BAC-120063CW-ZEC FlexStat™

Zoning Equipment Controller

Description and Application

This model of FlexStat provides an easy, flexible solution for controlling unitary equipment and up to 16 associated Variable Air Volume (VAV) zones. Controlled equipment types include packaged Roof Top Units (RTUs), Heat Pump Units (HPUs), commercial split systems, and other similar unitary equipment. It is a powerful but simple solution for either retrofitting older VVT-type systems or installing new light-commercial zoning systems.

The BAC-120063CW-ZEC automatically switches between heating and cooling control based on zone demands. It automatically discovers and communicates with up to 16 associated **SimplyVAV** controllers via the integral BACnet MS/TP network to provide integration of the system. SimplyVAV controllers, along with SSS-1000 series flow pickup tubes, provide pressure-independent VAV control in their respective zones. (See *Sample Installation on page 3*.)

The BAC-120063CW-ZEC can also provide a static pressure setpoint signal to an optional **CSP-4702** pressure controller used with the system for pressure bypass control.

The BAC-120063CW-ZEC comes preconfigured for a 2H/2C RTU and zone device number range of 1000000 through 1000016. Configuration and scheduling are easily performed in the on-screen menu system.

With no software required, the BAC-120063CW-ZEC is quick to install and configure. Yet it also communicates with any Building Automation System using a BACnet network for monitoring and additional control options. For additional remote monitoring/control, see *Remote Interface on page 4*.

Features

Interface and Function

◆ Built-in, factory-tested zoning application control sequence and trend logs

◆ 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 periods with independent heating and cooling setpoint are available per scheduled day

◆ 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 degrees Fahrenheit/Celsius DAT temperature selection

◆ Three levels of password-protected access (user/operator/administrator) prevent disruption of operation and configuration

◆ A 72-hour power (capacitor) backup and a real time clock for network time synchronization or full stand-alone operation

Inputs

◆ Analog inputs for DAT and optional static pressure feedback

◆ Input overvoltage protection (24 VAC, continuous)

◆ 12-bit analog-to-digital conversion on inputs

Outputs

- Analog outputs for optional static pressure setpoint, optional heating/cooling coil valve, and optional outside air damper (see the **BAC-120063CW-ZEC Installation and Configuration Guide** for details)
- Six binary outputs (relays) for equipment control
- The NO, SPST (Form "A") relays are rated for 1 A max. per relay or 1.5 A per bank of 3 relays (relays 1–3 and 4–6) @ 24 VAC/VDC

Installation

- Backplate mounts on a standard vertical 2 x 4 inch wall handy-box (or, with an HMO-10000W adapter, a horizontal or 4 x 4 handy-box), and the cover is secured to the backplate by two concealed hex screws
- Two-piece design allows field rough-in and termination of field wiring to the backplate without needing the FlexStat at the site—permitting FlexStats to be bulk-configured off-site and plugged into the wired backplates at a later time if desired (see *Dimensions and Connectors on page 2*)

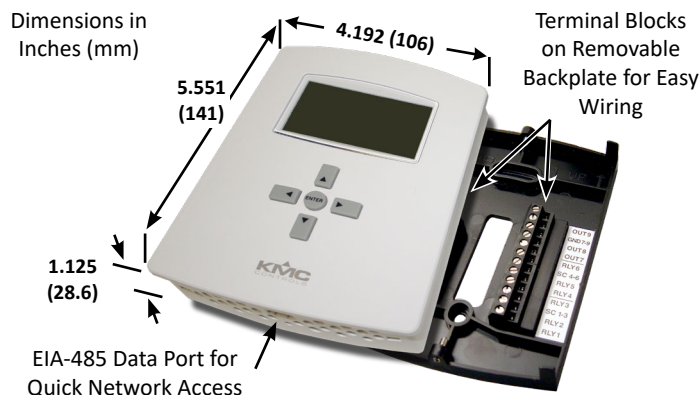## Connections

- Screw terminal blocks, wire size 14–22 AWG, for inputs, outputs, power, and MS/TP network
- A four-pin EIA-485 data port on the underside of the case enables easy temporary computer connection to the BACnet network (access with a KMD-5624 cable—requires use of KMD-5576 or third-party interface)

