SAVANT

Savant 30 Keypad Power and Control Module [SKL-3030-xx]
Quick Reference Guide

Box Contents

(1)   30 Keypad Power and Control Module (SKL-3030-xx)

(5)   4-pin Screw Down Plug-in Connectors (028-0834-xx)

(1)   Power Supply to 120V AC Cable (064-0564-xx)

(1)   ½ inch nylon bushing for ½ inch knockouts (015-0216-xx)

(1)   Product Regulatory Statement (009-1950-xx)

Additional Items

– PWM-PENC3 Power Module Enclosure

– Echo, Metropolitan, or Ascend Low-Voltage Keypads.

– SHA-PENC3 Power Module Enclosure (older model enclosure)

– SHA-W1000 Low Voltage Keypad Wire

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
SKL-3030	12.35 inch (37.78 cm)	3.43 inch (8.71 cm)	2.25 inch (5.72 cm)	2.30 lbs (1.04 kg)
Shipping	16.0 inch (40.64 cm)	4.0 inch (10.16 cm)	4.0 inch (10.16 cm)	3.00 lbs (1.36 kg)

NOTE: The height dimension includes the captive screw, and the depth dimension includes the connectors.

Power

Input	120 - 240V AC, 50/60 Hz, 480 watts
Output	24V DC 2A (each Keypad Bus connector)

Recommended Max Wiring Distance (per keypad bus)

New installations should use #14 AWG only. Retrofits with existing wiring can be used as long as wire gauge and lengths are within the following guidelines:

#14 AWG	1000 feet (304.80 meters)
#16 AWG	700 feet (213.36 meters)
#18 AWG	500 feet (152.40 meters)

– Cable length limits are due to voltage drops across the line.

– The SHA-W1000 cable available from Savant is manufactured with very stringent standards and reduces the likelihood of receiving interference from an outside source.
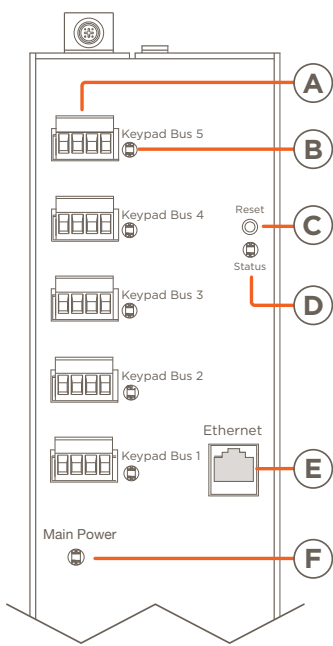
Regulatory

RoHS	Compliant
Safety and Emissions	UL c(UL)us LISTED

Minimum Supported Release

SavantOS	11.0.5

Front View

Additional Information

– Each lighting keypad power module supports up to 30 keypads.

– Keypads sharing a bus are wired in series (daisy-chained). Star configurations are not supported.

(A) Keypad Bus (1-5) - Up to 10 low voltage keypads wired in a daisy-chain fashion are supported per keypad bus with a maximum of 30 keypads per power module.

Status LED - Keypad Bus 1-5 - Each LED indicates the state of that keypad bus. More information below.

Boot Process - The various states that can occur just after power is applied and the SKL-3030 begins the boot-up process are described below.
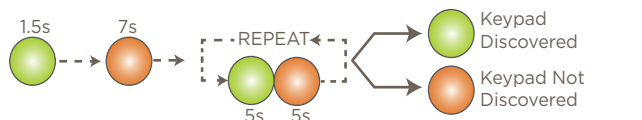
(B)
1. Apply power to the SKL-3030.
2. Status LED lights solid green for 1.5 seconds and then changes to orange.
3. LED stays lit orange for 7 seconds during the boot-loader process.
4. After the boot-loader completes, the LED repeatedly blinks green then orange, indicating the beginning of the keypad discovery process.
5. Starting with Keypad Bus 1, when at least one keypad on that bus is discovered, the LED switches to solid green. If no keypads are found, the LED switches to solid orange.
6. The discovery process continues until all the keypad buses (1-5) are inspected.
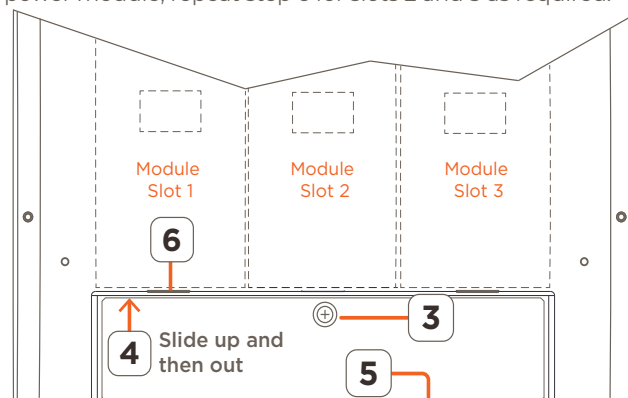
B
cont.

