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ADEO CONTROL SGD-C4-1

SERVER GATEWAY DMX

for Control4 integrations

CONTROL4 INTEGRATION MANUAL

V3

Firmware version: 1.0.34

December 2023

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Summary

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1. Release Note

Dashboard version	Firmware version	TCP/IP stack version
0.0.81	1.0.34	TCP/IP version 2.1.2

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2. Application

The new Adeo Server Gateway SGD-C4-1 is a multi-output device that operates at the network level and allows data packets to be routed to fieldbus communication systems such as DMX512A to provide advanced lighting control. Once the IP address is assigned on the Composer Pro, the SGD-C4-1, through specific drivers, is able to manage the individual channel or RGB through DMX. Communication is bidirectional, so from the Control4 interface we will always have the updated status of the lights.
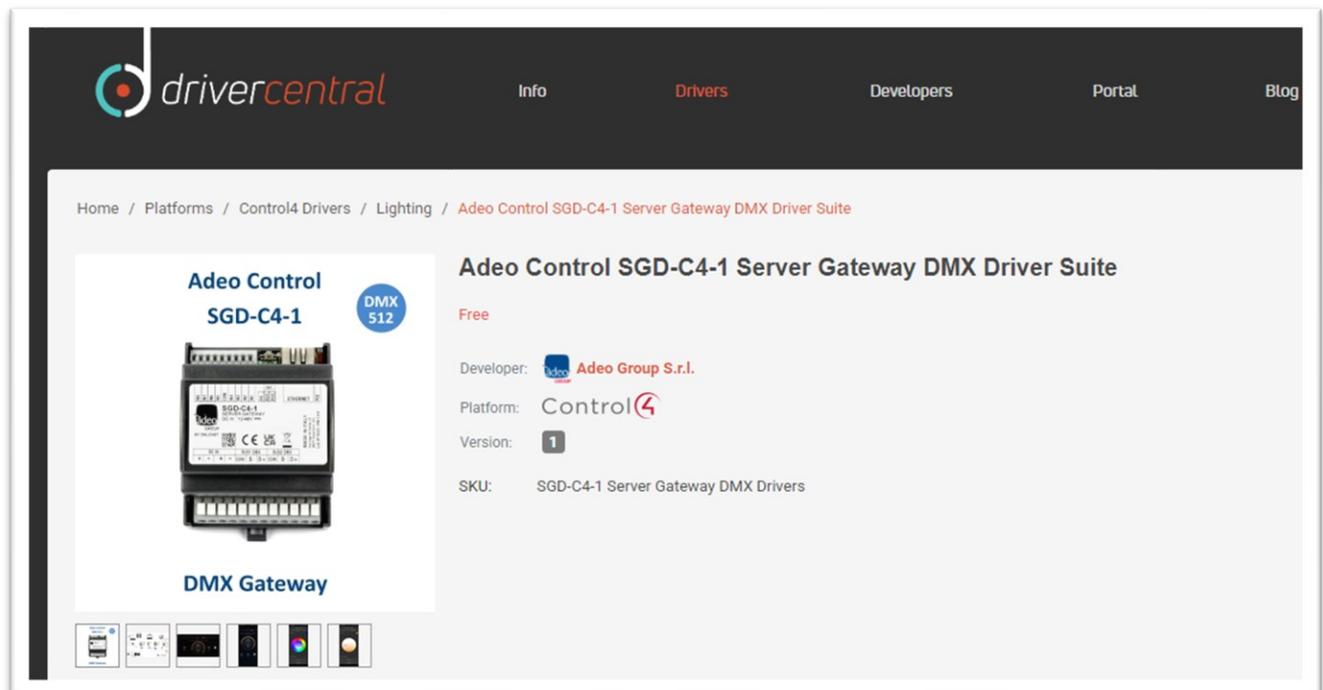
The SGD-C4-1 device stores information from the configured receiver buses in a buffer and transmits it to the configured transmitter buses. In the default configuration, a single buffer, corresponding to a DMX universe, is managed and controlled via the Ethernet interface. On the DMX bus, all of the 512 channels of the buffer are transmitted; according to an algorithm that updates the fastest changing channels more frequently. This default configuration allows a total of 512 levels of light intensity to be managed through any control unit with an Ethernet connection, and to control different devices without the need to know in detail how the relevant protocols work.

