

# **Application Specific Controllers (ASC)**

### BAC-4xxx AppStat Controllers/Sensors/Thermostats (6 x 8)



The BAC-4000 series AppStat combines an ASC controller, multiple sensor options, and BACnet networking into a single, integrated spacemounted device. Appstat offers a unique, cost-effective combination of networking, application, and sensor options along with easy, intuitive installation, configuration, and operation.

Preloaded with factory-programmed application sequences, AppStat models support these types of equipment:

- Fan coil units (FCU)—options include two-pipe or four-pipe heating/cooling, three-speed or modulating fan control, two-way on/off or modulating valves, and dehumidification
- Heat pump unit (HPU)—options include three stages of heating and two stages of cooling with economizer and auxiliary heat, fan control, and dehumidification (requires auxiliary heat)
- Roof top units (RTU) or similar packaged or split systems—options include single-stage, two-stage, or modulating heating and cooling, dehumidification, economizer, and fan control

The attractive two-piece design is ideal for new installations or upgrades of older, less efficient thermostats. AppStat installation requires only mounting the backplate to a wall or electrical box, connecting wires to screw terminals, and plugging the AppStat into the backplate.

No special programming, software applications, or setup tools are required to configure and commission an AppStat. All options can be set by using only the five front panel buttons and the easy-to-read menus in the full color display.

The display is readable across a room even in bright sunlight. The display features large numbers and simple color icons to indicate heating or cooling, occupied, unoccupied or local setback modes, and fan operation. For models with a humidity sensor, the temperature and humidity values alternate on the display. Users can easily choose between Fahrenheit or Celsius values.

All models are native BACnet, Application Specific Controllers ready to connect to a BACnet MS/TP network. Device instance, MAC address, and baud rate are set from the password protected front controls. All models feature a hardware clock and BACnet schedule that can be set up from the front panel or as a standard BACnet object with properties.

# SEE ALSO: The ASC BAC-8x0x VAV Controller-Actuators (5 x 8) on page 19.

### **Main Features**

#### **Interface and Function**

- The color 128 × 128 pixels LCD display (with LED back lighting), animated icons, and five push buttons make the Appstat intuitive and simple to configure and operate
- Through the contextual menu-driven display (with no obscure numeric codes), an operator can change setpoints, configure available options, and commission the installation
- Built-in, factory-tested libraries of application control sequences are easy to configure
- Schedules can easily be set uniquely by the entire week (Mon.– Sun.), weekdays (Mon.–Fri.), weekend (Sat.–Sun.), individual days, and/or holidays; six On/Off and independent heating and cooling setpoint periods are available per day
- Two levels of password-protected access (user/administrator) prevent disruption of operation and configuration
- Integrated sensors are a temperature sensor (standard) and options that include a motion sensor (passive infrared, with a range of up to 33 feet) for standby (setback) mode and a humidity sensor for dehumidification
- All models have 72-hour power (capacitor) backup and a real time clock for network time synchronization or stand-alone operation

#### Inputs (External)

- Three analog inputs for outside air temperature, discharge air temperature, water supply temperature, fan status, and remote temperature sensors (automatically detected)
- Inputs accept industry-standard 10K ohm (Type II or III) thermistors

#### Outputs

- Up to eight outputs, a mix of analog and binary (relays), dependent on model
- Each short-circuit protected analog output capable of driving up to 10 mA (at 0–12 VDC)
- The NO, SPST (Form "A") relays carry 1 A max. per relay or 3 A for all relays combined (@ 24 VAC/VDC)

### Approvals

- UL 916 Energy Management Equipment
- FCC Class A, Part 15, Subpart B and complies with Canadian ICES-003 Class A
- SASO PCP Registration KSA R-103260
- BACnet Testing Laboratory (BTL) listing pending
- NOTE: If you have a unique application or need a more powerful multi-application digital thermostat/controller that is also field-programmable with custom Control Basic programming, see the *BAC-12xxxx/13xxxx/14xxxx FlexStat Controllers/Sensors/Thermostats (10 x 9) on page 9.*

### **Models and Accessories**

For model numbers and accessories, see the BAC-4000 Series AppStat Data Sheet and the Installation, Operation, and Application Guide for AppStat.



