BAC-7301 and BAC-7301C Advanced Application Controllers for Air Handling Units

Description

The BAC-7301 and BAC-7301C are native BACnet, fully programmable, controllers designed for small air handling units. Use these versatile controllers in stand-alone environments or networked to other BACnet devices. As part of a complete facilities management system, the BAC-7301/7301C controllers provide precise monitoring and control of connected points.

◆ BACnet MS/TP compliant
◆ Automatically assigns the MAC address and the device instance
◆ Supplied with programming sequences for small air handler unit
◆ Easy to install, simple to configure, and intuitive to program
◆ Controls room temperature, humidity, fans, monitors refrigeration, lighting, and other building automation functions.

Still . . . Made in the U.S.A.

Specifications

Inputs

◆ 4 universal inputs each of which is programmable as an analog, binary or accumulator object; accumulators limited to three in one controller
◆ Standard units of measure
◆ Pull-up resistors for switch contacts and other unpowered equipment; switch selects none or 10K ohms.
◆ Removable screw terminal block, wire size 14–22 AWG
◆ 10-bit analog-to-digital conversion
◆ Pulse counting to 16 Hz
◆ 0–5 volts DC analog input range
◆ Overvoltage input protection
◆ Compatible with KMD-1160/1180 series NetSensors

Outputs, Universal

◆ 3 universal outputs each of which is programmable as an analog or digital object
◆ Standard and custom units of measure
◆ 0–10 volts DC for analog objects
◆ 0–12 volts DC for binary objects
◆ Output current limited to 100 mA per output (outputs are short protected)

Outputs, Triac

◆ 1 Optically isolated triac output
◆ Maximum switching 30 volts AC at 1 ampere
◆ Removable screw terminal block, wire size 14–22 AWG

Supplied application programs

KMC Controls supplies the BAC-7301 controllers with programming sequences for small air handler units:

◆ Air handler operation based on occupancy, night setback, proportional hot and chilled water valve control
◆ Economizer operation
◆ Freeze protection

Programmable features

◆ 10 Control Basic program areas
◆ 40 analog and 40 binary value objects
◆ 4 PID loop objects
◆ Real time clock with power backup for 72 hours (BAC-7301C only)
◆ See PIC statement for supported BACnet objects

Schedules

◆ 8 Schedule objects
◆ 3 Calendar objects

Specifications based on firmware 2.0. Specifications and design subject to change without notice.

Specifications (continued)

Dimensions
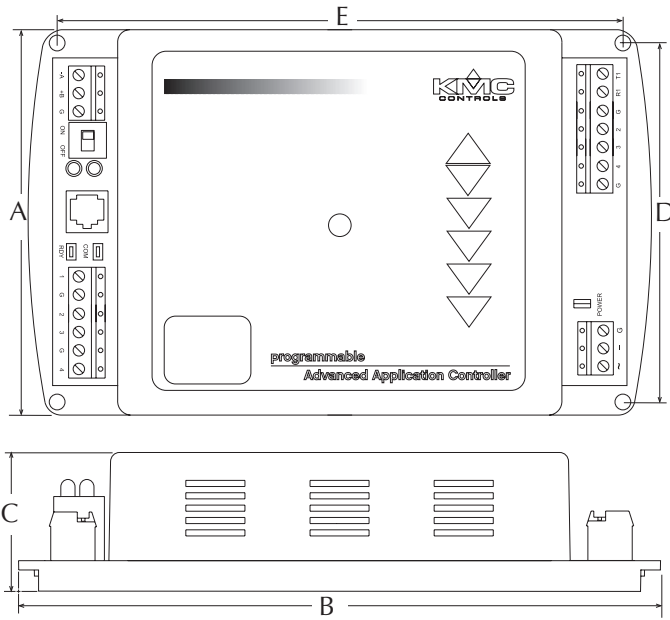
	A	B	C	D	E
	4.36 in.	6.79 in.	1.42 in.	4.00 in.	6.00 in.
	111 mm	172 mm	36 mm	102 mm	152 mm

Alarms and events
◆ Supports intrinsic reporting
◆ 8 Notification class objects

Trends
◆ 8 Trend objects

Memory
◆ Programs and program parameters are stored in nonvolatile memory.
◆ Automatically restarts after power failure

Communications
◆ MS/TP operating up to 76.8 kilobaud with automatic baud detection.
◆ Automatically assigns MAC addresses and device instance numbers
◆ NetSensor compatible through modular jack

Installation

Supply voltage	24 volts AC (–15%, +20%), 50-60 Hz, 8 VA minimum, 15 VA maximum load, Class 2 only, non-supervised (all circuits, including supply voltage, are power limited circuits)v
Weight	3.5 ounces (99 grams)
Case material	Green and black flame retardant plastic

Regulatory
◆ UL 916 Energy Management Equipment
◆ FCC Class B, Part 15, Subpart B
◆ BACnet Testing Laboratory listed
◆ CE compliant
◆ SASO PCP Registration KSA R-103263

Environmental limits
Operating	32° to 120° F (0° to 49° C)
Shipping	–40° to 140° F (–40° to 60° C)
Humidity	0–95% relative humidity (non-condensing)

Software compatibility
Requires the current version of BACstage or TotalControl for full configuration and programming features.

Accessories

Power transformer
XEE-6111-40	Single-hub 120 volt transformer
XEE-6112-40	Dual-hub 120 volt transformer

Models
BAC-7301C	BACnet controller with real-time clock
BAC-7301	BACnet controller without real-time clock

MS/TP automatic MAC addressing is protected under United States Patent Number 7,987,257.

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