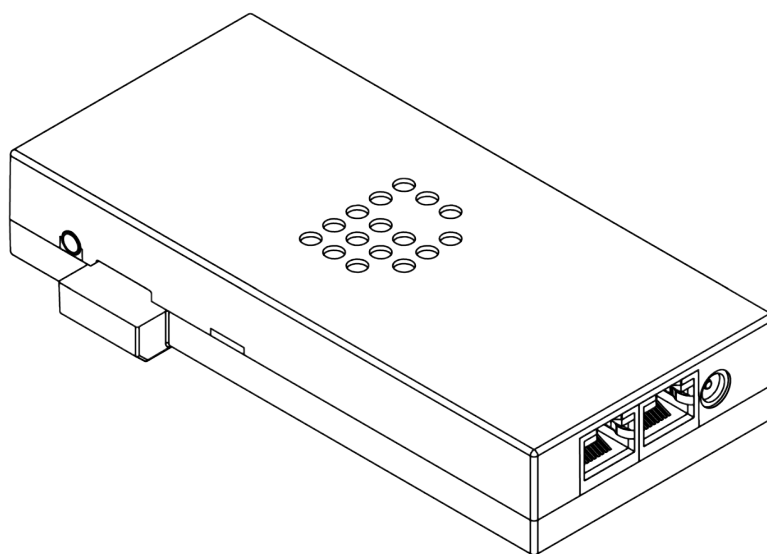




C4 MANUAL



THANK YOU FOR CHOOSING DIGIDOT!

The DiGidot C4 is the most advanced and versatile LED pixel controller of its kind.

This multifunctional device enables you to create technically complex and creative pixel controlled light applications.

We strive to offer you the latest technology in LED lighting control and we're constantly innovating and expanding our control platform.

We're convinced that you have everything you need to create a truly mesmerizing and innovative piece of light art.

Are you proud of your end result? Then please share it with us, we love to see what you can do with our products!

Your DiGidot team

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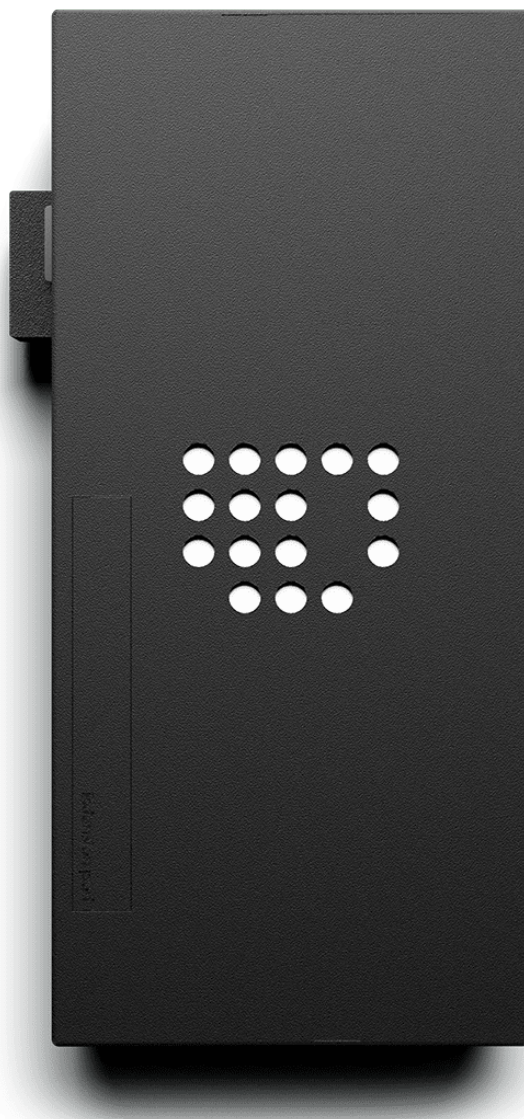
INTRODUCTION

The DiGidot C4 is a unique and powerful LED controller that allows you to control pixel controlled LED products through Art-Net and DMX which are converted to various SPI protocols.

It has a huge controlling capacity up to 8092 individual channels (depending on the DiGidot C4 license).

A built in web based user interface allows the DiGidot C4 controller to be configured by computer and even by smartphone or tablet through the DiGidot C4 app.

DiGidot C4 controllers can work together to create a huge device network to control any scale of pixel project.



PRODUCT INFORMATION

Box contents

C4 Live version

- DiGidot C4 Live
- Output terminal connector
- Quick start guide
- USB power cable
- RJ45 network cable

C4 Extended version

- DiGidot C4 Extended
- Output terminal connector
- Quick start guide
- DiGidot 8 GB microSD card
- USB power cable
- RJ45 network cable
- TRRS trigger cable

NOTE: We put great care in our products and have a high quality control standard. Nonetheless we advise to double check for missing or damaged items.

In case of any missing or damaged items, please contact your supplier immediately. Never use damaged products!

TECHNICAL SPECIFICATIONS

Electrical

Input Voltage:	5-24V DC
Max. power consumption:	5W

Mechanical

Housing material:	Self extinguishing Acrylonitril-Butadiene-Styrene (ABS)
Dimensions:	153 x 74 x 28 mm 6.02 x 2.91 x 1.10" (L x W x H)
Net device weight:	140gr 4.93oz
C4 Live package weight:	265gr 9.34oz
C4 Extended package weight:	280gr 19.87oz
Mounting:	DIN-rail or surface mounted

Environmental

Operation Temperature (Tc):	0 to 50°C 32 to 122°F
Max. ambient Temp. (T _{max}):	40°C 104°F
Storage temperature:	-20 to 50°C -4 to 122°F
Max. operating relative humidity:	90% (indoor use only)

Protection

IP rating:	IP10
Power:	Reverse polarity
Digital input / output:	Overvoltage protection (max. 24Vdc)
Analog input:	Overvoltage protection (max. 12Vdc)

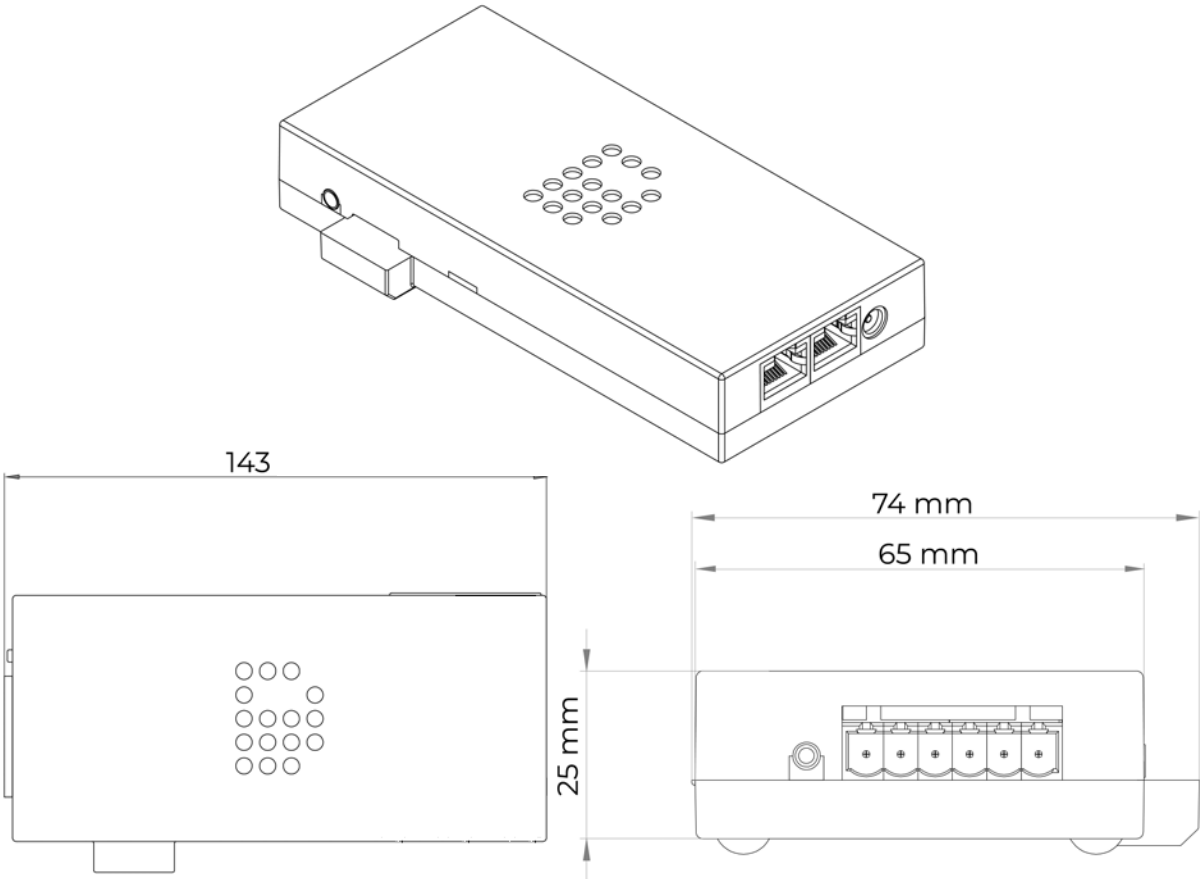
Control

Input Protocols:	Art-Net 1,2,3 & 4 DMX512 (2 inputs) DiGidot C4 app
Output Protocols:	Art-Net 1, 2, 3 & 4 (out/through) DMX512 (2 outputs) DMX TTL (4 outputs) 55+ SPI protocols (check supported IC's list) UDP (DiGidot C4 Extended only) OSC (DiGidot C4 Extended only)
Output channels (of 4 I/O ports):	Up to 8192 Art-Net channels or 1.024 DMX channels (license dependent). Physical port limit: 4096 channels.
Ethernet:	RJ45 compatible, for 10/100 Base-TX Ethernet
Wi-Fi:	10/100 Base Ethernet with static IP Address or DHCP
Wi-Fi protocols:	802.11 b/g/n (HT20)
Frequency range:	2.4 GHz ~ 2.5 GHz (2400M ~ 2483.5M)
TX Power:	Max. +20 dBm
Antenna:	Onboard
Wi-Fi Mode:	Client + AP
Wi-Fi security:	WPA, WPA2
Encryption:	WEP/TKIP/AES

