



# CBT-STAT

CBT-STAT | CBT-STAT-H

## DESCRIPTION

The CBT-STAT and CBT-STAT-H provide visually appealing room control display for use with Cylon’s CB Line BACnet® field controllers. The intelligent temperature sensor CBT-STAT and the CBT-STAT-H with integrated humidity sensor allow users to view and adjust selected parameters within the field controller to which it is connected.

Use of the CBT-STAT(-H) avoids the need for any special tools of software to fully configure and commission a VAV controller. The configuration and commissioning is password-protected to prevent unauthorized changes. Each CB Line field controller automatically detects the presence of the CBT-STAT, and self-configures to utilize the CBT-STAT as the control interface. In Engineering Mode, the display can be used as the setup and commissioning tool. The CBT-STAT can be used to setup the communications parameters, all the default settings and do complete balancing of the VAV box.

While the display can be used for local control, the CBT-STAT can be easily integrated into the Cylon BACnet system architecture. Pairing the CBT-STAT a CB Line field controller can significantly reduce setup and commissioning time, resulting in overall reduced installation cost.

## APPLICATIONS

Provides temperature and humidity sensing for the following systems:

- Variable Air Volume (VAV) box
- Roof top unit
- Fan coil unit
- Heat pump
- Unit ventilator
- Air Handling Unit (AHU)
- Heating and Cooling Plant

**Remote access to controller state, setpoints and commands**

**Fast VAV commissioning: no special hardware needed**

**Password protected**

**Sleek, modern and nonintrusive design**

**Visual indication of system status**

**Backlit LCD display**

**Access to configuration parameters**

**Local alarming**

**Optional internal humidity sensor (CBT-STAT-H)**

**Fits in a standard junction box or drywall mountable**

## Ordering Information

CBT-STAT-CYL	Back-lit LCD Display with temperature sensing. Cylon Logo.
CBT-STAT-H-CYL	Back-lit LCD Display with temperature and humidity sensing. Cylon Logo.
CBT-STAT-AAM	Back-lit LCD Display with temperature sensing. American Auto-Matrix Logo.
CBT-STAT-H-AAM	Back-lit LCD Display with temperature and humidity sensing. American Auto-Matrix Logo.

## SPECIFICATIONS

### GENERAL

OPA Dimensions (H x W x D)	Front: 4.4 x 2.9 x 0.6 in. (112 x 73 x 15 mm) Power Case: ø 2.3 x 1.3 in. (ø 58 x 32 mm)
Housing Material	Fireproof ABS Plastic
Mounting Plate	Zinc-coated Steel
Standard Color	White RAL 9003
Weight (including package)	8.8 oz (250 g)

### POWER SUPPLY

**Note:** Use Copper or Copper Clad Aluminum 70 °C conductors only.

Terminal Connectors	AWG 24 ... 12 (wire 0.2 ... 3.3 mm <sup>2</sup> )
Operating Voltage	10 ... 28 V DC
Power Consumption	Max 0.5 VA

### TEMPERATURE INPUT

Type	NTC 10 KΩ @ 77° F (25° C)
Range	32 ... 122° F (0° ... 50° C)
Accuracy	0.5 K

### COMMUNICATION

Communication Type	EIA-485: MAX 1,600 ft. (500 m)
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### HUMIDITY SENSOR INPUT (OPTIONAL)

