Adeo Group distributes products for professional audio video installations and home automation systems. Since 2009 we are the Italian distributor of the Control4 brand, but we have been operating on the market for over 30 years. The experience in close contact with the needs of the System Integrators has given rise to Adeo Control: a brand that aims to support Control4's solutions in the most advanced systems.

We deliver our solutions all over the world (we have provided around 1000 DALI and DMX gateways in the last 4 years).

Adeo Control Product line

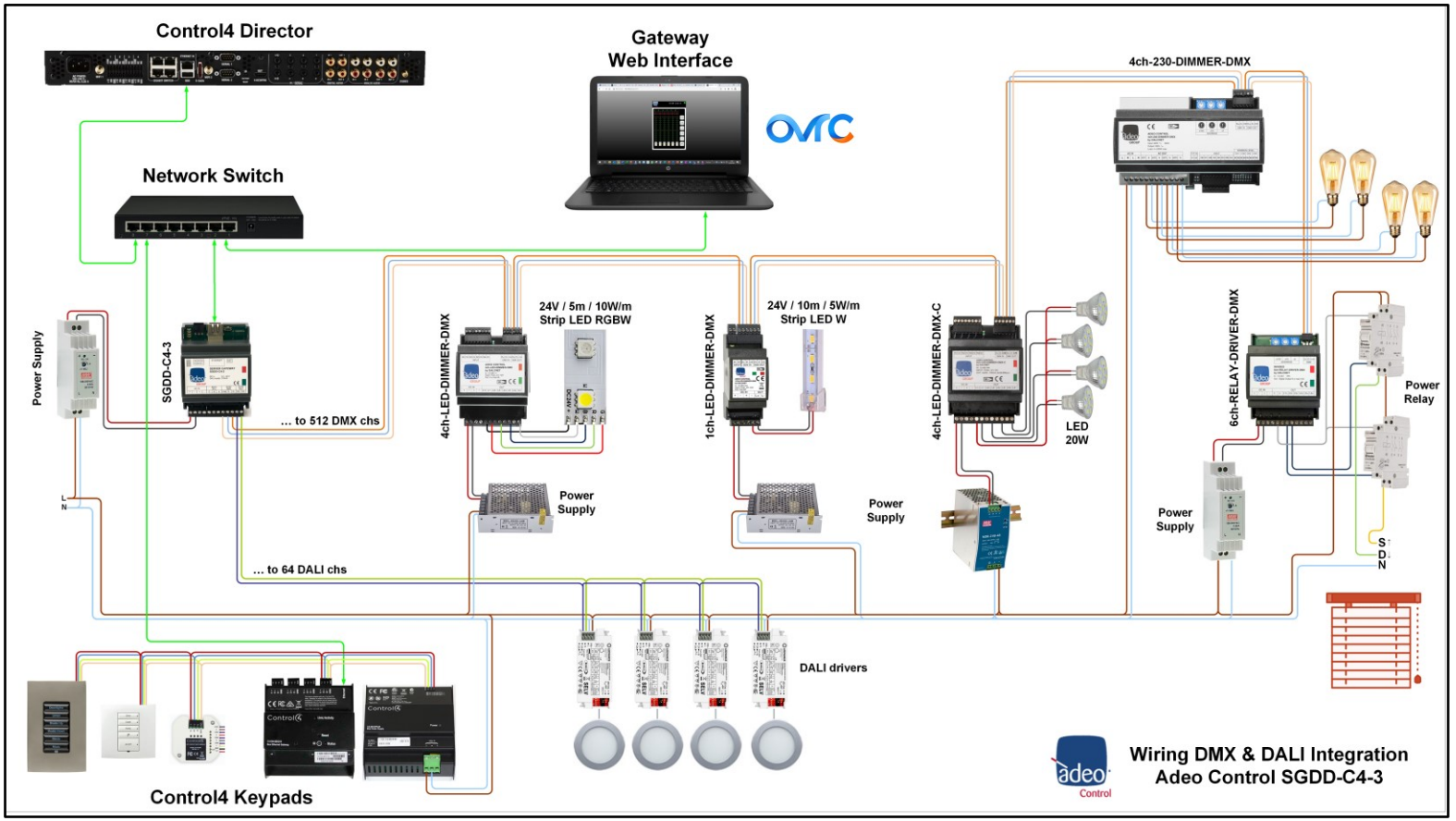
	Server Gateway 	**Low-Voltage Mgmt** 	**DMX Devices** 
	Energy Mgmt 	**IoT**	**KNX**

2 - Adeo Control: DALI and DMX Integration on Control4 System

Adeo Control, since 2016, provides two product line:

1. DALI and DMX lighting integration, with the DALI (and or) DMX IP gateway directly integrated on Control4 (no need other domotic bus). Are available 5 free drivers to manage al kind of low voltage lighting (tunable white, dim to warm, RGB, RGBW).