The supply voltage is between 12 and 48V DC.

The SGD-C4-1 provides, via its incorporated flash memory, a Web Server interface on which a standard application is loaded that allows real-time data setting or monitoring from a PC, Tablet or Smart Phone. With the SGD-C4-1, advanced lighting control is possible at network level, with the advantage of intelligent communication through different communication buses. Indeed, SGD-C4-1 manages the data and bus interface in a transparent way, allowing easier system configuration.

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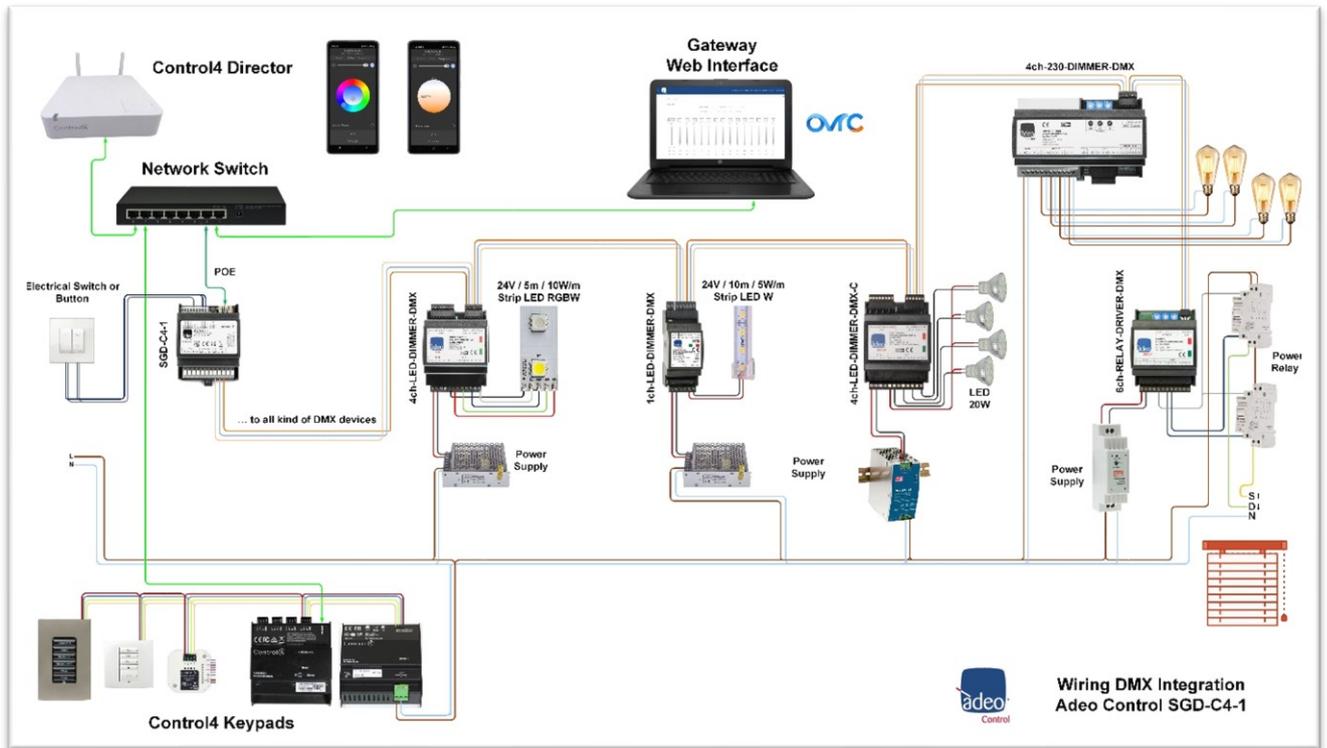Mail: info@adeogroup.it – www.adeogroup.it

3. Control4 Integration

- The gateway comes with a free driver and only works with the SGD-C4-1.

