



# FlexStat™ Catalog Supplement and Selection Guide

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Use this document to facilitate FlexStat model selection according to desired applications and options. For additional specifications, see the [BAC-12xxxx/13xxxx Series FlexStat Data Sheet](#) (914-035-01). Additional award-winning resources for configuration, application, operation, programming, upgrading and much more are available on the KMC Controls web site ([www.kmccontrols.com](http://www.kmccontrols.com)). To see all available files, you will need to log-in to the KMC Partners site.

## Model Code

BAC-1xmhraCEW:									
BAC-	1	x	m	h	r	a	C	E	W
BACnet Device	Model Series	CO <sub>2</sub> Sensor Type*	Motion Sensor	Humidity Sensor	Number of Relay Outputs	Number of Analog Outputs	Real-Time Clock	IP/Ethernet Communication	Case Color
		2 = None	1 = Included	1 = Included	3	3	RTC standard on all models	E = Included	W = White
		3 = Zones with Unoccupied Periods	0 = None	0 = None	6	6		No E = MS/TP only	No W = Light Almond

\*In models with CO<sub>2</sub> sensors, humidity sensors come standard.



**BAC-120036C**  
(No Optional Sensors or Communication, 3 Relays, 6 Analog Outputs, Light Almond)



**BAC-120163CEW**  
(Optional Humidity Sensor, 6 Relays, 3 Analog Outputs, Optional Ethernet/IP Communication, White)



**BAC-121136CW**  
(Optional Humidity and Motion Sensors, 3 Relays, 6 Analog Outputs, White)

## Sensor Options

### Temperature (Standard)



- ◆ Internal temp. sensor standard on all models.
- ◆ Optional remote temperature sensor (connected to IN7) allows configuration for onboard (internal), remote, averaging of the two, the lowest reading, or the highest reading.

### Humidity



- ◆ BAC-1xx1xxC.
- ◆ For optional dehumidification (AHU, RTU, HPU, or 4-pipe FCU) or humidification (AHU, RTU, or 4-pipe FCU).
- ◆ Comes standard when optional CO<sub>2</sub> sensor (BAC-13xxxxC) is ordered.

### Motion/Occupancy



- ◆ BAC-1x1xxxC.
- ◆ For optional occupancy standby and/or override.

### CO<sub>2</sub> with DCV (Demand Control Ventilation)



- ◆ BAC-12xxxxC = No internal sensor, but has built-in DCV sequences and IN9 can be configured for remote CO<sub>2</sub> sensor.
- ◆ BAC-13xxxxC = Internal sensor (with ABC Logic) for applications where concentrations will drop to outside ambient conditions at least three times in a 14 day period. The BAC-13xxxx series (only) has been certified to comply with CA Title 24, Section 121(c), as well as sub-paragraph 4.F.

**NOTE:** DCV is only available when using an AHU, RTU, or HPU application with a modulating economizer option enabled. For additional important information about the CO<sub>2</sub> sensors and DCV, see the [FlexStat Data Sheet](#) and [FlexStat Operation Guide!](#)

## Application Options

- ◆ Supported AHU, FCU, HPU, and RTU options depend on whether the FlexStat is a BAC-1xxx36C (3 relays and 6 analog outputs) or a BAC-1xxx63C (6 relays and 3 analog outputs).

- ◆ See [Applications and Models on page 4](#).



## BACnet Network Communication Options

### MS/TP (Standard)

- ◆ Integral peer-to-peer BACnet MS/TP LAN network communications standard on all models, including those with Ethernet/IP option.
- ◆ Screw terminal blocks accept twisted-pair wire size 14–22 AWG, and a 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).

### IP/Ethernet

- ◆ BAC-1xxxxxCE.
- ◆ “E” versions add BACnet over Ethernet, BACnet over IP, and BACnet over IP as Foreign Device.
- ◆ “E” versions add RJ-45 jack for Ethernet cable.



## Color Options

### White (Standard)

- ◆ BAC-1xxxxxCW.
- ◆ Standard on all models.



### Light Almond

- ◆ BAC-1xxxxxC (W removed).
- ◆ Optional on all models.



