SAVANT

Savant SmartLighting Keypad: Switch Function Descriptions
Application Note

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The switches located in control stations throughout the home may be used in several ways. A switch operates according to the function that was programmed in LiteWare®. A switch function may be changed by the user at any time using LiteWare.

A description of the switch functions available for all Controllers are listed. Not all functions are available in all Controller models.

The **Switch Function Summary** window in LiteWare lists each switch with the following information:
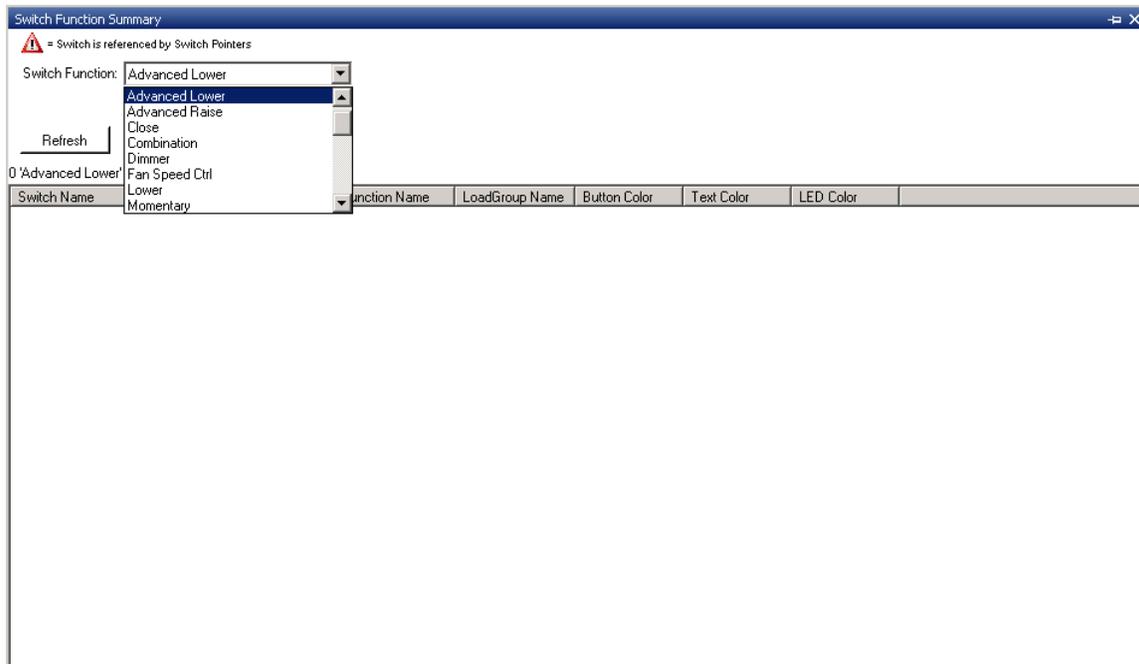
Switch Name

Switch ID

Function Name: This is available from the **Switch Function** drop-down list.

LoadGroup Name

Button Color

Text Color

LED Color

Switch Function Descriptions

Advanced Lower

5000LC, 5K, and SSL Controllers Only

The Advanced Lower switch function will lower any loads that have been activated by another switch on the same keypad when the button is held. When the button is released, the loads will stop. The minimum level is assigned inside the load group parameters.

Advanced Raise

5000LC, 5K, and SSL Controllers Only

The Advanced Raise switch function will raise any loads that have been activated by another switch on the same keypad when the button is held. When the button is released, the loads will stop. The maximum level is assigned inside the load group parameters.

Raise

A Raise switch function is always associated with a dimming or variable speed motor load. When the Raise switch is pressed, the lighting level increases until the switch is released. When the light level reaches 100 percent, no further change will occur. The ramp rate for the Raise switch function is three seconds from 0 to 100 percent. The LEDs light up only while the switch is pressed.

