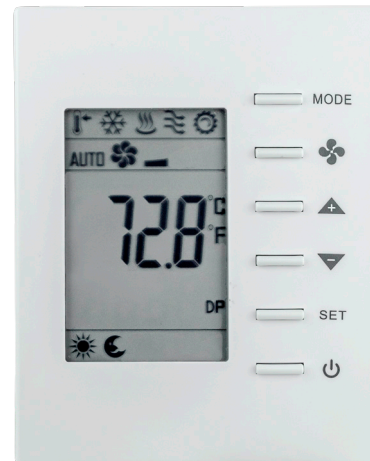


## BAST-121C – BACnet Communicating Thermostat for Single Mode Heating/Cooling/Ventilation

The BASstat series of BACnet-compliant wired or wireless communicating thermostats are BTL listed to ensure effortless integration into BACnet/IP (Wi-Fi) or BACnet MS/TP (EIA-485) networks. The BAST-121C is suited for single or multi-stage heating only or cooling only binary or analog output control applications, such as unitary heating or cooling units. The thermostat can control one or two stages of heating, one or two stages of Direct Expansion (DX) cooling, or a single 0-10V control output for either modulated heating or cooling. Configurable and adaptive control algorithm applied to multi-stage on/off control saves energy and ensures seamless comfort for the occupants. Three sensing options are available: built in temperature sensor, input for a remote temperature sensor, or temperature network command from a Building Automation System. Occupancy status can be set from thermostat buttons, a wired ESI input, or over the BACnet network. Thermostat buttons are optionally lockable to prevent tampering. Digital display with graphical icons is easy to read and understand.



ASHRAE **BACnet™ MS/TP**

### Versatile BACnet Communication in Two Distinct Models

- BACnet MS/TP in B2 models with MS/TP baud rates 9.6kbps - 76.8kbps
- BACnet/IP in BW2 models with 802.11 b/g/n 2.4GHz Wi-Fi
- Both B2 and BW2 models are BACnet compliant and BTL listed with a B-ASC device profile

### Flexible Installation

- 24VAC (+/-10%) power input
- LCD Display with graphic icons of operation, °C or °F display
- Designated heating or cooling mode with ventilation optional
- Occupied and unoccupied setpoints with temporary override
- Effective run time accumulation for energy consumption calculations

- Built-in temperature sensor
- Remote temperature sensor input (NTC Thermistor 3kΩ)
- Fully Configurable Algorithm control parameters: Stage Differential, Stage Width, Integral Time, Short Cycle, Cooling Short Cycle Delay Time, Maximum Cycles per Hour
- Non-volatile memory (EEPROM) retains user settings during power loss
- Lockable buttons/user interface
- Operating Environment: 0-50°C, 5-95% RH (non-condensing)
- Wiring: 16-18 AWG wires or up to 1.5mm<sup>2</sup> wires
- Dimensions: 94×118×34 mm (W × H × D)
- Mounts directly onto wall, panel, standard 65×65 mm junction box (hole pitch 60 mm) or standard 2×4 inch vertical junction box (hole pitch 83.5 mm)