BACnet Communication and Standards

- Integral peer-to-peer BACnet MS/TP LAN network communications on all models (with configurable baud rate from 9600 to 76.8K baud)
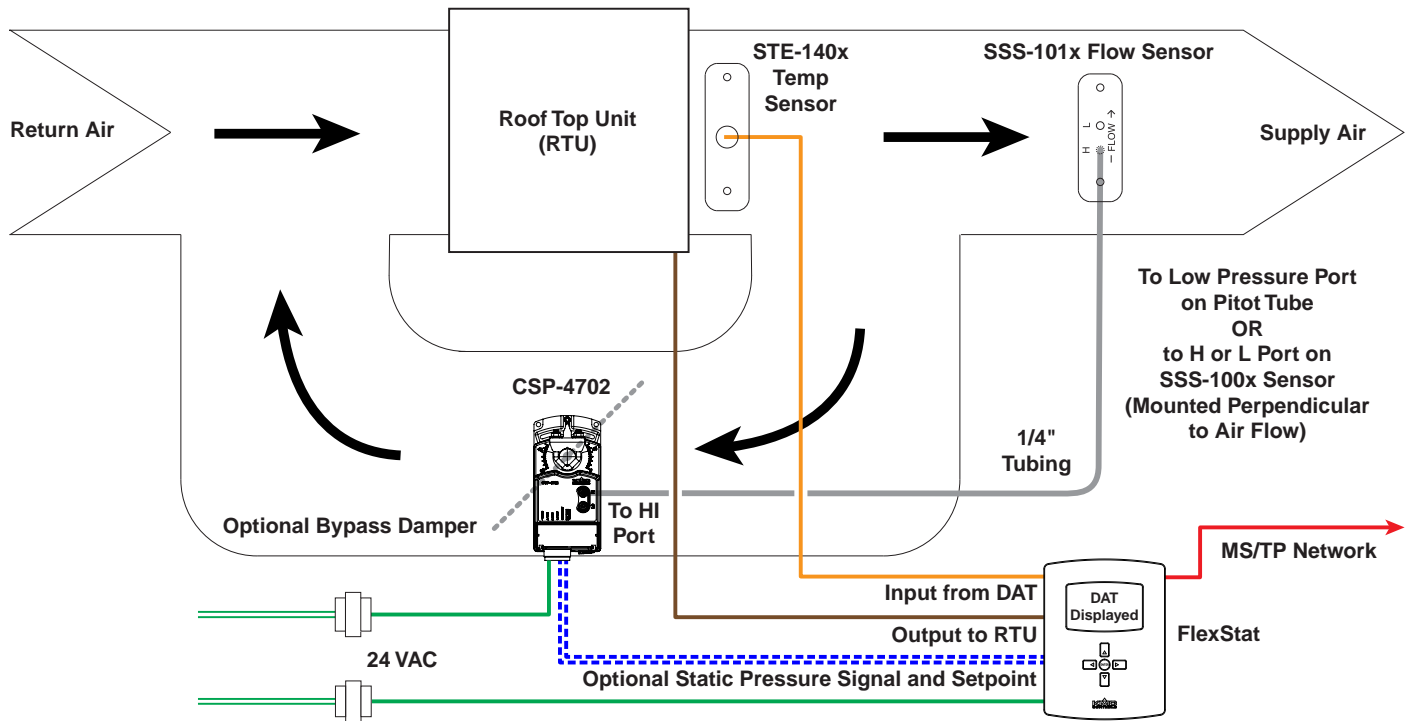- Meets or exceeds BACnet AAC specifications in the ANSI/ASHRAE BACnet Standard 135-2008
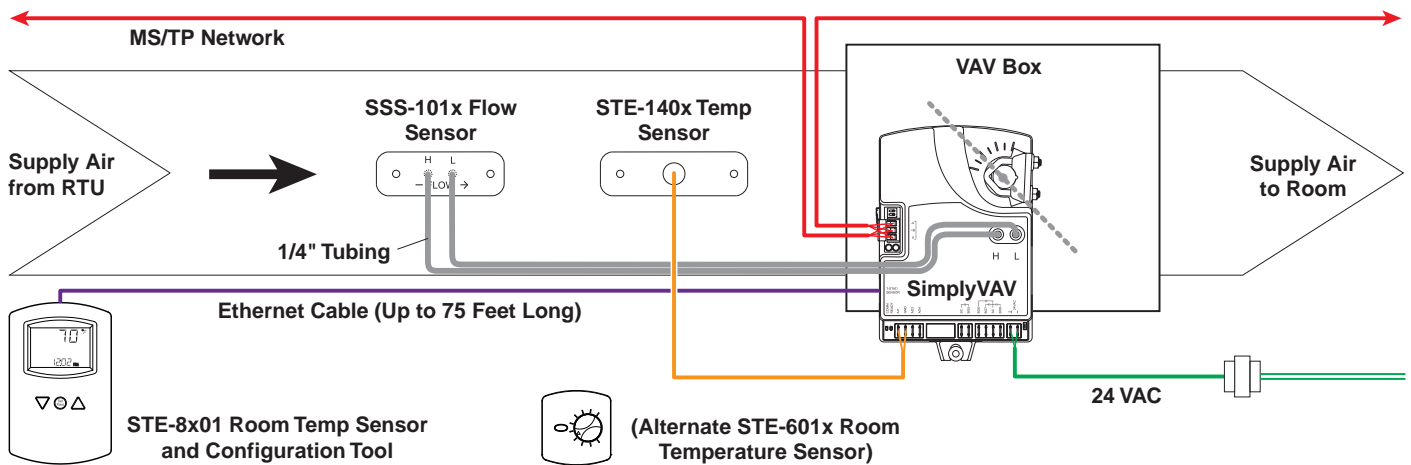
Specifications

