



DOMOSAPIENS KEYPAD CODES DRIVER

This driver enables you to use a Configurable Keypad or a Keypad Dimmer to enter 'secret' codes. The keypad may be switched to a special *Code Mode* where pre-specified passcodes may be entered, triggering corresponding events. This is not a high security driver, but it can help authorize some specific activities using simple keypad button presses.

A use case would be to assign a button to disarm the security system (normally, this is not recommended). With this driver, pressing the button would put all the keypad buttons in *Code Mode* where the user would enter a pre-selected code such as 1-2-2-5, for example, thus causing programming to disarm the security system. Once a valid (or invalid) code is entered, the keypad resumes its normal operation. *Code Mode* may be activated by pressing a trigger button sequence on the keypad or via programming.

Optionally, an innovative and powerful *Update Mode* is available for the user to locally modify Codes (on a keypad) without the need for Composer.

IMPORTANT – READ THIS:

1. When this driver links with a keypad, it 'steals' the current keypad connections and makes them its own. Should you wish to delete this driver from a project, it is important to restore the original connections to the keypad **before deleting the driver**. Use the Action '*Restore Selected Keypad*' to do this.
2. To simplify the user experience, this driver uses sequential numbering of keypad buttons, whatever their size is. If all buttons are single height, this matches the connection numbers (1 to 7). When double and triple size buttons are used, this sequential numbering will be different. Do keep this in mind.

INSTRUCTIONS

- Use the free trial period or activate the driver at any time by assigning to this project the license you purchased from the DriverCentral website (requires the DriverCentral cloud driver). You may use multiple copies of this driver in your project.
- Select a Control4 keypad used to enter codes. You may install several copies of this driver, each connected to a different keypad. Make sure you read the **IMPORTANT** notes above. If you deselect a keypad or select a different keypad in the driver's property, a previously selected keypad is automatically restored.
- Select the method to trigger *Code Mode* and the timeout delay. When the method allows the use of a button to trigger *Code Mode*, the driver may slightly delay the normal object of the button if a Double or Triple tap is specified. When appropriate, specify the button to be used. The drop-down list also shows the button sequence numbers to be used when specifying code(s).

- Specify the number of codes (up to 5) to be acceptable. Each code may have from 2 up to 6 digits (or button presses) and may be specified by sequence number, by color or with U and D when Up/Down buttons are used. When in *Code Mode*, the driver shows special colors for each button (in sequence). Starting with the top button, the available colors are R (Red), G (Green), B (Blue), Y (Yellow), M (Magenta) and O (Orange). Specifications may be mixed. For example:
 - 1222 – means pressing button 1 (top) once and the second button three times for this entry to be valid.
 - RGGG – is the same as 1222.
 - 14UD – means pressing button 1 (top) once, then the fourth button, then the ‘Up’ and ‘Down’ button in succession for this entry to be valid.
- Once codes are set for one driver, you may broadcast these codes to other instances of the driver. Use the Action *Broadcast Codes*. A property in each driver determines if the driver will accept broadcasts or not.
- Normally, details about the ‘stolen’ keypad connections are not shown, but you may use the Action ‘Show/Hide Button Details’ to show this. Note that the button numbers used here correspond to the actual connections and not to the sequence numbers used to specify codes.

PROPERTIES

- **Cloud Status** displays the status of the DriverCentral license or trial.
- **Automatic Updates** may be set to yes to allow for DriverCentral updates.
- **Driver Version** displays the version of this driver.
- **Driver Information** displays various status messages about the driver.
- **Debug Mode** turns Debug Mode Off or On (with output to the Lua Output window).
- **Debug Duration in Minutes** sets the duration of Debug On.
- **Select Control4 Keypad** allows you to select a keypad to be used. This driver inserts itself between the monitored keypad and the BUTTON_LINK loads it is connected to. The keypad is “released” and its original connections restored when you clear this property or when you select another keypad. Running the Action ‘Release Selected Keypad’ has the same effect as clearing this property.
- **Select Code Mode Trigger Method** allows you to specify how the *Code Mode* is to be triggered. When you select *Programming only*, the next two properties will not be shown. Should you wish to enable Update Mode on this keypad, do not select Triple Tap, as this is used to trigger Update Mode.
- **Select Code Mode Trigger Button** specifies which button will be used. Notice that the drop-down list matches the actual keypad configuration and each button is available sequentially.