- The gateway manages DMX showing 512 channels in Connections.

- The gateway supports RampToLevel directly via hardware.

- The 512 channels are combined with the light/relay drivers in Connections.

- Broadcast commands can be sent directly from the gateway driver.

- The light drivers support the Advanced Lighting.

- The drivers support the OS3 and more.

Updated drivers can be downloaded free of charge from

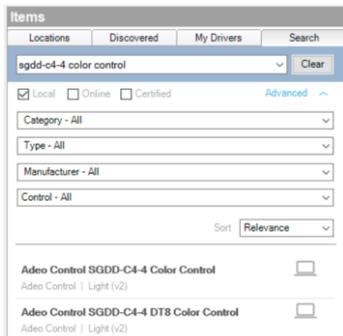https://drivercentral.io/platforms/control4-drivers/lighting/adeo-control-sgdc41-server-gateway-dmx-driver-suite/

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4. DMX integration example

Wiring DMX Integration
Adeo Control SGD-C4-1

Design considerations for a DMX ecosystem

N°	Fixture	DMX Address	N° SGDD-C4-3
512	White	512	1
170	RGB	(170x3) 510	1
128	RGBW	(128x4) 512	1
128	TW	(120x2) 252	1

5. Before programming

Check that the Network settings are correct.

Note down the IP Address, which is required for settings in Composer.

Also check the communication between the gateway and the DMX buses from **Channels**.

Communication between the driver and the gateway takes place through Telnet protocol.

Verify that Telnet is enabled on the gateway

6. Drivers
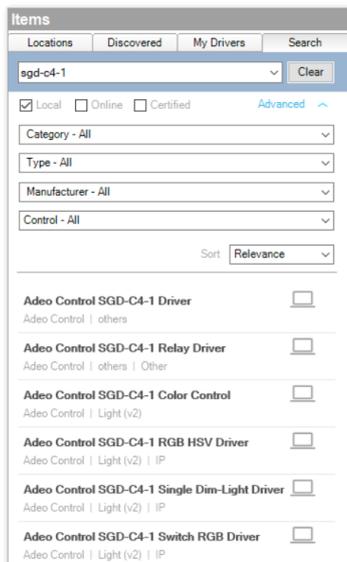
The drivers are free of charge and were developed by StArt Project for Adeo Group.

The entire driver suite can be downloaded free of charge at:

https://drivercentral.io/platforms/control4-drivers/lighting/adeo-control-sgdc41-server-gateway-dmx-driver-suite/

Drivers for releases up to OS 3.2.4 are:

Name	Device File
Adeo Control SGD-C4-1 Driver	**Adeo_Control_SGD-C4-1_Gateway.c4z**
Adeo Control SGD-C4-1 Single Dim-Light Driver	**Adeo_Control_SGD-C4-1_Single_Dimmable_Light.c4z**
Adeo Control SGD-C4-1 RGB HSV Driver	**Adeo_Control_SGD-C4-1_RGB_HSV.c4z**
Adeo Control SGD-C4-1 Switch RGB Driver	**Adeo_Control_SGD-C4-1_SW_RGB.c4z**
Adeo Control SGD-C4-1 Relay Driver	**Adeo_Control_SGD-C4-1_Relay.c4z**

