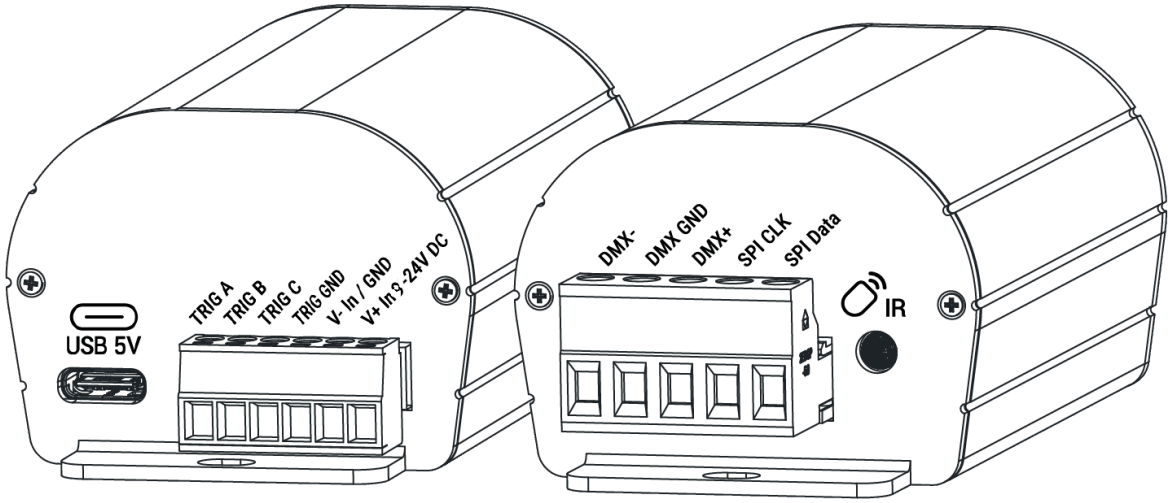
CLUB SPI

Convert USB Data or DMX to SPI



Datasheet &
Quickstart Guide

CHROMATEQ

Technical Manual & Quick Start Guide

Congratulations on your purchase of a CHROMATEQ controller.

Please read this manual carefully and thoroughly before using the CLUB SPI Chromateq.

The information presented here provides a useful introduction to the wide range of features, settings and functions available in this compact and versatile CLUB SPI.

All products and software are developed and designed in France.

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Package Contents
1x CLUB SPI
1x USB cable
1x software download link and technical documentation

Caution: Check the contents of the package and the condition of the interface after unpacking! Contact your supplier if something is missing or is damaged. Do not use the device if it appears to be damaged!

Table of contents

Introduction

Chromateq's latest innovative USB to SPI Stand Alone interface with SPI and DMX512 ports. Thanks to its tiny and compact size, small integration space requirement and SPI LED communication, the CLUB SPI is the perfect LED controller and LED driver for all LED lighting installations and LED projects.

The CLUB SPI convert data from the software into the SPI format directly. All is included in the same device to output SPI directly, and there is no need of a DMX controller associated with a SPI driver for installations and lighting projects.
The device benefit from our popular and powerful stand alone features and can easily backup a show in its memory and play back without a computer.
The interface has several triggers options like DMX input, dry Smart Contacts and an infrared remote control, it can easily be associated to any other lighting installation system and all that make it essential to all LED projects.