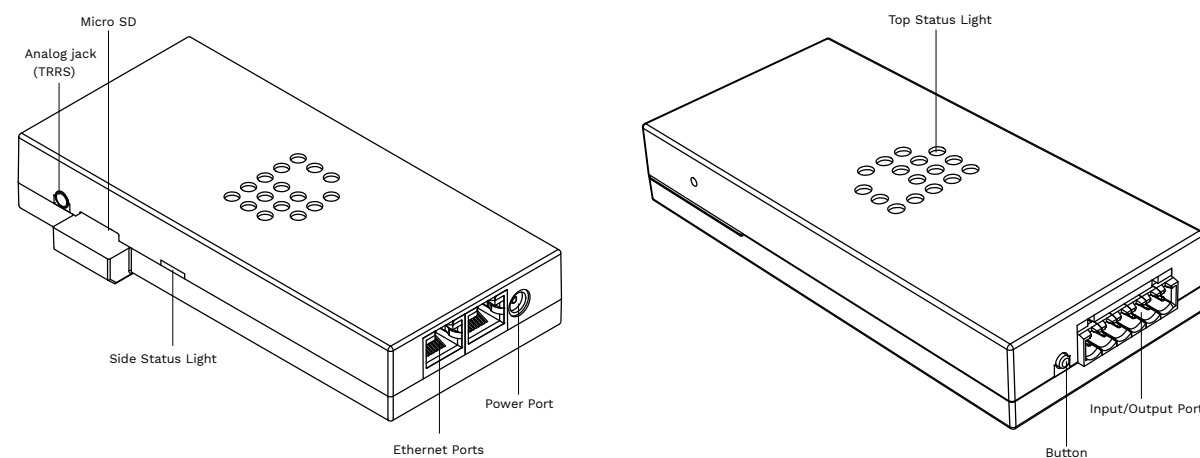
Technical Specifications

Trigger options:	max. 3 dry contacts max. 3 analog inputs (0-10V, 1-10V, potentiometer 50 kΩ Lin) Onboard button Power up Internal clock Sunset/sunrise Art-Net / DMX HTTP-Get UDP JSON OSC Internal tasks (presence/absence of Art-Net or when a scene is (not) playing) DiGidot C4 web based user interface DiGidot C4 app
Programming & control:	DiGidot C4 web based user interface DiGidot C4 app Any type of Art-Net Software/Device (visit our website: www.digidot.eu for a complete list of supported software)
Connectivity	
Terminal wiring:	Max. 2,5 mm ² (14 AWG)
Connectors:	Power: 5-24 Vdc power jack Network: 2 x RJ45 bus IO port: 6-pin Input/Output terminal connector Trigger input: 4-pin 3,5 mm TRRS mini jack
Quality	
Warranty:	2 year carry in factory warranty
Compliances:	CE, listed under No. 2016/119-1 cETL US, listed under No. 5010008 RoHs
Applied standards:	EN60950-1:2006 +A11:2009 + A1:2010 + A12:2011 + A2:2013, IEC60950-1 / EN60950-1, EN61006-6-3, EN55032
HS Code:	8537109090

Product drawings



The DiGidot C4 explained



Art-Net/DMX controller required

In order for the DiGidot C4 to work in a live system setup or to be able to record scenes (DiGidot C4 extended only), a third party Art-Net/DMX software or console is required. The DiGidot C4 controllers are known to be working with various professional grade softwares and consoles, such as: MADRIX, Pharos, ArKaos, Resolume Arena, MadMapper, POET, grandMA and many more. As long as the control software or console uses industry standard Art-Net or DMX protocols, you can control the DiGidot C4 controller.

Control software, DMX & Art-Net control platforms

When the setup process has been completed, the DiGidot C4 is ready to be used with any type of Art-Net/DMX software/device.

The DiGidot C4 can automatically be detected as an Art-Net device, depending on the software or console. In order to do so, an Input/output configuration must be completed first.

Each DiGidot C4 can be configured to have a unique IP address for unicasting. Assign a device name to the DiGidot C4, for easier recognition (see the chapter Configuring the DiGidot C4).

Supported protocols (ICs)

The DiGidot C4 supports more than 60 'Data' and 'Clock+Data' SPI protocols.

All supported protocols can be found in the C4 user interface. Go to Home > Settings > In/out configuration > Select a port drop down menu to open the protocol list.

Please visit our website www.digidot.eu for latest overview of all supported protocols/IC's.

For a more technical protocol overview and their performances, please check our DiGidot C4 Performance Guide on this web page: <https://digidot.eu/support/documentation>

Key features explained

The DiGidot C4 has many powerful features, in this chapter we will explain what these key features do.

More than 55 supported protocols

The DiGidot C4 supports more than 60 control protocols and new IC's are added frequently.

Up to 16 universes Art-Net to SPI conversion*

Depending on your DiGidot C4 version and license, you can output up to 16 universes, equaling 8192 control channels.

Art-Net In/Out

The onboard 100Mbit switch allows for an Art-Net input and output.

DMX In/Out

The four I/O ports can be configured as one or two DMX inputs or outputs. It's also possible to use one input and one output.

The I/O ports can also be configured as 4 x DMX TTL which can be converted to four balanced DMX outputs when a DiGidot PxLNet Transmitter module is connected to the DiGidot C4.

Art-Net IP Address filter

With this feature you can configure the DiGidot C4 to only listen to a specific IP Address as input. Signals from other IP Addresses will be ignored.

Art-Net routing

You can route any of the incoming Art-Net universes to the DMX or Art-Net outputs.

HTP merge signal inputs

It is possible to merge various input signals such as DMX and/or Art-Net according to the HTP (Highest Takes Precedence) principal.

Art-Net & DMX Monitor

The Monitor is a powerful tool where all incoming and outgoing data as well as frame rate and network status can be monitored.

Create segments

Create simple chase effects for large amount of pixels by creating segments of channels or LED's and reduce the amount of input channels.

Daisy-chainable

The two port ethernet switch with RJ45 bus allow the DiGidot C4 to be daisy chained. Daisy chaining more than 5 devices can cause network delays. Therefore we recommend to use a professional grade Gigabit network switch to split the network load.

Build-in scene generator (DiGidot C4 Extended only)

You can generate simple static or color scroll scenes in the user interface, store them and activate them by any trigger option.

Scene recording from Art-Net or DMX (DiGidot C4 Extended only)

The record function can be used to record Art-Net or DMX streams and store them as recorded scenes.

Scene triggering by various digital or analogue control inputs (DiGidot C4 Extended only)

Recorded scenes can be triggered by a huge amount of analog and digital triggers, such as 0-10V, dry contacts, on board push button, build-in timer, HTTP Get, UDP, OSC, Art-Net, DMX, etc.

On board Wi-Fi

The DiGidot C4 features onboard Wi-Fi for convenient wireless access through the free DiGidot app or when accessing through the web interface. Wi-Fi can also be used for triggering.

We discourage sending Art-Net over Wi-Fi, because it can be unstable and reliable, but it is possible.

Gamma correction

This is a function to correct the light intensity, luminance or brightness of the input. This amount of gamma correction changes not only the brightness, but also the ratio of red, green and blue.

Adjustable fall back color

In case of absence or loss of the control signal, a fall back color can be set for every DiGidot C4. You can also set the delay time before the fall back activates.

Online/offline firmware updates

We offer online updates easily within the user interface and offline updates in case that the DiGidot C4 controllers are not connected to the internet. You can download the DiGidot c4 firmware at digidot.eu/c4/digidot-c4-updates/. Use the download link to get the file. You can upload the new firmware at <http://10.254.254.254/fwupdate.htm>. You can also change the '10.254.254.254' in the URL into the IP Address of your DiGidot C4 device. It is also possible to upgrade or downgrade multiple devices simultaneously.

Output limiter

You can limit the output power to a pre-set brightness.

There are two ways to do this:

► Brightness limiter

This option limits the individual channels to a specific percentage. This means that every channel or LED will never exceed this percentage.

E.g.: Limiting brightness to 50%, means that all individual channels can never exceed 50% but the control range per channel will remain the same. Effectively the percentage is applied to the input value for each channel.

► Adaptive power limiter

This option limits the total average output of all channels combined to a specific percentage in order to decrease total power consumption. Individual channels may still output up to 100%.

E.g.: Limiting power to 50% means that half of the channels can output 100% and the other half at 0% or all channels at 50%, etc.

In case you would try to output all channels to 75%, the output of all channels would be automatically limited to a total 50%, but will maintain ratios relative to each other.

16 bit dimming output

Whenever high resolution dimming is required and supported by your IC, two input channels can be combined to one output channel in order to convert 8 bit to 16 bit dimming.

Configure LED color order

In case a LED product has an alternative order of LED chips or dyes, you can change the order of control channels easily in the user interface. The interface uses the default color order of the selected IC.

BEFORE INSTALLATION

Before installing DiGidot products it is important to consider following safety and installation instructions.

Safety instructions

- ▶ Before installation and before use of this product, read this manual carefully.
- ▶ Make sure that these instructions are handed over to the end-user and those responsible for installation and usage.
- ▶ Local electrical and safety rules and guidelines always overrule this manual.
- ▶ DiGidot Technologies B.V. cannot be held liable for improper handling, product installation, usage or storage.
- ▶ Installation should only be carried out by a professional and certified installer that is qualified to work on the electric installation.
- ▶ Do not conduct any repairs of the device (there are no user serviceable parts inside). Any unapproved repairs and/or product modifications will void product warranty. DiGidot Technologies B.V. cannot be held liable for any consequences.
- ▶ Repairs of this product may only be carried out by the manufacturer DiGidot Technologies B.V.
- ▶ Repairs and maintenance on the installation may only be carried out by qualified technicians.
- ▶ Always disconnect the mains power when working on a high voltage electric installation, not doing so may result in product damage or personal injuries.
- ▶ Do not connect or modify this product other than described in this manual.
- ▶ Never use a product that is damaged or does not work correctly or when the product is visibly damaged or when the product starts to smoke, or when a crackling/sizzling noise is audible. If this is the case in any way, please contact your supplier immediately.
- ▶ The DiGidot C4 is a low voltage device. Working voltage is 5-24 Vdc only.
- ▶ Never connect more than one power source to the DiGidot C4 (USB OR external PSU). Never use the USB power connector when also powering with an external power source. This will damage your DiGidot C4 and/or the USB device!
- ▶ The DiGidot C4 is not POE ready (Power Over Ethernet)! Applying POE will cause fatal damage to the DiGidot C4. Make sure that POE is turned off in your access point, router or network switch settings, before connecting the DiGidot C4 to your network.
- ▶ The only way to power off your device is to disconnect it from the power source.
- ▶ The DiGidot C4 is designed for indoor use (dry locations) only. Exposure to rain or moisture may cause fatal damage to the controller and increase risk of electrical shock.