Copy drivers to folder Documents/Control4/Drivers created by Composer Pro. Using the 'Search' tab in System Design, add the drivers to the device list in your project. Flag 'Local'
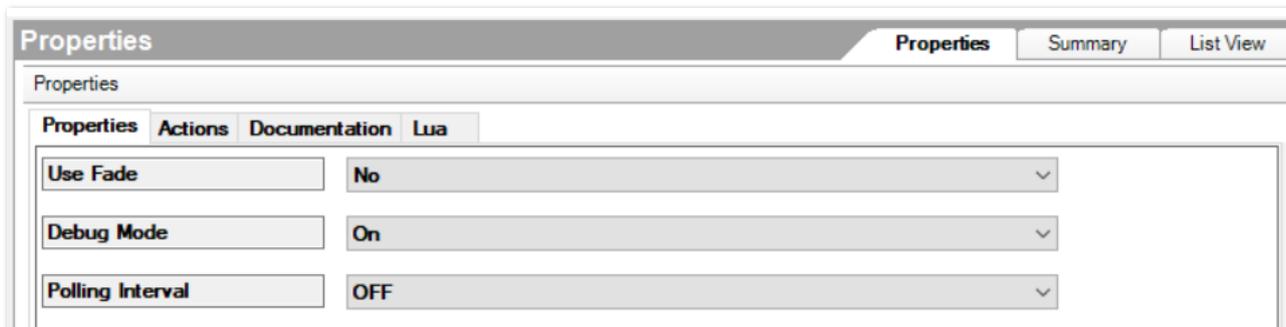
Latest Version: 1

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7. Color Control Driver

The Drivers for releases from OS 3.3 and beyond are:

Name	Device File
Adeo Control SGD-C4-1 Color Control*	**Adeo_Control_SGD-C4-1_Color-Control.c4z***

Copy drivers to folder Documents/Control4/Drivers created by Composer Pro. Using the 'Search' tab in System Design, add the drivers to the device list in your project. Flag 'Local'

Latest Version: 3100

*this driver must be used in combination with the Adeo Control SGD-C4-1 Single Dim-Light Driver (Adeo_Control_SGD-C4-1_Single_Dimmable_Light.c4z).

8. Best Practice

a.   Before integration with the Control4, it must be ensured that the lighting system is working properly. Wiring errors or hardware malfunctions can affect driver programming and usage.

b.   Using a diagram or a lighting project is always very useful to then reproduce in System Design the system to be controlled.

c.   It is important to understand what kind of lighting fixtures and the behavior they will have to have. If we have to carry out a control on a tunable white type lighting fixture (or dynamic white or white light temperature) we will have:

   iv.   the addressing will take away two channels associated with 2 **Adeo Control SGD-C4-1 Single Dim-Light Driver.** In this case we have 512 channels available. We recommend the use of the **ADEO CONTROL 4CH-LED-DIMMER-DMX.**

d.   It is always recommended to deal with those who are in charge of providing the lighting control devices.

e.   We invite you to use the Drivers in conjunction with the **Agent Advanced Lighting**

f.   The **Color Control** driver aggregates multiple drivers that control the single DMX function, for this we recommend using hardware dimmers such as 4ch-LED-DIMMER-DMX DMX 4ch constant voltage DMX dimmer which can provide different functions.

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9. Adeo Control SGD-C4-1 Driver (Adeo_Control_SGD-C4-1_Gateway.c4z)

System Design

| USE FADE | The need to introduce the direct 'set' command, without the use of a ramp, was necessary because some devices do not support the reception of continuous commands, typical of fade/ramping variations. Specifically, if such devices receive unsupported commands, they have uncontrolled behaviour and provide incorrect feedback to the physical gateway. |

This property affects the communication protocol used between the Control4 driver-gateway and the SGDD-C4-3:

- yes: all commands sent from the driver to the physical gateway are fade/ramping commands with a minimum time of 100 ms.

- no: the driver sends 'set' commands (without fade/ramping) to the physical gateway

Debug Mode Enable or disable debugging in Lua

Polling Interval "**OFF**, **10** or **60"** sets the time in seconds for polling, i.e. to receive information from the gateway. The recommended value is always OFF, in order not to overload the communication channel.

Actions
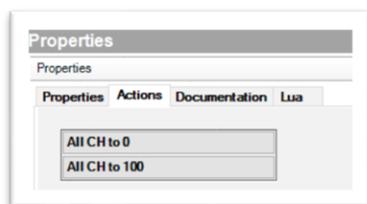
All CH to 0

The driver sends a broadcast-type command to all channels to set them to 0. It serves as a communication check between Control4 and the gateway.

All CH to 100

The driver sends a broadcast-type command to all channels to set them to 100. It serves as a communication check between Control4 and the gateway.