Type	Polymer-based Capacity Sensor
Range	0 ... 100% RH
Accuracy	3%

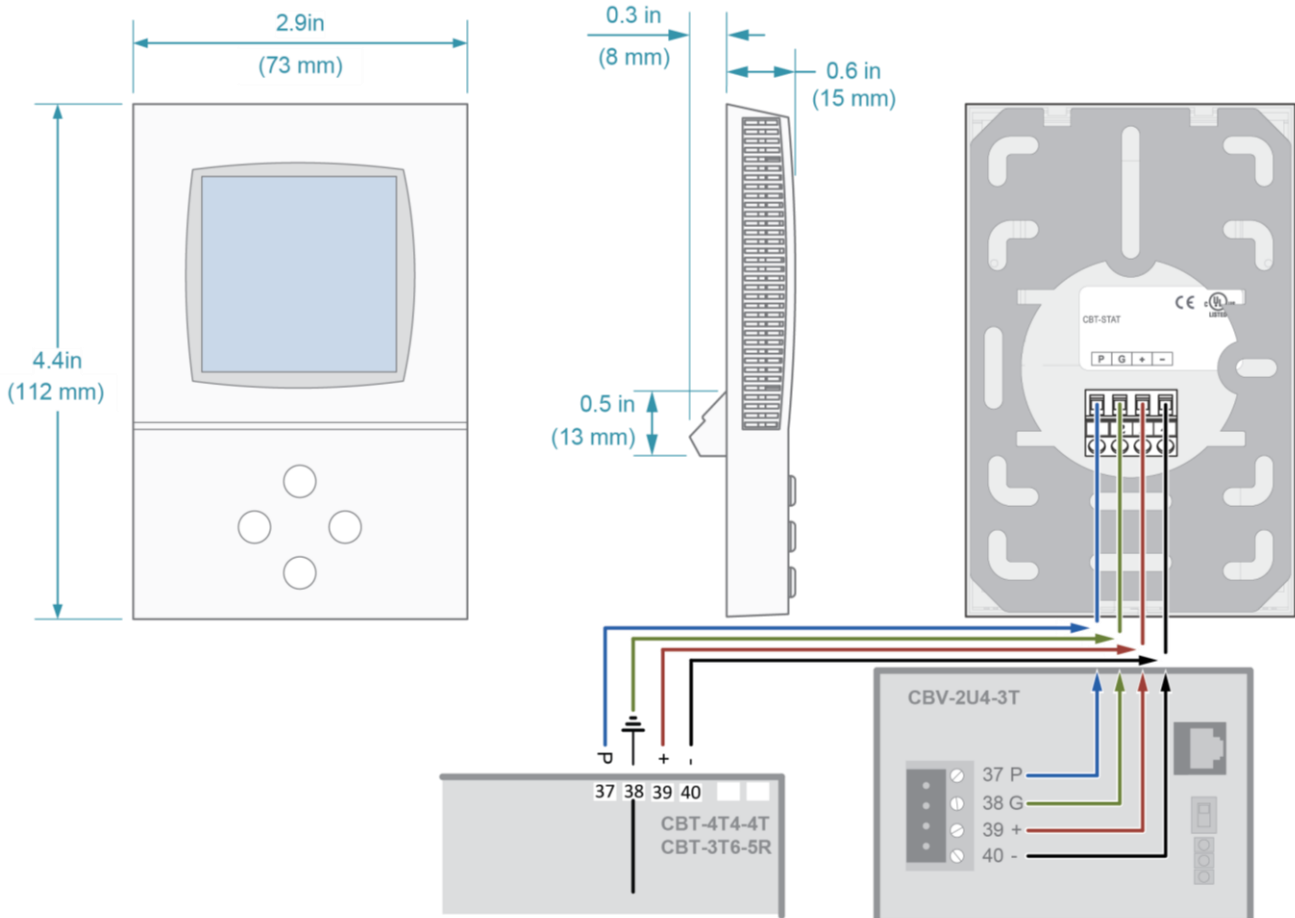
### ENVIRONMENT

Operation	To IEC 721-3-3
Climatic Conditions	Class 3 K5
Temperature	32 ... 122° F (0° ... 50° C)
Humidity	< 95% RH non-condensing
Transport & Storage	To IEC 721-3-2 and IEC 721-3-1
Climatic Conditions	Class 3 K3 and Class 1 K3
Temperature	-13° ... 158° F (-25° ... 70° C)
Humidity	< 95% RH non-condensing
Mechanical Conditions	Class 2M2