2. Complete Energy Management solution with the web server Super Gateway, Meter and Smart Plug wifi. We provide a very useful interface on Control4 touchscreen, with the history of power consumption and power production. The solution can also use KNX or Modbus meter.



What we see is an example of a system that simultaneously manages the DMX bus - up to 512chs - (with Adeo Control devices) and the DALI bus - up to 64chs. Control4 will send commands on the two buses and receive status changes via IP.

On the DALI the gateway cannot manage commands coming from the bus, such as sensors or buttons.

DMX bus

- The DMX512 is the acronym for "Digital MultipleX" and was born in 1986 and is based on physical protocol RS-485
- Allows 512 channels per universe
- One-way communication
- Its speed is 250kbit/s
- Its wiring is based on a 2-wire cable + shield with 120 Ohm impedance
- Particularly suitable for professional systems where speed of execution and control of multiple channels at the same time

DMX bus: PROS and CONS

PROS

- Controlling a network of addresses at the same time
- Network of 512 devices / channel
- High speed of execution of the scenes
- Advanced programming
- Ability to create very dynamic scenarios

CONS

- It is based on a high-speed bus and its architecture requires adequate skills
- All settings are stored in the console

DALI bus

- It was born in 1998
- It is the acronym for "Digital Addressable Lighting Interface"
- An international standard protocol compliant with IEC 62386
- Controls 64 devices
- 16 Groups
- Its wiring is based on 2 standard wires
- Its speed is 1.2kbit / s.
- Particularly suitable for standard systems where an occasional control is required

Download DALI Guide

DALI bus: PROS and CONS

PROS

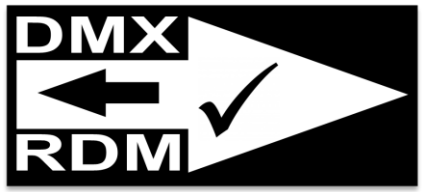
- Possibility of controlling single lamps or groups
- Possibility of controlling a network of addresses at the same time
- Low interference thanks to the simplicity of the communication structure
- Simplicity of programming
- All settings are stored in the ballast / dimmer

CONS

- Only 64 devices/channels
- Latency

We are well aware that the DALI bus is increasingly popular in residential installations, but this does not mean that it is the best solution.

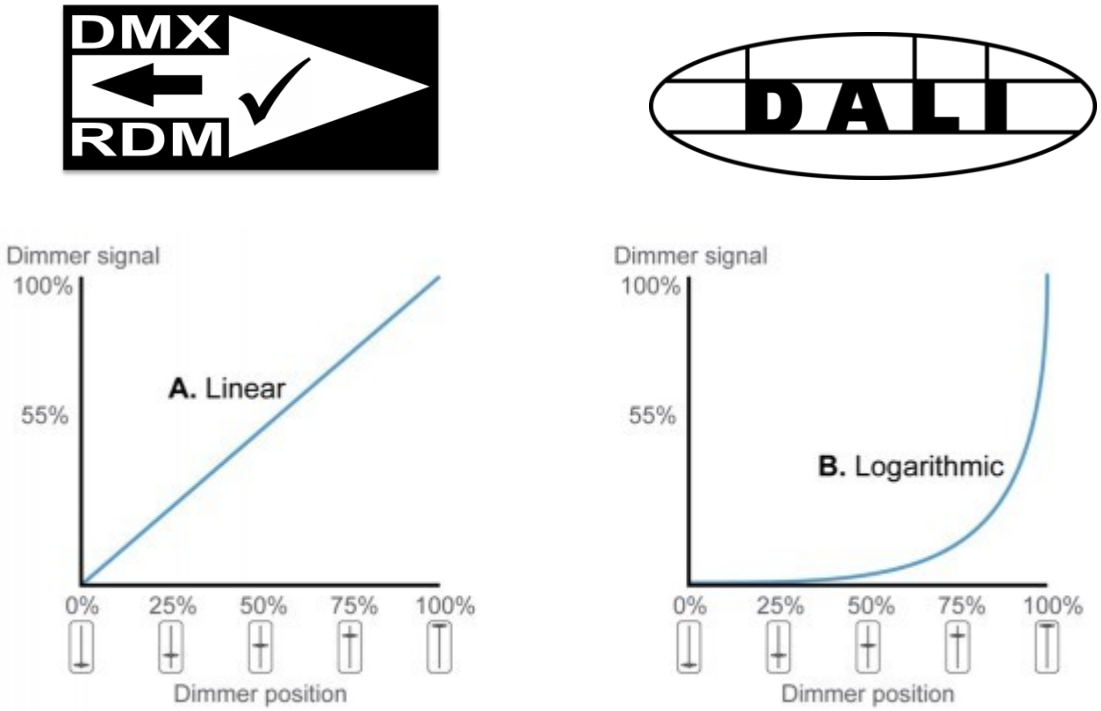
Applications



8 - Adeo Control: DALI and DMX Integration on Control4 System

The choice of one or the other bus depends on the type of system. when we have a more dynamic lighting we suggest DMX, when instead the lighting is more static, DALI can be the right solution.