As described above, during the boot-up process, a solid orange LED indicates either:

- No keypad was detected during the discovery process.

-- OR --

- Power was recently applied, and the SKL-3030 is in the boot-loader state. The LED is lit solid orange for about seven seconds while in this state.

If the LED changes to solid green, this indicates at least one keypad on the keypad bus was detected.

C

Reset Button - Press and release the reset button begins the keypad discovery process.

🛈 **HELPFUL!** Each time a new keypad gets added to the bus, press the reset button to start the discovery process.

D

Status LED - Keypad Lighting Module - Indicates the state of the SKL-3030. The various states are shown below.

	Normal operation. The SKL-3030 is connected to a network and communicating with a Savant Host.
REPEAT ◄─── **.5s** **2s**	Module is not connected to a network. Verify the Ethernet cable is plugged in and connected to a network switch.
REPEAT ◄─── **2s** **.5s**	A firmware update is in process.
REPEAT ◄──── **.5s .5s** **2s**	The module is connected to a network (has IP Address), but can't communicate with the Savant Host. Verify the Host is powered on and plugged into the local network.
REPEAT ◄──── **.5s .5s .5s** **2s**	The module is connected to a network, can communicate with the Savant Host, but the SKL-3030 device is not listed in the configuration running on the Host.

E **Ethernet** - Connect to a network switch via Cat 5/5e/6 cable.

F

Main Power LED - Indicates whether power is applied to the module.

- **Green** = Power Applied
- **Off** = No Power.

Lighting Module Enclosure (PWM-PENC3)

The PWM-PENC3 is a metal enclosure that can house up to three SKL-3030 low voltage lighting power modules. This enclosure ensures the modules are installed in a safe, well-protected ventilated case. Mount the enclosure to a wall or similar before continuing to the next section. Mounting instructions are available in the **Low Voltage Power Module Enclosure Quick Reference Guide** available on the Savant Customer Community.

Prep the Enclosure (PWM-PENC3)

With the enclosure mounted, the next step is to prep it to accept the lighting keypad modules. Follow the steps below to prep the enclosure.
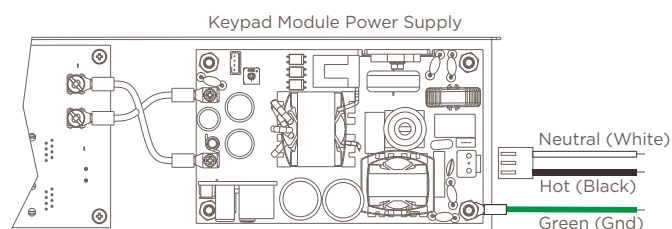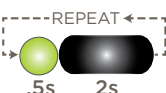
1. Remove power at the circuit breaker.
2. Remove the lid from enclosure (if one is installed).
3. Turn the captive screw on the AC compartment panel counterclockwise (CCW) until the screw pops up.
4. Slide the cover up and out away from the enclosure. Set cover aside.
5. Remove the electrical knockout at the bottom of the enclosure and install a ½ inch electrical cable clamp.
6. If not already completed, remove the electrical knockout from shade module of slot 1 and snap a ½ inch nylon insulating bushing in its place. When installing more than one shade power module, repeat step 6 for slots 2 and 3 as required.

Prep the Lighting Keypad Module Power Supply

Before mounting the module into the enclosure, the 120/240V AC wires that supply power to the modules must be installed. See instructions below.

1. Remove the keypad power module and corresponding 120/240V AC cables from shipping box.
2. Flip module over to access the power supply.
3. Plug the supplied 120/240V AC cable into the 2-pin connector located on the power supply board's bottom edge. The connector is keyed to avoid plugging the connector in

Keypad Module Power Supply

Neutral (White)
Hot (Black)
Green (Gnd)

Mount and Wire the Lighting Keypad Modules

⚠ **ELECTRIC SHOCK!** The 120/240V AC source power poses an electrical shock hazard that has the potential to cause serious injury to installers and end users.

⚠ **IMPORTANT!**

- A licensed electrician is required to make AC electrical connections. Isolate and turn off power at the main breaker panel prior to installing any electrical devices.
- Each power module can draw up to 4 amps maximum (12 amps per enclosure). Be sure to size the circuit breakers accordingly
- For supply, neutral, and ground connections, use #14 AWG or larger solid copper wire.