Register your product

Please register your product with us

Registering your product(s), is easy for license and device management, it will speed up the upgrade process and ensures faster technical support.

Register your product at digidot.eu > 'My account' > 'My Devices' or in the user interface to receive helpful tips, news, updates and to ease license management.

This page will recognize products by their MAC address and/or by scanning the QR code, using a webcam or smart device camera or webcam.

- ▶ To register your product, you will require a DiGidot account.
- ▶ If you have created or signed into your DiGidot account with the User Interface of your DiGidot C4, your product may already be registered. To verify your registration, please log in and check your profile.

TIP: For registering your devices, please use Google Chrome browser for optimal results.

Mounting options

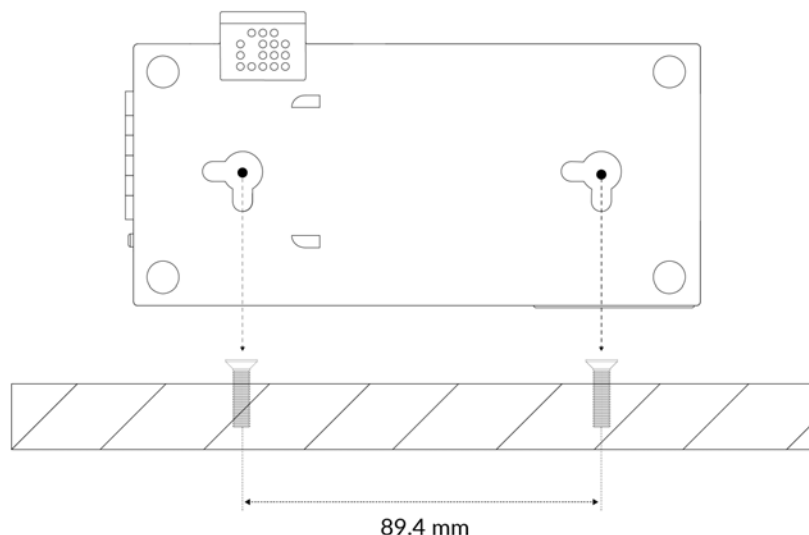
Install the DiGidot C4 properly in a safe environment and protect the device from direct sunlight, rain, moisture. Make sure that the device is installed and secured properly and that it's not able to move around.

If you have any doubts regarding the environmental circumstances of your application, please contact your DiGidot reseller or DiGidot Technologies B.V. prior to installation for further consultation.

Wall mounting

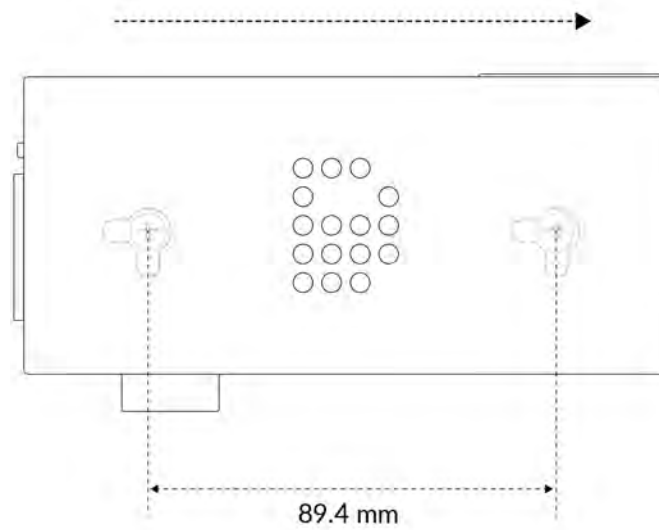
Use the mounting holes on the underside of the housing to mount the C4 to install the device vertically or horizontally. (screws not included)

Mounting examples



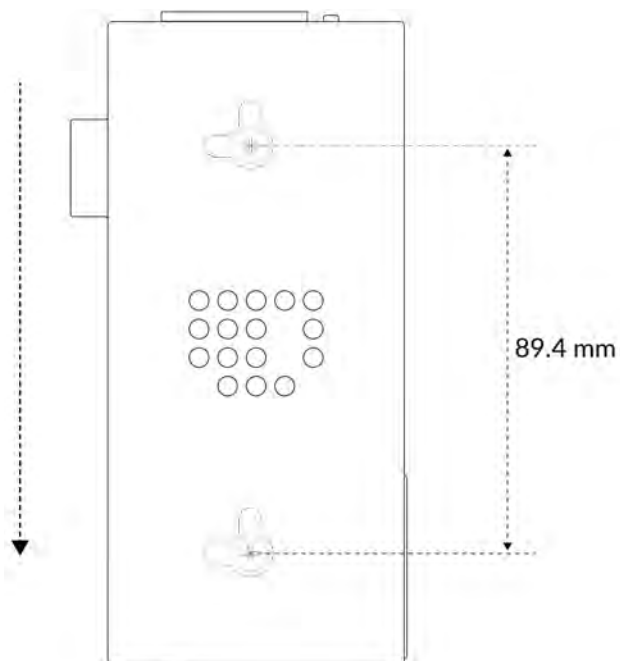
Horizontal:

Slide into place



Vertical:

Slide into place



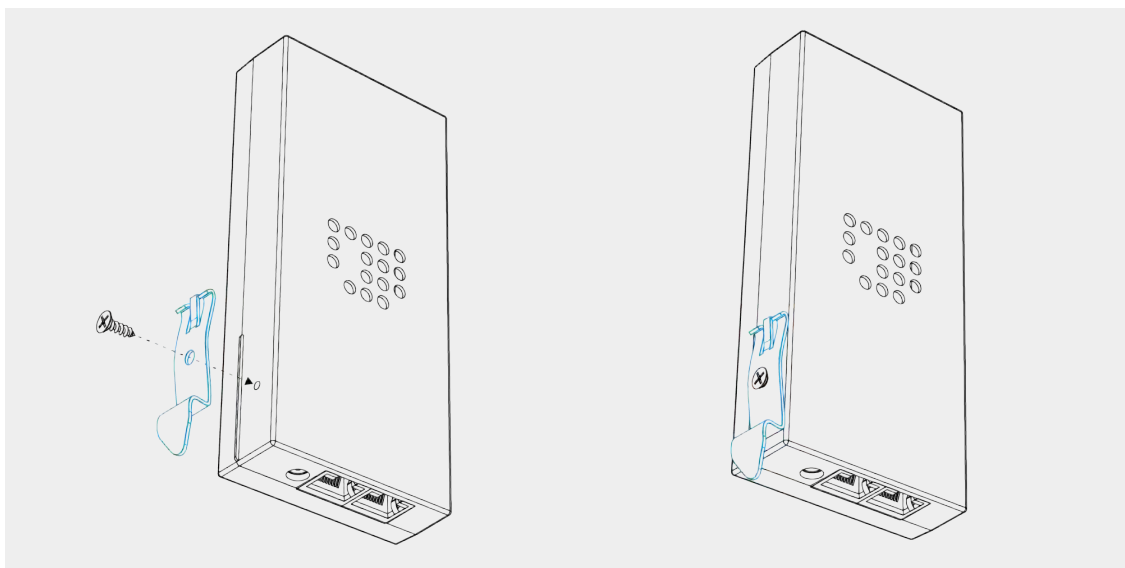
DIN-rail mounting

For 35 mm DIN-rail mounting use the DiGidot DIN-rail clip, art. No. 20902 (not included). Place the DIN-rail clip against the DIN-rail alignment marker on the DiGidot C4 housing and align both mounting holes (see picture).

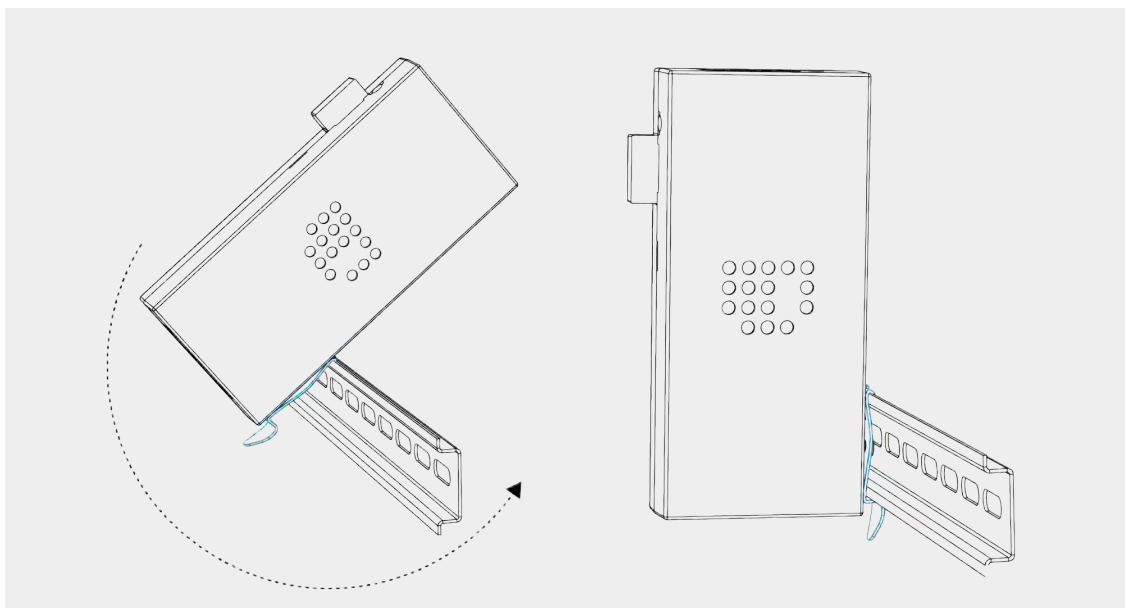
Install the clip with the included 3x 12 mm screw. When the DIN-rail clip is secured properly, you can install the device easily on a DIN-rail (see picture).

NOTE: Do not place devices directly next to each other, but leave at least 10 mm space between units to allow for sufficient air circulation around the device.