Linear or logarithmic

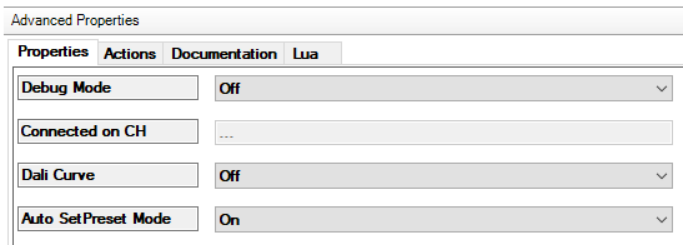


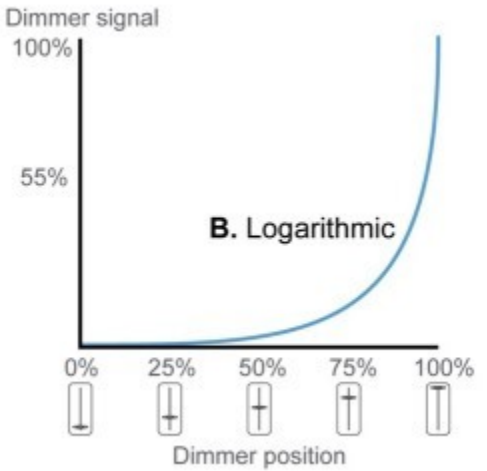
9 - Adeo Control: DALI and DMX Integration on Control4 System

Another important difference is the type of dimming curve. Linear, as Control4 GUI, is typical of the DMX world, while DALI generally has a logarithmic curve.

Linear or logarithmic

Our Control4 Drivers can set the Logarithmic (DALI) curve as Linear (Control4 GUI) curve





Luckily our drivers can force the logarithmic curve of the DALI into a linear curve (as Control4 GUI).

Adeo Control SGDD-C4-3 hardware

- 12-24-48 Vdc power supply
- 10/100 Ethernet port
- Simultaneously manages the DMX and DALI buses
- 512 DMX slots, RDM
- 64 DALI channels, built in 125mA ps
- Web Interface
- DALI addressing
- 5 years guarantee

Adeo Control SGDD-C4-3 hardware

Local Button

Ethernet Port

DMX RDM

DALI

Adeo Control SGDD-C4-3 on Control4

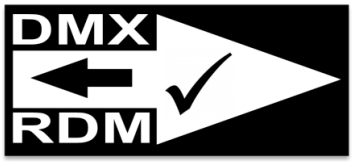
- Free Control4 drivers
- RampToLevel
- Broadcast commands
- Advanced Lighting support
- 512 connections
- DMX/DALI dimmer driver (1ch)
- DMX/DALI HSV RGB dimmer driver
- Non-Dimmable DMX/DALI RGB driver
- Relay driver

How many gateways…

Loads	Type	DMX (512)	SGDD-C4-3	DALI (64)	SGDD-C4-3
5	RGBW	20chs	1	20chs	1
10	RGB	30chs	1	30chs	1
17	RGBW	68chs	1	68chs	2
30	RGBW	120chs	1	120chs	2
33	Tun. White	66chs	1	66chs	2

DMX beats DALI … 512 to 64.

DMX integration: before buying!