Features

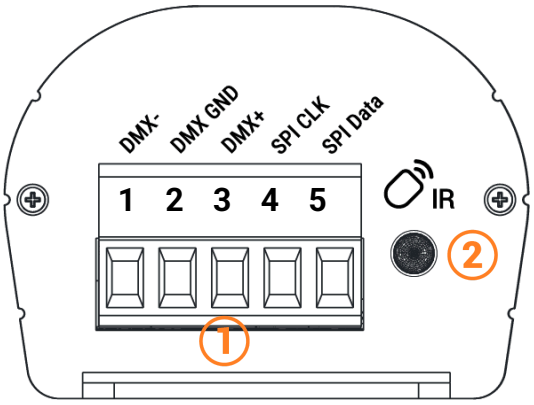
DMX Outputs	1x512
SPI Out (Data + Clock)	1x 1020 Px. RGB / 3072 Ch.
DMX-RDM	Compatible
Options	Pixel Grouping, Start DMX address, Pixel repeating
Ports	USB-C
Connector	Screw terminal block
Smart Contact Port (5V)	3
Infrared Triggers by remote	Yes
Power DC	5V USB / 9-24V ; 0.3A
Memory	32MB, max steps 8,000 for 7U (1 DMX + 6 SPI)
IP rating	IP40
Dimensions (mm)	H : 103 (4.06 in) / W : 50mm(1.96in) / D : 37,5mm (1.47in)
Net Weight	0.1 Kgs
Gross weight	0.16 Kgs
Power / Consumption	0,43 W
High Voltage Protection	Yes, fuses & diodes 3KV, 0.15A on DMX and 1.5K, 0.3A on Power
Housing	Strong Aluminium
Operating environment	Indoor
Storage	keep dry
Operating Temperature	-45~+85°C
Certifications	CE, RoHS
International Warranty	yes, 3 years

CHROMATEQ's supported ICs and protocols

Other ICs	WS2812	WS2811S	WS2811F	WS2813	WS2815	SK6812	WS2801	LPD8806	LPD6803	APA102	TYPE	Power
APA102										Yes	RGB	5V
CS8812	Yes										RGB	12V
D705									Yes		RGB	12V
FW1906	Yes		Yes	Yes	Yes	Yes					RGBWAL	5-24V
GS8206	Yes										RGB	5-24V
GS8208	Yes										RGB	12V
HD107S	Yes	Yes	Yes	Yes	Yes	Yes					RGB	5V
LPD1101									Yes		RGB	5V
LPD6803									Yes		RGB	5-12V
LPD8803								Yes			RGB	5-12V
LPD8806								Yes			RGB	5-12V
SK6805	Yes		Yes	Yes	Yes	Yes					RGBW	5V
SK6812						Yes					RGBW	5V
SK6813	Yes	Yes	Yes	Yes	Yes	Yes					RGB	5-12V
SK9822										Yes	RGB	5V
SM16703	Yes		Yes	Yes	Yes	Yes					RGBW	5-24V
SM16703P	Yes	Yes									RGB	5-24V
SM16704	Yes	Yes									RGBW	5-24V
TM1804	Yes										RGB	5-24V
TM1809	Yes										RGB	5-24V
TM1809	Yes										RGBW	5-32V
TM1814	Yes	Yes									RGBW	5-32V
TM1903	Yes		Yes	Yes	Yes	Yes					RGB	5-24V
TM1914	Yes	Yes	Yes	Yes	Yes	Yes					RGB	5-24V
TM1934	Yes		Yes	Yes	Yes	Yes					RGB	5-24V
UCS1903	Yes		Yes	Yes	Yes	Yes					RGB	5-12V
UCS1909	Yes										RGB	5V
UCS1912	Yes										RGB	5V
UCS2903	Yes										RGB	5-12V
UCS2904B	Yes	Yes									RGBW	5-24V
UCS2909	Yes										RGB	5V
UCS2912	Yes										RGB	5-24V
UCS6909									Yes		RGB	5V
UCS6912									Yes		RGB	5V
WS2801							Yes				RGB	5V
WS2803							Yes				RGB	5V
WS2811	Yes		Yes	Yes	Yes	Yes					RGB	5V
WS2812	Yes										RGB	5-12V
WS2812B	Yes		Yes	Yes	Yes	Yes					RGB	5-12V
WS2813	Yes	Yes	Yes	Yes	Yes	Yes					RGB	5-12V
WS2814	Yes		Yes	Yes	Yes	Yes					RGBW	5-12V
WS2815	Yes	Yes			Yes	Yes					RGB	12V
WS2815B	Yes	Yes	Yes	Yes	Yes	Yes					RGB	12V
WS2818	Yes		Yes	Yes	Yes	Yes					RGB	5-24V

