

# SAVANT

## 8-Zone Thermostat Processing Unit (TPU) Quick Reference Guide

### Box Contents

- (1) 8-Zone Thermostat Processing Unit (CLI-8000-xx)
- (1) Product Regulatory Insert (009-1950-xx)

### Related Components


Savant Host  
Savant Controller  
External 120V AC to 24V AC Transformer (PWR-2440-xx)

### Optional Remote Sensors

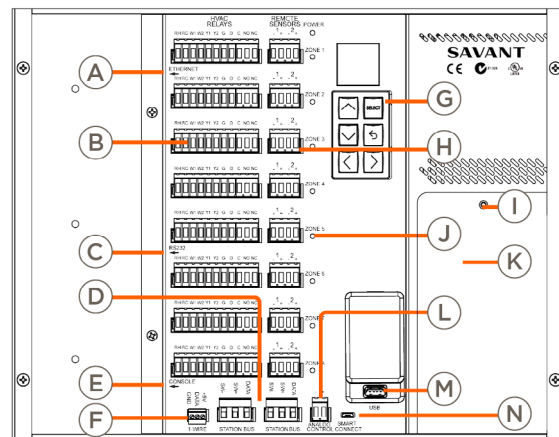
SST-TEMP1 - Remote Indoor Sensor  
SST-OTEMP1 - Remote Outdoor Sensor  
CLI-THFM1 - Remote Humidity/Temperature Smart Sensor  
CLI-PLN1C - Commercial Plenum Sensor (Heat duct sensor)  
CLI-PLN1R - Residential Plenum Sensor (Heat duct sensor)  
CLI-SLAB1 - Slab Sensor (Floor Heating Sensor)

**Note:** Each zone supports communications with up to four temperature sensors including two humidity sensors.

### Specifications

Environmental				
Temperature	32° to 104° F (0° to 40° C)			
Humidity	10% to 90% Relative Humidity (non-condensing)			
Dimensions and Weights				
	Height	Width	Depth	Weight
Device (without cover)	11.05 in (28.06 cm)	14.23 in (36.17 cm)	2.71 in (6.88 cm)	8.75 lbs (4.00 kg)
Device (with cover)	12.17 in (30.91 cm)	15.48 in (39.32 cm)	2.81 in (7.13 cm)	8.75 lbs (4.00 kg)
Shipping	14.56 in (36.98 cm)	25.00 in (63.50 cm)	6.0 in (15.24 cm)	12.0 lbs (5.43 kg)
Power				
Input Power	24V AC (40 AV) from external transformer			
Power Draw (Maximum)	12W @ 24V AC			
Cable Requirements				
Relay Bank to HVAC system	18 American Wire Gauge (AWG) Standard HVAC Wiring (RH, RC, W1, W, Y1, Y2, O, G, Aux)			
Cable Requirements (Sensors)				
Data Sensor Bus (1-Wire)	24 AWG (Cat 5) 600 ft (182 m) maximum (cumulative)			
Remote Sensor	24 AWG (Cat 5) 500 ft (152 m) maximum			
Regulatory				
Safety and Emissions	FCC Part 15 			
RoHS	Compliant			
Additional Information				
RS-232	Baud Rate = 19200			

### Front Panel



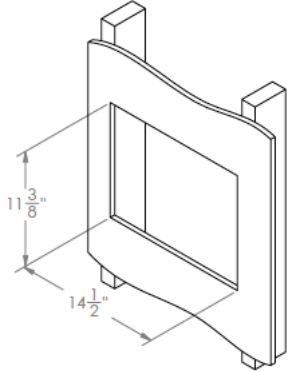
<b>A</b> Ethernet	Reserved for Future Use
<b>B</b> HVAC Relays	Wire each bank or zone to an HVAC system. Supports wiring up to eight individual HVAC systems.
<b>C</b> RS-232	Connect cable from the RS-232 port to a Savant Controller. Communication between a controller and the CLI-8000 is over RS-232 and supports 19200 baud. RS-232 supports 19200 baud.
<b>D</b> Station Bus	Reserved For Future Use
<b>E</b> Console	Mini USB (Mini-B) female connector (Serial UART); Debug terminal
<b>F</b> DSB/1-Wire	Connects to the Data Sensor Bus, which is a serial bus based on the 1-Wire protocol. The CLI-THFM1 smart sensor communicates over the Data Sensor Bus through this connection. Up to two smart sensors per zone can be configured with a total of eight per system.
<b>G</b> Display/Keypad	Use the keypad to scroll through the available menus and configure each zone.
<b>H</b> Remote Sensors	For Indoor, Outdoor, Slab, and Plenum two-wire temperature sensors. A maximum of two per zone is supported.
<b>I</b> Input Power (Access)	Unscrew the knob to remove the power input panel and gain access to the power supply board. This will give user access to the power supply board for wiring the 24V AC input power.
<b>J</b> Zone LEDs	Indicates which zone has been selected via the keypad for configuration.
<b>K</b> Input Power (24V AC)	Feed the power cable through a hole in the bottom of the chassis using a 1/2 inch cable restraint (cable restraint not included). The 24V AC input power is wired to the power board using the two position screw terminal. Refer to the <b>Connect Input Power</b> section below.
<b>L</b> Analog Control	Reserved for Future Use
<b>M</b> USB	Reserved for Future Use
<b>N</b> Smart Connect	Use the Smart Connect port to upgrade firmware. The upgrade process requires the Smart Connect App, and an SCA-CONF or SCA-CONF smart connect cable (cables sold separately).