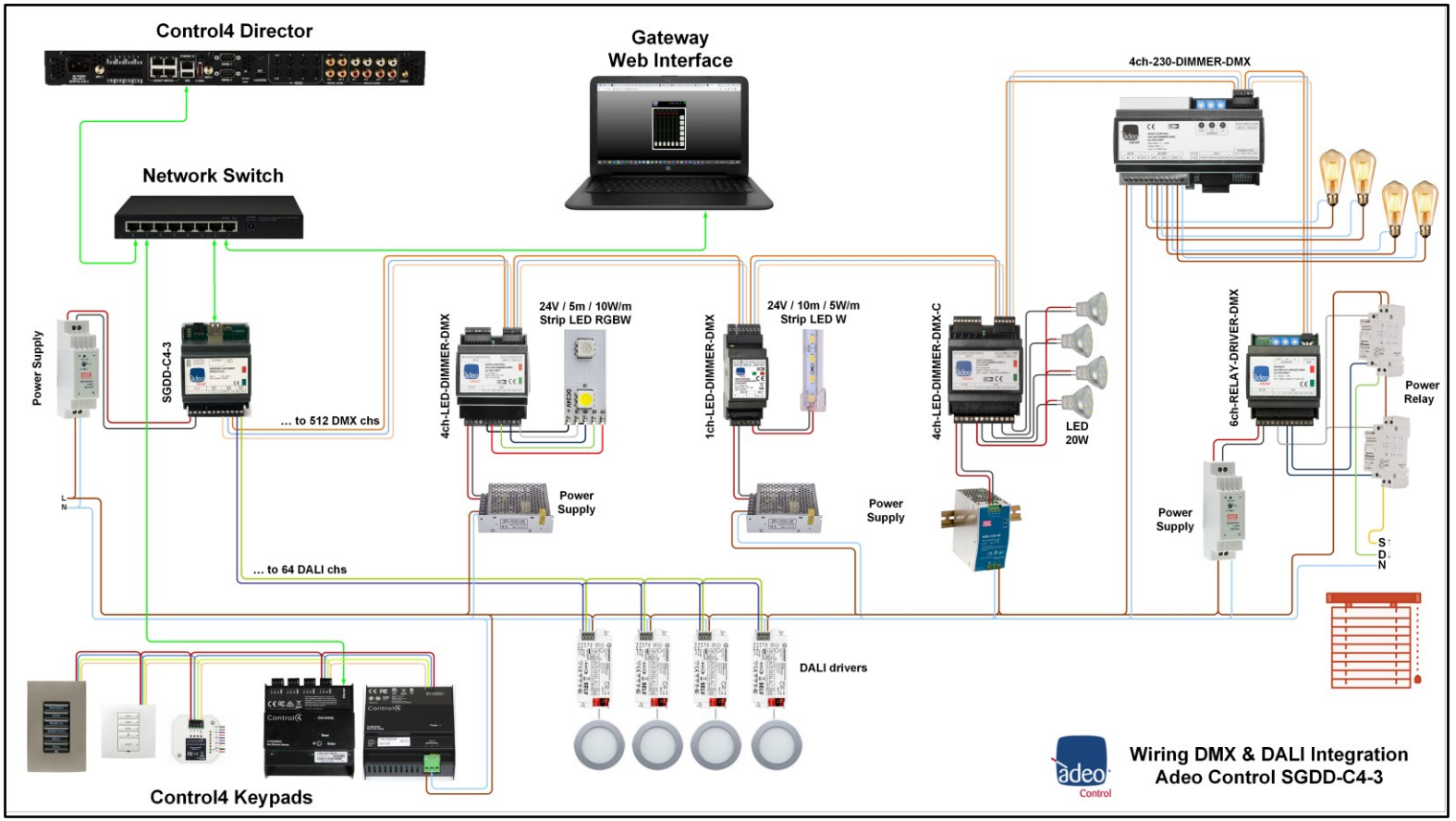


- SGDD-C4-3 can control any kind of DMX device
- SGDD-C4-3 supports RDM, but it doesn't address the DMX by RDM
  - *We suggest to use DMX device with manual addressing (as the Adeo Control devices) or by proprietary tools*