Housing connectivity

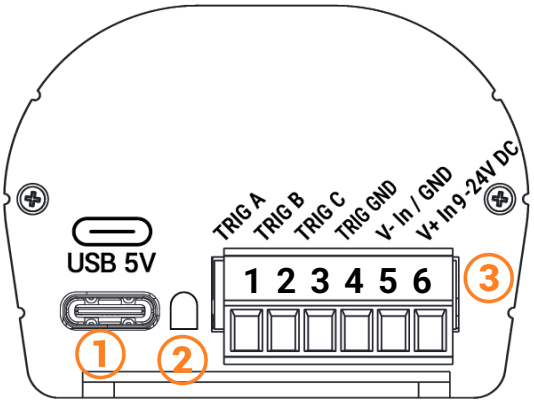
Front panel



1. **Terminal Block Connector** with screws :
    1. DMX-
    2. DMX Ground
    3. DMX +
    4. SPI Clock
    5. SPI Data

2. **Infrared Receiver LED**, (Remote unit include)

Back panel



1. **USB-C Connector** (5V DC input)
2. **LED Signal**
3. **Terminal Block Connector** with screws :
    1. Trigger A
    2. Trigger B
    3. Trigger C
    4. V- Input / Ground
    5. V+ Input 9-24V DC

USB Signal LED operating states

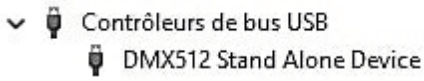
G=Green; Y=Yellow; R=Red

LED State	Meaning / Operating Mode
G Off + R Off	Interface not connected
G On + R Off	Interface powered (USB / External), no scene stored
G On – 3× Flash	Bootloader preparation phase
Alternating G On ↔ R On	Bootloader Mode active
G Fast Flash + R Off	Active USB communication (Live)
G Slow Flash Off + R Off	Stand-alone mode active with stored scenes
G+R Fast Flash	Blacklist active
R Fast Flash	SPI Driver Mode, DMX-IN to SPI conversion

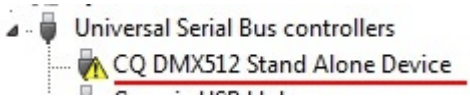
USB drivers installation

Install the USB drivers is necessary to communicate with the device and change settings.
Installation of USB drivers is required only for Windows at the end of installation.
Drivers for Mac and Linux systems are installed automatically.

USB drivers verification :
In the Windows Device Manager. Check that the device icon is visible in "USB Bus Controllers".



If drivers are not installed, the Windows Device Manager lists a device with a yellow warning.



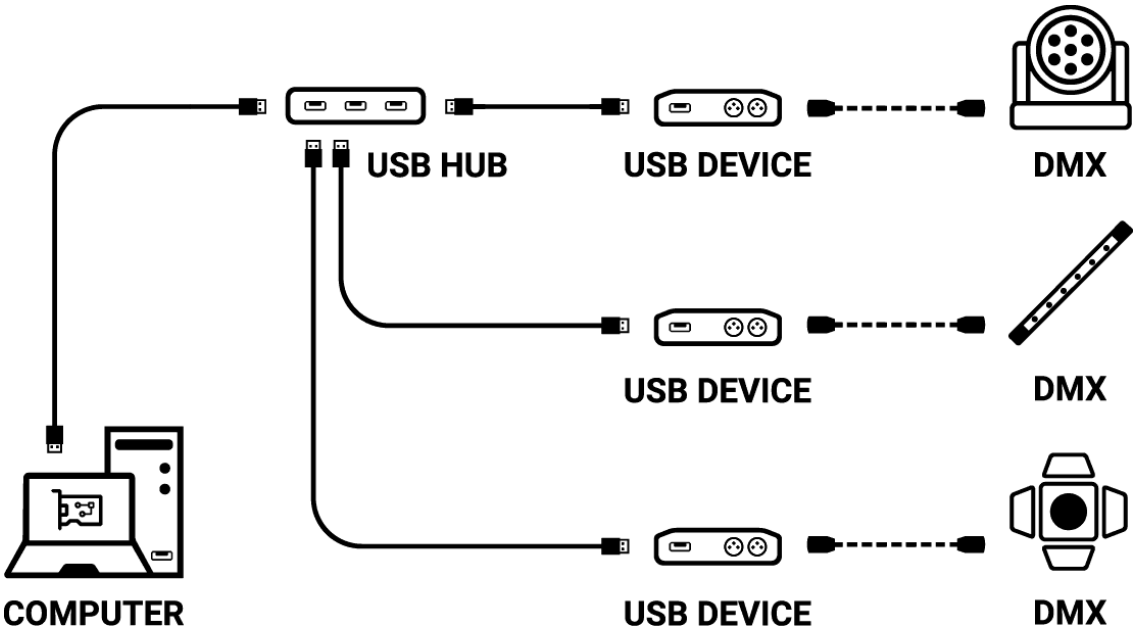
On Mac OS, simply check the USB device tree to view "DMX 512 Stand Alone Device". On Linux, use the "lsusb" command to view "DMX 512 Stand Alone Device" in the list.