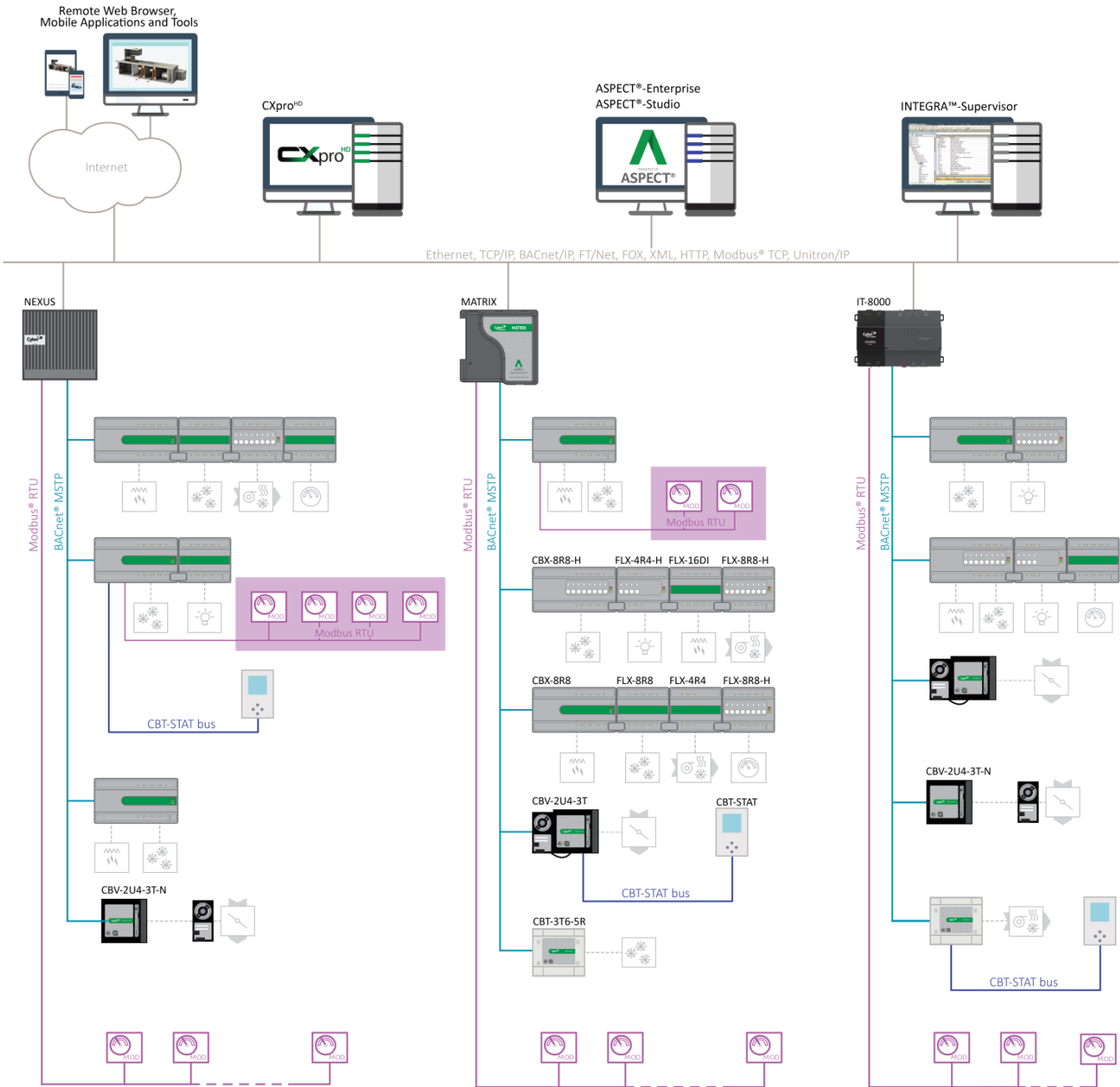
### STANDARDS

Conforms according to	UL 916 (UL File Number E95642) EMC Standard 89/336/EEC EN 61 000-6-1 / EN 61 000-6-3 EMEI Standard 73/23/EEC
Pollution Class	Normal according to EN 60 730
Degree of Protection	IP30 to EN 60 529
Safety Class	III

## DIMENSIONS & WIRING



# SYSTEM ARCHITECTURE



## INSTALLATION AND OPERATION GUIDE

### MOUNTING

- Install the CBT-STAT or CBT-STAT-H on an easily accessible interior wall, approximately 60" (1.5 m) above the floor in an area of average temperature
- Avoid direct sunlight or other heat sources (e.g. the area above radiators or other heat-emitting equipment)
- Avoid locations behind doors, on outside walls and above or below air discharge grills and diffusers

### INSTALLATION

1. Connect the CB Line field controller to the terminals of the power case according to the wiring diagram.
2. Attach the mounting plate to the flush-mounting box. Make sure that the nipple with the front-holding screw is facing to the ground. Make sure the mounting screw heads do not stand out more than 0.2" (5 mm) off the surface of the mounting plate.
3. Slide the two latches located on the top of the front part into the hooks at the upper side of the mounting plate.
4. Carefully lower the front part and continue pressing gently until the front part is fully connected.
5. With a Phillips-type screwdriver (size #2), carefully tighten the front holding screw to secure the front part to the mounting plate. This screw is located on the front lower-side of the unit.

#### IMPORTANT NOTICE AND SAFETY ADVICE




This device is for use as an operating control. It is NOT a safety device. Where a device failure endangers human life and/or property, it is the responsibility of the client, installer and system designer to add additional safety devices to prevent a system failure caused by such a device failure.

Ignoring specifications and local regulations may cause equipment damage and endangers life and property. Tampering with the device or misapplication will void warranty.

### USER & ENGINEERING MODES








#### USER MODE

If the Controller Strategy has been configured to permit it, the user can adjust the temperature setpoint or occupancy status. Enter the User Mode by pressing any button until the temperature setpoint is displayed on the second line with a flashing unit symbol

- When in **User Mode**, press the up button  or down button  to adjust the setpoint value by the span defined in the Controller configuration until the desired temperature setpoint is displayed.
- When in **User Mode**, the right button  can also be used to request the Strategy to override the schedule and force occupancy mode. "**Permit Occupancy Override**" must be enabled in the controller configuration.