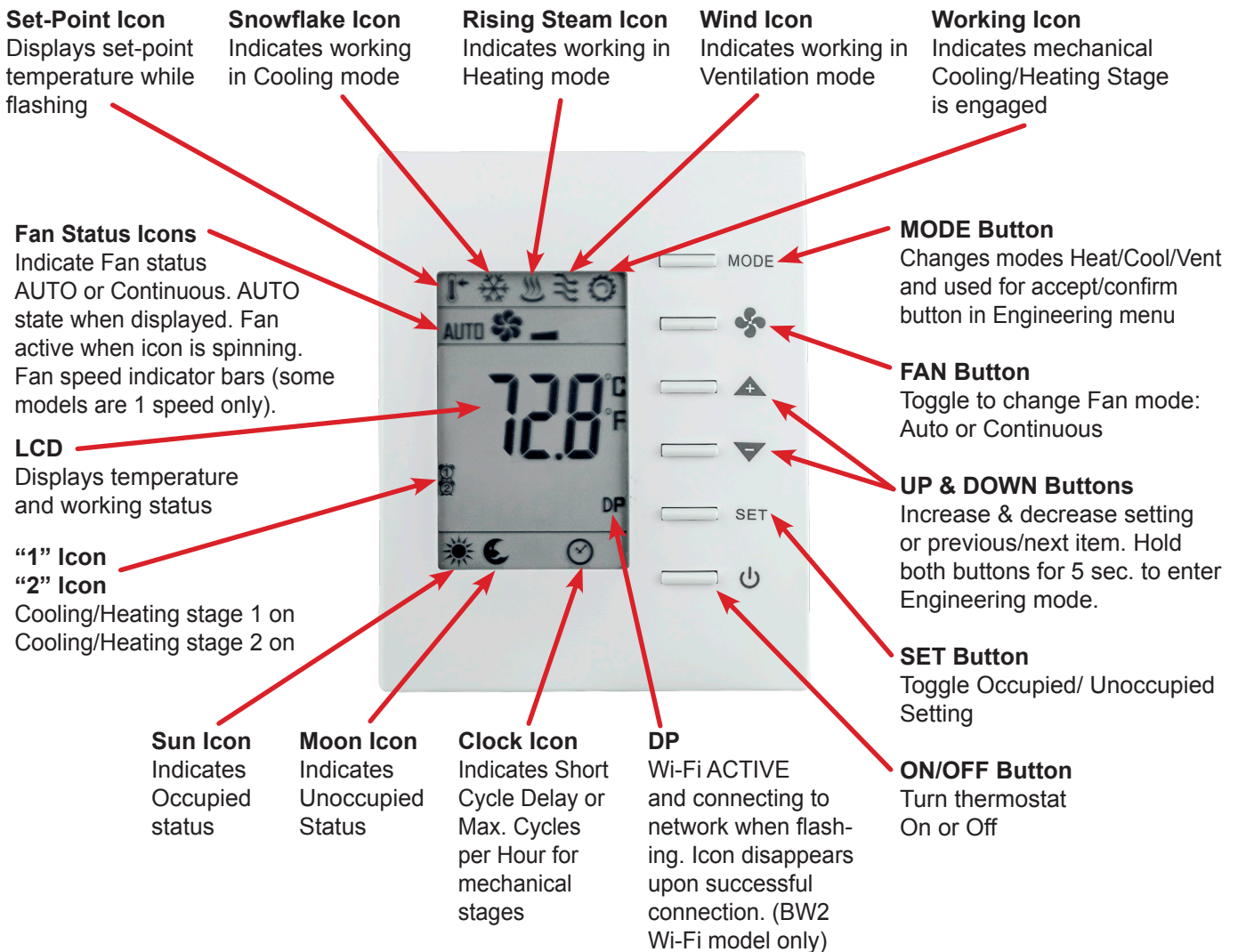
## BASstat – Overview

The BASstat’s backlit LCD display is large and easy to read. It incorporates graphical icons to aid visual indication of current state of operation. Several icons indicate parameters such as: Active Mode, Cooling stage 1 or 2, Heating stage 1 or 2, Ventilation Only, Fan Active, Occupied/Unoccupied state, and Clock icon to indicate Short Cycle Delay or Max Cycles per hour active waiting state. These icons are very useful in indicating the thermostat’s current state of operation.

Six buttons on the BASstat allow users to manipulate set point, turn the thermostat ON/OFF, change modes, and more. Pressing the Up/Down buttons for more than 3 seconds can manually toggle the thermostat

from occupied/unoccupied modes, where occupancy sensors are not an option. These buttons are lockable in a configurable manner. Some or all buttons can be locked for application flexibility, making the stat suitable for applications where limited user control is allowed.

The thermostat can be configured from the resident Engineering Menu or over the BACnet network. Two control types are available: Cooling only or Heating only. The default control type is Heating Only. These control types are selectable from the Engineering Menu or BACnet object. For configuration over the BACnet network, use our free BACnet Discovery Tool available at <https://www.ccontrols.com/bdt>.