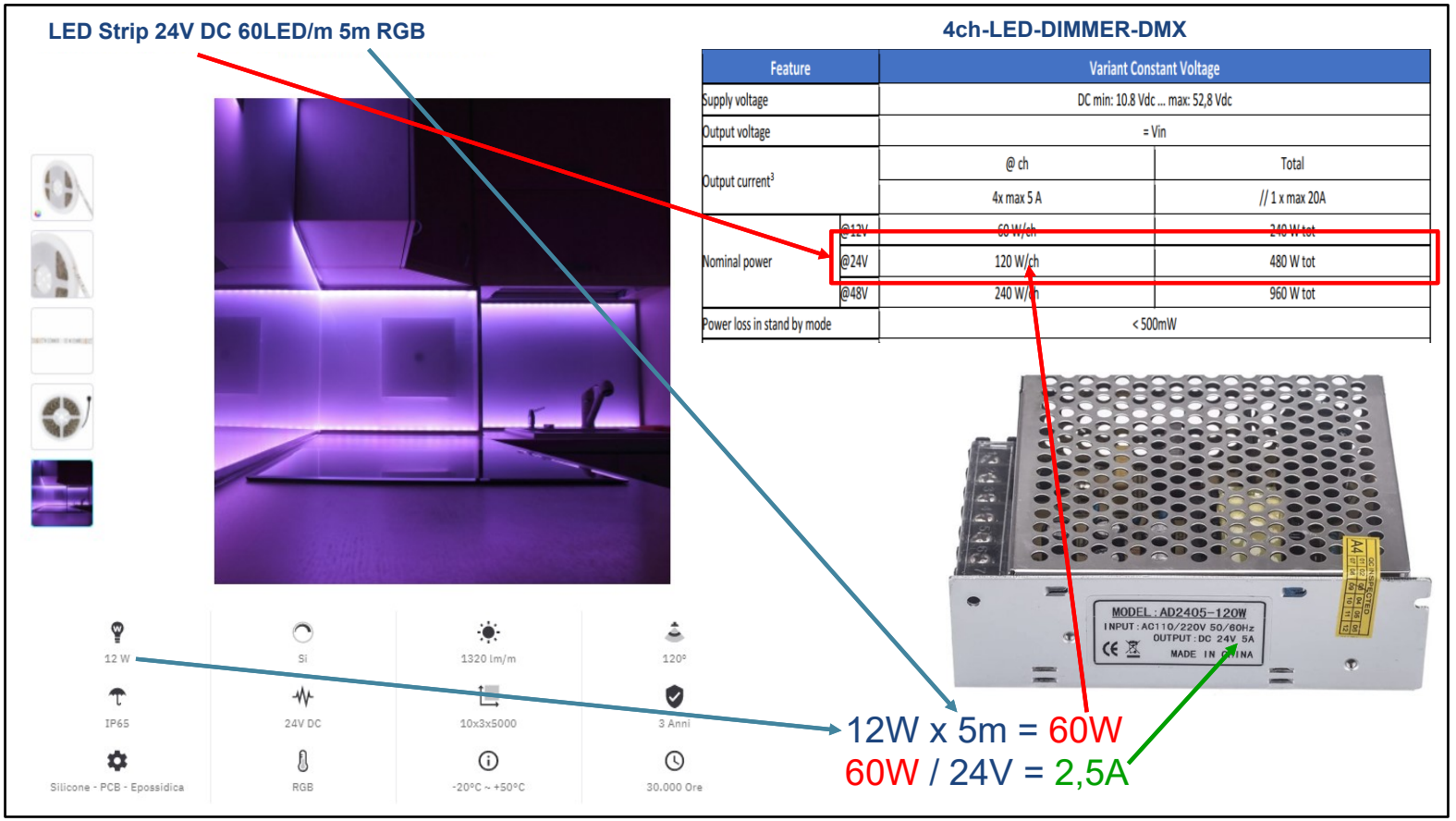
RGB DMX control requirement

The Adeo Control **4ch-LED-DIMMER-DMX** is designed to control RGB or RGBW strip led in constant voltage.

How can we size the right power supply according to the characteristics of the led strip fixture?



As already shown, let's now try to correctly size the power supply of our 4ch dimmer (or any type of DMX dimmer). This could also be useful for converting a DALI system into a DMX system.



For a correct sizing, we must know the technical characteristics of the led strip fixture that we have to control.
In this case we have 5 meters of 24Volt RGB strip.
And these are the technical characteristics of our 4chs dimmer.