After software installation and USB drivers

- Connect the device with the USB cable.
- Start the software or the DEVICETOOL and select "Open USB Device" or "USB" to check the success of drivers installation.

All connected and detected devices are listed.

Multiple USB connections



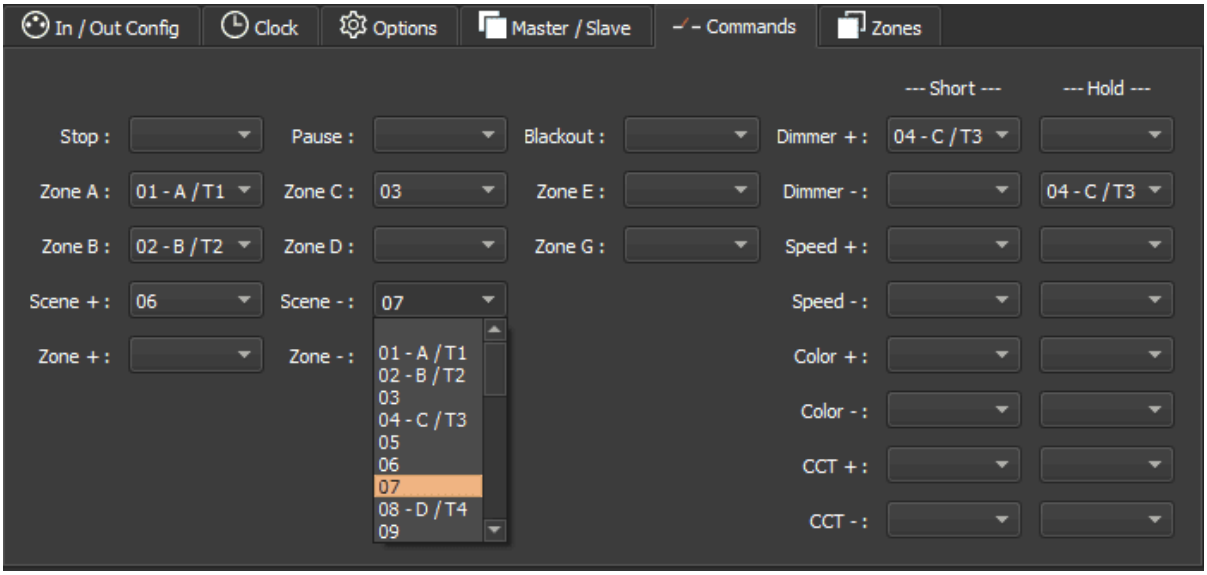
Standalone mode settings

Commands tab

Assign external contacts, among those available for your device, to trigger some standalone mode commands: Dimmer +, Dimmer -, Blackout, Speed +, Speed -, Pause, Scene +, Scene - and Zone.