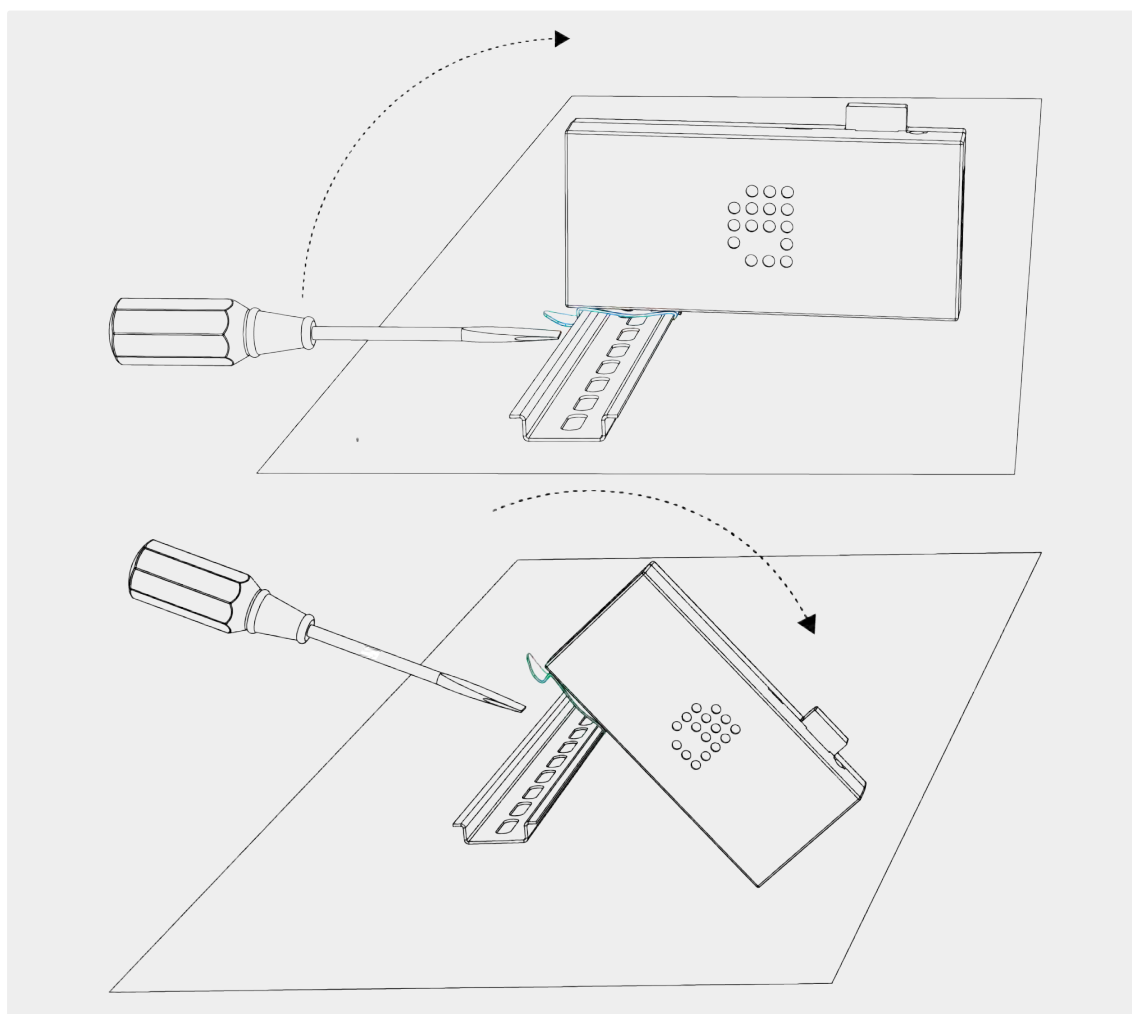
Install DIN-rail clip



Mount DiGidot C4 on DIN-rail



Removing the DiGidot C4 from a DIN-rail



WARNING!



Do not cover this device by any insulating material (fire hazard).

The DiGidot C4 should not be placed in a hot environment or subjected to direct or indirect fire (explosion risk)!

The DiGidot C4 should not be subjected to higher temperatures than their specification range (explosion risk)!



The DiGidot C4 should not be subjected to extremely low air pressure (risk of component gas/liquid leakage).



Keep the DiGidot C4 away from sunlight, rain or other moisture (short circuit risk).

Do not use the DiGidot C4 outdoors or in humid environments (short circuit risk).

Provide enough air circulation around the devices for cooling.

Devices rigged overhead must include an appropriately rated safety cable.

INSTALLATION & WIRING

The DiGidot C4 is not designed to power the LED lights, but only to transmit signal/data to the LED lights/control IC's. An additional external power supply with properly rated output capacity is required to power the LED lights.


Data inputs/outputs

In this chapter we will go through various wiring diagrams, depending on the Input/Output (I/O) configuration.

The DiGidot C4 is capable of sending different SPI protocols (only one protocol at simultaneously).

The input /output ports can also be configured as DMX inputs or outputs. This means that there are many ways of connecting to the I/O ports. You can always verify your wiring in the 'How to connect' box of the input/output configuration page in the user interface.

Go in the user interface or app to *Home > Settings > In/out configuration*

TIP: Make sure to select the correct device if you're using multiple devices and different I/O setups. You can use the highlight button  to identify your device.

NOTE: There are some important principles when working with SPI signals.

In order to minimise the risk of data failures and to assure proper system functionality, the data cables/wires between the output port (D1-D4) and the first LED luminaire/IC, should be no longer than 2 meters (6,5 ft).

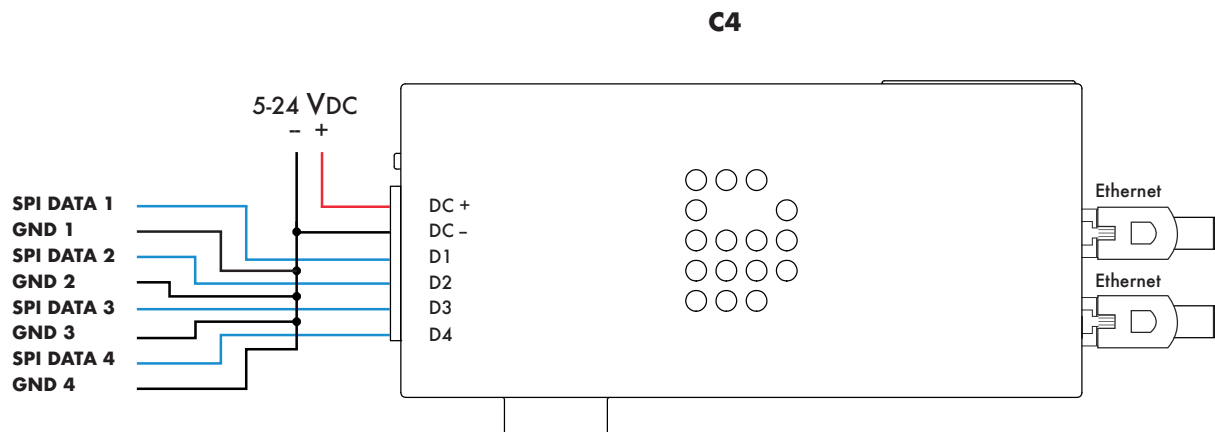
In case of longer distances we advice to use range extending accessories (visit our website www.digidot.eu for suitable accessories).

To avoid timing and synchronization issues, the SPI signal and ground wires that are running from one DiGidot C4 to the LEDs must be equal in length per port. It's best to treat SPI signal and ground wires always as a paired cable.

In order to maintain good signal integrity, it's required to keep the wiring capacity as low as possible. Therefore the data wiring gauges for the D1-D4 output ports should be kept between 0,3-0,5 mm² (20-24 AWG).

4X SPI OUT

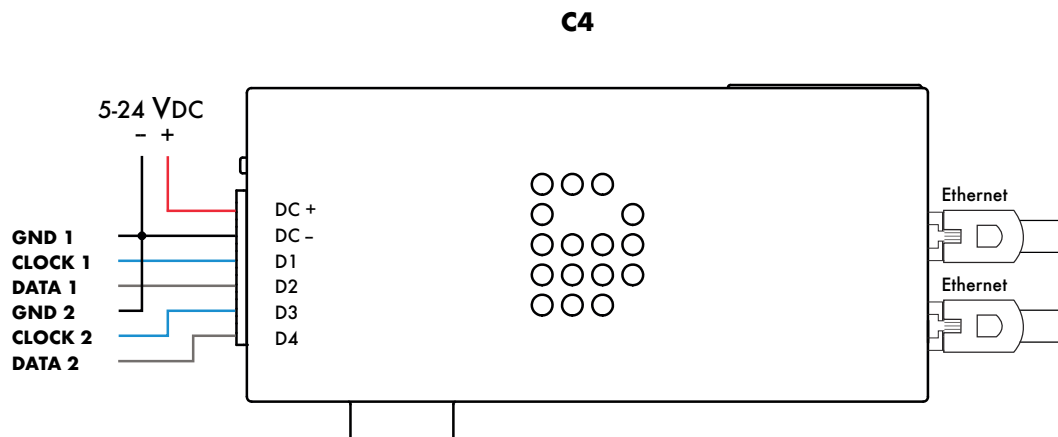
Recommendation is max. 3 SPI universes per port (check the C4 Performance guide) / SPI cable length max. 2 m. (7 ft.)



This option shows four SPI Data only outputs. Each SPI Ground wire must be the same length as the Data wires per output, to prevent timing issues.

2 x SPI DATA + CLOCK OUT

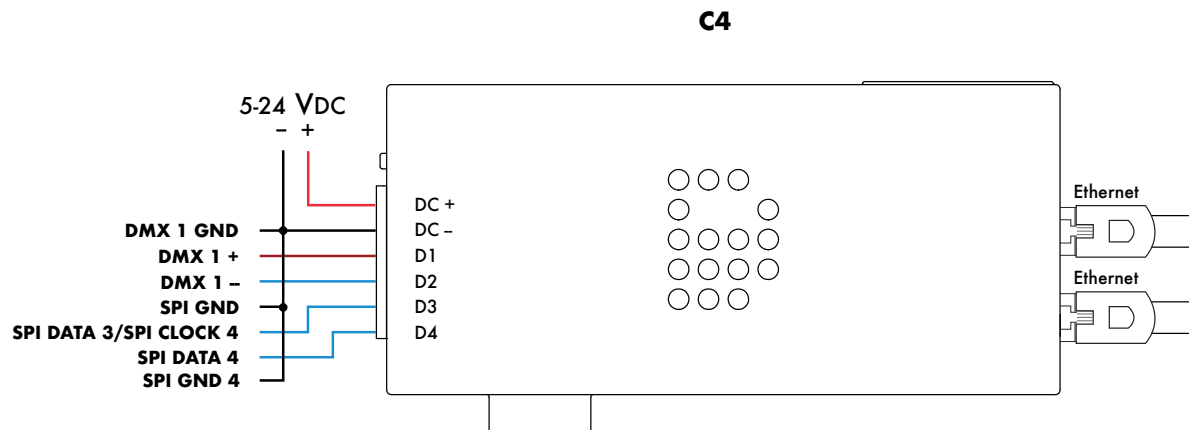
Recommendation is max. 6 SPI universes per port (check the C4 Performance guide) / SPI cable length max. 2 m. (7 ft.)