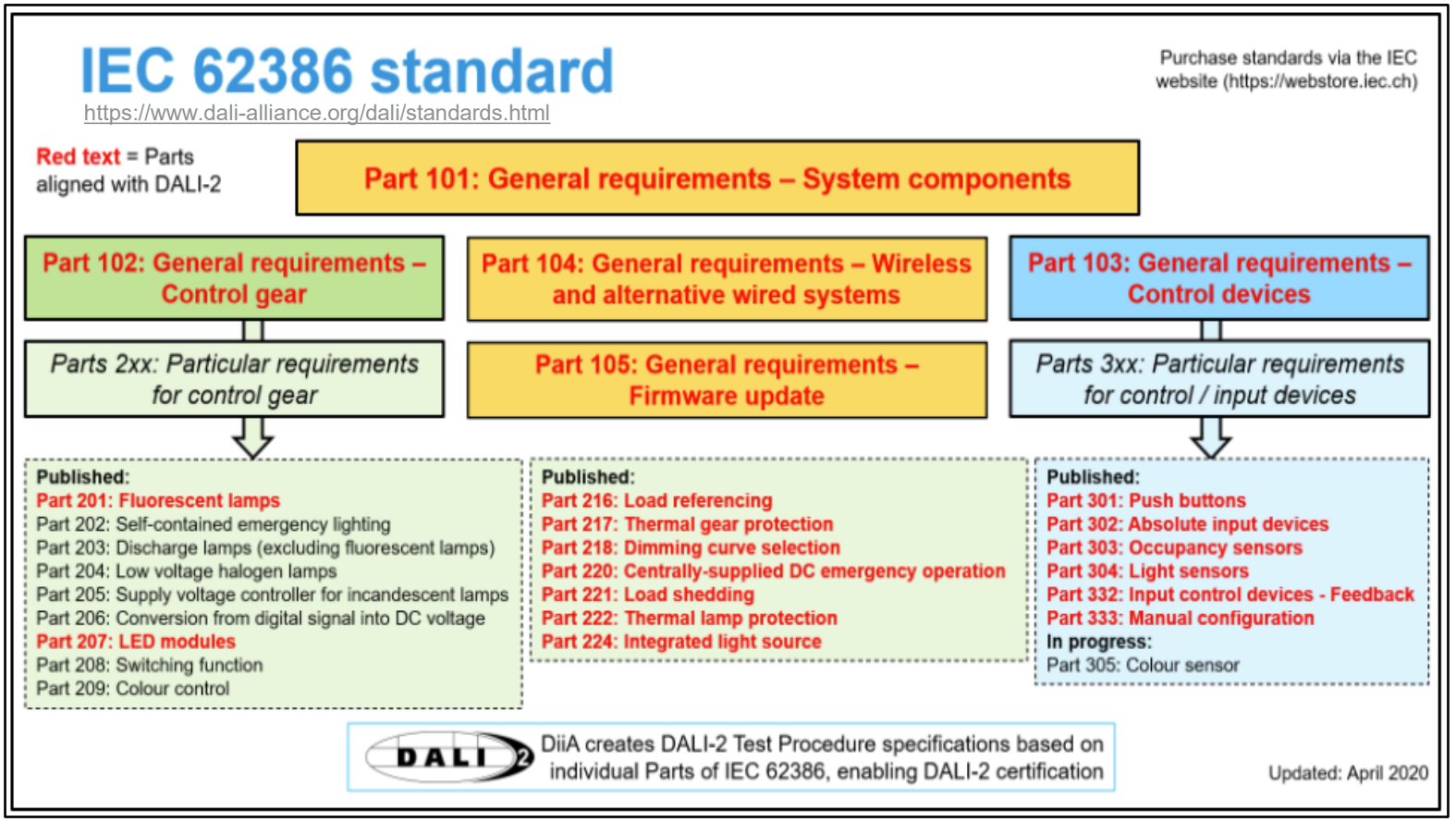
We need to know how many total watts the led strip needs.
12 watts multiplied by 5 meters equals 60 watts

Now, according to the datasheet of our 4chs dimmer with 24Volt we can manage up to 120Watt / chs ...
which is more than enough.

If we want to know how many ampere the power supply must have, we will have:
60watt divided by 24Volt equals 2.5 ampere
so just that provides at least 2.5A at 24V ... as in this case.

DALI integration: before buying!

- SGDD-C4-3 support only DT6 DALI devices
  - *Verify the technical data of DALI device you have to control*
- SGDD-C4-3 can not control DT8 DALI device, typical standard for tunable white
  - *We can control tunable white on Control4 interface, but using DT6 DALI device*
- DALI-2 is the certification program operated by the DALI Alliance and based on the latest version of the DALI protocol



This is the international standard of DALI and you can find it on their website (https://www.dali-alliance.org/dali/standards.html)

Therefore, DALI2 is only a certification to which all new DALI products must undergo.
We can find DALI2 devices with DT6 or DT8 protocol.

DT6 vs DT8

DALI Type	DT6	DT8
IEC62386-101* *System components*	√	√
IEC62386-102* *Control gear*	√	√
IEC62386-207* *LED modules*	√	√
IEC62386-209** *Colour control*	X	√

*supported by SGDD-C4-3
**supported by SGDD-C4-4

In this table we summarize the differences between DT6 and DT8.
The DT6 covers the first 3 standards, while the DT8 all 4.

We are developing a new gateway, obviously DALI2, which will also support DT8.