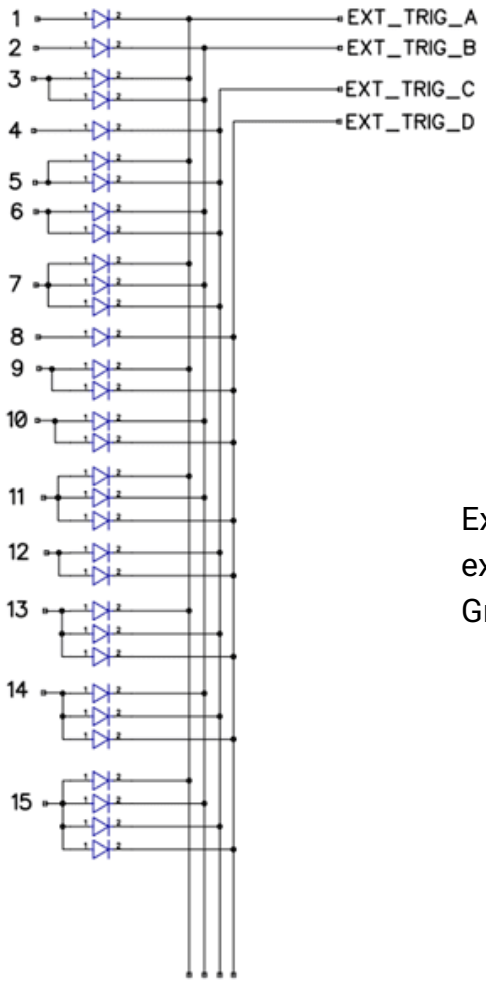
Note: Be careful not to use the same command trigger as the one used for a scene and vice versa.Cf: *"Choice of triggers by external contacts"*
The last assigned contact will take priority over the other.

Use 2 types of Short/Hold contact and thus assign an identical contact to 2 different commands. (here as an example with the Dimmer +; Dimmer -)

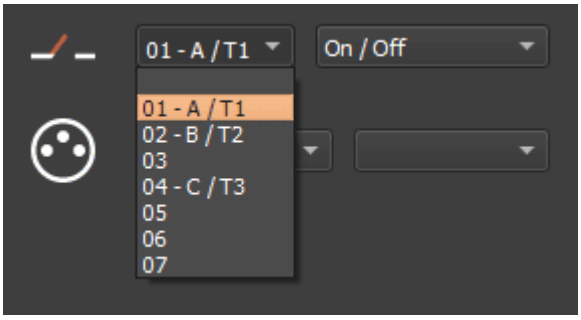


External contacts Trigger:

Depending on the interface, several external contacts are available: Trig A, Trig B, Trig C ..., and the Use a multiplexing interface to extend the number of contacts when possible.(from 3 to 7; from 4 to 15; from 5 to 31 ...) Contact reaction time, 5ms (0.005s)

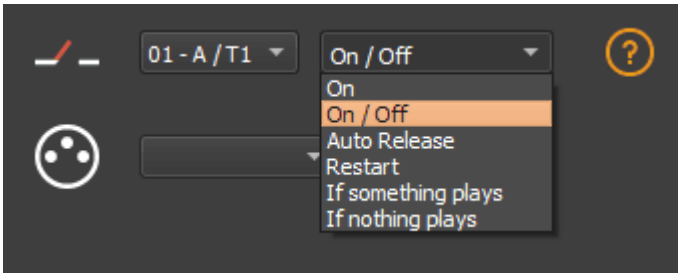


Example of multiplexing system with 4 external contacts extended to 15, on Ground



Select a scene from the list and assign it a contact from those available through the interface.

Option of triggers



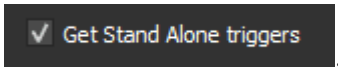
Select a trigger option from the drop-down menu next to it.