Lower

The Lower switch function operates much like the Raise switch function. When the Lower switch is pressed, the lighting level decreases until the switch is released. When the level drops to 0 percent, no further change occurs. The LEDs light up only while the switch is pressed.

Combination

5000LC, 5K, and SSL Controllers Only

Combination programming allows a control station to operate as an electronic lock. A predesignated switch on a control station is programmed as the combination trigger switch. When pressed, the rest of the station's buttons temporarily lose their preprogrammed functions and become a numeric keypad. Entering a combination or sequence of switch presses triggers a selected function and then returns the control station to normal operation. Any invalid sequence will return the control station to normal operation without any selected function being triggered.

Dimmer or Master Dimmer

The Dimmer switch function allows continuously adjustable lighting levels. The switch turns a previously On light Off, or turns a light On to its last or minimum On level. A user can adjust the minimum On level. Pressing and holding the switch changes the dimmer level. About one half second after the switch is pressed and held, the lighting level will gradually decrease until the preset minimum dimmer level is reached and the intensity will gradually fade back up. When the preset maximum dim level is reached, the cycle continues with a fade back down. To reverse the dimming direction, release the switch and then press and hold again. The ramp rate from minimum to maximum intensity is user adjustable between two and six seconds. Memory levels for loads are generally modified at individual switch locations, however, memory level can also be changed by pressing a preset switch which controls the same load. The memory level is always the last level at which the load was operating before being switched Off.

The switch LED imitates the On/Off status of the load. If the load is turned On to any dimmed level, the LED lights up; otherwise, the LED is Off. If the load is controlled from other locations, those LEDs also mimic the On/Off status of the load.

Fan Speed Control

5000LC, 5K, and SSL Controllers Only

The Fan Speed Control switch function changes the speed of a connected fan. Speed options are low, medium, high, and Off. To select a speed, the button is pressed once for each option (i.e, press once to select high, twice to select medium, and three times to select low speed). The button is pressed again to turn Off the fan.

The LED on the button blinks when the button is pressed to indicate fan speed: one blink for low, two blinks for medium, and three blinks for high.

Momentary

The Momentary On switch function is useful for motor driven loads such as curtains and screens. While a momentary switch is pressed, the load is activated and when released the load is switched Off. The associated LED lights up only while the switch is pressed.

With the Standard and the Compact Central Controller Units (CCUs), the Momentary switch can only control a single load. With the 5000LC, 5K, and SSL Controllers, the Momentary Switch function can control multiple loads.

Motion Control

5000LC, 5K, and SSL Controllers Only

The Motion Control switch function is primarily used with motor control devices such as curtains, lights, projection screens, etc. A single Motion Control switch can open, close, and stop in motion any motor control device. An 8-Channel Relay Module in Interlock Mode should be used with the Motion Control switch.

WARNING: The system Controller will not prohibit assignment of a Motion Control switch to an inappropriate control module.

A single Motion Control switch controls a pair of control module outputs on the 8-Channel Relay in Interlock mode. For example, connect the 'open' line of a curtain control motor to output **1** of an 8-Channel Relay and connect the 'close' line to output **2** of the same module. (Outputs **1** and **2**, **3** and **4**, **5** and **6**, and **7** and **8** form complete interlock output pairs on the 8-Channel Relay.) To control the curtain, assign a Motion Control switch to output **1** or **2** of the Interlock Relay Module. It is not necessary to assign both outputs to the switch; the Controller's software automatically determines the proper pairing.

If a device is Off, pressing a Motion Control switch resumes motion in the direction opposite the previous motion. If a device is On, motion is stopped. If a device is left in motion for more than the user defined active time period, the load automatically turns Off and stops the motion.

The LED lights up on the Motion Control switch during the active time period.

On or Master On

Pressing a Master On switch turns on a group of loads ranging from a single light to all lights in the house. The master group of loads may include non-dimming as well as dimming circuits. If dimming circuits are included in a master group on the Standard and Compact CCUs, the Master On will turn them On to a 100% light level. If dimming circuits are included in a master group on the 5000LC, 5K, or SSL Controllers, the Master On will turn them On to the last known light level or minimum On. A Master On switch cannot turn lights off. It is necessary to program a separate switch as a Master Off to turn a master group Off.