Applications and Options	6 Relays and 3 Analog Outputs	
	BAC-1x0063CW	BAC-1x0163CW
	<b>Packaged Unit (Air Handling Unit and Roof Top Unit)</b>	
1 Heat and 1 Cool		
1 or 2 Heat and 1 or 2 Cool	In all BAC-1xxx63 models, bu	
1 or 2 Heat and Modulating Cool		
Modulating Heat and 1 or 2 Cool		
Modulating Heat and Modulating Cool	In all BAC-1xxx63 models, bu	
Optional Outside Air Damper, Modulating	✓	✓
Optional Outside Air Damper, 2 Position	In all BAC-1xxx63 models, bu	
Optional Fan Speed Control		
Optional Dehumidification (with Humidity Sensor)		✓
Optional Humidifier (with Humidity Sensor)		
Optional Motion/Occupancy Sensor		
Optional CO <sub>2</sub> Sensor with DCV (Demand Control Ventilation)		
Optional IP/Ethernet BACnet Communications		
<b>FCU (Fan Coil Unit)</b>		
2 Pipe, Modulating	✓	✓
2 Pipe, 2 Position	✓	✓
4 Pipe, Modulating	✓	✓
4 Pipe, 2 Position	✓	✓
Optional Dehumidification (4 pipe only)		✓
Optional Humidifier (4 pipe only)		
Optional Motion/Occupancy Sensor		
Optional CO <sub>2</sub> Sensor with DCV (Demand Control Ventilation)		
Optional IP/Ethernet BACnet Communications		
<b>HPU (Heat Pump Unit)</b>	1 or 2 compressors with au	
Optional Outside Air Damper, Modulating	✓	✓
Optional Dehumidification		✓
Optional Motion/Occupancy Sensor		
Optional CO <sub>2</sub> Sensor with DCV (Demand Control Ventilation)		
Optional IP/Ethernet BACnet Communications		

## KMC Controls FlexStat Models and Outputs

		<i>3 Relays and 6 Analog Outputs</i>			
BAC-1x1063CW	BAC-1x1163CW	BAC-1x0036CW	BAC-1x0136CW	BAC-1x1036CW	BAC-1x1136CW
		✓	✓	✓	✓
It appears in <b>RTU</b> menu only					
		✓	✓	✓	✓
		✓	✓	✓	✓
It appears in <b>AHU</b> menu only		✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
It appears in <b>RTU</b> menu only		✓	✓	✓	✓
		✓	✓	✓	✓
	✓		✓		✓
			✓		✓
✓	✓			✓	✓
BAC-13xxxx; BAC-12xxxx has no CO <sub>2</sub> sensor					
Add an E to the model number: BAC-1xxxxxCEx (see <i>Model Code on page 2</i> )					
With 3-speed fan		With 3-speed fan			
✓	✓	✓	✓	✓	✓
✓	✓				
✓	✓	✓	✓	✓	✓
✓	✓				
	✓		✓		✓
			✓		✓
✓	✓			✓	✓
DCV (Demand Control Ventilation) N/A for FCU Applications (but sensor will still show CO <sub>2</sub> levels)					
Add an E to the model number: BAC-1xxxxxCEx (see <i>Model Code on page 2</i> )					
Auxiliary and emergency heat					
✓	✓	N/A			
	✓				
✓	✓				
BAC-13xxxx; BAC-12xxxx has no CO <sub>2</sub> sensor					
Add an E to the model number: BAC-1xxxxxCEx (see <i>Model Code on page 2</i> )					

