



Thermostat Processing Unit (TPU)

CLI-8000-xx

Quick Reference Guide

Box Contents

(1) CLI-8000-xx (Includes all connectors for front panel)

(1) Quick Reference Guide (this document)

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-PLEN1C - Commercial Plenum Sensor (Heat duct sensor)

CLI-PLEN1R - Residential Plenum Sensor (Heat duct sensor)

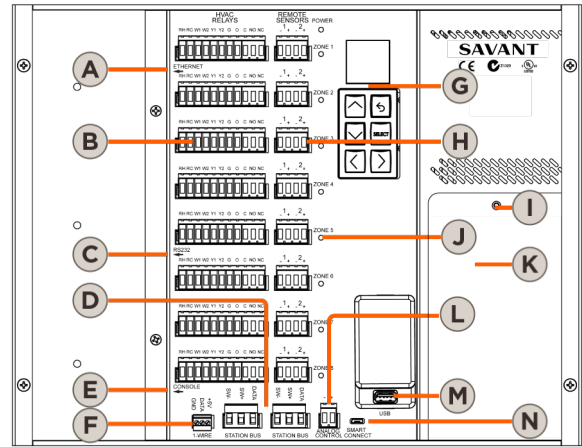
CLI-SLAB1 - Slab Sensor (Floor Heating Sensor)

Note: Each zone on the CLI-8000 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% (non-condensing)	
Dimensions and Weights		
Height	without Cover	with Cover
	11.05 in (280.67 mm)	12.17 in (309.12 mm)
Width	14.23 in (361.44 mm)	15.48 in (393.19 mm)
Depth	2.71 in (68.83 mm)	2.81 in (71.37 mm)
Weight	Net	Shipping
	8.75 lb (4.00 kg)	12.00 lb (5.43 kg)
Power		
Power (Input)	24V AC (40AV) 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 feet (182 m) maximum (cumulative)	
Remote Sensor	24 AWG (Cat 5) 500 feet (152 m) maximum	
Compliance		
Safety and Emissions	FCC Part 15	
RoHS	Compliant	
Additional info		
RS-232	Baud Rate = 19200	

Front Panel



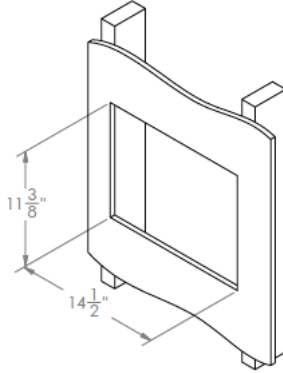
Item	Description
A	Ethernet Reserved for Future Use
B	HVAC Relays Each relay bank or zone gets wired to an HVAC system. Supports wiring up to eight individual HVAC systems.
C	RS-232 Connect cable from the RS-232 port to a Savant Controller. (Communication between the controller and the CLI-8000 is achieved over the RS-232 connection.) RS-232 supports 19200 baud.
D	Station Bus Reserved For Future Use
E	Console Mini USB (Mini-B) female connector (Serial UART); Debug terminal
F	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.
G	Display/Keypad To monitor and configure the system. Use the keypad to scroll through the available menus and configure each zone.
H	Remote Sensors For Indoor, Outdoor, Slab, and Plenum two-wire temperature sensors. A maximum of two per zone is supported.
I	Input Power (Access) Remove the power input access screw and remove the associated panel. This will give user access to the power supply board for wiring the 24V AC input power.
J	Zone LEDs Indicates which zone has been selected via the keypad for configuration.
K	Input Power (24V AC) System is powered by 24V AC power source. Power cable is fed through ½ inch cable restraint (not included) installed at bottom of box. Input power is wired to a two position screw terminal block on the power supply board.
L	Analog Control Reserved for Future Use
M	USB Reserved for Future Use
N	Smart Connect Maintenance functions such as firmware upgrades are achieved through the Smart Connect connection. Requires SCA-CONF-xx or SCA-CONFL-xx Smart Connect cable.

Mounting

The CLI-8000 can be either 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 CLI-8000 Deployment Guide (009-1073-xx).