The Master On switch LED will light up when all loads in the master group are activated. Activating a Master On also turns On all associated LEDs at the switch locations which independently control the master loads.

Off or Master Off

Pressing a Master Off function switch turns Off all loads assigned to the master group. The Master Off switch LED lights up only if all loads in the master group are switched Off. Activating a Master Off turns Off all associated LEDs at the switch locations which independently control the loads and lights up the Master Off LED.

Open/Close

The Open/Close function switch is primarily used with motor control devices such as curtains, skylights, projection screens, etc. The Open/Close switch can open, close and stop in motion any motor control device. The Open/Close switch function requires an Interlock Relay Module or an 8-Channel Relay in Interlock Mode, to operate properly.

WARNING: The system CCU will not prohibit assignment of an Open/Close switch to an inappropriate control module. This is a single load operation for the Standard and Compact CCU. The 5000LC, 5K, and SSL can control multiple "pairs."

The Open/Close function switches should be assigned in switch pairs. Assign one switch as Open and another as Close in an interlocked output pair of an Interlock Relay Module. For example, connect the 'open' line of a curtain control motor to output **1** of an Interlock Relay Module and connect the 'close' line to output **2** of the same module. (Outputs **1** and **2**, **4** and **5**, and **3** and **6** form complete interlock output pairs on the Interlock Relay Module. Outputs **1** and **2**, **3** and **4**, **5** and **6**, and **7** and **8** form complete interlock output pairs on the 8-Channel Relay Module). To control the curtain, assign an Open switch to output **1** of the Interlock Relay Module. Assign a Close switch (generally on the same Control Station) to output **2** of the same module to complete the pair.

When the Open switch is activated, the LED lights up and the curtains begin to open if not already fully opened. The LED on the Close switch will extinguish if lit. If no further action is taken, the curtain continues until fully opened. Pressing the Open switch again while the curtain is still opening stops the curtain's movement and extinguishes the Open switch LED. The Close switch works in the same manner only reversing the direction of curtain movement.

The Standard and Compact CCUs use a Scene Preset switch to control multiple motion devices with the same switch. Using the example from the previous paragraph, a Scene Preset switch is programmed to open the curtain by assigning outputs (Open/Close) to the scene. The Open output is set to a 100% level and the closed output is set to off (O %). The Close switch is programmed with the open output set to Off (O %) and the close output set to a 100% level. A Scene Preset switch can control any number of devices and/or loads. To add more motion devices to the same switch, add their open and close outputs to the Scene Preset switch and set levels appropriately. To stop motion devices while in motion, press the Scene switch again, or a Master Off can be assigned to all the motion control outputs.

Scene On

5000LC, 5K, and SSL Controllers Only
Activation of a Scene On switch turns on all assigned loads and performs a timed fade from current levels to the preset intensity levels for included dimming loads. If a load fading under a preset operation is independently activated, it breaks out of the preset fade. All remaining preset loads continue to fade as commanded. Fade time into a preset scene is user programmable at the CCU within a range of 0 seconds to 255 seconds (4 minutes 15 seconds). When non-dimming loads (Relay Loads) are assigned to a preset, they immediately turn On when the preset switch is pressed. If preset levels are unlocked, the preset levels may be changed using individual or Master Dim switches and then be set by pressing and holding the Scene On switch for at least six seconds.

The Scene On switch LED lights up when the preset scene is activated and turns Off when any load in the preset group is changed. If loads are restored to preset values, the LED again turns On. If multiple scene presets hold the same level for the same loads, the LEDs corresponding to the duplicate scene preset switches also activate. The LEDs at individual points of control for the preset loads set appropriately when the preset activates.