This option shows two SPI Data + Clock signals. Please note that all grounds must be connected.

1 x DMX IN/OUT + 1 x SPI OUT

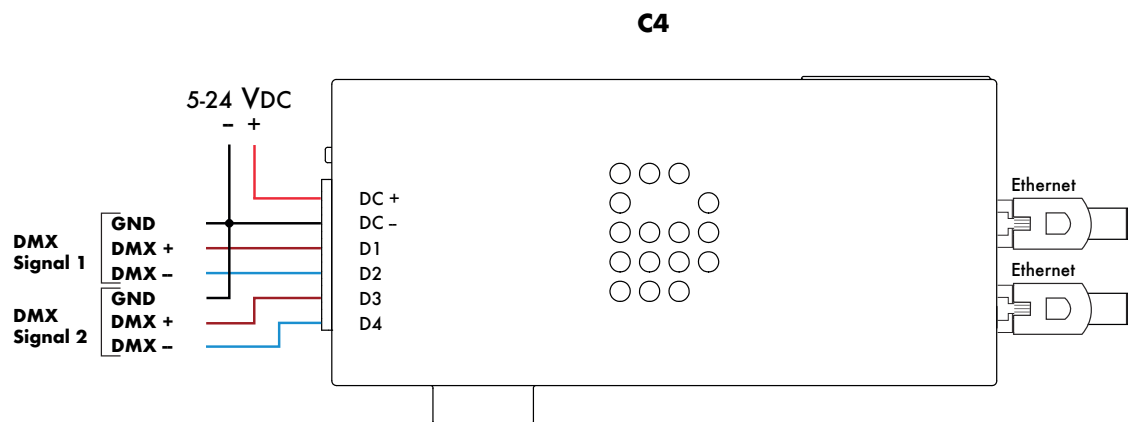
Max. 512 channels per combined DMX port | DMX cable length max. 500 m. (1640 ft.) | SPI cable length max. 2 m. (7 ft.)



This option shows a combined output of SPI and DMX in or out. Please note that the SPI type (Data only or Data + Clock) determines how you need to connect the SPI signal(s). A Data + Clock signal always requires two outputs of the C4. Cable should be DMX cable with an impedance of 110 Ohm or CAT5 or higher.

2 x DMX IN/OUT

Max. 512 channels per combined DMX port | DMX cable max 500 m. (1640 ft.)



This option shows two DMX in- or outputs. Every DMX signal requires a connected ground as indicated above. Cable should be DMX cable with an impedance of 110 Ohm or CAT5 or higher.

Ethernet connection

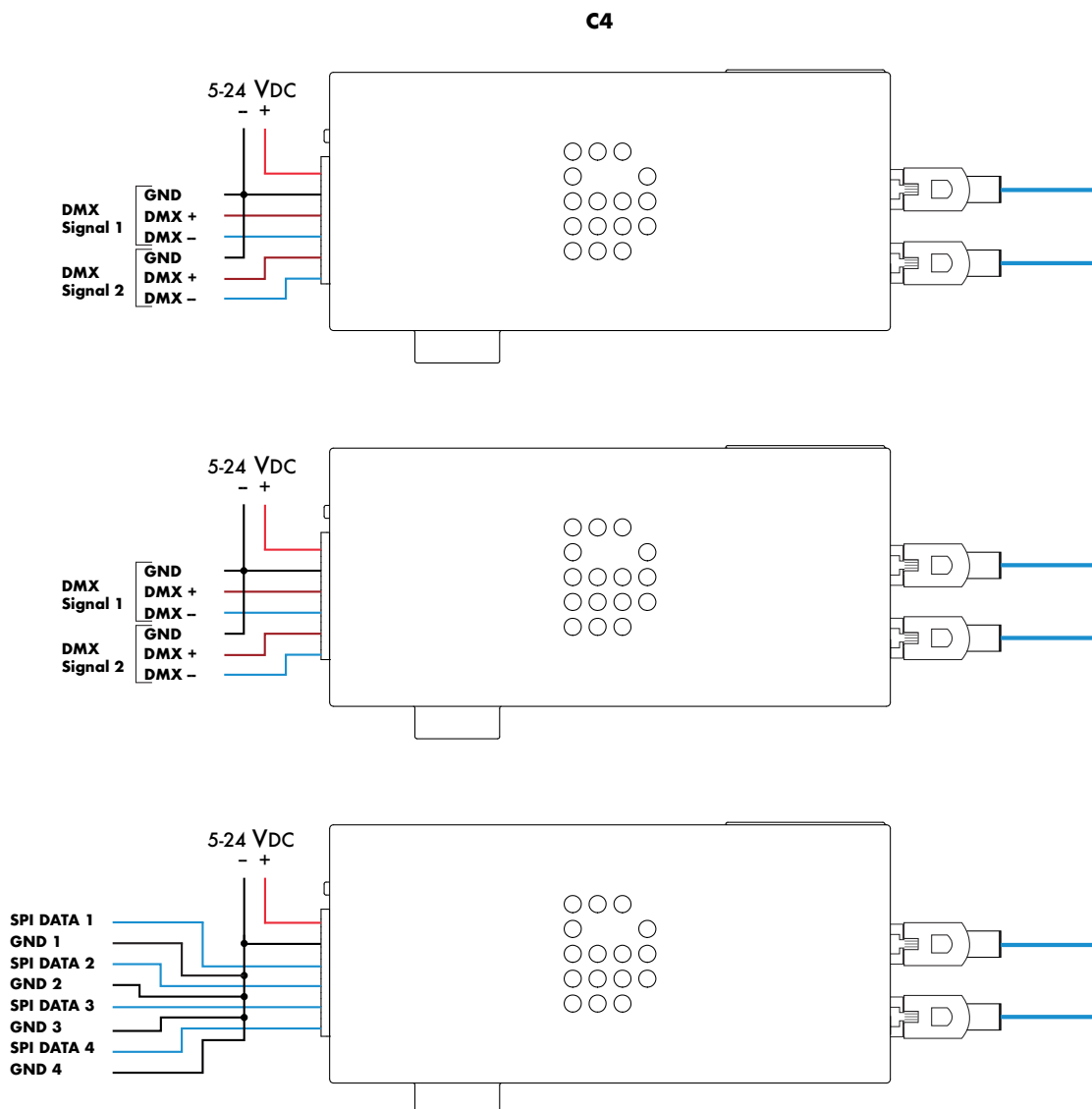
The DiGidot C4 has a built-in two port ethernet switch that allows multiple units to be daisy chained. Due to syncing, latency and performance reliability, we advise to keep the amount of daisy chained devices to a minimum. Depending on the overall network data load, the amount of daisy-chainable devices might vary, we recommend not to exceed 5 daisy chained devices to ensure reliable performance.

In order to avoid latency issues we recommend minimizing the amount of daisy chained devices and adding Gigabit Ethernet Switches to the network. We recommend using unicasting when using Art-Net, because this will lower the network load and increase performance.

1-2 DMX IN / 1-2 DMX OUT / SPI OUT (DAISY CHAINED)

DMX max. 512 channels per combined DMX port / DMX cable max. 500 m. (1640 ft.)

Recommendation is max. 3 SPI universes (check the C4 Performance guide) / Cable max 2 m. (7 ft.)



This is an example of multiple C4 units with different configured ports in a network.

The network cable length between C4 controllers, between Art_net source and a C4 or a between

network switch and a C4 can be max. 100 meters (CAT5E or higher). It's recommended to use a Gigabit Ethernet switch when connecting more than five DiGidot C4 controllers.

Connecting power

Before connecting power, make sure that the outputs are wired properly to avoid short circuits.

IMPORTANT: When you're using different power supplies to power the DiGidot C4 and the LEDs, it is of utmost importance to equalize the ground potentials.

Always connect grounds (DC-) of DiGidot C4 controller and every power supply, connected to every product that is controlled by a single DiGidot C4 controller to each other.

If the grounds are not connected, this will cause malfunctioning.

Power supply

Only use a stabilized SELV rated power supply or any USB charging port that provides 5 Watts at 5Vdc to power the DiGidot C4. Note that electronic switched power supplies usually have high inrush currents, please make sure to check all specifications carefully and design your infrastructure accordingly.