DT6 vs DT8

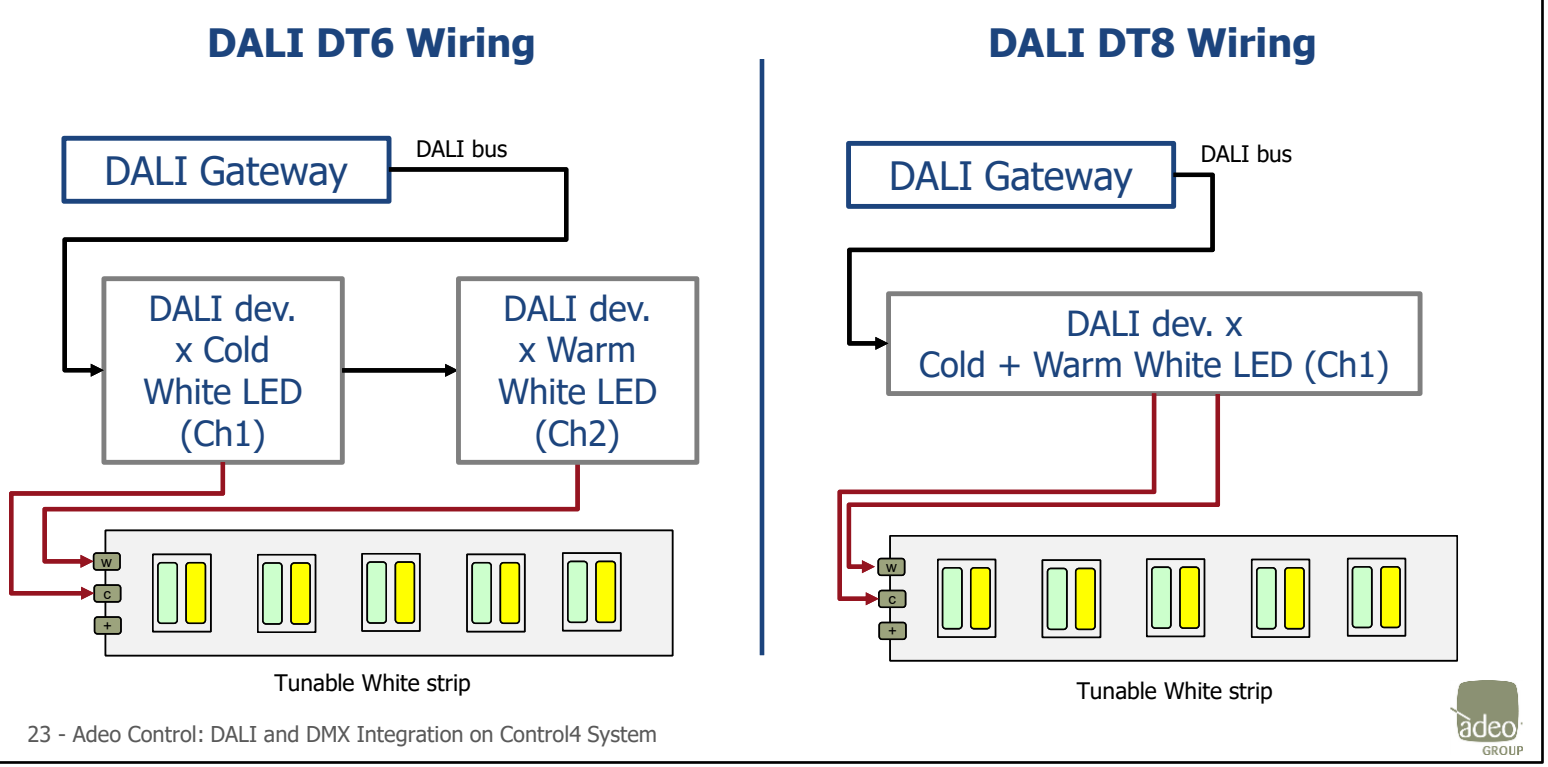
For DT6 driver, single address single channel. This type driver use one address to dim the color temperature and another address to dim the intensity, supporting DALI 102, DALI 207 protocol.

As for DT8 drivers, single address multipath channels. Those drivers use one address to achieve tunable white application. It's compatible with DT6 and support DALI 209 protocol.

Using DT6 protocol we will have one Control4 Driver for the Cold White and one for the Warm White… all managed on Advanced Lighting Agent as ONE slider on GUI

More info https://www.dali-alliance.org/dali/standards.html

DT6 vs DT8



23 - Adeo Control: DALI and DMX Integration on Control4 System

With a wiring based on DALI DT6 devices ... we will have a gateway connected via the DALI bus to a DALI device for the cold white LED on channel 1 and to another DALI device for the warm white LED on channel 2 ... means having two several dimmer drivers / sliders on Control4 interface (one for cold light intensity and one for warm light intensity).

Instead in the case of the DT8 wiring ... we will have a gateway connected via DALI bus to a single DALI device (always with two outputs) towards the cold white LED and towards the warm white LED, all on a single DALI channel ... it would mean have a single driver / slider on Control4 interface that switches from 0 to 100 from hot to cold.

Addressing: Short Address or Groups?

The SGDD-C4-3 Control4 Drivers can also control multiple channels simultaneously.
In Connections on Composer we can assign multiple channels to the same Driver.
This could cause some delay in the reception of the commands, due to the characteristics of the DALI devices.
In this case, we suggest selecting a Groups management (in Device Config BUS3 page 9) and use only the 16 Connections available.