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IP Network Connections
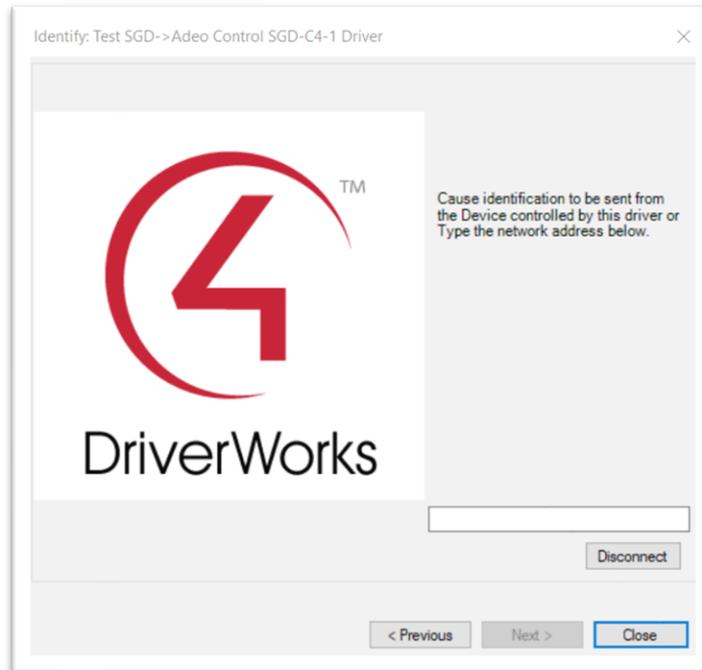
Enter the IP address of the gateway and click **Close**. **Status** will change to **Online**.

Control & Audio Video Connections

Gateway driver shows all available 512 channels. Assign channels to the Light Drivers (drag and drop).

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10. Dimmer Driver with light_v2 Proxy

All these drivers share the same (standard) **Properties** in **System Design**

Name	Device File
Adeo Control SGD-C4-1 Color Control	Adeo_Control_SGD-C4-1_Color-Control.c4z

Used as a dimmable V2 light driver. Supports **Advanced Lighting** and **Keypad** command assignment.

It should be noted that the driver also supports **Brightness Presets for Button Connections**, for the creation of presets that can then be called up directly in **Connections**.

All these drivers share the same (standard) **Properties** in **System Design** and do not provide the color wheel in the **Navigator**

Name	Device File
Adeo Control SGD-C4-1 Single Dim-Light Driver	Adeo_Control_SGD-C4-1_Single_Dimmable_Light.c4z
Adeo Control SGD-C4-1 RGB HSV Driver	Adeo_Control_SGD-C4-1_RGB_HSV.c4z

Used as a dimmable V2 light driver. Supports **Advanced Lighting** and **Keypad** command assignment.

It should be noted that the driver also supports **Brightness Presets for Button Connections**, for the creation of presets that can then be called up directly in **Connections**.

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## 11. *Adeo Control SGD-C4-1 Color Control (Adeo_Control_SGD-C4-1_Color-Control.c4z)*

After Control4 announced the new interface for lighting color control, Adeo Control also developed a new driver capable of supporting the changes introduced with OS 3.3 +.

The driver has no connections because it actually controls the other drivers (Adeo_Control_SGD-C4-1_Single_Dimmable_Light.c4z) present in the project.