Mounting

The CLI-8000 can be surface mounted using a pair of mounting brackets (SMB-8000-xx) or flush mounted between two 16 inch on center studs. For more information on mounting, refer to the **Savant Centralized Climate Control Deployment Guide** (009-1073-xx).

Flush Mount (between studs)

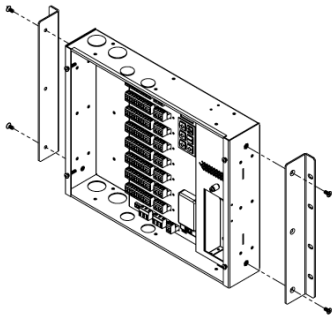
- 1. Locate two adjacent studs that are 16 inch on center. If there is drywall, cut to the dimensions below.
- 2. Slide between studs. On left and right side there are three mounting holes. Screw to inside of studs through these holes.



WALL CUTOUT

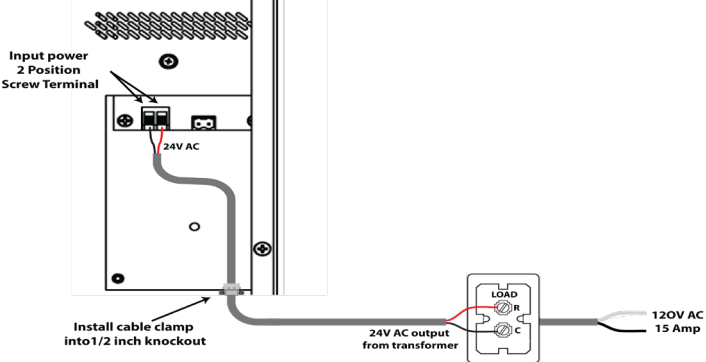
Surface Mount (Optional Brackets)

- 1. Screw the mounting brackets to the right and left side of the CLI-8000 using (4) 10-32 x 3/8 inch FH machine screws.
- 2. The mounting brackets are 16 inch on center so the TPU can be screwed to two adjacent studs. Locate two adjacent studs that are 16 inch on center.
- 3. Screw the TPU to the wall through the drywall and into the studs using appropriate self tapping drywall screws or equivalent.



Connect Input Power

- 1. Remove the screw that secures the access panel and remove the panel.
- 2. Locate the 1/2 inch electrical knockout just below access panel. Remove knockout and install electrical clamp.
- 3. Connect the 24V AC from transformer to the two position screw terminal block under the power input panel.

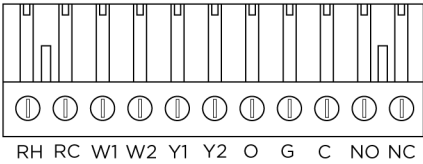


**Note:** Use a minimum of 18 AWG wire when connecting the input power.

HVAC Relay Wiring

The figure below is the top view of the eleven position screw terminal connector that is plugged into each relay bank. Ensure all power from both the HVAC and CLI-8000 system have been removed before making connections.

- 1. Remove connector from its mate on front panel.
- 2. Insert correct wire into front of plug using information in the table below.
- 3. Tighten the screw so that wires are clamped inside the connector.
- 4. Reinsert into the proper relay bank.
- 5. Wire other side to HVAC system.



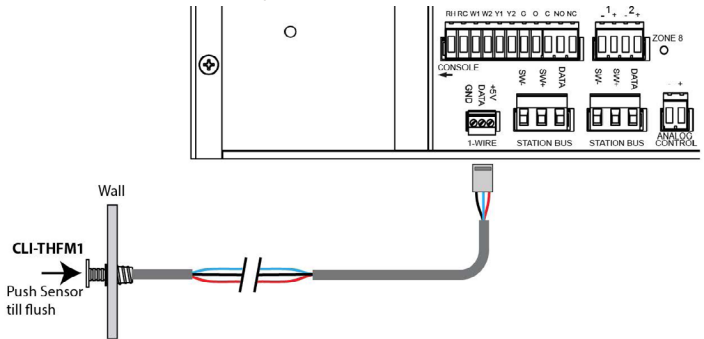
Relay	Description
RH - Red	Wire to hot side of transformer on heating equipment.
RC - Red	Wire to hot side of transformer on cooling equipment.
W1 - White	Wire to stage 1 heat terminal (W1) on HVAC system.
W2 - Black	Wire to stage 2 heat terminal (W2) on HVAC system.
Y1 - Yellow	Wire to stage 1 cooling terminal (Y1) on HVAC system.
Y2 - Blue	Wire to stage 2 cooling terminal (Y2) on HVAC system.
O - Orange	Wire to (O) terminal on Heat Pump System. Reversing Valve connection.
G - Green	Wire to fan terminal (G) on HVAC system.
C = Common Terminal	
NO = Normally Open. When relay is in the On state, the Normally Open terminal is shorted to the C terminal.	
NC = When the relay is in the Off state the Normally Closed terminal is shorted to the C terminal.	
C NO NC	

There is no standard for wire colors in HVAC. The colors shown in table are typical. Refer to manufacturer’s documentation for HVAC system before wiring.

The Relays support an external voltage of 24V AC at 1 AMP.  
**Note:** If required, RH and RC can be jumped together.

1-Wire Remote Sensor Connections

Wiring diagram connecting the CLI-THFM1 sensor to the CLI-8000. Up to two CLI-THFM1 sensors per zone.



Additional Documentation

Refer to the following documents located on the [Savant Customer Community](#) for additional information.

- Savant Centralized Climate Control Deployment Guide (009-1073-xx)