Figure 1. ALC I/O Module

INTRODUCTION

The part no. 364678-01 ALC Input/Output (I/O) Module provides programmable, general purpose input and output control features. The ALC I/O Module may be installed and operated in any OnQ Home Lighting Controller or Scene Learning Interface system. Each ALC I/O Module communicates with the controller via the ALC communications branch. The I/O Module includes two programmable inputs that may be programmed to control any ALC Dimmers, Relay Switches or I/O Module outputs. The I/O Module also includes two programmable outputs that may be controlled by any ALC Scene Switch button, Program Switch button or I/O Module input.

Each of the programmable inputs may be configured to sense and activate on application of a contact closure (Normally Open) or a voltage; 5 to 24 V AC/DC. Conversely, each of the programmable inputs may be configured to sense and activate upon the removal of a contact closure (Normally Closed) or a voltage.

The user may configure the programmable relay outputs for application of either of two voltage sources (up to 24V AC/DC) or contact closure to each output relay's terminals. Each output relay terminal block provides the user with the flexibility to choose either "Normally Open" or "Normally Closed" operation. Each output relay provides current capacity to source up to 2A to an external device.

INSTALLATION

The ALC I/O Module mounts to any OnQ enclosure or Network Center bracket. The module provides 12VDC and GND connections via the module's 110 style IDC connector. Alternatively, power may be connected via the module's 2.1x5.5mm power jack. Each I/O module draws approximately 100mA. Upon applying power to the module, the POWER and STATUS LEDs will turn on.

The I/O Module communicates with the controller over the ALC communications branch. The I/O module must be assigned a unique address (0 - 31) via the module's 5-position address dip switch. Refer to Figure 2 for ALC address dip switch settings.

To verify communications between the I/O module and the controller, momentarily press and release the PROGRAM MODE button. Each time the button is pressed and subsequently released, the Home Lighting Controller's Activity LED will blink to confirm successful communications.

INPUT AND OUTPUT CONFIGURATION

Two external voltage sources may be directed through the I/O Module's output relays to external devices. The external voltage sources may be connected to the module's Voltage A, GND and Voltage B terminals. The external voltage sources may supply voltages up to 24V AC/DC and current up to 2A. Each output can be independently configured by the user for dry contact operation or application of voltage source A or B by setting the output configuration shunts to the desired positions. Each relay output provides Normally Open (NO), Normally Closed (NC) and Common (C) connection terminals. An LED indicator is provided to indicate the state of each relay output. Each LED will remain off while each relay output remains in its normal position. The output LEDs will turn on to indicate that the relays are activated i.e., not in their normal positions.

By setting the input configuration shunts to the desired positions, the I/O Module's inputs may be configured to sense the application of a contact closure or a voltage; 5 - 24V AC/DC. The inputs may also be configured to activate upon the application or removal of a contact closure or voltage.

OUTPUT CONTROL

The I/O Module's relay outputs can be locally operated by following these steps:

1. Press and hold the OUTPUT SELECT button.
2. Simultaneously activate the input corresponding to the desired output. Continue to apply/remove the contact closure or voltage until the corresponding output reaches the desired state.
3. Release the OUTPUT SELECT button.

PROGRAMMING

Each I/O Module input may be programmed to control a lighting scene. Each I/O Module output may be controlled by a lighting scene. To enter program mode (also known as scene learning mode), follow these steps:

1. Press and hold the PROGRAM MODE button for 15 seconds to enter program mode. Upon entering program mode, the STATUS LED will blink continuously.
2. Release the PROGRAM MODE button.
3. Set any ALC Dimmer or Relay Switches to be included in the scene program. Set any I/O Module outputs to be included in the scene program by following the OUTPUT CONTROL procedure. Any unchanged ALC Dimmers, Relay Switches or I/O Module outputs will not be included in the new scene program.

Note: Even though an ALC Dimmer or Relay Switch may already be on, the user must change the output level in order for it to be included in the new scene program.

4. To conclude the scene programming, activate the desired input. Once activated, the STATUS LED will stop blinking and the new scene program will be permanently associated with the selected input.

To restore the new lighting scene program, the input may be momentarily or continuously activated. All lights and outputs belonging to that scene program are then set to their stored levels. Lights and outputs not belonging to the scene program are not effected when the lighting scene is restored.