Scene or Scene Preset Toggle
Activation of a Scene Preset Toggle switch turns On/Off (depending on how the scene is set) all assigned loads and performs a timed fade from current levels to the preset intensity levels or Off for included dimming loads. With the Standard and Compact CCUs, if preset levels are unlocked, the fade to preset levels begins upon the release of the Preset Toggle switch. With the 5000LC, 5K, and SSLs Controllers, the fade to preset levels always activate upon release of the Scene Preset Toggle. If a load fading under a preset operation is independently operated, it breaks out of the preset fade. All remaining preset loads continue to fade as commanded. With the Standard and Compact CCUs, the user can program fade time into a preset scene within a range of 0 seconds to 67 minutes. With the 5000LC, 5K, and SSL Controllers, the user can program fade time into a preset scene within a range of 0 to 255 seconds (4 minutes and 15 seconds). Non-dimming loads (Relay Loads) in a preset immediately turn On/Off when the preset is pressed. When unlocked, preset levels may be changed using individual or Master Dim function switches and then be set by pressing and holding the Scene switch for at least six seconds. Although it is generally less convenient, level changes can also be programmed directly at the CCU (through the computer interface on the Standard CCU). With the Standard and Compact CCUs, once the desired levels are set, they may be locked through an optional selection at the CCU. With the 5000LC CCU, set levels can be locked through additional programming.

The Scene switch function in the Standard and Compact CCUs can be "toggled" between a scene On or preset toggle in the options menu. This is a global function.

The Scene Toggle switch function can turn assigned loads On and Off. If all loads in the scene are at or fading to their preset level, the next push of the scene preset switch turns all loads Off. With the Standard and Compact

CCUs, the fade rate during ramp down is identical to the fade rate up to preset levels. With the 5000LC CCU, the On and Off fade rates are individually set for each load in the scene.

The Scene Toggle switch LED turns On when the preset scene is activated and turns Off when any load in the preset group is changed. If loads are restored to their preset values, the LED again turns On. If multiple scene presets hold the same level for the same loads, the LEDs corresponding to the duplicate scene preset switches activate. The LEDs at all individual points of control for preset loads set appropriately when the preset activates.

Scene Dimmer (Dimmer)

5000LC, 5K, and SSL Controllers Only

The Scene Dimmer switch functions like a Scene when pressed. The loads will go to the levels assigned in the load group parameters. When the switch is held, it acts like a dimmer and will ramp up and down .When released the loads remain where they were originally set. Another press and they go Off. When the button is pressed again, the loads will go back to the levels in the load group, not the last known levels. The LED for this function will act like a dimmer. The LED will remain On as long as all the loads are On, regardless of their levels. When all the loads are Off, the LED will be Off.

Scene Dimmer (Scene)

5000LC, 5K, and SSL Controllers Only

The Scene Dimmer (Scene) switch functions the same as described above. However, the LED of this function will act like a Scene. The LED will be On as long as all the loads at their preset levels. When any of the loads change their levels, the LED will be Off. When all the loads are Off, the LED will be Off.

Switch Pointer

5000LC, 5K, and SSL Controllers Only

The Switch Pointer function can be used when two or more switches use the same function and load group. Define a function for a source switch and then assign the Switch Pointer function to a duplicate switch. The Switch Pointer function "points" to the source switch's function and load group and also updates the LEDs so they match the LEDs of the source switch.

Toggle

Standard and Compact Only

The simplest mode of switch operation is alternate action (toggle). The switch controls a single non-dimming load. When the switch is pressed, the load will switch On if previously Off or will switch Off if previously On.

The switch LED mimics the On/Off status of the load. If more than one switch is assigned to the load, the LEDs at all switch locations show the load status.

Toggle On

5000LC, 5K, and SSL Controllers Only

The Toggle On combines Master On/Master Off functions into one button. If all master loads are Off, they turn On. If all master loads are On, they turn Off. If only some of the master loads are On, the remaining unlit loads turn On. The switch LED lights up whenever any master load is active. The switch LED is Off only when all master loads are Off.