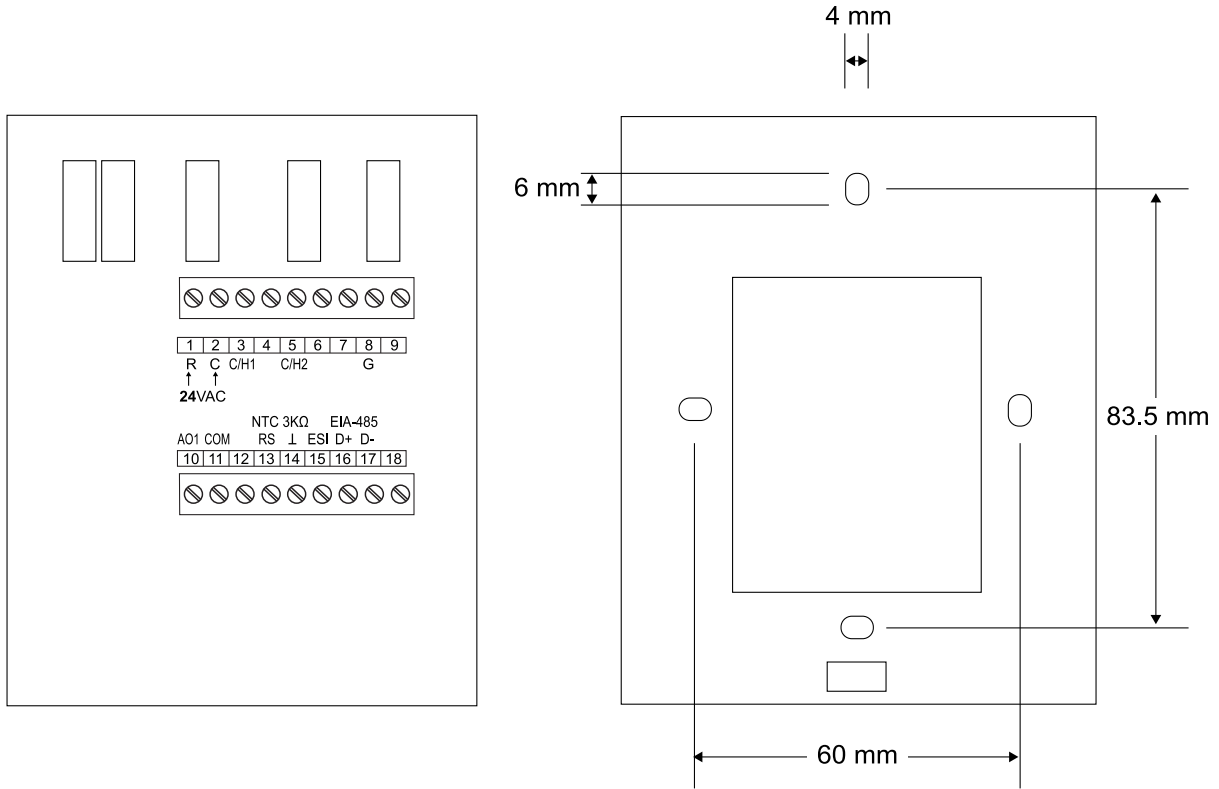


## Wiring Diagram

Wiring: 14 to 22 AWG wires or up to 1.5mm<sup>2</sup> wires

Mounts directly onto wall, panel, standard 65×65mm junction box (hole pitch 60 mm) or standard 2×4-inch vertical junction box (hole pitch 83.5mm).

EIA-485 connection to pins 16(+) and 17(-) applicable to B2 - BACnet MS/TP model only. BW2 model uses Wi-Fi connectivity

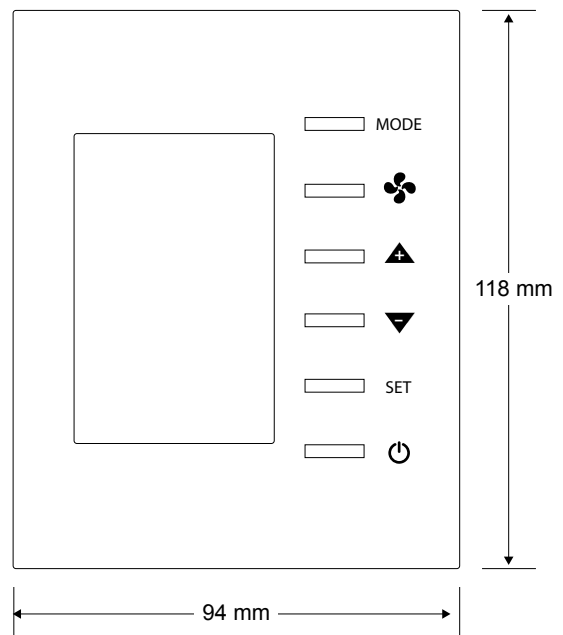
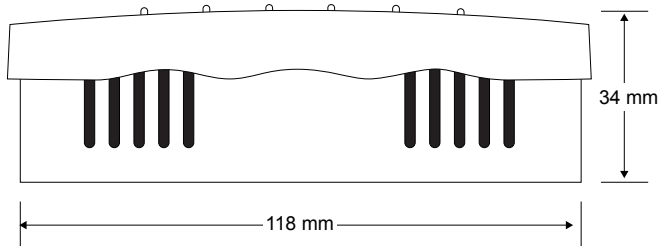


