

# LIGHTING CONTROL & HOME AUTOMATION SYSTEM INTEGRATION

## OVERVIEW

In the United States and Canada, Meljac push buttons and toggle keypads may only be used as dry-contact controls for panelized lighting control or home automation systems. They cannot be used as standalone wallbox dimmers or switches as they are only UL-listed for low-voltage (class-2) wiring circuits.

All Meljac products are made-to-order for each project, providing unmatched aesthetic and control configuration customization capabilities.

Meljac offers multiple collections and styles of keypads to complement the look and feel of any space. Meljac's in-house finishing operation provides over 30 handcrafted metallic finish options as well as the ability to create project-specific custom finishes. For clients seeking white or colored plates, powder coating is available in any RAL shade. Additional personalization options include edge shape, screw type, and extensive engraving capabilities.

Meljac's push buttons and toggles are sized to maximize the functionality of a single plate. The mechanisms can be combined and configured across our range of plate sizes to accommodate multiple controls and ensure an intuitive user experience. By using momentary dry contact push buttons and toggles Meljac controls can be programmed by the project integrator to achieve the same dimming, scene, shade, and AV functions offered by a native keypad.

## INTEGRATION AND COMPATIBLE SYSTEMS

Meljac momentary dry-contact push buttons and toggles integrate into lighting control and home automation systems via the system manufacturer's respective contact-closure interface (CCI).

Compatible panel-based systems and contact-closure interface (CCI) part numbers:

- Control4 - part no. C4-DCIM4 - 4 Inputs
- Crestron\* - part no. C2N-UNI8IO - 8 inputs / 8 outputs (24V)
- Lutron HomeWorks QS - part no. QSE-CE-WCI - 8 inputs
- Savant
- Vantage

\*In Fall 2021 Meljac will begin offering a Crestnet-connected keypad that does not require the use of a contact closure interface. For more information, contact Meljac North America.

For most systems, the CCI is designed to be installed inside of the wallbox at each keypad location and connects directly into the system's low-voltage communication wire.

The Meljac push button and toggles then connect to color-coded input leads plus a shared common from the CCI, allowing the controls to be programmed into the system.

Meljac recommends the following push button and toggle types for use with home automation systems:

### PUSH BUTTON

- BP - Momentary Push Button - "normally-open" push button. One contact closure.
  - 8-input contact closure interface = 8 push button maximum

### TOGGLES

- INV - Three-position toggle switch, returns to center position. Two contact closures ("UP" and "DOWN").
- INV M - Three position latching toggle switch. Switch can rest up at "UP" contact, center-position "OFF", or "DOWN" contact. Two maintained contact closures.
  - 8-input contact closure interface = 4 toggle maximum

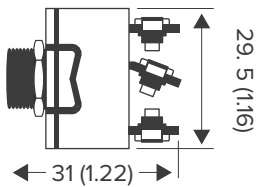
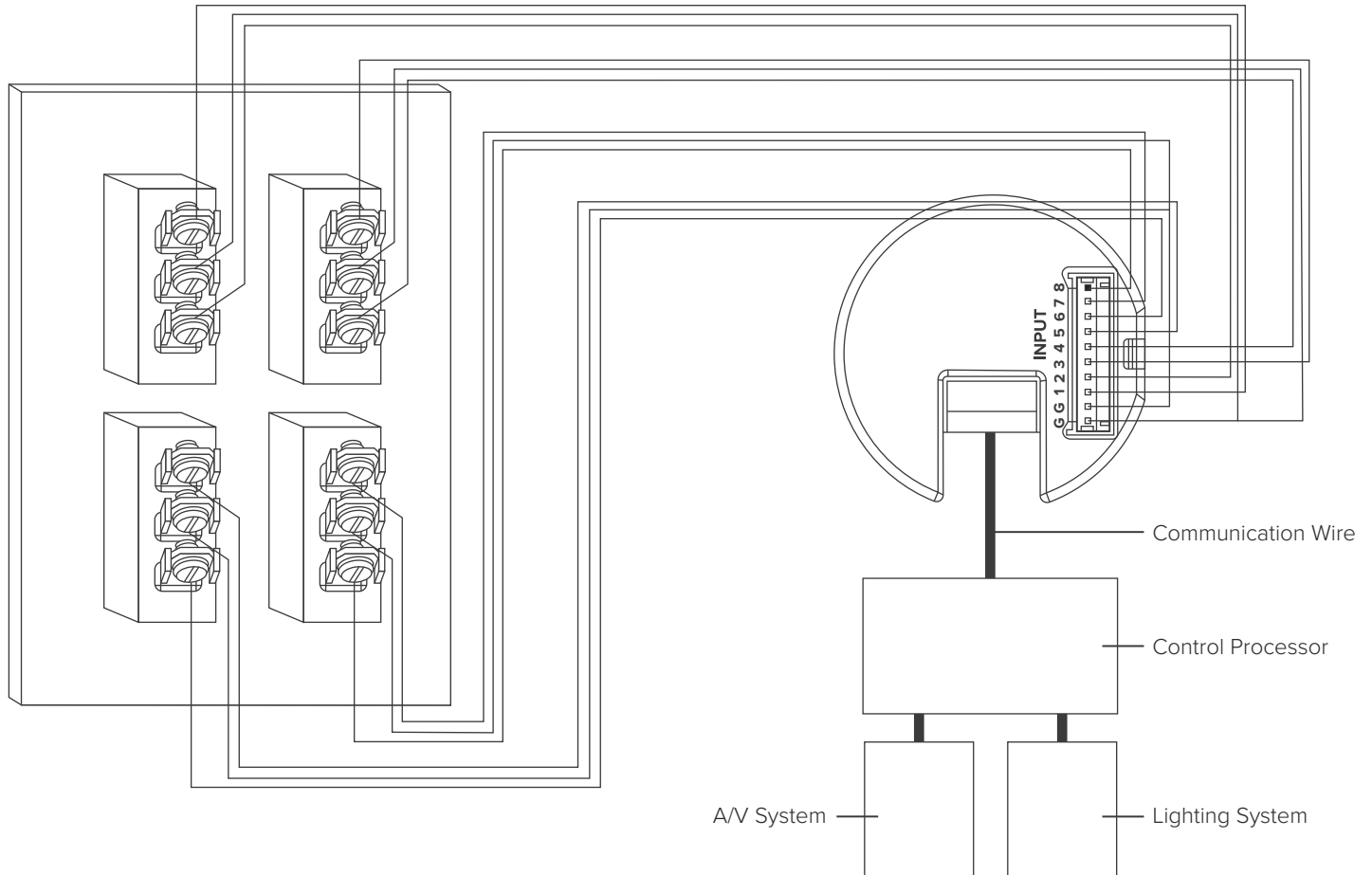
Push buttons and toggles may also be combined.