# **Advanced Application Controllers (AAC)**

### BAC-12xxxx/13xxxx/14xxxx FlexStat Controllers/Sensors/Thermostats (10 x 9)



The award-winning FlexStat is an AAC controller and sensor in a single, attractive package that creates a flexible solution to standalone control challenges or BACnet network challenges. Temperature sensing is standard with optional humidity, motion, and  $CO_2$  sensing. Flexible input and output configurations and built-in or custom programming ensure that a variety of application needs can be met. Such applications include single- and multi-stage packaged, unitary, and split systems (including high SEER/EER variable speed packaged equipment), as well as factory-packaged and field-applied economizers, water-source and air-to-air heat pumps, fan coil units, central station air handling units, and other similar applications.

In addition, an on-board library of programs permits a single model to be rapidly configured for a wide range of HVAC control applications. Thus, a single "one size fits all" FlexStat model can replace multiple competitor models. A single BAC-120163CW, for example, can be quickly configured for any of these application options:

- Air handling unit, with proportional heating and cooling valves, and with optional economizer, dehumidification, and/or fan status
- Fan coil unit, 2-pipe or 4-pipe, proportional or 2-position valves, with optional dehumidification (w/ 4-pipe option) and/or fan status
- Heat pump unit, with up to two compressor stages, and with optional auxiliary heat, emergency heat, dehumidification, and/or fan status
- Roof top unit, with up to two H/C stages, and with optional economizer, dehumidification, and/or fan status

FlexStats also provide the capability to customize the standard library of sequences using a KMC programming tool, enabling the adaption of the standard library to the unique site needs and application-specific requirements of a particular project.

BACnet over MS/TP communication is standard. "E" versions, with an RJ-45 jack, add BACnet over Ethernet, BACnet over IP, and BACnet over IP as Foreign Device (for communication across the Internet).

# SEE ALSO: FlexStat series web pages for details as well as the *Controller Selection Guide on page 6.*

NOTE: For less demanding applications with no need for custom Control Basic programming, see also the *BAC-4xxx AppStat Controllers/Sensors/Thermostats* (6 x 8) on page 8.

### **Main Features**

#### Interface and Function

- User-friendly English-language menus (no obscure numeric codes) on a 64 x 128 pixel, dot-matrix LCD display with 5 buttons for data selection and entry
- Multiple display options include selectable space temperature display precision, degrees F/C toggle, rotation values, display blanking, hospitality mode, and locked mode
- Built-in, factory-tested libraries of configurable application control sequences
- Integral energy management control with optimum start, deadband heating and cooling setpoints, and other advanced features to assure comfort while maximizing energy savings
- Schedules can easily be set uniquely by the entire week (Mon.– Sun.), weekdays (Mon.–Fri.), weekend (Sat.–Sun.), individual days, and/or holidays; six On/Off and independent heating and cooling setpoint periods are available per day
- Three levels of password-protected access (user/operator/ administrator) prevent disruption of operation and configuration plus Hospitality mode and Locked User Interface mode offer additional tamper resistance
- Integral temperature and optional humidity, motion, and/or  $\mathrm{CO}_{\!_2}$  sensors
- All models have 72-hour power (capacitor) backup and a real time clock for network time synchronization or stand-alone operation

#### Inputs (External)

- Six analog inputs for additional configurable remote external sensors, such as remote space temperature (with averaging, highest, and lowest options), remote CO<sub>2</sub>, OAT, MAT, DAT, water supply temperature, fan status, and other sensors
- Inputs accept industry-standard 10K ohm (Type II or III) thermistor sensors, dry contacts, or 0–12 VDC active sensors

### Outputs

- Nine outputs, a mix of analog and binary (relays)
- $\bullet$  Each short-circuit protected analog output capable of driving up to 20 mA (at 0–12 VDC)
- The NO, SPST (Form "A") relays carry 1 A max. per relay or 1.5 A per bank of 3 relays (relays 1–3 and 4–6) @ 24 VAC/VDC

### Approvals

- UL 916 Energy Management Equipment
- FCC Class B, Part 15, Subpart B and complies with Canadian ICES-003 Class B (for BAC-13xxxx/14xxxx, FCC Class A, Part 15, Subpart B and complies with Canadian ICES-003 Class A)
- SASO PCP Registration KSA R-103260
- BACnet Testing Laboratory (BTL) listed

### **Models and Accessories**

See the BAC-12xxxx/13xxxx/14xxxx Series FlexStat Data Sheet for the complete listing. For aid in selecting the best model for an application (as well as accessories), see the FlexStat Catalog Supplement and Selection Guide (SP-091).