System Design – Advanced Properties
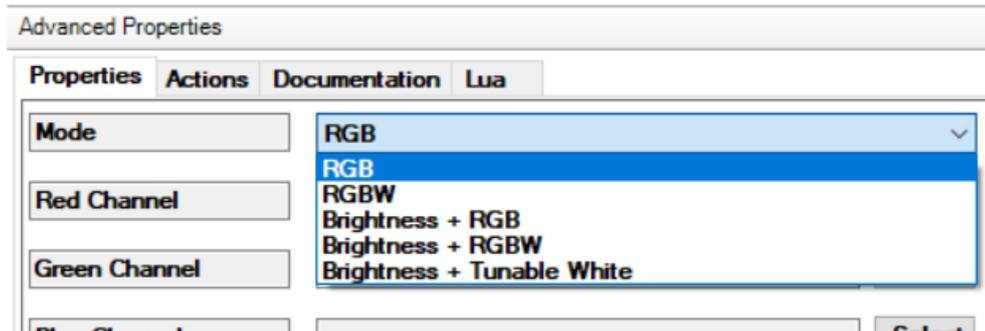
On Mode, select the type of load used. The related color fields will change accordingly.
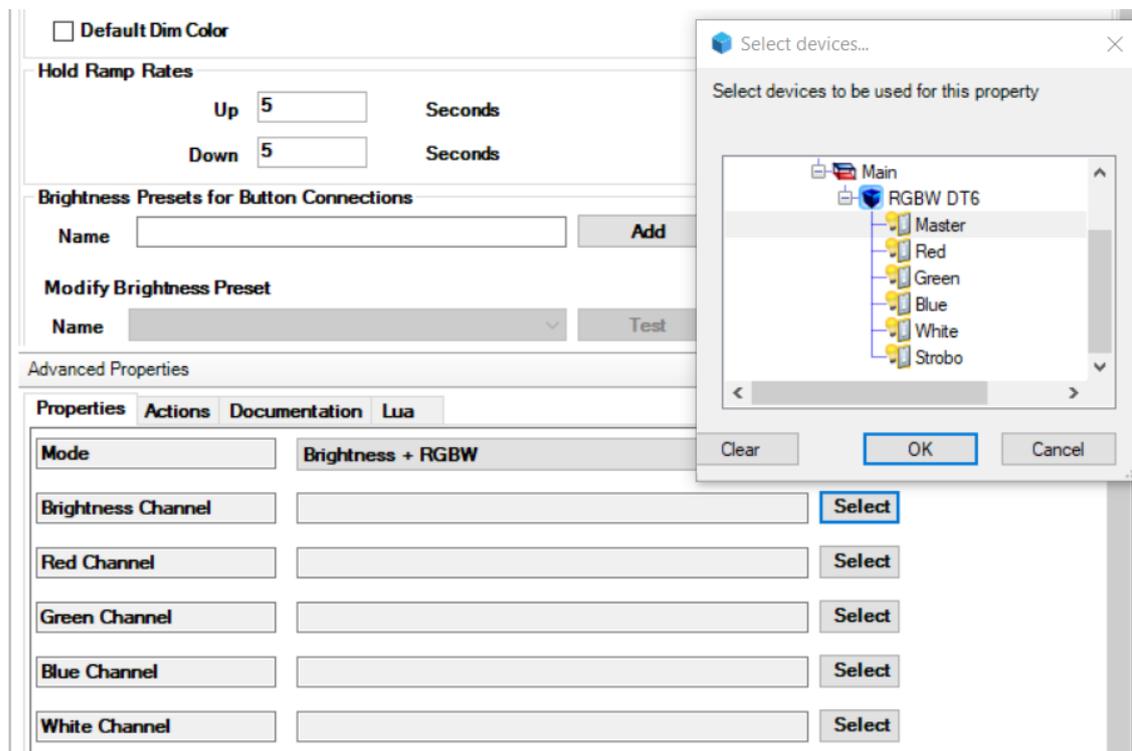
By clicking on **Select** the new window will show all the drivers available to the control present in the project.

Assign respective channels to gain control on OS 3.3+. For the connections of the individual drivers see page 34.

The advantage is that you don't need to re-program once you switch to OS 3.3+

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Logging	
Log Level	Off
Log Mode	Print
Disable Log Interval	1 hour
	Autmatically disable logging after this interval of time

Driver Info	
Driver Version	002000

Logging

Log Level	**Off** to disable logging in Lua
	5 - Debug, 4 - Trace, 3 - Info, 2 - Warning, 1 - Error, 0 – Alert set the Log Level**.**
	The remote assistance requires **5 - Debug**
Log Mode	**Print, Log** and **Print and Log**
Disable Log Interval	it is possible to set an interval within which to disable logging, so as to save processing