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## CONTACT CLOSURE INTERFACE WIRING EXAMPLE

### 4 TOGGLE WIRE DIAGRAM

82 x 117 plate size



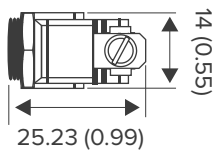
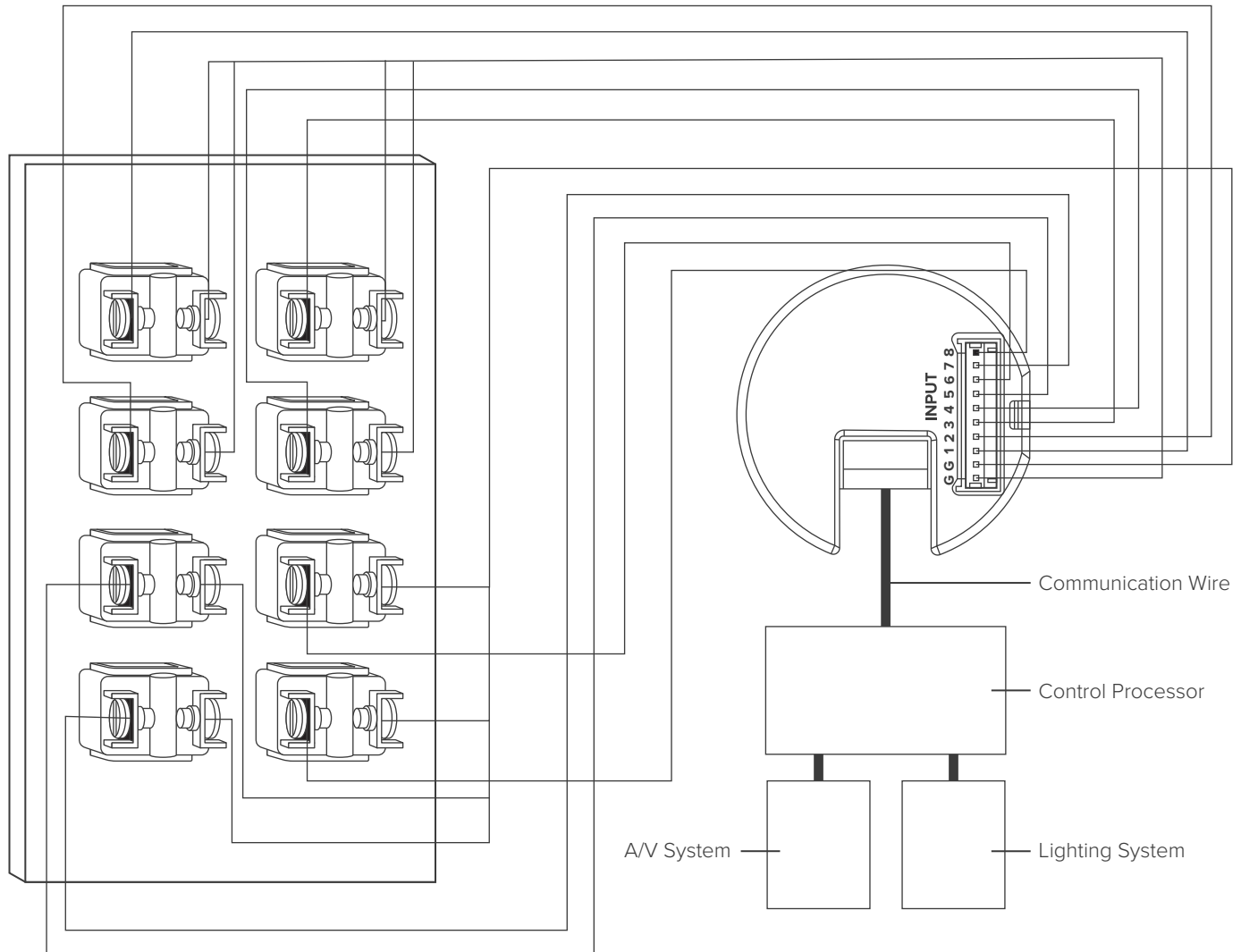
Based on 8 input contact closure interface. Specific details may vary depending on the manufacturer. Always consult the manufacturer's wiring, installation and programming documentation prior to installation.

