


Control4 Theory of Operation for Dissolve Rates (v3.3.0)

The latest C4 OS release enables a variety of choices for how dissolve rates can be combined with commands. This tech note provides additional information on how various methods to control dissolve rates can be implemented.

1. Background on Dissolve Rates.

When a device is set up within e-Node Pilot there are various prevailing/default dissolve rates that can be set up the installer. These dissolve rates will prevail when a command is sent from an automation system if that command is not appended with a “:” and a dissolve rate in seconds. *Specifically, if you fail to enter a dissolve rate within the 3rd party automation platform, the dissolve rate programmed within the e-Node will prevail.* However, if a dissolve rate is programmed within the automation system, it will take precedence over any e-Node initial settings.

Properties	UID1
VALUE	240.0.0.0
COLOR	0.240.240
STATUS	
NOTIFY	AUTO
FTW	DISABLE
SOLAR	ALL
DISSOLVE 1	0
DISSOLVE 2	1
DISSOLVE 3	1
DISSOLVE 4	20
SEQRATE	4



These dissolve rates equate to the following

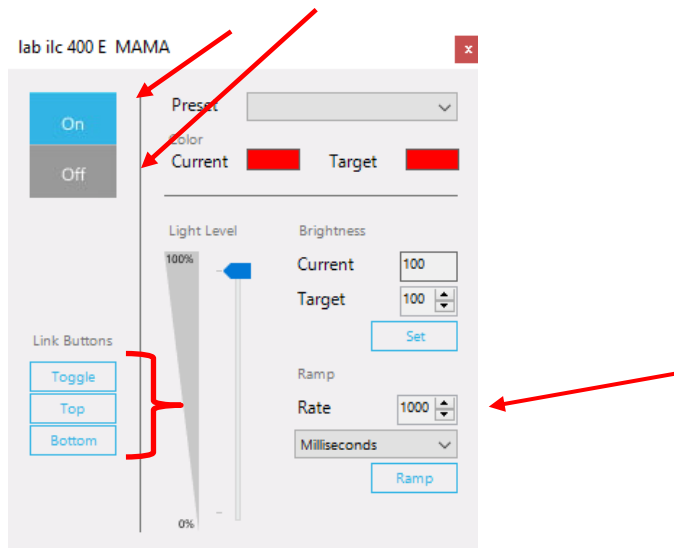
Dissolve Type	Application
1	Dissolve function for transitions between from one state and another using direct value commands such as SET,L; SAT, S; HUE,H; RED,R, GREEN,G, BLUE,B; COLOR;VALUE Dissolve
2	Dissolve function for transitions between ON and OFF and between PRESETS (RECALL,X)
3	Dissolve function for transition from one state another with the following effects
4	Time to complete a full cycle with the following EFFECT function. (Min is 14 seconds—max is 240 -EFFECT(3)

Although there are 4 dissolve rates available with the e-Node setup web server, typically automation system using only control 1 or 2 of these variables. For typical **On/Off/Toggle** operations, only Dissolve Type “2” is applicable and can be controlled from these 3rd party platforms easily.

Below is a review of special features available with Control4’s OS release 3.3.0

2. Implementation of Dissolve Rates with C4 User Interfaces.

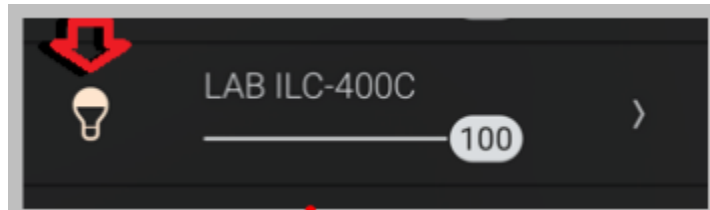
2a. The Device Widget/Popup.



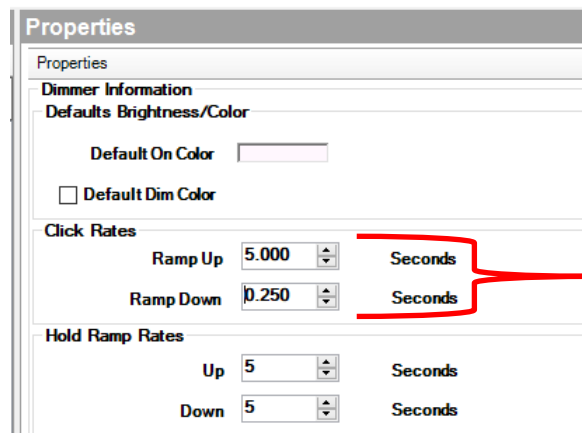
-The **On/Off** buttons and the **Ramp** function/Rate can be used to test ramping on a target device. CSI controllers will parse rates in even increments (i.e., 1000ms/1 sec, 2000ms/2 sec, etc.).

-The **Link Buttons** can be used to Toggle (On/Off) using also the **Ramp/Rate** setting, or the **Link Button/Top** can bring the light level to fully on (top) or **Link Button/Bottom** can bring the light level of fully off again using the timing set within the **Ramp/Rate** tab.

