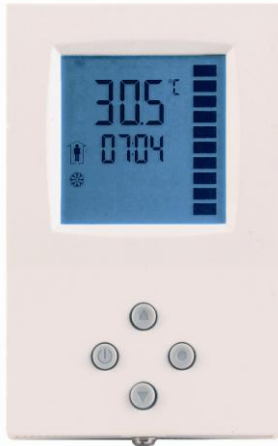


### TCY-BH-T-U-W04 On/Off Humidistat



**Features:**

- 2 on/off relay outputs, one for humidifier and one for fan.
- Save energy with economy/comfort, mode and set point limitations.
- Reset humidity setpoint based on outdoor temperature in cold weather to prevent condensation (add SOB-Tn10 sensor).
- Replaceable humidity elements.
- Selectable humidity sampling rate.

**Programmable User and Control Parameters:**

- Setpoint range limitation.
- Control access for setpoints and mode change.
- Control access to clock and time programs.
- Select your display contents.
- Select status after return from power failure.

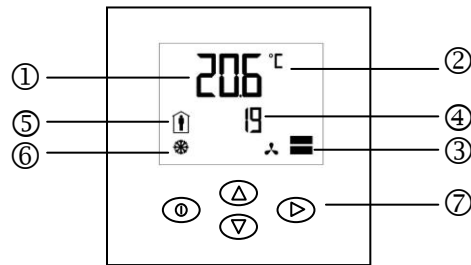
**Deluxe Version (TCY-BH-T-U-D-W04):**

- Clock and time schedule functions
- Blue backlight for LCD

### Display and Operation

LCD display:

1. Current value, time, or set point.
2. Unit of displayed value, °C, °F, % or none
3. Humidifying active (running down to up).
4. Current value, time, or set point.
5. Operation modes: ⓘ Comfort mode, ⓘ Economy mode, **OFF** Energy Hold Off
6. Symbols:



Setback Active	Schedule Set	Fan Active	TSET
❄	🕒	🌀	▼

7. Operation buttons:

- ⓘ POWER button: Pressing the button less than 2 sec toggles Economy and comfort modes. Pressing the button for more than 2 seconds switches the unit off.
- Δ ▽ UP and DOWN buttons: change setpoints and parameters
- ▷ OPTION button: display temperature if temperature setback is enabled and access advanced setup.

### User and Controls Parameters

Parameters are set on the TCY-BH display terminal. There are two groups of password protected groups: . User Parameters for display options and access to setpoints, mode and time changes; and Control Parameters for access to setpoint limitations, economy/comfort mode shift, fan control start and stop delays, outdoor temperature reset levels. Sample parameter:

CP 00	Minimum humidity setpoint	0...100% (range)	10% (factory default)
CP 01	Maximum humidity setpoint	0...100% (range)	90% (factory default)

**Operation Modes**

Comfort: The unit is in full operation mode. All the control functions are operating according to their setpoints. The unit displays occupied mode. Economy: The set point is shifted according to users parameter setting. The unit displays unoccupied Economy mode. Off mode: The unit is switched off; OFF and current time is displayed.

**Sensor Calibration, Humidity Sampling Rate**

The humidity sensor is factory calibrated, however, it can be field recalibrated. The calibration routine can be accessed using the humidistat key pad. TCY-BH humidity sampling rate default is 10 seconds. This can be set anywhere for 1 to 100 seconds with parameters using the TCY-BH keypad.

**Power Failure**

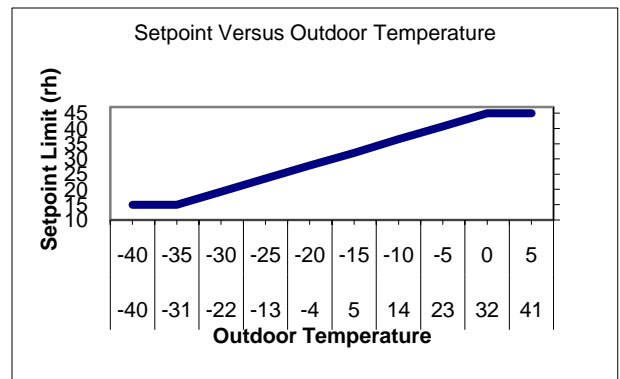
Parameter settings and setpoints are memorized and don't need to be reentered after a power failure. The deluxe version includes a real time clock with a 48-hour backup battery powered through a super capacitor. The time does not need to be reentered after a power

**Outdoor Temperature Reset**



This function helps prevent condensation on windows and building structures in winter. Use with Vector Controls outdoor temperature sensor SOB-Tn10 (NTC 10kΩ type II). The humidity set point is shifted by outdoor temperature towards a user-defined humidity setpoint limit (TSET) – the lowest desired humidity setpoint (default: 20%

humidity). The function becomes active when the outside temperature drops below the user-defined upper temperature limit (default: 32°F). The full setback is reached when the outdoor temperature reaches the user-defined lower limit (default: 22°F). At -22°F outdoors humidity is 20%.



Specifications	TCY-BH-T-U-W04
Operating voltage	24 V AC/DC ± 10 %, 50...60 Hz
Clock backup	Min 48 hrs with full charge (after 24hrs)
Humidity input	Element is Polymer-Based Capacity (0-100 % rh). Accuracy is ± 5.0% at 10%-90% rh and ± 7.0 % at %0-10% and 90-100% rh
Temperature input	External NTC (SOB-Tn10 sensor): -40...158 °F)
Relays	DO1 and DO2, 2(1.2)A, 24VAC
Operating environment	To IEC 721-3-3class 3 K50°C ...50°C (32°F...122°F) <95% R.H. non-condensing
Standards	CE According to EMC Standard 89/336/EEC, EMEI Standard 73/23/EEC
Degree of protection	IP30 to EN 60 529
Safety class	III (IEC 60536)
Materials	Cover: Fire proof ABS plastic (UL94 class V-0). Back plate: Galvanized Steel
Dimensions HxWxD	Front part: 112 x 73 x 15 mm (4.4" x 2.9" x 0.6"). Power case: ø 58 x 32 mm (ø 2.3" x 1.3")
Weight (w/package)	270g

**Terminal Connections**

1. Power-supply common.
2. Power-supply (24 V AC/DC, ±10%)
3. DO 1 Relay contact Humidify
4. DO 1 Relay contact Humidify
5. DO 2 Relay contact Fan
6. DO 2 Relay contact Fan
7. RT temperature input (SOB-Tn10, NTC, 10kΩ)
8. RT temperature input (SOB-Tn10, NTC, 10kΩ)