Supply Voltage	24 VAC (+20%/–10%), Class 2 only
Supply Power	13 VA (not including relays)
Outputs	Binary outputs (NO, SPST, Form "A" relays) carry **1 A** max. per relay **or** a total of **1.5 A per bank** of 3 relays (relays 1–3 and 4–6) @ 24 VAC/VDC
	Analog outputs produce 0–12 VDC, 20 mA maximum
External Inputs (6)	Analog 0–12 VDC (active, passive contacts, 10K thermistors)
Connections	Wire clamp type terminal blocks; 14–22 AWG, copper
	Four-pin EIA-485
Display	64 x 128 pixel dot matrix LCD
Case Material	White flame-retardant plastic
Dimensions	5.551 x 4.192 x 1.125 inches (141 x 106 x 28.6 mm)
Weight	0.48 lbs. (0.22 kg)
Warranty	5 years (from mfg. date code)

Environmental Limits

Operating	34 to 125° F (1.1 to 51.6° C)
Shipping	–22 to 140° F (–30 to 60° C)
Humidity	0 to 95% RH (non-condensing)

Approvals

UL	UL 916 Energy Management Equipment listed
BTL	BACnet Testing Laboratory listed as Advanced Application Controller (B-AAC)
FCC	FCC Class A, Part 15, Subpart B and complies with Canadian ICES-003 Class A**

**This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Dimensions and Connectors

Dimensions in Inches (mm)

4.192 (106)

5.551 (141)

1.125 (28.6)

Terminal Blocks on Removable Backplate for Easy Wiring

EIA-485 Data Port for Quick Network Access

RTU (with Optional Bypass) Control

Typical VAV Zone (1 of up to 16)

NOTE: For more information about applications, mounting, wiring, configuration, and operation, see the **BAC-120063CW-ZEC FlexStat Installation Guide**. (See also *Accessories on page 4*.)

NOTE: See also complete information about the analog **CSP-4702** VAV/bypass controller-actuator and digital **SimplyVAV BAC-8001/8005/8205** VAV controller-actuators.

Accessories

Bypass Control (Optional)

CSP-4702 Analog differential-pressure VAV controller/actuator

SSS-101x Static pressure sensor

DAT (Discharge Air Temperature) Sensor

STE-140x Duct temperature sensor with rigid probe

Mounting Hardware

HMO-10000W Horizontal or 4 x 4 handy box wall mounting plate

HPO-1602 Replacement backplate

SP-001 Screwdriver (KMC branded) with flat blade (for terminals) and hex end (for cover screws)

Network Communications and Firmware

BAC-5051E MS/TP to IP BACnet router—see *Remote Interface*

HTO-1104 FlexStat firmware upgrade kit

KMD-5567 Network surge suppressor

KMD-5575 Network repeater/isolator

KMD-5624 PC data port (EIA-485) cable (FlexStat to USB Communicator)—included with the KMD-5576 (buy for third-party EIA-232 interfaces)

Transformer, 24 VAC

XEE-6111-050 120 to 24 VAC, 50 VA, single-hub

**XEE-6112-050** 120 to 24 VAC 50 VA, dual-hub

VAV Control (on Network)

SimplyVAV BAC-8001/8005/8205 VAV controller/actuator

NOTE: For accessory details, see the respective product data sheets and installation guides.

Remote Interface

The **BAC-5051E** BACnet router provides a means of remotely monitoring and changing the configuration of the zoning system with a web browser. For more information, see the **BAC-5051E Router Application and Installation Guide**.
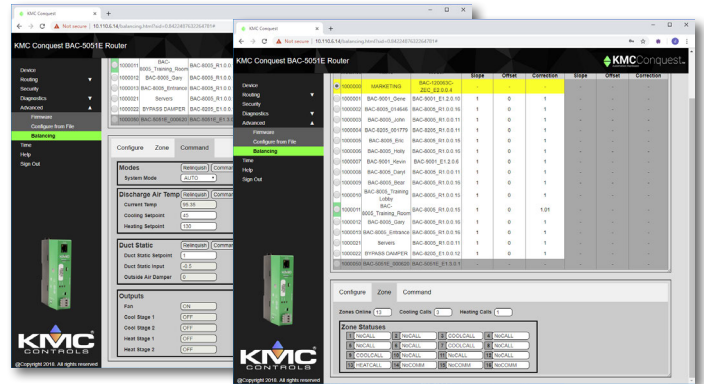
Support

Award-winning resources for installation, configuration, application, operation, programming, upgrading and much more are available on the KMC Controls web site (**www.kmccontrols.com**). Log in to see all available files.

KMC Controls, Inc.

19476 Industrial Drive

New Paris, IN 46553

574.831.5250

www.kmccontrols.com; info@kmccontrols.com