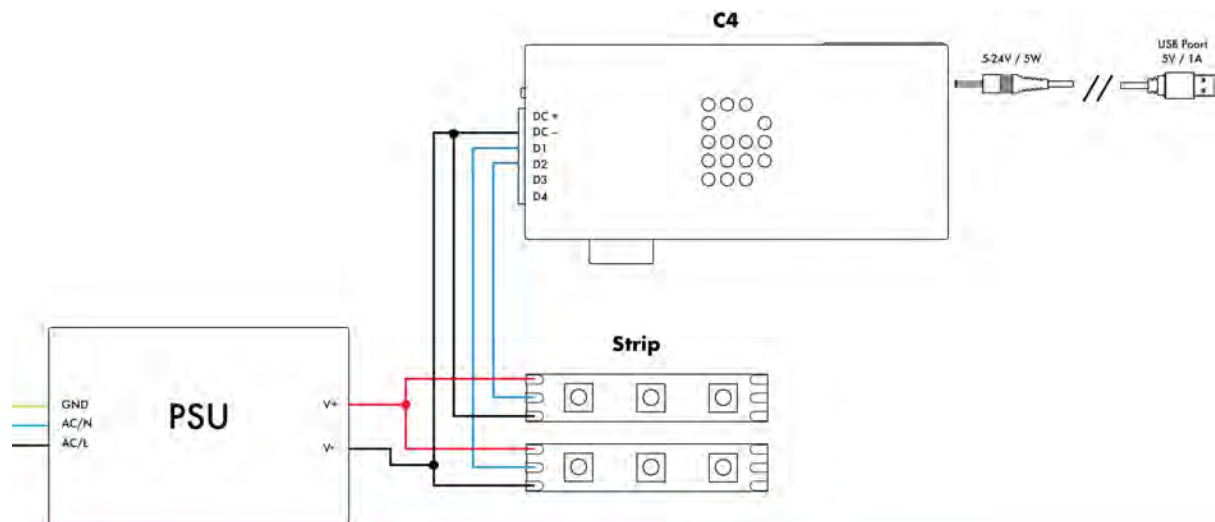
We recommend following power supply models to power the DiGidot C4:

- ▶ Mean Well APV-8-5 | Constant Voltage AC-DC, Input 90-264Vac, Output 8 Watt, 1,4A, 5Vdc
- ▶ Mean Well APV-8-12 | Constant Voltage AC-DC, Input 90-264Vac, Output 8 Watt, 0,67A, 12Vdc
- ▶ Mean Well APV-8-24 | Constant Voltage AC-DC, Input 90-264Vac, Output 8 Watt, 0,34A, 24Vdc

When connecting multiple DiGidot C4 controllers with or without PxLNet Transmitters we recommend to connect max. 5 controllers, due to inrush currents to following preferred power supplies:

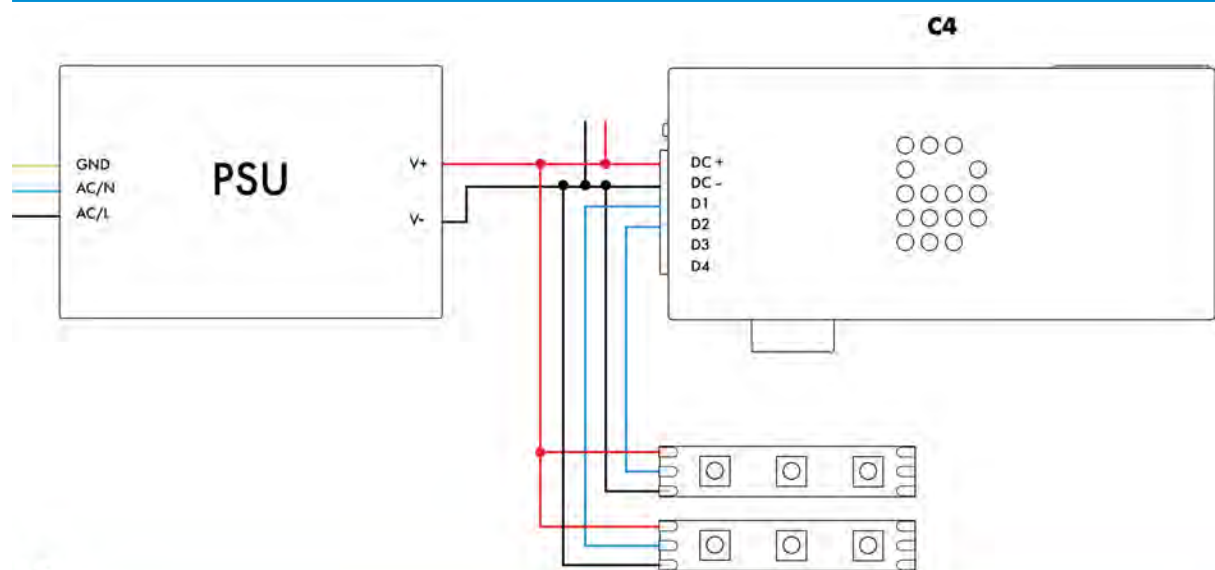
- ▶ Mean Well APV-35-5 | Constant Voltage AC-DC, Input 90-264Vac | Output 35 Watt, 5A, 5Vdc
- ▶ Mean Well LPV-60-12 | Constant Voltage AC-DC, Input 90-264Vac | Output 60 Watt, 5A, 12Vdc
- ▶ Mean Well LPV-100-5 | Constant Voltage AC-DC, Input 90-264Vac | Output 100 Watt, 12A, 5Vdc
- ▶ Mean Well LPV-100-12 | Constant Voltage AC-DC, Input 90-264Vac | Output 100 Watt, 8,5A, 12Vdc
- ▶ Mean Well ELG-150-24 | Constant Voltage AC-DC, Input 100-305Vac | Output 150 Watt, 8,5A, 24Vdc
- ▶ Mean Well ELG-240-24 | Constant Voltage AC-DC, Input 100-305Vac | Output 240 Watt, 10A, 24Vdc

Wiring scheme 1



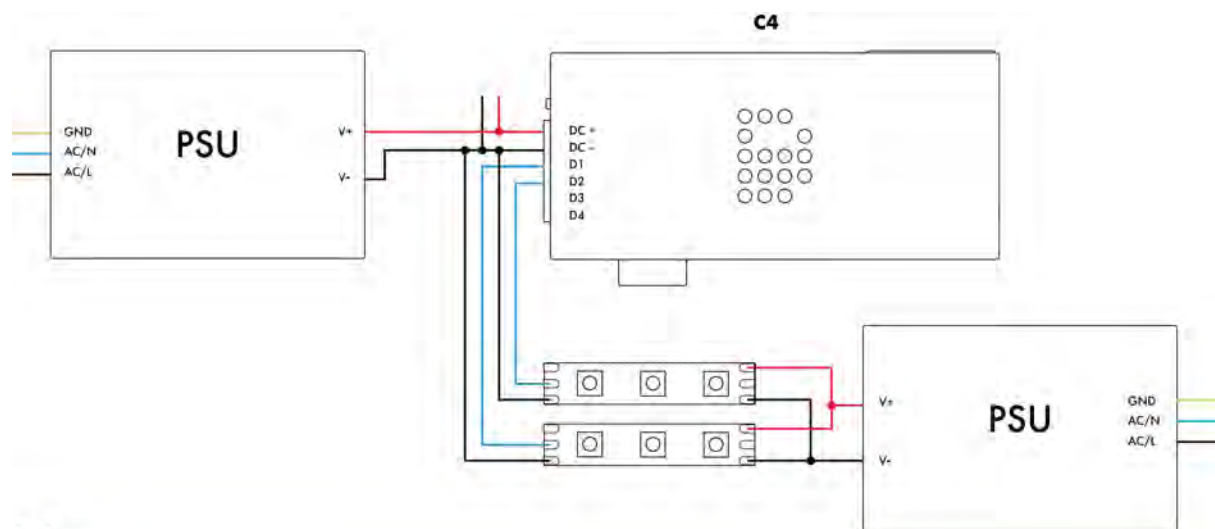
If DC Jack is connected for powering the C4, the grounds between PSU and C4 need to be connected.

Wiring scheme 2



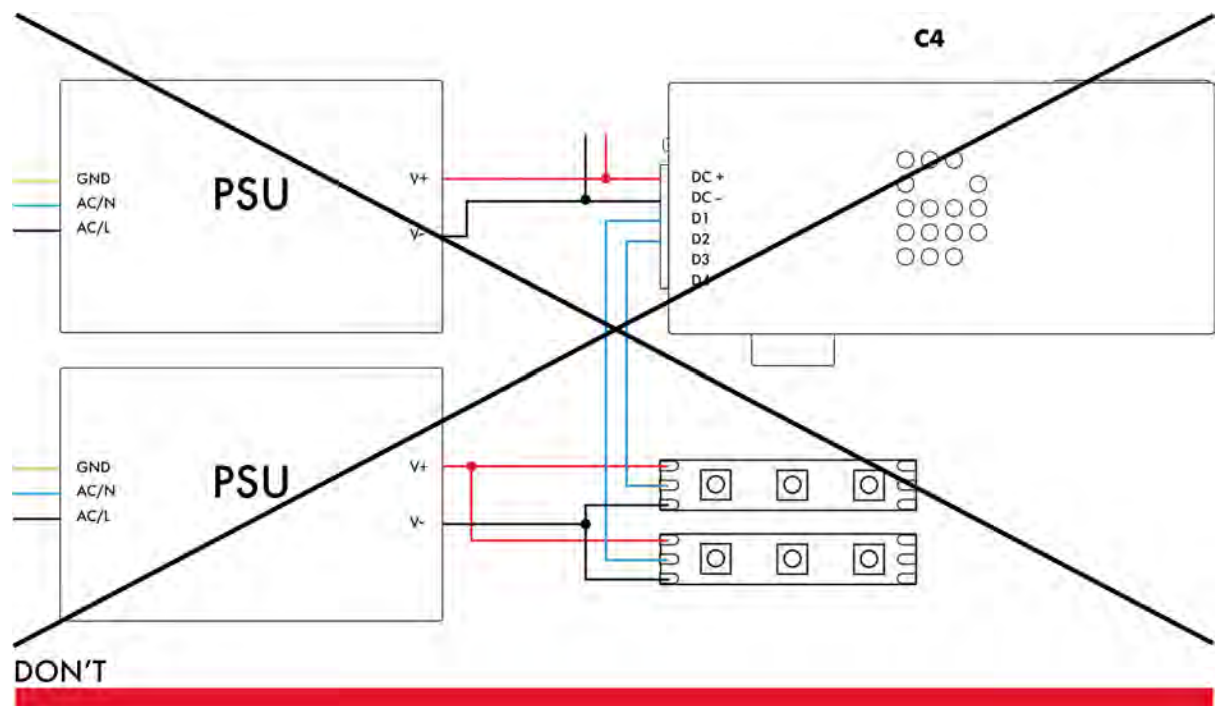
Each SPI Ground wire must be the same length as the Data wires per output, to prevent timing issues. This is automatically taken care of when these wires recombined in a single cable. Minor differences in length due to uneven stripping of the wires, should not cause any problems.

Wiring scheme 3



Each SPI Ground wire must be the same length as the Data wires per output, to prevent timing issues. In this case the power supplies grounds do not need to be connected because they share the ground through the LED product.

Wiring scheme 4



Grounds are not connected and not the same length as the data wires.