Mount the Lighting Keypad Modules

Before making any electrical connections, install the keypad power modules into the PWM-PENC3 enclosure. Refer to the diagram at the bottom of this page for reference

backwards. See diagram below:

1. Position the lighting keypad module over the electrical knockout removed in the Prep the Enclosure section above.
2. Insert the wires from the keypad power module through the insulated bushing.
3. Slide the module's bottom tabs into the slots to the left and right of the electrical knockout hole.
4. Secure the module to the enclosure by turning the captive screw located at the top of the module clockwise (CW).
5. Repeat steps 1 - 4 and install remaining modules into slots 2 and 3 of the enclosure.

Make 120/240V AC Connections

Once all keypad modules are mounted, they can then be wired to the incoming AC circuit. See the diagram below.

1. Verify the 120/240V AC feed from the circuit breaker is off.
2. Strip approximately 10 inches of the outer jacketing from the electrical cable and insert wires through the clamp installed in the Prep the Enclosure section. Tighten clamp.
3. Connect ground wire from the 120/240 cable to the WAGO connector.
4. Connect neutral wire using a wire nut to the circuit board white flying lead.
5. Connect the hot wire using a wire nut to the circuit board black flying lead.
6. If the module is a PWM-PENC3-10, plug in the 2-pin connector from the module to the circuit board.
   NOTE: If the module is a PWM-PENC3-00, then cut the connector off and splice the wires together with a wire nut.
7. Connect the ground wire from the module to the WAGO connector.
8. Fit all wires into the AC compartment and reinstall the cover.
9. Plug in 120/240V connector.
10. Switch power to the breaker back to On position.
    NOTE: Wire to a circuit with minimum current protection of 15 amps in accordance with current NEC requirements.
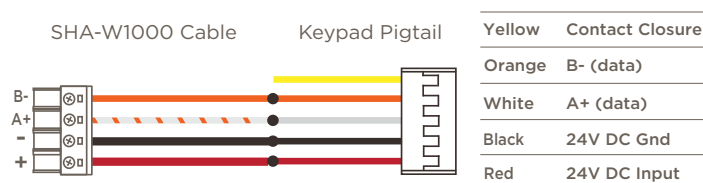

120/240VAC Input
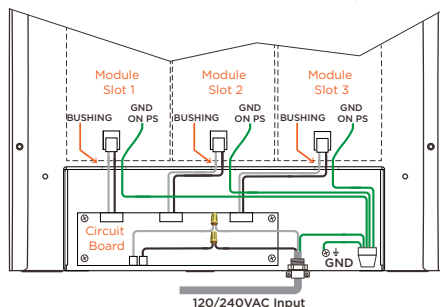
Ethernet Connection

The lighting keypad module communicates with the Savant Host over a standard Cat 5/5e/6 cable. Both T1/E1 568A are supported. Connect an Ethernet cable between the module's Ethernet connection and a local network switch. See the image below:

Local Lan
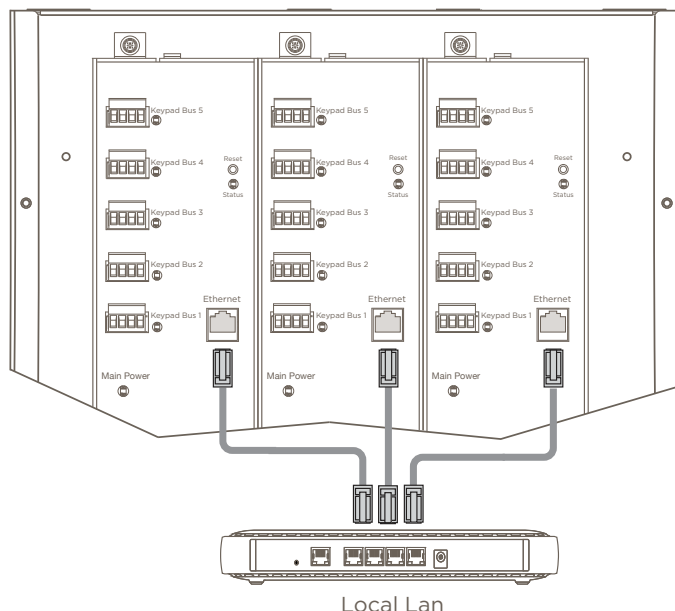
Keypad Bus Cable

The cable in the image below shows the supplied five-inch (5) conductor keypad pigtail cable spliced to the SHA-W1000 cable. The SHA-W1000 cable runs through the walls of a home and joins the SKL-3030's keypad bus connection with each keypad. Savant recommends the SHA-W1000 cable assembly for these cable runs. Use the diagram below for reference when making the splices.

SHA-W1000 Cable   Keypad Pigtail

Yellow	Contact Closure
Orange	B- (data)
White	A+ (data)
Black	24V DC Gnd
Red	24V DC Input

Additional Information

Wiring diagrams and basic Blueprint configuration information is available in the **Low Voltage Keypads Deployment Guide**. This guide and other lighting information is available in the Keypad Lighting Documentation Portal located in the pages of the Savant Customer Community.