# BAC-5801/5802 Advanced Application Controller (8 x 8)



The BAC-5801/5802 native BACnet, fully programmable, direct digital controllers are versatile general purpose controllers in stand-alone environments or networked to other BACnet devices. As part of a complete building automation system, they provide precise monitoring and control of connected points, such as room temperature, humidity, fans, lighting, and other building automation functions. They install and configure easily, are intuitive to program, and contain modular jacks for quick connections to KMD-1x6x/1x8x/12x1 NetSensors. The BAC-5801 includes a real-time clock with power backup for 72 hours.

### **Models**

BAC-5801	BACnet controller with real-time clock
BAC-5802	BACnet controller without real-time clock

### Accessories

Output override boards
Replacement fuse bulb
Replacement two-pin jumper
Steel control enclosure, 10.1 W x 2.4 H x 7.1" D (257 x 62 x 181 mm)
NetSensor
NetSensor with humidity sensor
NetSensor with motion sensor
Transformer, 120-to-24 VAC, 40 VA, dual-hub
Transformer, 120-to-24 VAC, 40 VA, single-hub

### **Main Features**

### Inputs

- 8 universal inputs, each of which is programmable as an analog, binary, or accumulator object
- Pull-up resistors (switch selectable for none or 10K ohms) for switch contacts and other unpowered equipment
- 10-bit analog-to-digital conversion
- Pulse counting to 16 Hz
- 0–5 volts DC analog input range
- Overvoltage input protection

### Outputs

- 8 universal outputs, each of which is programmable as an analog or binary object
- Slots for HPO-6700 series output override boards
- 0–10 volts DC for analog objects
- 0 or 12 volts DC for binary objects
- Outputs protected against intermittent shorts; output current limited to 100 mA per output (or 350 mA total)

### **Other Features**

- Automatically assigns the MAC address and the device instance
- 10 Control Basic program areas, and programs and program parameters are stored in nonvolatile memory
- EIA-485 operating up to 76.8 kilobaud
- Compatible with KMD-1x6x/1x8x NetSensors through modular connectorr

### Approvals

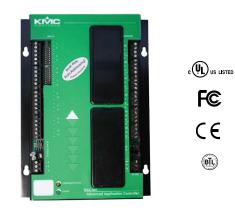
- BACnet Testing Laboratory (BTL) listed
- CE compliant
- FCC Class B, Part 15, Subpart B
- UL 916 Energy Management Equipment listed
- UL 864 Smoke Control Equipment listed (UUKL)
- SASO PCP Registration KSA R-103260

### SEE ALSO: *Controller Selection Guide on page 6* and **BAC-5801/5802** series web page for details.

NOTE: For NetSensors and accessories, see Digital Sensors and Accessories Catalog Supplement (SP-094).

### BAC-5831

### Advanced Application Controller (16 x 12)



SEE ALSO: *Controller Selection Guide on page 6* and **BAC-5831** web page for details.

The BAC-5831 offers many of the features of the BAC-5801, but with **8 additional inputs and 4 additional outputs** (with expanded total output current).

### Main Features (Different From BAC-5801/5802)

### Inputs

- 16 universal inputs
- Outputs
- 12 universal outputs
- Short-protected outputs, output current limited to 100 mA per output (or 450 mA total)

### Accessories (Different from BAC-5801/5802)

HPO-6802 Output of when us override

Output override board raised cover (required when using any of the HPO-6700 series output override boards)



# BAC-5841/5842 UFAD Advanced Application Controllers (8 x 8)



SEE ALSO: *Controller Selection Guide on page 6* and **BAC-5841/5842** series web page for details.

Based on the BAC-5801/5802 controllers, these native BACnet, fully programmable, direct digital controllers are **factory pre-programmed and pre-configured for use in Under Floor Air Distribution (UFAD)** applications. They have **modular input and output jacks** to simplify field wiring, using standard Ethernet cables (with modular RJ-45 plugs) for input sensors and KMC HSO-2200 series cables with RJ-12 modular plugs on the outputs. Outputs are typically connected to KMC MEP-4042/4842 proportional actuators with integral RJ-12 modular jacks.

They can provide up to five individual zones of control using a KMD-1x6x/1x8x/12x1 NetSensor and up to four STE-6014 or STE-6016 wall sensors. They are pre-configured to provide 5 cooling zones. Two outputs may also be changed from cooling to heating. Depending on cable lengths and power wiring used, up to 8 MEP-4042/4842 actuators may be driven in each chain, and each chain can be individually tied to any of five zone sensors. These models can also be used with UFAD diffuser actuators manufactured by KMC Controls for specific OEMs.