## Model Chart

Model*	Outputs**	Optional Sensors***	Typical Applications
<p>BAC-12xxxx models (e.g., BAC-120036CW) are standard and do not have a CO<sub>2</sub> sensor. BAC-13xxxx models (e.g., BAC-130036CW) have CO<sub>2</sub> sensors to add Demand Control Ventilation to the applications below. <b>DCV is only available when using an AHU, RTU, or HPU application with a modulating economizer option enabled.</b></p>			
BAC-1x0036CW	3 Relays and 6 Analog Outputs	None	<ul style="list-style-type: none"> <li>• 1H/1C, fan, and 6 analog outputs</li> <li>• 3-speed fan, 2- or 4-pipe FCUs with modulating valves</li> <li>• Central station AHUs with modulating/1/2 Heat/Cool</li> <li>• Variable-speed fan output</li> <li>• Single-stage applications</li> </ul>
BAC-1x0136CW		Humidity****	<ul style="list-style-type: none"> <li>• Same as BAC-1x0036CW</li> <li>• Dehumidification sequence</li> <li>• Humidification sequence (AHU or 4-pipe FCU)</li> </ul>
BAC-1x1036CW		Motion/Occupancy	<ul style="list-style-type: none"> <li>• Same as BAC-1x0036CW</li> <li>• Occupancy-based operation</li> </ul>
BAC-1x1136CW		Humidity and Motion/Occupancy****	<ul style="list-style-type: none"> <li>• Same as BAC-1x0136CW</li> <li>• Occupancy-based operation</li> </ul>
BAC-1x0063CW	6 Relays and 3 Analog Outputs	None	<ul style="list-style-type: none"> <li>• 1 or 2 H and 1 or 2 C, fan</li> <li>• Multi-stage packaged or split systems</li> <li>• Multi-stage heat pumps with or without factory-packaged economizers</li> <li>• Central station AHUs with modulating Heat/Cool</li> <li>• 3-speed fan, 2- or 4-pipe FCUs with modulating or 2-position valves</li> </ul>
BAC-1x0163CW		Humidity****	<ul style="list-style-type: none"> <li>• Same as BAC-1x0063CW</li> <li>• Dehumidification sequence (AHU, 4-pipe FCU, or RTU)</li> </ul>
BAC-1x1063CW		Motion/Occupancy	<ul style="list-style-type: none"> <li>• Same as BAC-1x0063CW</li> <li>• Occupancy-based operation</li> </ul>
BAC-1x1163CW		Humidity and Motion/Occupancy****	<ul style="list-style-type: none"> <li>• Same as BAC-1x0163CW</li> <li>• Occupancy-based operation</li> </ul>
<p>*The standard color is white. To order the optional light almond color, remove the "W" at the end of the model number (e.g., BAC-121163C instead of BAC-121163CW). To order the IP version, add an E after the C (e.g., BAC-121163CEW). All models have a real-time clock.</p> <p>**Analog outputs produce 0–12 VDC @ 20 mA maximum, and relays carry 1 A max. per relay or 1.5 A per bank of 3 relays (relays 1–3 or 4–6) @ 24 VAC/VDC.</p> <p>***All models have a 32-bit processor, an internal temperature sensor, and 6 analog inputs. All models have optional discharge air temperature monitoring/trending and fan status monitoring. Optional sensors include humidity, motion, and CO<sub>2</sub>.</p> <p>****In models with CO<sub>2</sub> sensors, humidity sensors come standard.</p>			

For additional specifications, see the [BAC-12xxxx/13xxxx Series FlexStat Data Sheet \(914-035-01\)](#).

NOTE: For specifications on the older BAC-10000 Series FlexStats (with only three external inputs and no Ethernet or CO<sub>2</sub> options), see the data sheet (913-035-01) for that series.



FlexStats come with a printed Installation Guide. Additional award-winning resources for configuration, application, operation, programming, upgrading, and much more are available on the KMC Controls web site ([www.kmcontrols.com](http://www.kmcontrols.com)). To see all available files, you will need to log-in to the KMC Partners site.

## Accessories

### Damper (OAD/RTD) Actuators (Fail-Safe)

- MEP-7552** 22.5 ft<sup>2</sup> max. damper area, 180 in-lb., 0–10 VDC, 25 VA
- MEP-7852** 40 ft<sup>2</sup> max. damper area, 320 in-lb., 0–10 VDC, 40 VA



### Mounting Hardware

- HMO-10000** Horizontal or 4 x 4 handy box wall mounting plate for BAC-12xxxx models (not needed for BAC-13xxxx models), light almond (shown)
- HMO-10000W** HMO-10000 in white
- SP-001** Screwdriver (KMC branded) with flat blade (for terminals) and hex end (for cover screws)



### Network Communications and Firmware

- 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)

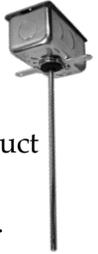


### Relays (External)

- REE-3112** (HUM) SPDT, 12/24 VDC control relay

### Sensors (External)

- CSE-110x** (FST) differential air pressure switch
- STE-1402** (DAT) duct temperature sensor with 8-inch rigid probe
- STE-1416** (MAT) flexible 12-foot duct averaging temp. sensor
- STE-1451** (OAT) outside air temp. sensor
- STE-6011** Remote space temp. sensor
- SAE-10xx** Remote CO<sub>2</sub> sensor, space or duct
- STE-1454/1455** (W-TMP) 2-inch strap-on water temp. sensor (with or without enclosure)



### Transformers, 120 (or more) to 24 VAC (TX)

- XEE-6111-040** 40 VA, single-hub
- XEE-6112-040** 40 VA, dual-hub
- XEE-6311-050** 50 VA, dual-hub
- XEE-6311-075** 75 VA, single-hub
- XEE-6311-100** 96 VA, dual-hub



### Valves (Heating/Cooling/Humidification)

- VEB-43xxxBCL** (HUMV/CLV/HTV) Fail-safe control valve, w/ MEP-4x52 proportional actuator, 20 VA
- VEB-43xxxBCK** (VLV/CLV/HTV) control valve w/ MEP-4002 proportional actuator, 4 VA
- VEZ-4xxxxMBx** (VLV/CLV/HTV) fail-safe control valve, 24 VAC, 9.8 VA



NOTE: For details, see the respective product data sheets and installation guides. See also the [FlexStat Application Guide](#).



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