- PAD (packet assembling/disassembling) routing
- Foreign device registration with BACnet broadcast management devices (BBMD)

Main Features

Communications

- 10BaseT Ethernet connection for BACnet/IP and 802.3 networks
- Four EIA-485 ports for connecting to MS/TP networks; each port supports rate up to 76.8 kilobaud
- Supports four IP networks, and each network can be configured as any of the following:
 - BACnet broadcast management device (BBMD)
 - Normal BACnet IP network
 - PAD (packet assembling/disassembling) routing
 - Foreign device registration with BACnet broadcast management devices (BBMD)
- Point-to-point protocol support on EIA-232 port
- Dial-up point-to-point connection with external modem (KMD-5569 recommended)
- Two EIA-232 connectors for point-to-point, diagnostics, and direct connection to computer serial ports

BACnet Router Tools

- BACnet Router Tools software supplied with BAC-5050
- Configure the router with a direct serial cable connection or over Ethernet
- Self-discovers and displays remote networks

Installation

- Power supply: 120/240 international-ready power supply, power-fail with auto restart capabilities
- Weight: 1.8 pounds (816 grams)

Approvals

- CE compliant
- UL 916 Energy Management Equipment listed
- FCC Class B, Part 15, Subpart B
- BACnet Testing Laboratory (BTL) listed
- SASO PCP Registration KSA R-103260

Options and Accessories

HPO-0063	Replacement two-pin jumper
HPO-0054	Replacement fuse bulb
HPO-6001	Replacement cable ferrite core
KMD-5563	Replacement 5±15 VDC power supply with 5-pin DIN connector
KMD-5569	External 56K modem
KMD-5672	EIA-232 Serial to PC cable