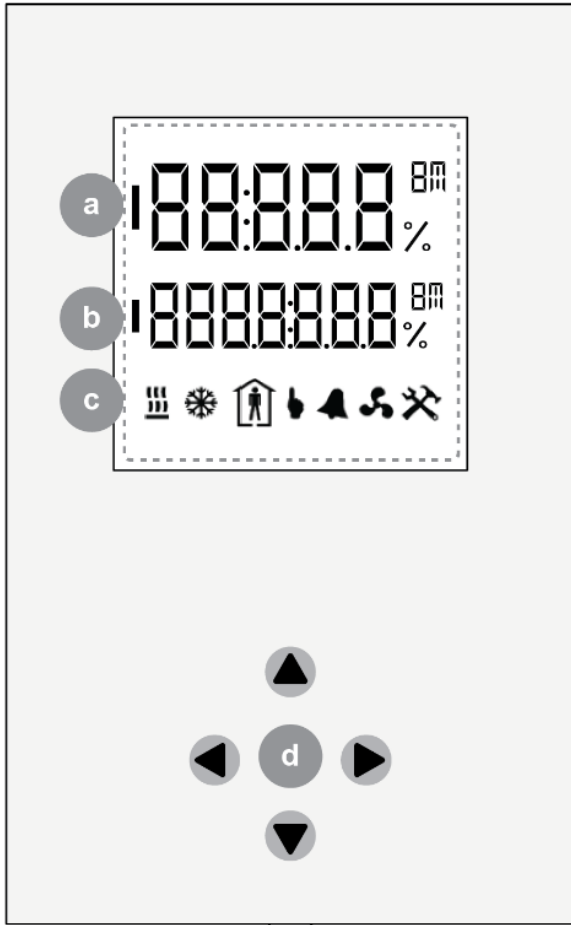
#### ENGINEERING MODE

In Engineering Mode, the keypad can be used as a commissioning tool; adjusting preconfigured parameters within the controller strategy. To enter Engineering Mode:

- Hold both the up button  and down button  for 3 seconds, until the text PASS is displayed on the top line (large text).
- Enter the password (a series of digits) using the left  and right  buttons to select each digit, and then the up  and down  buttons to increment or decrement the selected digit. The default password is 9999, which can be changed over the network.
- When the password is complete, press and hold the right button  for 3 seconds. If the password is accepted, the Engineering menu will be displayed.

For additional information, please see *MAN0120US CBT-STAT User Manual*.

## OPERATION OF THE DISPLAY



a	<p><b>1st Line (large digits)</b>                  In User Mode, this displays the current temperature reading                  In Engineering Mode, this displays menu text</p>														
b	<p><b>2nd Line (small digits)</b>                  In User Mode, this displays one of the following:</p> <ul style="list-style-type: none"> <li>• Humidity (CBT-STAT-H)</li> <li>• Temperature Setpoint (CBT-STAT)</li> </ul> <p>In Engineering Mode, this displays menu text</p>														
c	<p><b>OPERATION MODE INDICATORS</b></p> <table border="1"> <tr> <td data-bbox="976 674 1024 726"></td> <td data-bbox="976 674 1443 726">Indicates that the controller is operating in “heating” mode</td> </tr> <tr> <td data-bbox="976 737 1024 789"></td> <td data-bbox="976 737 1443 789">Indicates that the controller is operating in “cooling” mode</td> </tr> <tr> <td data-bbox="976 800 1024 852"></td> <td data-bbox="976 800 1443 852">Indicates that the controller strategy is currently operating in “occupancy” mode</td> </tr> <tr> <td data-bbox="976 863 1024 915"></td> <td data-bbox="976 863 1443 915">Indicates whether the occupancy mode is controlled by a time schedule, or is manually overridden</td> </tr> <tr> <td data-bbox="976 926 1024 978"></td> <td data-bbox="976 926 1443 978">Indicated that an alarm state is detected in the controller strategy</td> </tr> <tr> <td data-bbox="976 989 1024 1041"></td> <td data-bbox="976 989 1443 1041">Indicates that the fan is operating</td> </tr> <tr> <td data-bbox="976 1052 1024 1104"></td> <td data-bbox="976 1052 1443 1104">Indicates that the keypad is operating in Engineering Mode</td> </tr> </table>		Indicates that the controller is operating in “heating” mode		Indicates that the controller is operating in “cooling” mode		Indicates that the controller strategy is currently operating in “occupancy” mode		Indicates whether the occupancy mode is controlled by a time schedule, or is manually overridden		Indicated that an alarm state is detected in the controller strategy		Indicates that the fan is operating		Indicates that the keypad is operating in Engineering Mode
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