On: Activating the contact makes the scene play (the only trigger action is to start the scene).
On/Off: Activating the contact starts the scene, subsequent activation stops the scene.Each trigger action will reverse the stage state (start/stop).
Auto Release: The scene is played only while the contact is enabled.When the contact is released, the scene stops.
Restart: If the scene is playing, enabling the contact restarts the scene from its beginning.If the scene is not being played, it will start.External contact reaction time: 8 ms (0.008 s) / time between 2 contacts: 500 ms (0.5 s)
If something plays: Play the selected scene if a scene is already played.
If nothing plays: Play the selected scene if nothing plays.
These two interdependent options allow the same contact to be assigned to two different scenes.

Note: Be careful not to use the same scene trigger as the one used for a command and vice versa.Cf: *"Order tab"*
The last assigned contact will take precedence over the other.

Automatically assign external contacts to all scenes in the list by clicking the external contact icon on the scene list toolbar.

How to use IR Remote

Infrared Remote triggers work in Live mode when “Get Stand Alone Triggers” is checked in the software option window, at the bottom of "Device" section. 

The Infrared Remote triggers also work in Stand Alone and must be specify on each scene before write the memory.

Remote Control Unit

Functioning for Interfaces with Modes

1. **Scene trigger buttons**: 1 to 15 for 1 zone assigned via the software. Trigger 1 to 9 with several Zone (if available).
2. **Control Zones**: A, B, C, D, E and Global Zone: [ ] to trigger each Zone at the same time. (if available)
3. **Increase or decrease** the value of the selected mode: Scene +/-, Dimmer +/-, Speed +/-, Color +/-.
4. **Release Color mode**
5. **Color mode selection**
6. **Scene mode selection**
7. **Dimmer mode selection**
8. **Speed mode selection**
9. **Blackout:** Stops the current scene and plays the scene 00. All DMX levels are set to zero.
10. **Pause:** Freezes the current scene in its state.

Functions descriptions

Scene +/-: Each push selects the next or previous scene of the current Zone. Scene are played immediately.

Master Dimmer: Increases or decreases the RGB, CMY and dimmer channels of the current zone. The channels type are defined in the fixture Profile and in the stand-alone mode of the software.

Scene Speed: Increases or decreases the speed of the current scene in the current zone. A different speed can be chosen separately for each scene and zone (if available).

Zones: Choose a Zone (A,B,C,D,E or Global [ ]). Then select a scene or mode to trig in the selected zone.

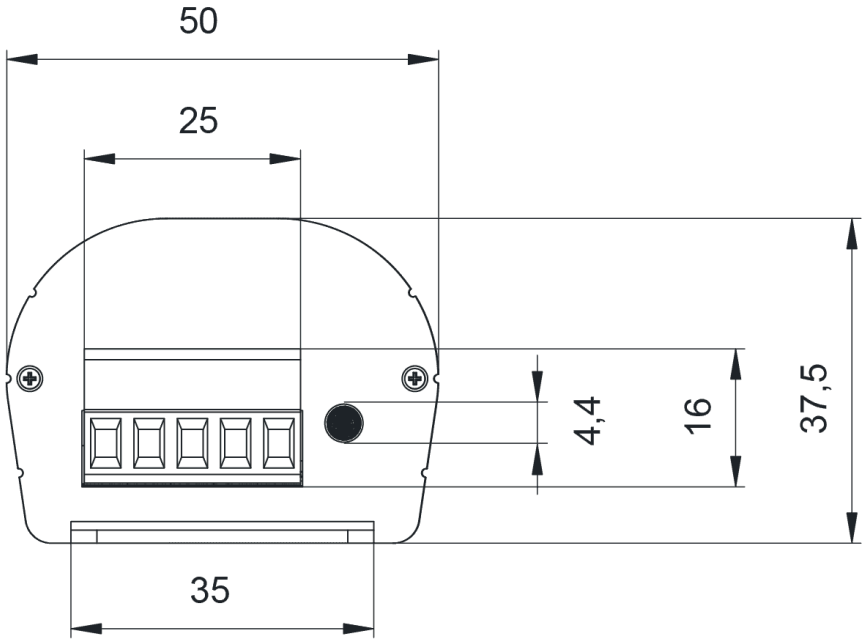
Modes: Select a Mode from Speed, Dimmer, Color or Scenes, then use +/- to change values.