Toggle Off

5000LC, 5K, and SSL Controllers Only

The Master Toggle Off also combines Master On/Master Off functions into one button. If all master loads are Off, they turn On. If all master loads are On, they turn Off. If only some of the master loads are active, they all turn Off. The switch LED lights up whenever any master load is On. The switch LED is Off only when all master loads are Off.

Master Toggle Off

Standard and Compact Controllers Only
The Master Toggle Off also combines Master On/Master Off functions into one button. If all master loads are Off, they turn On. If all master loads are On, they turn Off. If only some of the master loads are active, they all turn Off. The switch LED lights up whenever any master load is On. The switch LED is Off only when all master loads are Off.

Timed On
A Timed On switch function brings assigned loads to a preset lighting level for a set period of time (active time). When the active time elapses, the loads automatically switch Off. If the Timed On switch is pressed while timing, the set period of time starts over. The active time period is adjustable at the CCU. Timed On is primarily used with security systems, heat lamps, exhaust fans, and garage and entryway lighting. In the case of the Standard and Compact CCUs, the timed switch is "toggled" in options between a timed On and a timed toggle. This is a global function. The Timed On switch LED lights up when the switch is pressed and turns Off when the timed interval elapses.

Timed Toggle
A Timed Toggle switch function brings assigned loads to a preset lighting level for a set period of time (active time). When the active time elapses, the loads automatically switch Off. If the Timed Toggle switch is pressed before the interval elapses, all assigned loads turn Off. The active time period is adjustable at the CCU. Timed Toggle is primarily used with security systems, heat lamps, exhaust fans, and garage and entryway lighting.

With the Standard and Compact CCUs, if a load has been operated from another switch location during the timed interval, the load breaks out of the Timed Toggle command.

In the case of the Standard and Compact CCUs, the timed switch is "toggled" in options between a timed On and a timed toggle. This is a global function.

The Timed Toggle switch LED turns On when the switch is pressed and turns Off when the timed interval elapses. With the Standard and Compact CCUs, if any assigned load is independently operated before the timed interval elapses, the LED turns Off.

Timed Flash

Standard and Compact Controllers
Timed Flash is used with security systems and is ordinarily assigned in conjunction with the data input option. Timed Flash toggles assigned loads On for one second and Off for one second for a programmable period of time from one to sixty minutes. A load alternates between full on and off even if the load is a dimming channel. When the time period elapses, assigned loads automatically switch off. Loads operated during the flashing interval are broken out of the timed sequence without affecting the operation of remaining loads. The Timed Flash Switch type is not a standard switch with the 5000LC, 5K, and SSL Controllers, but the function can be accomplished through user programming with a Macro.

Title 24 Delay

5000LC, 5K, and SSL Controllers
This function works in conjunction with a motion sensor to automatically turn Off loads in a load group after a specified amount of time has elapsed with no input from the motion sensor.

User

5000LC, 5K, and SSL Controllers Only
User programming allows for maximum flexibility for a switch. It allows for Conditional or Sequential Logic Programming or a combination of both at any switch. Pre-coded user functions called Macros can be imported in the user function. Within LiteWare, there is a Macro library, a Native Macro list, and the ability to import a Macro from a text file. The user functions can be viewed in LiteWare in the Help files.

Vacation

The Vacation mode is unlocked when the switch is pressed and the LED is On. Another push and the Vacation mode is disabled and the LED is Off.

Standard and Compact Controllers Only

The Random Vacation mode is a time triggered event (specified with a daily time range) when assigned loads switch On/Off in a random fashion. A minimum of 1 minute and a maximum of 2 hours for time the LED is On is imposed upon the random sequencing. If more than one load is assigned to the group, the CCU assures at least one load is active at all times.

5000LC, 5K, and SSL Controllers Only

Vacation mode allows for flexibility in timing and load group durations and is programmed at the switch level. There are 3 sets of time periods to add various load groups to greater simulate a daily schedule. The vacation mode will create a set of 7 weekly timers for each load group assigned that will be slightly different for each day.