Driver Info

Driver Version	Show Driver Version

It should be noted that by its nature, this type of driver cannot manage the Brightness Rate in Advanced Lighting. It is recommended that you use the individual drivers that handle the individual functions.
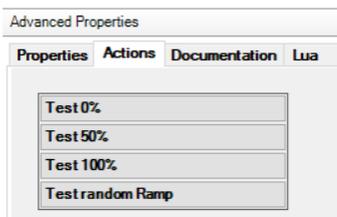
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12. Adeo Control SGD-C4-1 Single Dim-Light Driver (Adeo_Control_SGD-C4-1_Single_Dimmable_Light.c4z)

<u>**System Design – Advanced Properties**</u>

Debug Mode	Turn Debugging on or off in Lua
Connected on CH	Automatically shows the channel assigned in **Connections**

In **Actions** you can test the connection and the correct response of the associated channel.

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13. Adeo Control SGD-C4-1 RGB HSV Driver (Adeo_Control_SGDD-C4_RGB_HSV.c4z)

Introduction

The Driver allows you to have the RGB color variation on a single slider. This image should simulate the behavior from 0% to 100% of an RGB strip, where at 0% we will have dark, at 1% we will have red and at 100% red again

.

1%	🟥	50%	🟦
17%	🟨	67%	🟦
33%	🟩	83%	🟪

System Design – Advanced Properties
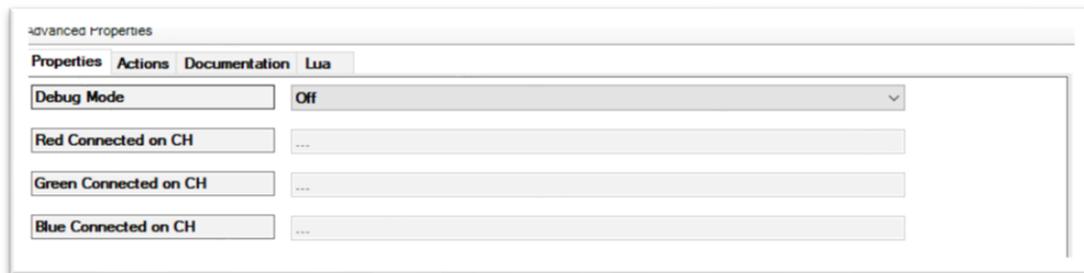
Debug Mode	Turn Debugging on or off in Lua
XXX Connected on CH	Automatically shows the channel assigned in **Connections**

Actions

In **Actions** you can test the connection and the correct response of the associated channel.

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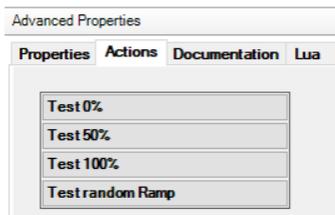
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14. Adeo Control SGD-C4-1 Switch RGB Driver (Adeo_Control_SGD-C4-1_SW_RGB.c4z)