IR Codes

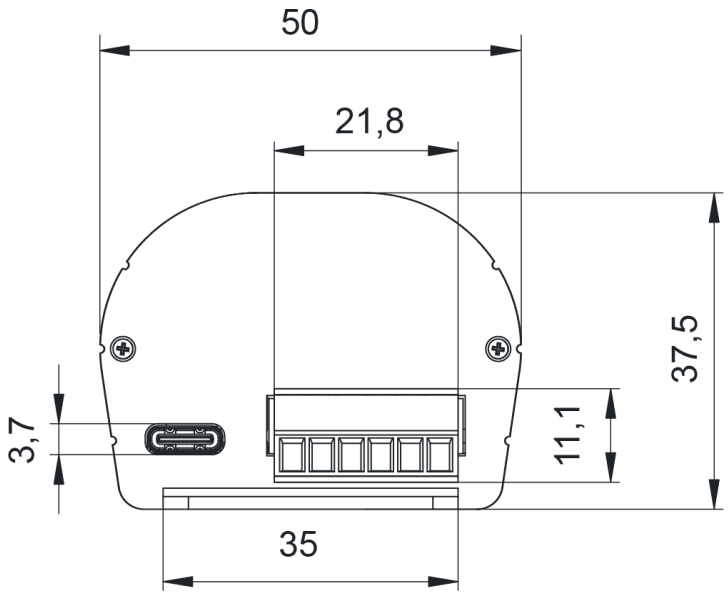
Each button has a binary code associated and it is possible to simulate the infrared trigger via the pin of the Infrared receiver port.