## LIGHTING CONTROL & HOME AUTOMATION SYSTEM INTEGRATION

### CONTACT CLOSURE INTERFACE WIRING EXAMPLE (CONTINUED)

#### 8 PUSH BUTTON WIRE DIAGRAM

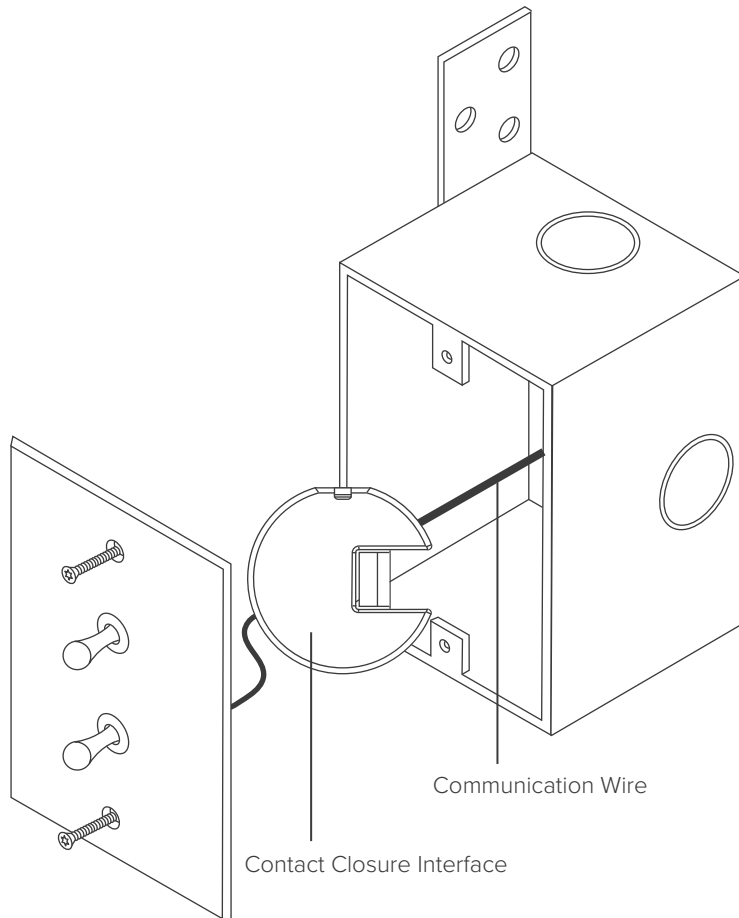
Note: 8 Push Button requires 82 x 144 mm plate size.



Based on 8 input contact closure interface. Specific details may vary depending on the manufacturer. Always consult the manufacturer's wiring, installation and programming documentation prior to installation.

## LIGHTING CONTROL & HOME AUTOMATION SYSTEM INTEGRATION

### PLATE MOUNTING AND BACK BOXES



### BACK BOXES

Meljac's line of metal back boxes have been designed with enough space to allow a contact closure beneath our push buttons and toggles, with a depth of 60 mm (2.36"). For larger plates with more push buttons and toggles, the back boxes are able to fit the required number of contact closures into the box.

When using a third-party back box, a minimum depth of 60 mm (2.36") is recommended.