Flush Mount (between studs)

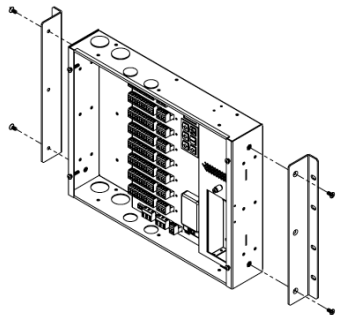
1. Locate two adjacent studs that are 16 inch on center. If there is drywall, cut to the dimensions below.
2. Slide between studs. On left and right side there are three mounting holes. Screw to inside of studs through these holes.



WALL CUTOUT

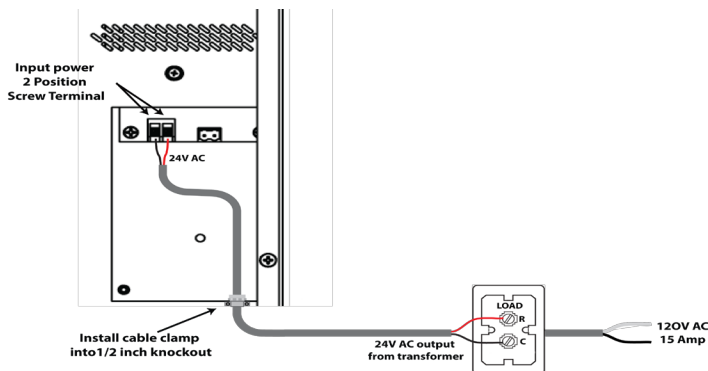
Surface Mount (Optional Brackets)

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 access panel by removing the screw holding down the access 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 under the power input panel.

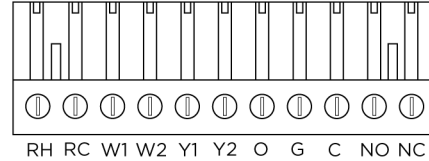


Note: Use a minimum of 18 AWG wire when connecting the input power.

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 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	Wired to hot side of transformer on heating equipment.
RC - Red	Wired to hot side of transformer on cooling equipment.
W1 - White	Wired to stage 1 heat terminal (W1) on HVAC system.
W2 - Black	Wired to stage 2 heat terminal (W2) on HVAC system.
Y1 - Yellow	Wired to stage 1 cooling terminal (Y1) on HVAC system.
Y2 - Blue	Wired to stage 2 cooling terminal (Y2) on HVAC system.
O - Orange	Wired to (O) terminal on Heat Pump System Reversing Valve connection.
G - Green	Wired to fan terminal (G) on HVAC system.
C NO NC	<p>C = Common Terminal</p> <p>NO = Normally Open. Connects with C when the Relay is ON.</p> <p>NC = Normally Closed. Connects with C when the Relay is OFF.</p>

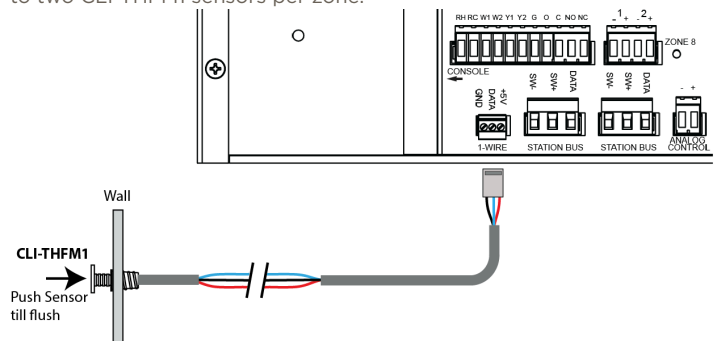
There is no standard for wire colors in HVAC. The colors shown in table are typical. Refer to manufacturer's documentation for HVAC system before wiring.

The Relays support an external voltage of 24V AC at 1 AMP.

Note: If required, RH and RC can be jumped together.

Remote Sensor Connections

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



In addition to the CLI-THFM1 Smart Sensor described above, other sensors are available. For information on these sensors, refer to the Quick Reference Guides (QRGs) for each sensor.

Additional Documentation

Refer to the following documents located on the **Savant Customer Community** for additional information.

- CLI-8000 Deployment Guide (009-1073-xx)