Housing dimensions

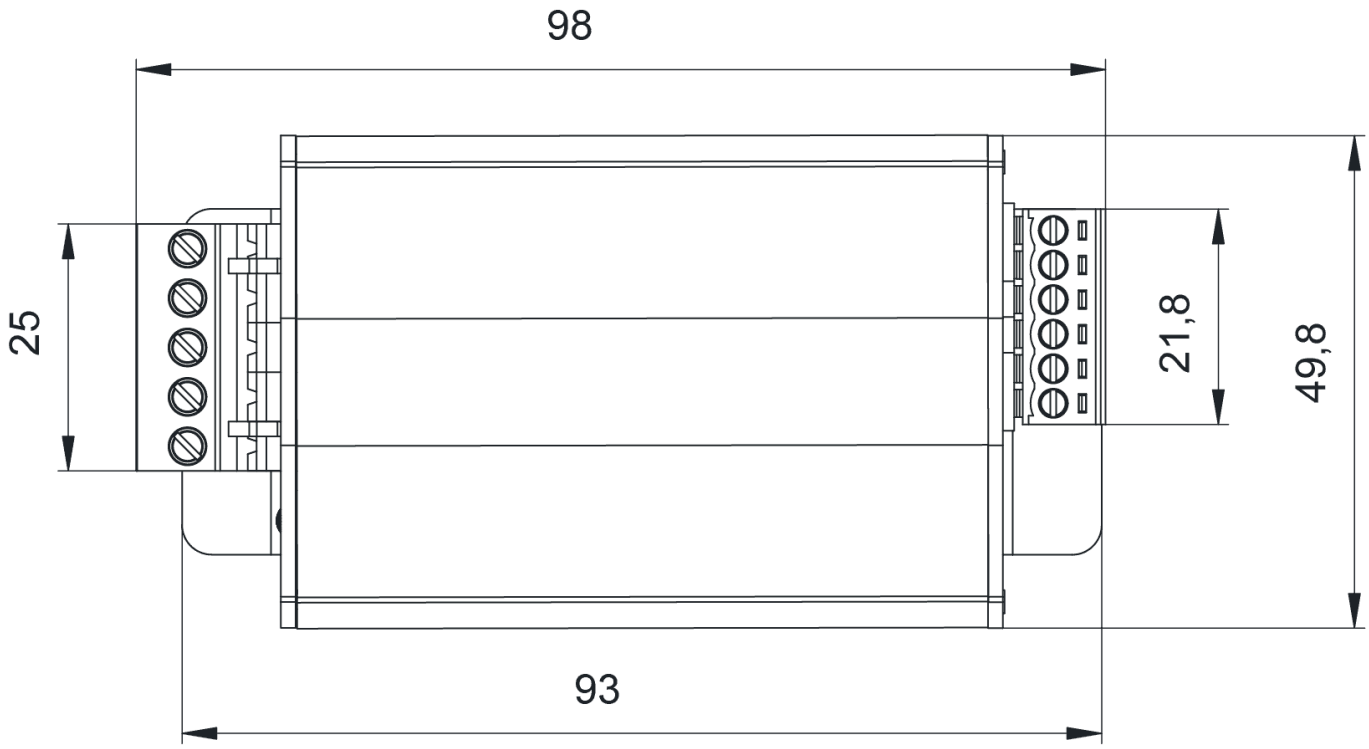
Front with Terminal Block



Back without Terminal Block

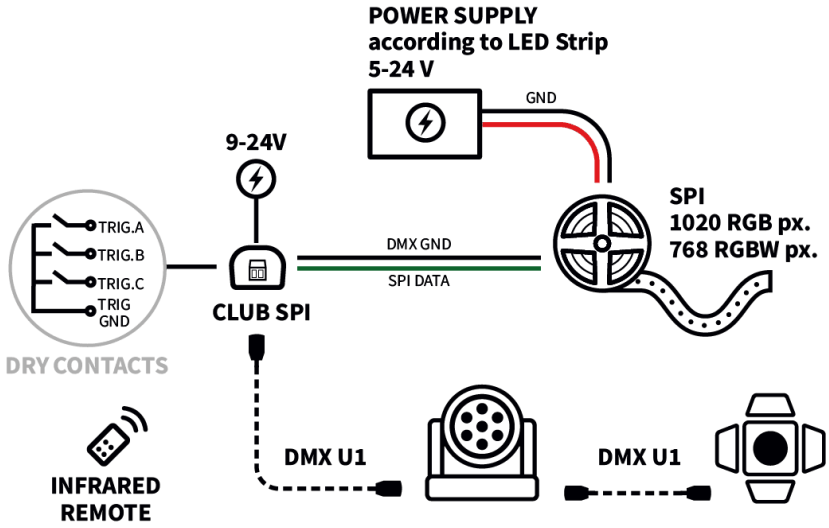


Top

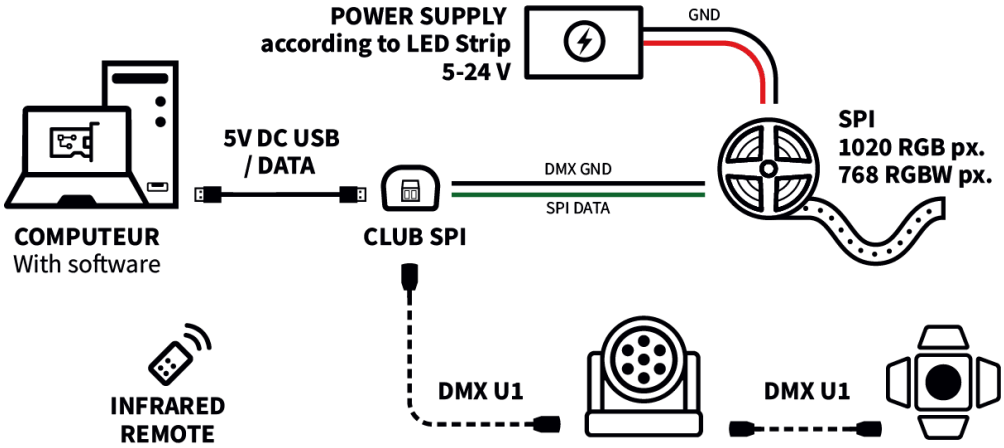


Wiring Diagram

Stand-alone Mode



Live Mode



Driver LED Mode