Use of trigger inputs (Extended license only)

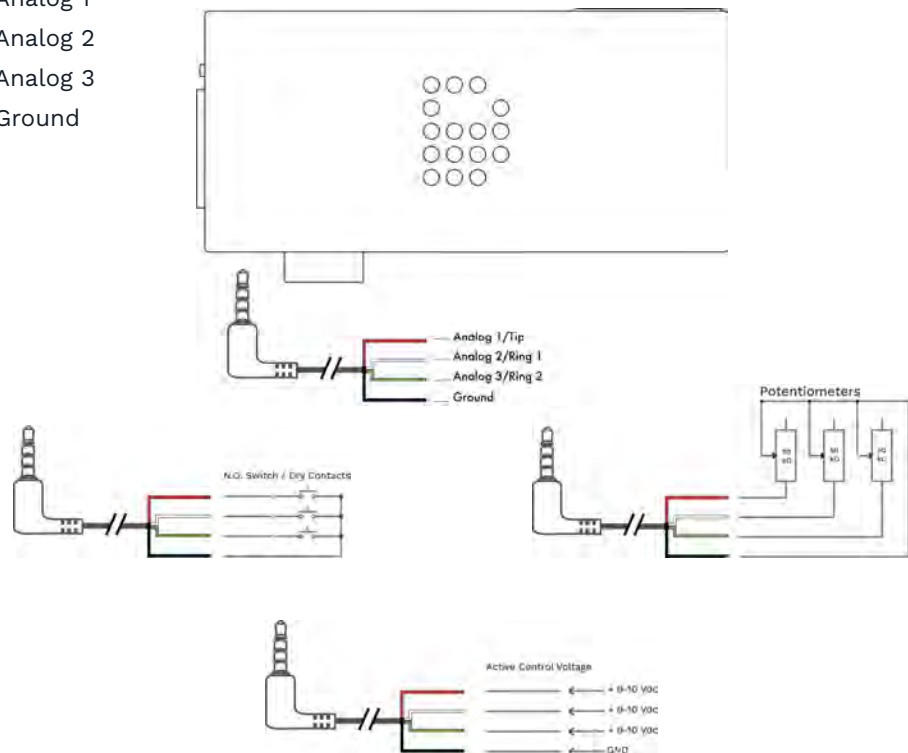
The Analog trigger inputs can be used for normally open (NO) push buttons, switches, 0-10 V dimmers, 0-10 V control signals from external devices (such as building management systems), or you can connect 50k Ohm linear potentiometers to the trigger inputs (see picture down below).

The DiGidot C4 Trigger input has following pinout:

1. Analog trigger 3
2. Analog trigger 2
3. Analog trigger 1
4. Ground

The DiGidot C4 TRRS Trigger cable has the following corresponding wires:

- | | | |
|----------|---|----------|
| 1. Red | = | Analog 1 |
| 2. White | = | Analog 2 |
| 3. Green | = | Analog 3 |
| 4. Black | = | Ground |



CONFIGURATION

Accessing the DiGidot C4

You can connect to the DiGidot C4 with a wired Ethernet connection or Wi-Fi.
The DiGidot C4 app is available for mobile devices in the App Store and Google Play.



Wired quick start

DiGidot C4 controllers have a built in DHCP server. This will automatically setup a connection when the DiGidot C4 and a device are connect with Ethernet (wired)

Accessing a DiGidot C4 controller works as follows:

1. Connect the DiGidot C4 to a power source. Read chapter 'Connecting power' or choose one of following options:

Option 1 Connect DC+ and DC- to a switching power supply, rated 5Vdc up to 24 Vdc, that is able to output at least 5 Watts

Option 2 Connect the 5-24V barrel jack socket, located next to the Ethernet ports to an appropriate power source (USB port).

2. Use an RJ45 Network cable (a short network cable is supplied with every DiGidot C4) to connect the DiGidot C4 to a network port of a computer.

3. Open your internet browser (preferably Google Chrome) and go to <http://10.254.254.254>.

TIP: You can also go to interface.digidot.eu to access your device(s), but this requires an active internet connection.

In case an account has been created to access the DiGidot C4, the same username and password have to be used in the app.

Configuring computer with a fixed IP address

This setup method is not required if you only want to acces the DiGidot C4 web interface because the smart DHCP server is enabled by default, please follow the steps in previous chapter.

A fixed IP address may be required if you want to connect a control system to the DiGidot C4, such as a computer with MADRIX.

To setup a wired computer connection, power up the DiGidot C4 and use a CAT5E (or higher), plug the

network cable in one of the RJ45 network ports of the DiGidot C4 and into the computers Ethernet/ UTP port.

NOTE: Please note that changing your Ethernet settings can prevent you from reaching the Internet and/or other devices in your network.

To stay connected to the Internet and use the online update and upgrade functions, it is required to use a computer with multiple network connections (LAN or Wi-Fi).

It's recommended to write down what your current network configuration is in order to restore these settings after you finished the configuration process if necessary.

Some laptops switch between Wi-Fi or Ethernet, in these cases you cannot have both connections simultaneously. This can be solved by using a third party Ethernet dongle.

On Windows computers go to:

Control Panel > Network and Internet > Network and Sharing Centre > Ethernet > Properties > Internet Protocol Version 4 (TCP/IPv4) > Use the following network settings:

IP Address	10.0.0.1
The static IP address of your computer	
Subnet mask	255.0.0.0
Network broadcast range of your computer	
Gateway	0.0.0.0
Router for Internet access	



On Mac computers go to:

System Preferences > Network > Ethernet > Configure IPv4 > Manually > Use the following network settings:

Network Settings	Values
IP Address	10.0.0.1
The static IP address of your computer	
Subnet mask	255.0.0.0
Network broadcast range of your computer	
Gateway	(empty)
Router for Internet access	



Your computer is now ready to access the DiGidot C4.
Open your web browser and go to <http://10.254.254.254>.

Configuring Wi-Fi for DiGidot app access

You can get wireless access to the DiGidot C4 fast and easy by following these 5 steps.

There's no special configuration required for your mobile device, this option works straight out of the box.

Wireless quick start

1. Connect the DiGidot C4 to a power source. Read chapter 'Connecting power' or choose one of following options:

Option 1 Connect DC+ and DC- to a switching power supply, rated 5Vdc up to 24 Vdc, that is able to output at least 5 Watts

Option 2 Connect the DC Socket, located next to the Ethernet ports to a 5 Vdc power source (USB port).

2. Press and hold the on board button for 10 seconds to turn on the Wi-Fi. This will automatically setup your DiGidot C4 as a temporary access point. The status LEDs of the DiGidot C4 will turn blue-white when the access point is activated. The access point will be closed again after startup/reboot, unless you configure it permanently on the Wi-Fi settings page.

Go to: *Home > Settings > Network > Wi-Fi tab.*

3. Install the free DiGidot app on your mobile device (this is optional) or go to step 4.

4. Connect your mobile device or computer to the DiGidot C4 Wi-Fi Network. Available DiGidot C4 networks are listed with their MAC Addresses, as shown on the DiGidot C4 product label for easy identification, E.G. "DiGidot C4 - 13:5C".

5. Start the DiGidot C4 app or open your internet browser and access your device(s) by browsing to <http://172.16.0.1>.

Device network settings for Art-Net

The device network settings can be changed in the integrated user interface. This is required in case you want to communicate with an Art-Net control device.

1. Log into user interface

The DiGidot C4 has a Built-in web-based user interface which you can access by using a web browser.

Once you have configured the IP settings on your computer, you can access the DiGidot C4 interface. Open your web browser, type <http://10.254.254.254> in the address bar and press enter.

2. Configure device name and network settings

Home > Settings > Network.

You can change the IP Address and subnet mask of the DiGidot C4. The IP Address needs to be unique in your network to avoid IP conflicts.

The device name than will be shown in the network can be changed on this page on this page:

Home > Settings > Device page

Example of Network settings:

Device name:	My DiGidot C4
IP Address:	10.0.0.2
Subnet-mask:	255.0.0.0

NOTE: These settings are just an example in order to get the DiGidot C4 to work. Alternatively the DiGidot C4 can be integrated in an existing network (be sure to change your DiGidot C4 network settings to match your local network). For questions about network integration, consult a local IT or network specialist.

3. Wi-Fi settings (optional)

Home > Settings > Network settings > set Wi-Fi mode to 'Access Point' or 'Connect to Wi-Fi'

Before configuring the internal Wi-Fi of the DiGidot C4, note that sending Art-Net over Wi-Fi is strongly discouraged, because of instability, unreliability and speed of wireless networks.

Wi-Fi is intended for configuring the DiGidot C4, playback and triggering.

The Wi-Fi IP Address range cannot be the same as the range for Ethernet.

INTERFACE

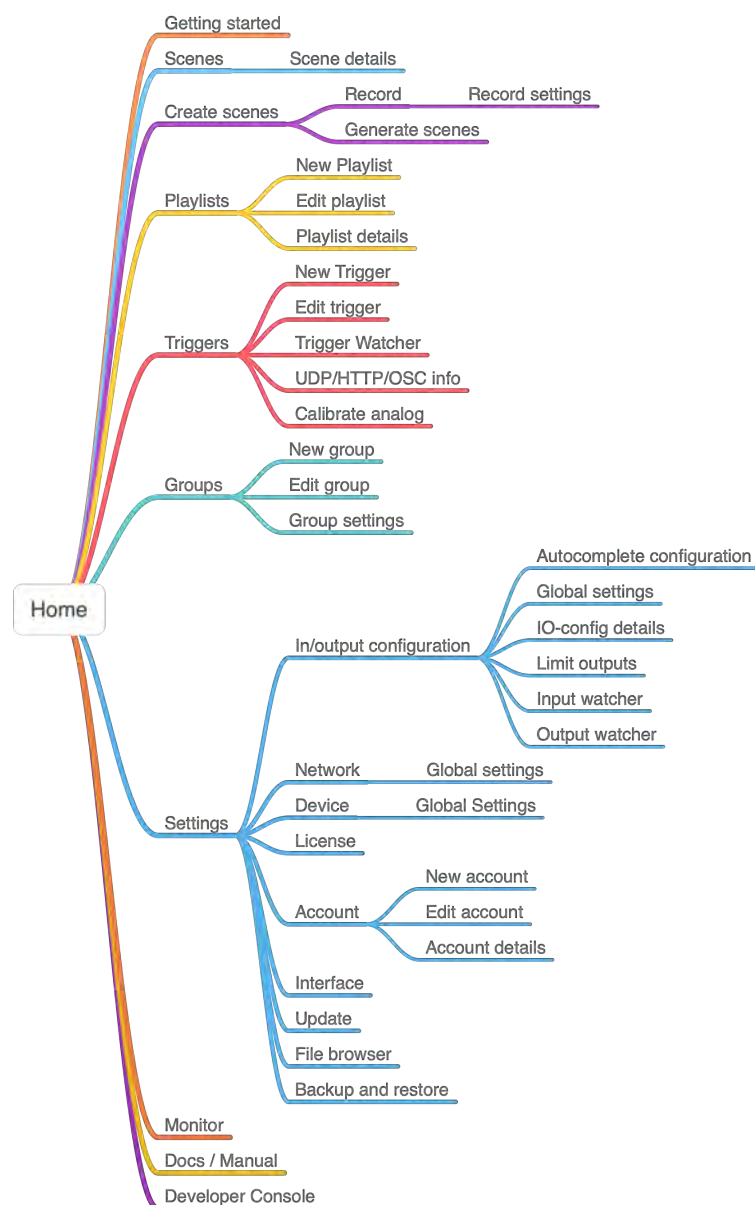
The DiGidot C4 has a built in web interface for configuration.