## Dimensions (all dimensions are in mm)

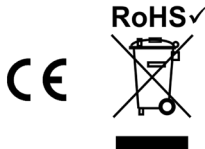
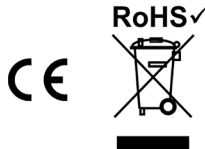
Width: 94mm

Height: 118mm

Depth: 34mm



## Specifications

<b>Functional</b>	<b>B2 model</b>	<b>BW2 model</b>
Compliance	EIA-485	IEEE 802.11b, 802.11g, 802.11n, 16.5dBm@11b, 14.5dBm@11g 13.5dBm@11n Frequency range: 2400MHz-2484MHz
Protocols supported	BACnet MS/TP	BACnet/IP
Cable length	4000 ft/1200 m @76.8kbps (max)	N/A
Wi-Fi range	N/A	150ft. as defined by the standard (depending on obstructions) 54Mbps max data rate
Authentication	N/A	WPA2-PSK(AES)
Maximum Number of Devices	32 MS/TP devices (max)	N/A or depending on Wi-Fi router performance
Temperature Display Range	-10 to +60°C (14 to 140°F)	-10 to +60°C (14 to 140°F)
Temperature Display Resolution	0.1°C (0.1°F)	0.1°C (0.1°F)
Temperature Accuracy	±1.0°C (±1.8°F) with all outputs off	±1.0°C (±1.8°F) with all outputs off
<b>Electrical</b>		
Input	AC only	AC only
Voltage (V, ± 10%)	24 VAC	24 VAC
Power	5 VA	5 VA
Frequency	47–63 Hz	47–63 Hz
<b>Environmental/Mechanical</b>		
Operating temperature	0°C to +50°C	0°C to +50°C
Storage temperature	-10°C to +60°C	-10°C to +60°C
Relative humidity	5–95%, noncondensing	5–95%, noncondensing
Protection	IP30	IP30
Weight	0.44 lbs. (.2 kg)	0.44 lbs. (.2 kg)
<b>Regulatory Compliance</b>		
CE Mark; RoHS		
BW2 model Wi-Fi FCCID	P53-EMW3165-P	

## Electromagnetic Compatibility

The BASstat complies with the following specifications and bears the CE mark in accordance with the provisions of the Electromagnetic Compatibility (EMC) Directive 2004/108/EC based on the following specifications:

Standard	Test Method	Description
EN 61000-6-2	IEC 61000-4-2	Electrostatic Discharge Immunity
EN 61000-6-2	IEC 61000-4-3	Radiated, Radio-Frequency, Electromagnetic Field Immunity
EN 61000-6-2	IEC 61000-4-4	Electrical Fast Transit/Burst Immunity
EN 61000-6-2	IEC 61000-4-5	Voltage Surge Immunity
EN 61000-6-2	IEC 61000-4-6	Immunity to Conducted Disturbances
EN 61000-6-2	IEC 61000-4-8	Power Frequency Magnetic Field Immunity
EN 61000-6-2	IEC 61000-4-11	Voltage Dips and Interruptions
EN 61000-6-3	IEC 61000-3-2	Limits for Harmonic Current Emissions
EN 61000-6-3	IEC 61000-3-3	Limitation of Voltage Fluctuations and Flicker in Low Voltage Supply Systems

## Ordering Information

<b>Model</b>	<b>Description</b>
BAST-121C-B2	BACnet MS/TP Single mode Thermostat 2BO/1AO
BAST-121C-BW2	BACnet/IP Wi-Fi Single mode Thermostat 2BO/1AO

**United States**  
Contemporary Control  
Systems, Inc.

Tel: +1 630 963 7070  
Fax: +1 630 963 0109

[info@ccontrols.com](mailto:info@ccontrols.com)

**China**  
Contemporary Controls  
(Suzhou) Co. Ltd

Tel: +86 512 68095866  
Fax: +86 512 68093760

[info@ccontrols.com.cn](mailto:info@ccontrols.com.cn)

**United Kingdom**  
Contemporary Controls Ltd

Tel: +44 (0)24 7641 3786  
Fax: +44 (0)24 7641 3923

[ccl.info@ccontrols.com](mailto:ccl.info@ccontrols.com)

**Germany**  
Contemporary Controls GmbH

Tel: +49 341 520359 0  
Fax: +49 341 520359 16

[ccg.info@ccontrols.com](mailto:ccg.info@ccontrols.com)

[www.ccontrols.com](http://www.ccontrols.com)