System Design
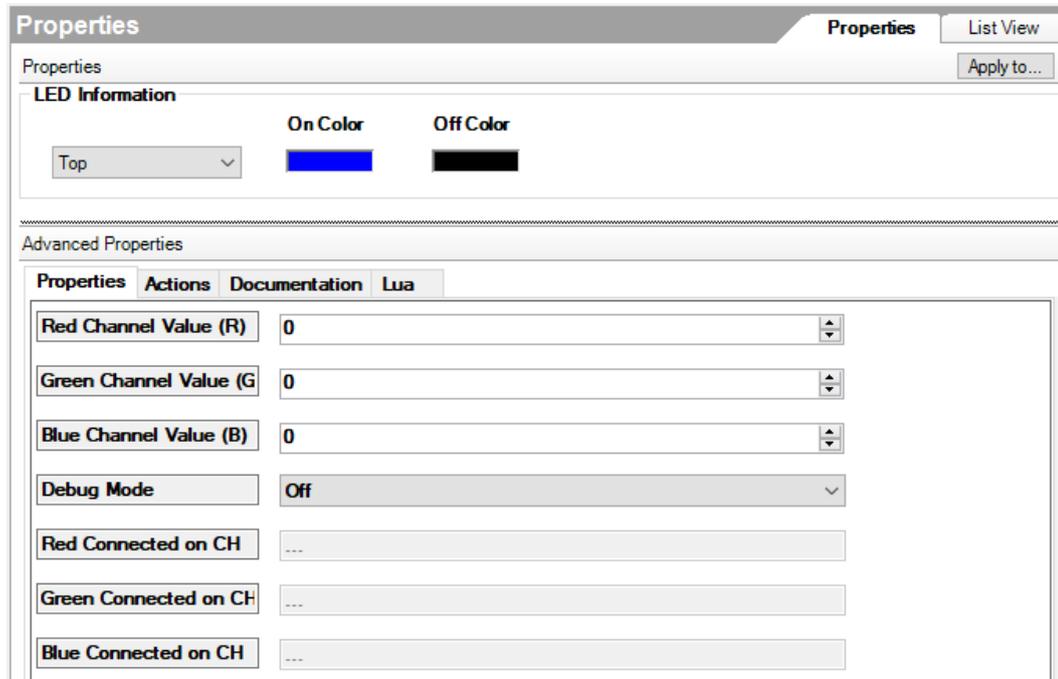
Used as a **non-dimmable light V2 driver**. Supports **Advanced Lighting** and **Keypad** Command Assignment.

XXX Channel Value	Select the combination of values to obtain the desired RGB color
Debug Mode	Turn Debugging on or off in Lua
XXX Connected on CH	Automatically shows the channel assigned in **Connections**

Actions

In **Actions** you can test the connection and the correct response of the associated channel.

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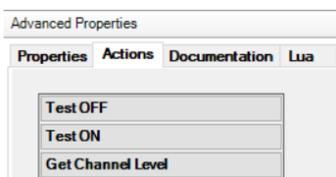
15. Adeo Control SGD-C4-1 Relay Driver (Adeo_Control_SGD-C4-1_Relay.c4z)

System Design
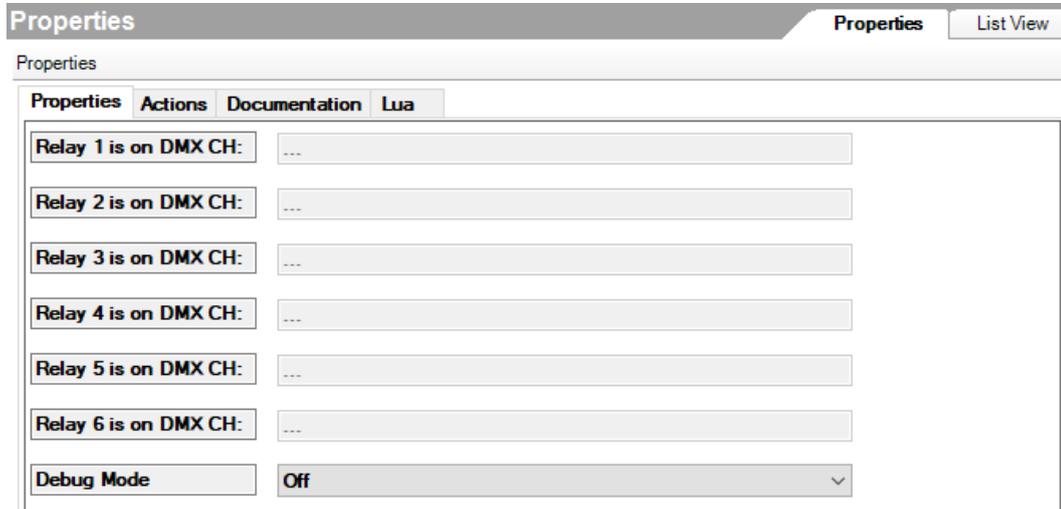
| XXX Connected on CH | Automatically shows the channel assigned in **Connections** |
| Debug Mode | Turn Debugging on or off in Lua |

Connections

Assign channels and then connect Drag and Drop Relay Output to the motorizations.

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