These controllers provide precise monitoring and control of connected points. Remote building automation systems may further command occupancy modes and control setpoints of the networked devices, process alarm conditions, and use information generated by the controllers to optimize the performance of "upstream" air handlers, fans, and other building automation functions.

### Models

BAC-5841UFAD controller with Real Time Clock (RTC)BAC-5842UFAD controller without RTC

### Main Features (Different From BAC-5801/5802)

#### **Pre-Programmed Features**

- Default programmed to provide (up to) 5 independent cooling zones with cooling setpoint and control of connected proportional MEP-4x42 series actuators
- Independent heating outputs to provide 2 Heat/Cool zones (underfloor cooling with hot water reheat) can also be controlled from one common STE-6014 or STE-6016 space sensor for each zone

#### Inputs

FC

- Four modular inputs pre-configured as zone temperature sensing inputs or setpoint inputs
- Four modular 8-pin RJ-45 female jacks for use with standard Ethernet cables to connect to STE-6014 or STE-6016 sensors
- Built-in sensor selection switch for STE-6014 or STE-6016 room sensors—when set to the "STE-6016" position, the controller sources necessary power for the LCD digital display on the STE-6016 sensors
- Integral switchable network End of Line (EOL) resistors, indicating fuses, and network isolation switch with LED indication of operation for BACnet MS/TP communications
- Overvoltage input protection
- Compatible with KMD-1x6x/1x8x NetSensors

### Outputs

- 8 pre-configured outputs for control of proportional actuators or staged equipment
- 5 modular 6-pin RJ-12 female jacks for use with HSO-2200 series cables (or local equivalent)
- Removable screw terminal block, wire size 14–22 AWG for unitary equipment control

### Accessories (Different from BAC-5801/5802)

HSO-2121	Transformer cable, 12 inches, with RJ-12 plug on one end (provides local power to actuator from transformer mounted at actuator location)
HSO-22xx	Modular cables, RJ-12 plug on both ends (see data sheet for the appropriate part number)
HSO-2350	DDC controller analog output cable, 50 ft., with RJ-12 plug on one end (provides 2–10 VDC control signal to actuator from remote controller)
HSO-5010	"Y" connector with 3 RJ-12 jacks (allows powering of two strings of actuators when power is applied through an HSO-2121 and the HSO- 5010 "splitter" is mounted in the center of each string)
MEP-4042	40 inch-lbs. min. torque, with modular jacks
MEP-4842	80 inch-lbs. min. torque, with modular jacks
REE-5501	Relay module, three-stage reheat
STE-1002	Thermistor (Type II) with 3-foot leads for discharge air temperature
STE-1004	Thermistor (Type II) with 5-foot leads for discharge air temperature
STE-1400 Series	Duct sensors (Type III thermistors) for discharge air temperature
STE-6014	Room temp. sensor w/ rotary setpoint dial
STE-6016	Room temp. sensor w/ LCD display and up/ down setpoint buttons
TPE-1474-21	Low pressure transducer (-0.5 to +0.5", -1 to +1", 0 to 1", 0 to 2" wc)
XEE-6112-100	Transformer, 120-to-24 VAC, 96 VA, dual-hub
XEE-6311-100	Transformer, 120/240/277/480-to-24 VAC, 96 VA, dual-hub



# BAC-5841-16 and BAC-5842-16 VAV Advanced Application Controllers (8 x 8)



#### SEE ALSO: *Controller Selection Guide on page 6* and BAC-5841-16/5842-16 series web page for details.

Similar to the BAC-5841/5842 controllers, these controllers are factory **pre-programmed and pre-configured for use in commercial/ residential pressure-dependent VAV zoning** applications. They provide up to four zones of individual damper actuator control when used with a KMD-1x6x/1x8x/12x1 NetSensor and three STE-6014 or STE-6016 room sensors. They also provide On/Off control of an associated AHU fan, two stages of heat, and two stages of cool with the use of external KMC REE-5501 staging relay modules.