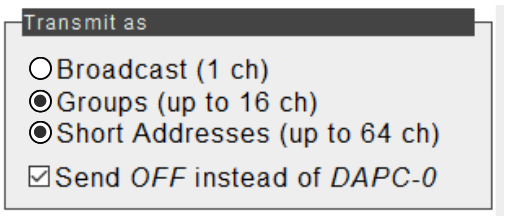
Control & Audio Video Connections

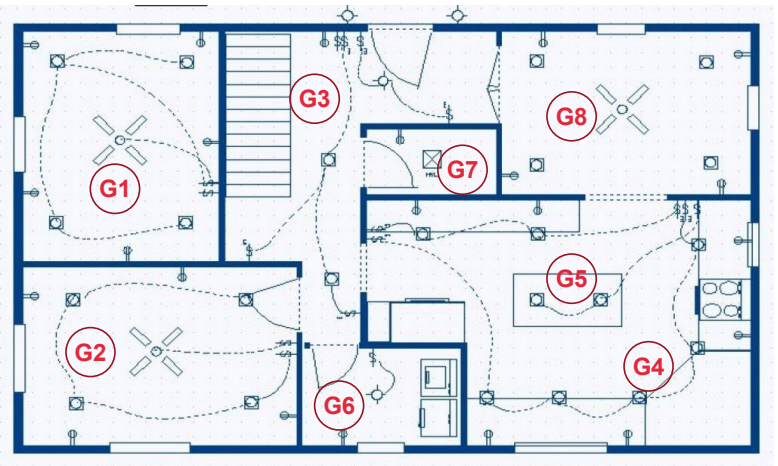
Adeo SGDD-C4 Light

Name	Type	Connection	Input/Output	Connected To
Control Outputs				
Top Button Link	Control	BUTTON_LINK	Output	
Bottom Button Link	Control	BUTTON_LINK	Output	
Toggle Button Link	Control	BUTTON_LINK	Output	
SGDD-C4 CH	Control	Adeo SGDD	Output	Adeo SGDD-C4 Gateway->CH 4 DALI/DMX, Adeo SGDD-C4 Gateway->CH 5 DALI/DMX

Addressing: Short Address or Groups?

If the system has multiple lights in the same room (as a single load) and if 16 groups are enough…
You will have only 16 Dimming Light Drivers available on Composer without delay.
You only have to set Groups on SGDD-C4-3 web interface.

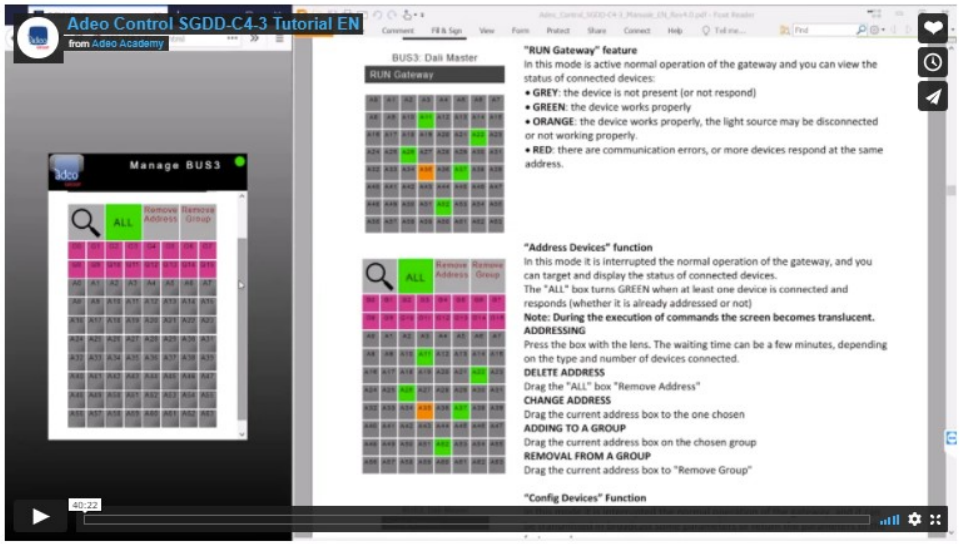




Thank you!

Adeo Control SGDD-C4-3 Tutorial EN

Setting SGDD-C4-3



https://adeogroup.it/adeo-academy/video/adeo-control-sgdd-c4-3-tutorial-en

I remind you that on our website we have published a video tutorial about SGDD-C4-3, which explains all the configurations on the web interface and on the Composer of Control4.

Thank you!

Adeo Control for Control4 Smart Home Pro

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