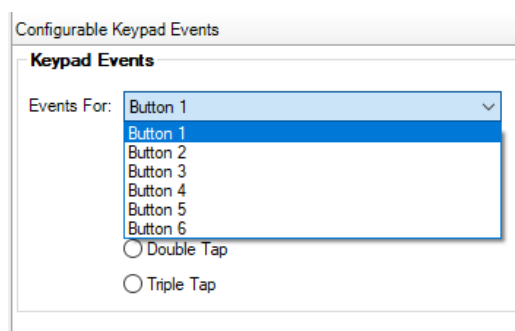
2b. The Touch Screen/Mobile Device User Interface.



The **Light Bulb** icon can be used to toggle On/Off the load. Here the applicable ramp setting can be found within the setup of the device itself. Here, a **Ramp Up** setting of **5** seconds will cause a **Toggle ON** to take 5 seconds to reach the maximum brightness, while a **Ramp Down** of **.250** seconds will cause the **Fade down** to OFF to occur almost instantaneously.

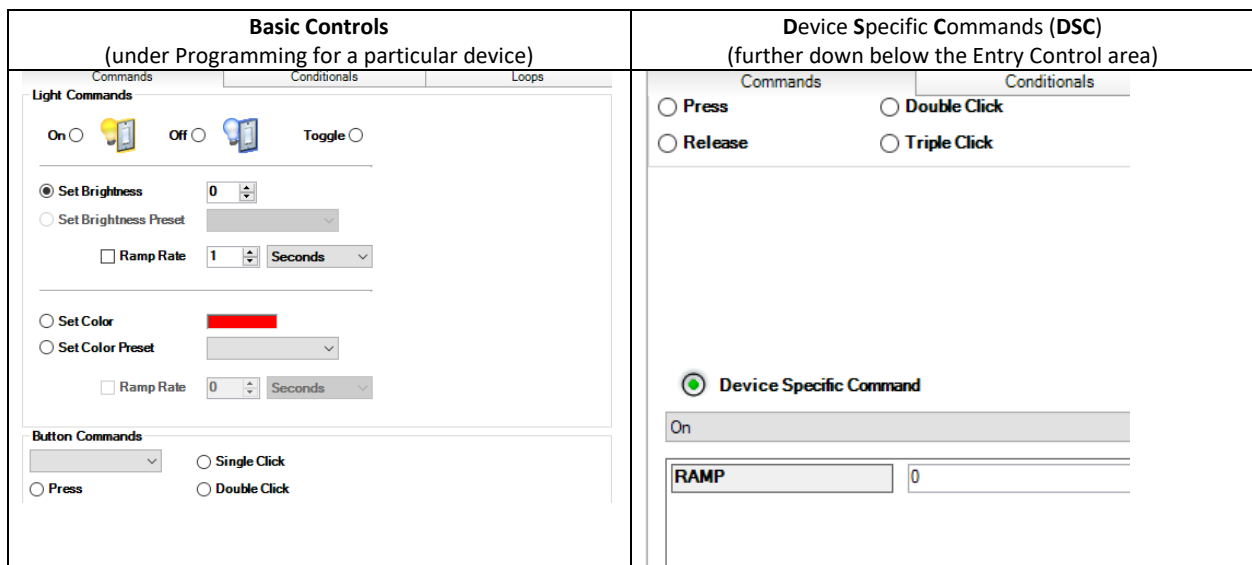


2c. Configurable Keypad or Similar Button Control.

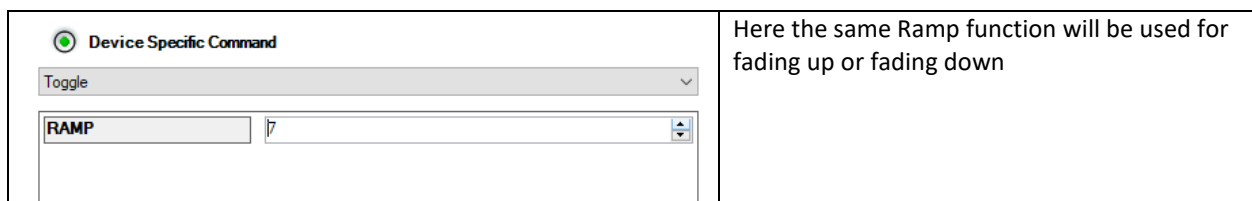


Here a button can be programmed to basically do anything including typical **On/Off/Toggle** functions. But there is also a wealth of additional features that can be selected/controlled as well.




There are two ways of programming these buttons. One is with the default/basic Control4 entry controls (**Basic Controls**) and another is with our Device Specific Commands (**DSC**). Although the Basic Controls can be used, they are not as comprehensive in some cases as the **Device Specific Commands** and therefore please use these for special/rich type control. In short, for the most precise control, we recommend the **Device Specific Commands** while for simply applications such as **On/Off/Toggle** the Basic Controls are just fine.



As an example, let's program a Toggle with an **7** second ramp using DSC.



Alternatively, here is an example of a **Toggle** using Basic Controls.

Commands	Conditionals	
<p>Light Commands</p> <p>On <input type="radio"/>  Off <input type="radio"/>  Toggle <input checked="" type="radio"/> </p> <hr/> <p><input type="radio"/> Set Brightness <input type="text" value="0"/></p> <p><input type="radio"/> Set Brightness Preset <input type="text"/></p> <p><input type="checkbox"/> Ramp Rate <input type="text" value="1"/> <input type="text" value="Seconds"/></p>		<p>Here (currently) there is no ramp setting within this screen, but the initial settings for the device will prevail (see here).</p>