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Once the system has entered program mode, the homeowner has up to 10 minutes to set the ALC lighting and output levels. If the user has not returned to the I/O Module to finish the scene programming process within 10 minutes, the system automatically exits programming mode and no changes are made to any previously programmed lighting scenes.

Re-programming can be performed at any time by following the preceding steps. To remove a scene program from an input, follow the preceding steps 1, 2 and 4. Programming a new scene without changing any light or output levels will cause an 'empty' scene to be assigned to that input.

WARRANTY

OnQ warrants to the end-user, each new ALC product to be free of defects in materials or workmanship for a period of one year from the date of original purchase from OnQ or its authorized reseller or installer. Each product is deemed warrantable under conditions of normal use and when installed and operated within OnQ specifications and in accordance with the applicable National Electrical Code and Safety Standards of Underwriters Laboratories. When determined to be warrantable, OnQ shall at its option and expense, replace any defective product with a new or reconditioned product. OnQ will continue to warrant any replaced product for a period of ninety (90) days from shipment, or through the end of the original warranty period, which ever is longer.
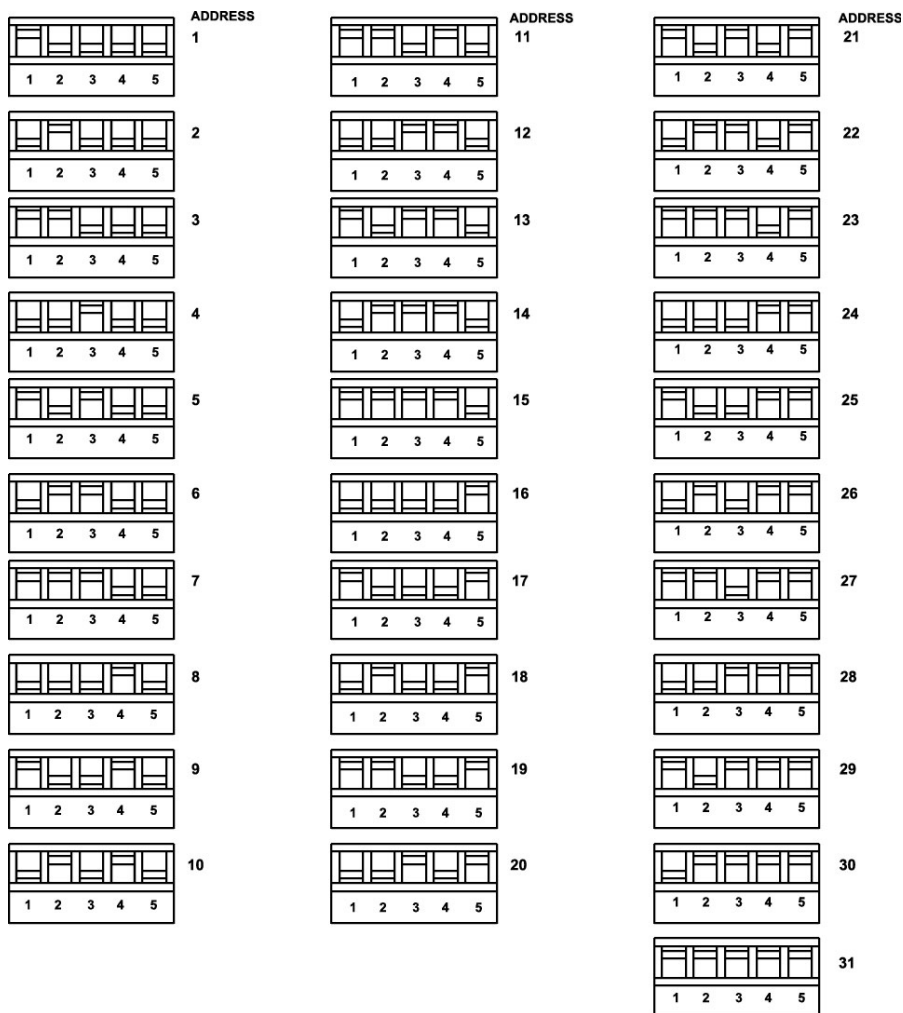
Figure 2. ALC Address Dip Switch Settings

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