- **Selected Code Mode Button** displays the button selected to trigger *Code Mode* using the selected method.
- **Code Mode Timeout in Seconds** specifies how *Code Mode* will remain active on the keypad. Upon timeout, *Code Mode* will end and one of two Events will be fired (*No Code Entered* or *Invalid Code Entered* if a partial entry exists).
- **Update Mode Available** specifies if the optional Update Mode is available on the selected keypad. The ability to broadcast codes to other instances of the driver may also be selected. Update Mode is activated by triple tapping on the Code Mode Trigger Button. See the section on Update Mode below.
- **Accept Code Broadcasts** allows the driver's codes to be updated from another instance of this driver. This is useful when managing the codes centrally via one instance of this driver.
- **Forward Events To** identifies another instance of this driver which is to trigger its events based on our situation. This would be useful if you have several keypads, each with its own instance of this driver, but you would like the event-based programming (such as disarming a security system) all concentrated with one instance of this driver.
- **Number of Codes** specifies how many different codes could be acceptable during *Code Mode*. Up to 5 different codes may be specified and they may each have a different outcome. For example, 1224 could disarm the security system, 1225 could unlock a door and 3244 could set a variable allowing the kids to turn on a video game.
- **Specify Code x** allows you to specify a code, from 2 up to 6 digits/characters. The code may contain the button sequence number and/or the first character of the button color and/or, when used, the letters U and D for the Up/Down buttons. The numbers and letters may be intermixed, but users may find it easier to remember colors: RBBGU (for Red, Blue, Blue, Green, Up). Example: 12UD for Top button, followed by the Second button, followed by the Up button and finally the Down button.
- **Specify Code to Confirm Update Mode** is optional and allows you to specify a 2-6 digit/character code which must be entered at the start of Update Mode. This may be used to enhance the security of Update Mode. See the section on Update Mode below.
- **Keypad Status** displays the state of the driver's connection with the keypad, including any issues.
- **Button Details** (used when details are hidden) gives instructions to unhide.
- **Button x Linked To** displays the device this keypad button is connected to. The real connection number is used. This was 'stolen' from the real keypad and will be restored when another keypad is selected.
- **Button x Current LED Colors and State** displays most recent LED colors and state sent to the button by its connected device.

HOW CODE MODE WORKS

This discussion assumes that the actual keypad is properly selected by the driver. Normal operation will be transparent, except perhaps for the button selected as Trigger for *Code Mode* (more on this later). Button presses are immediately forwarded to the connected devices and LED colors and states are immediately forwarded to the actual keypad. When a button is selected as a trigger with Double or Triple Taps, the driver may insert a delay to see if multiple Taps are indeed used. Otherwise, the driver will send the unused taps to the devices connected to that button. Other buttons **will not** experience any delay.

Once *Code Mode* is started (the LEDs will clearly show this (a line of Yellow LEDs, followed by *Code Mode* colors - Red, Green, Blue, Yellow, Magenta and Orange, all depending on the number of available LEDs), key presses are not forwarded to connected devices. They are instead compared to the Code(s) specified. When a code is correctly entered by the user, the corresponding Event is fired and *Code Mode* ends with the LEDs showing Green and then reverting to their normal colors. When an invalid code is entered or no code is entered before the timeout, special Events are fired and *Code Mode* ends with LEDs showing Red and then reverting to their normal colors.

Once *Code Mode* is active, you may end it by pressing a button which is not included in a code, thus causing an invalid code condition.

Variables will show which code was successfully entered and by whom: the originator may be 0 for us or the device ID of another instance in Forwarding mode.

The use case described earlier (a secured button to disarm a security system) would work as follows:

- This driver is connected to a keypad with *Code Mode* trigger set to the desired 'Disarm' button and method set to *Single Tap*.
- Code 1 is set to the button sequence (password) you wish the user to enter to securely disarm.
- The Programming Event '*When Code 1 Entered*' is used to disarm the security system.

HOW UPDATE MODE WORKS

The driver optionally allows the user to modify the Codes from a keypad. As this may be a complex operation, it is not available by default. Activate it with the 'Update Mode Available' property. It is recommended that this facility be made available only on keypads with 6 or 7 buttons to allow for full flexibility.

IMPORTANT: as a rule, the LEDs will flash Green when things are OK and flash Red when an error (or timeout) has occurred.

Update Mode is started by triple tapping on the selected Code Mode Trigger Button and may be used to select, display, modify, delete and broadcast codes (within the limit specified by Number of Codes). The Code to Confirm Update Mode cannot be modified by Update Mode. Update Mode is ended after a timeout occurs (twice the value specified for the Code Mode timeout) or when you Double Tap on a Blue menu button (Press and Hold a blue button also works for this).

Once you enter Update Mode, you may be prompted to enter the Code to Confirm Update Mode, if one has been specified in the driver's property. After this, you are presented with the Update Mode menu, where one button is lit Red and the others are Blue. The Red button indicated which Code is currently being considered. The first (top) button indicates Code 1, the second button indicates Code 2, etc. To select a different code for consideration, single tap on its corresponding keypad button (there will be a slight delay).

Once a Code is selected for consideration (its corresponding LED is Red), you may do one of the following by tapping on the Red button:

1. Single Tap: starts the display of the current button sequence for this code. This is repeated 3 times, and it may be interrupted by pressing the same button once. As they do not have specific LEDs, the Up and Down buttons (if used) are displayed on the LED above them with Red for the Up button and Green for the Down button (think "Red: right").
2. Double Tap: causes the keypad to start Modification Mode for this Code. Specify the new code sequence (1-2-2-4, for example). This mode ends after a timeout or if you hold the last button in the sequence (tap 1, tap 2, tap 2, press and hold 4 until the LED blinks, in the example above). Please note that the minimum code length is 2 digits.
3. Triple Tap: deletes the code. You are then asked for confirmation: Press and Hold the same button until the LED blinks.
4. Press and Hold broadcasts the Codes (if this is allowed) to the other instances of this driver, as long as they are set up to Accept Broadcasts. You are then asked for confirmation: Press and Hold the same button until the LED blinks.

SUPPORT

For support on this driver please go to [DriverCentral Support](#). Give a detailed description of the problem and include the version number of the driver as well as the Control4 OS version you are using.

AUTO UPDATE

This driver is updated with fixes and new features from time to time. To ensure your project uses the latest version, set the Automatic Updates property of the driver to On.

CHANGELOG

10.0.0 September 15, 2024 Initial Release

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