### **Models**

BAC-5841-16 BAC-5842-16 VAV controller with Real Time Clock (RTC) VAV controller without RTC

### Main Features (Different From BAC-5841/5842)

#### **Pre-Programmed Features**

- Default programmed to provide up to 4 zones of pressuredependent VAV zone control using connected proportional MEP-4042/4842 actuators (space temperature sensing and setpoint control are provided via 3 STE-6014 or STE-6016 sensors and 1 KMD-1x6x/1x8x NetSensor)
- Air handler minimum air flow requirements to be provided by: (1) the installer setting the minimum travel stops on each zone control damper actuator to provide a minimum level of air flow, (2) a gravity bypass damper control provided by others, or (3) static pressure bypass damper control provided with an optional KMC TPE-1474-21 and MEP-4042 applied to the bypass damper
- Default programming to provide 1 intermittent or constant operation fan output, 2 stages of DX cooling, and 2 stages of heating with the use of REE-5501 external staging relay modules

### Inputs

- Input #1 is default programmed to be used with a KMC Model STE-1002/1004 and STE-14xx series thermistor duct sensor to provide Discharge Air Temperature (DAT) low limit protection
- Automatic Heat/Cool changeover of the connected unitary equipment is provided based on combined demand of heating and cooling zones
- If a KMD-1261/1281 NetSensor with a motion sensor is used and no motion is detected in the zone for more than 15 minutes, then Zone 5 will be set to a "standby" mode with a temporary vacancy setpoint



### BAC-70xx Series Advanced Application Controllers (and Actuators), VAV (4 x 4)



SEE ALSO: *Controller Selection Guide on page 6* and BAC-70xx series web page for details.

The BAC-70xx series are native BACnet, direct digital controllers for Variable Air Volume applications. Of the 4 x 4 inputs and outputs, one input is dedicated to the on-board airflow sensor for use with a single or multi-point differential pressure measuring station or pitot tube, and one output is dedicated to the actuator (allowing three free inputs and three free outputs). A NetSensor easily connects via a modular jack. Install this versatile controller in stand-alone environments or networked to other BACnet devices. As part of a complete building automation system, these controllers provide precise monitoring and control of connected points.

The **BAC-7001/7051** (with three universal outputs) comes with preprogrammed sequences for three single-duct VAV terminal unit applications:

- Heating-cooling changeover
- VAV with time proportional (hot water) reheat
- VAV with three-stage (electric) reheat

The **BAC-7003/7053** (with one universal output, one triac, and one relay) comes with preprogrammed sequences for VAV fan induction unit applications:

- Heating and cooling
- Cooling with time-proportional (hot water) reheat
- Cooling with three-stage (electric) reheat

**Models** 

BAC-7001	VAV controller with 18°/minute actuator
BAC-7051	VAV controller with 60°/minute actuator
BAC-7003	VAV fan induction unit controller with 18°/ minute actuator
BAC-7053	VAV fan induction unit controller with 60°/ minute actuator

### Accessories

KMD-116x	NetSensor
KMD-118x	NetSensor with humidity sensor
KMD-12x1	NetSensor with motion sensor
SSS-100x	Air flow sensor
HFO-0011	Reducer bushing, 1/2" to 3/8" shaft adapter
HMO-4531	Replacement non-rotational bracket
HPO-0063	Replacement two-pin jumper
HPO-0054	Replacement fuse bulb
XEE-6112-040	Transformer, 120-to-24 VAC, 40 VA, dual-hub
XEE-6111-040	Transformer, 120-to-24 VAC, 40 VA, single-hub

## Main Features

### Inputs, Universal

- 3 universal inputs, each of which is programmable as an analog, binary, or accumulator object (fourth input is airflow sensor)
- Pull-up resistors (switch selectable for none or 10K ohms) for switch contacts and other unpowered equipment
- 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
- Input, Air Flow Sensor
- Platinum-ceramic flow-through, 0 to 3000 fpm (15.24 m/s) using 24-inch-long 1/4" FR tubing and SSS-1000 series flow pickups
- Range dependent upon differential pressure pickup, tubing size/ length, and connections

### Outputs, Universal

- Universal outputs (3 for BAC-7001/7051, 1 for BAC-7003/7053), each of which is programmable as an analog or binary object
- Standard and custom units of measure
- Removable screw terminal block, wire size 14-22 AWG
- 0-10 volts DC for analog objects
- 0/12 volts DC for binary objects
- Outputs protected against intermittent shorts; output current limited to 100 mA per output (or 300 mA total)
- Output, Triac
- Optically isolated triac output (1 for BAC-7003/7053), programmable as a binary object
- Maximum switching 30 VAC at 1 A

### Output, Relay

- Normally open relay contact (1 for BAC-7003/7053)
- Maximum switching 30 VAC/VDC at 2 A

### Output, Actuator

- Torque of 50 in-lbs. (5.7 N•m) min. and 70 in-lbs. (7.9 N•m) max.
- Angular rotation of 0 to 95° with adjustable end stops at 45/60/90° rotation
- Timing:

BAC-7001/7003—18°/minute at 60 Hz, 15°/minute at 50 Hz BAC-7051/7053—60°/minute at 60 Hz, 50°/minute at 50 Hz

### Other Features

- Programs and program parameters are stored in nonvolatile memory
- EIA-485 operating up to 76.8 kilobaud
- NetSensor compatible with connection through modular jack Installation
- Supply voltage: 24 volts AC (-15%, +20%), 25 VA, Class 2
- Dimensions: 8.2 x 4.2 x 2.3" (209 x 107 x 57 mm)
- Weight: 2.4 lbs (1.1 kg)
- Case material: Flame-retardant plastic
- Approvals
- BACnet Testing Laboratory (BTL) listed
- CE compliant
- FCC Class B, Part 15, Subpart B
- UL 916 Energy Management Equipment listed
- SASO PCP Registration KSA R-103260



## BAC-730x/740x Series Advanced Application Controllers (4 x 4)



SEE ALSO: *Controller Selection Guide on page 6* and BAC-730x/740x series web page for details.

These native BACnet, fully programmable, direct digital controllers designed for small air handling units (AHU), roof top units (RTU), fan coil unit (FCU), or heat pump units (HPU). They come supplied with installed programming sequences for their respective type of application. Use these versatile controllers in stand-alone environments or networked to other BACnet devices. As part of a complete building automation system, they provide precise monitoring and control of connected points. They install and configure easily, are intuitive to program, and contain modular jacks for quick connections to NetSensors. The BAC-7xxxC models include a real-time clock with power backup for 72 hours.

### **Models**

*BAC-7301	AHU controller without real-time clock
*BAC-7301C	AHU controller with real-time clock
*BAC-7302	RTU controller without real-time clock
*BAC-7302C	RTU controller with real-time clock
BAC-7303	FCU controller without real-time clock
BAC-7303C	FCU controller with real-time clock
*BAC-7401	HPU controller without real-time clock
*BAC-7401C	HPU controller with real-time clock

### Accessories

KMD-116x	NetSensor
KMD-118x	NetSensor with humidity sensor
KMD-12x1	NetSensor with motion sensor
HPO-0063	Replacement two-pin jumper
HPO-0054	Replacement fuse bulb
HCO-1102	Enclosure, 10.1 W x 2.4 H x 7.1" D
XEE-6112-04	0 Transformer, 120-to-24 VAC, 40 VA, dual-hub
XEE-6111-04	0 Transformer, 120-to-24 VAC, 40 VA, single-hub

### **Main Features**

### Inputs, Universal

- 4 universal inputs, each of which is programmable as an analog, binary, or accumulator object (accumulators limited to three in one controller)
- Pull-up resistors (switch selectable for none or 10K ohms) for switch contacts and other unpowered equipment
- 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
- Outputs, Universal
- Universal outputs (3 for BAC-7301/7301C, 2 for BAC-7303/7303C, 1 for BAC-7302/7302C), each of which is programmable as an analog or binary object
- Standard and custom units of measure
- Removable screw terminal block, wire size 14-22 AWG
- 0-10 volts DC for analog objects
- 0/12 volts DC for binary objects
- Outputs protected against intermittent shorts; output current limited to 100 mA per output (or 350 mA total)
- Outputs, Triac
- Optically isolated triac output (1 for BAC-7301/7301C/7302/ 7302C/7303/7303C, 1 dual-staged for BAC-7303/7303C, 2 dualstaged for BAC-7302/7302C, 4 for BAC-7401/7401C) programmable as a binary object
- Maximum switching 30 VAC at 1 A

### Other Features

- 10 Control Basic program areas
- Programs and program parameters are stored in nonvolatile memory
- Auto restart on power failure
- EIA-485 operating up to 76.8 kilobaud
- NetSensor compatible with connection through modular jack Installation
- Supply voltage: 24 volts AC (-15%, +20%), 25 VA, Class 2
- Dimensions: 6.8 x 4.4 x 1.4" (172 x 111 x 36 mm)
- Weight: 3.5 ounces (99 g)
- Case material: Flame-retardant plastic
- Approvals
- BACnet Testing Laboratory (BTL) listed
- UL 916 Energy Management Equipment listed
- FCC Class B (Class A for BAC-7303/7303C), Part 15, Subpart B
- SASO PCP Registration KSA R-103260
- \*CE compliant (except for BAC-7303/7303C)