Installation notes:

- 1) Confirm that the appropriate back box is used for the corresponding Meljac plate size. See [Plate Size and Back Box Guide](#) for more information.
- 2) Back box must be mounted at a level position. Plate will not allow for leveling adjustment.
- 3) Back box should be installed flush with finished wall surface, and cannot be proud of the wall surface.
- 4) Back box can be mounted in either a horizontal or vertical orientation, depending upon the plate specification on your order. Be sure to check the order details prior to installing the back box.

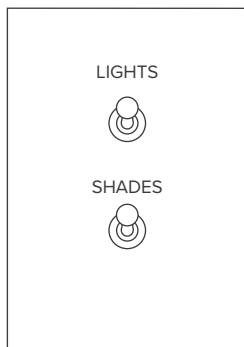
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### DIMMING / CONTROL LOGICS

There are a variety of ways to customize control functionality in order to best suit the end-user's needs and sensibilities when using Meljac keypads with a lighting control or home automation system.

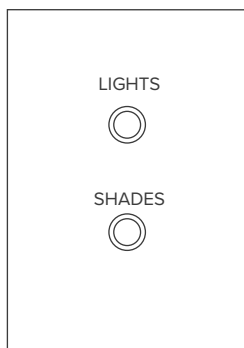
Recommended dimming/control logics for lighting and shade loads, rooms or presets:

**Toggle - On/Off + Raise/Lower** provides on/off and directional dimming with one toggle.



Action	Function
Toggle Click Up	On or open
Toggle Hold Up	Raise
Toggle Raise Down	Lower
Toggle Click Down	Off or Close

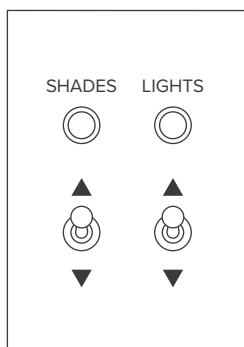
**Push Button - On/Off + Cycle Dim** provides on/off and cycle dimming with one push button.



Action	Function
Button Click One	On or open
Button Click Two	Off or close
Button Hold One	Cycle dim down or lower
Button Hold Two	Cycle dim up or <b>raise</b>

Note: an additional button press while shades are in motion will stop the shades.

**Push Button On/Off + Toggle Raise/Lower** separates the on/off control mechanism (push button) from the directional dimming mechanism (toggle).

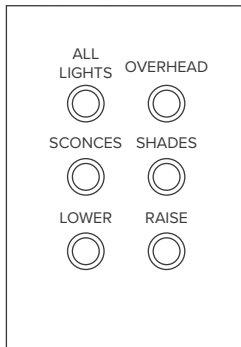


Action	Function
Button Click One	On or open
Button Click Two	Off or close
Toggle Hold	Raise
Toggle Hold Down	Lower

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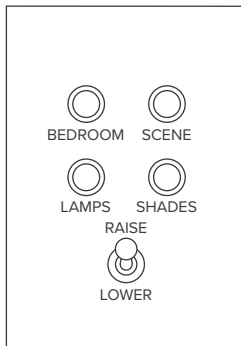
### DIMMING / CONTROL LOGICS (CONTINUED)

**Push Buttons Master Raise/Lower** uses dedicated “raise” and “lower” push buttons in conjunction with other push buttons or toggles to turn on/off lighting, shades or presets. The “raise” and “lower” push buttons will always control the last lighting or shade that was triggered.



Action	Function
“Raise” push button hold	Raises last-triggered light or shade
“Lower” push button hold	Lowers last-triggered light or shade

**Toggle Master Raise/Lower** uses a dedicated toggle for the raise/lower functions in conjunction with multiple push buttons or toggles to turn on/off lighting, shades or presets. The raise/lower toggle will always control the last lighting or shade that was triggered.



Action	Function
“Raise” toggle hold up	Raises last-triggered light or shade
“Lower” toggle hold down	Lowers last-triggered light or shade

### PRODUCT LONGEVITY

Meljac’s push buttons and toggles are engineered for high-use environments, with a mechanical construction that resists component failure. In the rare instance where a push button or toggle stops working, Meljac North America will replace the component at no charge.

### PURCHASING, COORDINATION AND SUPPORT

Because Meljac keypads must be used as part of a third-party lighting control or home automation system they must be purchased through the system integrator. This helps ensure a successful project delivery because the integrator is responsible for the programming, installation and servicing of the control system that includes the Meljac keypad controls.

For project integrators who have not worked with Meljac products before, Meljac North America provides personalized project support. We understand that working with a new product requires learning and education, and we will always strive to answer any questions, share best practices and assist with project coordination.

The best projects come from successful preparation and teamwork in the design process. Meljac North America has extensive experience working with design, construction, and integration teams to ensure a smooth design coordination and project integration process. Please contact Meljac North America with any design or integration questions.