The interface can be accessed through a web browser by using a wired ethernet or Wi-Fi connection using the IP Address of the DiGidot C4 (default Ethernet IP Address: 10.254.254.254).

You can also use our free DiGidot app for mobile devices with the same functionalities as the build in web interface.

Interface map

This map shows the internal menu structure of the DiGidot C4. Some menu items are only visible in the DiGidot C4 Extended.



Getting started

Home > Getting started

In order to get started quickly or if you're new to using the DiGiDot C4, we recommend using the Getting Started wizard from the Home menu. This wizard will guide you through all essential steps to get the DiGiDot C4 up and running.

This wizard goes through following steps:

1. Device and network settings
2. Device positioning (in case of multiple devices)
3. Input/Output (IO) configuration
4. Security (Trigger security settings can be changed in the '**HTTP, UDP and OSC**' sub menu on the '**Triggers**' page)

Open the user interface and go to the '**Getting started**' wizard.

Follow the instructions carefully and complete the wizard in order to get your system up and running quickly. In case you need more information about a certain subject, you can open the information windows by clicking the 'i' icons.

When the Getting started wizard has been completed correctly, your DiGiDot C4 controller is ready to use.

Scenes (DiGiDot C4 Extended only)

Home > Scenes

A scene is a generated or recorded effect that can be played and triggered.

This page contains an overview of all scenes.

Click on the scenes to start or stop playing.

Select the pop over menu (3 dots) in the top right, to play, download edit or delete scenes. When playing a scene the player bar will appear. The player bar will show the current selected scene.

Expanding the player bar by clicking the icon at the bottom right, makes it possible to set the speed, hue and brightness of a scene.

Create scenes

There are two ways to create a scene in the DiGiDot C4 interface.

Record scene

Home > Create scenes

The record button will become active when an incoming signal is detected.

To start recording, click the red record button on the underside of the page.

A timer starts running until the record/stop button is clicked again.

When the record is completed, you can play and stop the recorded scene. A trimming slider can be used to adjust the beginning and end point of the record.

You can choose multiple options before saving the record, such as:

Record options

Time based

Adjust the start and end time to trim the record to its desired length.

Frame based

Adjust the start and end frame trim the record to its desired length.

Find loop

This option detects if there is a loop in the record (within the trimmed section) and automatically creates a looped record.

Trim black

This option detects if there are any black frames at the beginning and end of the trimmed selection and trims the length of the entire record.

No effect

This will keep the original trimmed record.

Fade

This option creates a fading transition from the end to the start of the record. You can manually adjust the fading time before the record is saved.

Note that this option only appears when the record is long enough to generate this effect.

Pingpong

This option replays the trimmed record from beginning to end and then from the end to the beginning again.

Recording DMX

In order to record from DMX you have to configure one or two DMX Input(s) in the I/O configuration.

Go to Home > Settings > In/out configuration > Select a port and choose 'DMX Input'

Record settings

Home > Create scenes > Record settings

On this page you can select and deselect the incoming universes that can be recorded.

Use Art-Net to start, stop and save records

This option allows you to trigger following record functions: prepare record buffers, start, stop and save records with an Art-Net signal.

To create an Art-Net trigger you need to specify a universe number, a channel number and a minimum and maximum DMX/channel value between 0 and 255, to determine when the event should be triggered. These triggers can also be created manually on the *Home > Triggers* page.

Prepare buffers:	This will prepare the DiGidot C4 before recording. This is required before starting the record. We recommend preparing record buffers 1 second before starting to record.
Start record:	This will start recording. The status LED will become white/blue.
Stop Record:	This will stop recording. StatusLED will stop being white/blue.
Save record:	This will save the record and will create a scene. The scene name will be generated automatically.

NOTE: Art-Net triggers can be used without the use of the DiGidot C4 interface or app.

Fixed frame rate

If fixed frame rate is enabled (default) the DiGidot C4 will record at 62 fps. If the option is disabled, the DiGidot C4 will create a frame for each Art-Net/DMX message, this can be useful when your software is sending at a fixed frame rate for example. Please note that higher fps rates result in larger scene files and thus affects available memory. In most cases we recommend using fixed frame rate.

Select/deselect all

This option allows you to select or deselect all available input universes.

Select inputs to record

Check the universes that you want to record with your next recording.

Generate Scene (DiGidot C4 Extended only)

Home > Create scene > Generate scene

Scenes are generated based on one universe and are being copied to following universes and outputs, depending on your I/O configuration.

You can generate three types of scenes, such as:

Static color

This will generate a static color scene.

Enter a RGB value from 0-255 or click on the color picker button to open the color picker page. As soon as the color picker was selected, the current color value will be displayed on all output ports (this can be switched off by unchecking the preview checkbox. Press and hold the color wheel and move around until you've found the desired color, release the color picker to set the color.

Adjust the saturation and brightness (when using RGBW color profiles the Saturation slider will fade in white and fade out color channels after 50% towards the unsaturated side (moving to left). In order to select the white channel only, the saturation must therefore be set to 0.


Five color presets can be stored or on both sides of the color picker by pressing and holding the preset buttons.

When the desired color is selected, press the check button in the middle of the color picker to confirm.

Click the 'Generate' button to generate a the static color scene, enter a scene name and click save. The new scene will be listed in the scenes page; Home > Scenes.

Colorscroll

This option generates a color scrolling (chase) effect of multiple colors in a user defined order. The width of a color block is defined bu the color width slider. In order to create black color blocks, set brightness to 0.

Change the color block order by the drag and drop icon .

Delete a color block by pressing the trash can button.

Add extra color blocks by pressing the 'Add color' button.

The fade checkbox is switched on per default and creates a fade transition starting in the middle of the width of a color block and ends at in the middle of the next color block. Uncheck the 'Fade between colors' checkbox to create hard color transitions between color blocks.

Two additional parameters can be set, such as speed of the effect and the direction of movement.

Click the 'Generate' button to generate a the colorscroll, enter a scene name and click save. The new scene will be listed in the scenes page; Home > Scenes.

Test Scene

This option generates a predefined color scrolling (chase) of in base colors (red, green, blue, white) effect which is useful to quickly test your setup.

Click the 'Generate' button to generate test scene, enter a scene name and click save. The new scene will be listed in the scenes page; Home > Scenes.


Playlists (DiGidot C4 Extended only)

Home > Playlists

A playlist is a list that contains one or more scenes in a user defined order that are played according to a set of predefined parameters. Scenes contained in a playlist can also be triggered by "next" and "previous" triggers.

The parameters that can be defined are:

Scene order

When the scenes have been added to the playlist, you can drag and drop scenes in any order with the  icon.

Action output

In case that there are multiple DiGidot C4 devices present in your network, you can assign which devices have to play a specific scene.

Repeat

The number of times that a scene is played.

By setting the repeat or duration to 0 the scene will play infinitely until the 'next' or 'previous' action is called (by interface or trigger).

Duration

The playtime duration in which the scene is (re-)played.

Fade time

This is the transition time of the cross fade between scenes.

Playlist options

Click the settings icon in the top right blue bar when editing a playlist. A pop-up with the playlist options will show.

All scenes settings

These input values will be applied to all scenes inside the playlist. This can be used for fast configuration.

Playlist settings

By default a playlist will loop through all scenes and start again at the begin if the last scene is ended. When disabling the 'repeat infinitely' option, you can set the number of loops of a playlist and you can select an action after the loops are finished.

Triggers (DiGidot C4 Extended only)

[Home](#) > [Triggers](#)

The DiGidot C4 Extended is able to use a wide variety of triggers to control various events. Triggers can be used to control following events: Play scene(s), Play playlist(s), Action list, Stop, Next, Previous, Speed, Brightness, Record, Reset, send UDP message, send OSC message, etc. The configuration is based on an "if this then that logic" where the "if" condition is defined by the input(s) and the "that" condition is defined by one or more actions.

There are two options for triggering;

Triggers: This is the standard way of triggering events, based on an 'if this then that' logic.

Example 1: If the circuit of dry contact 1 (analog input 1) is closed, start playlist 1.

Example 2: If channel 10 of Art-Net universe 1 is between value 100 and 255, play scene at brightness 50%.

Linked triggers: Link inputs to effects, such as speed, hue, saturation, etc.

Example 1: Link an analog input permanently to control the playback speed.

Example 2: Link an incoming OSC channel to brightness.

Creating triggers

Click **+** to create a new trigger and choose from the following "If this.." trigger options.

You need to select the device(s) where the trigger needs to be activated.

On the right side of the screen, you need to select the device where the action must be executed.

This can be done by clicking the blue top buttons in the ‘If this.. Then..’ row, that will show a list of available devices in the network.

After configuring a trigger, click **‘SAVE’**, enter a trigger name and save it. The newly created trigger is then listed in the ‘Triggers’ overview.

Trigger inputs

The trigger will be executed when all “if” conditions are fulfilled. Multiple inputs can be selected to create a wide variety of triggering conditions.

Following inputs can be created or combined:

Analog triggers

Home > Triggers > select ‘+’ to add a trigger > select ‘Analog’

The DiGidot C4 Extended has three analog inputs that can be used to control or trigger various events. Please make sure that the analog inputs are properly connected before you start using them. Before creating analog triggers, it’s advised to calibrate the analog inputs.

Analog input calibration

Go to: Home > Triggers > Click the three dots in the top right blue bar > Calibrate analog

For the analog input calibration it is required that the analog inputs are wired properly to the incoming analog signal. Also check if the controlling device (if applicable) is powered.

Make sure you are working on the correct device or select the right device from the top selection bar. Follow these steps to calibrate the analog inputs:

1. Send the maximum control value of analog input 1 (e.g.: turn the 0-10V dimmer up to its maximum) and press the ‘SET MAXIMUM’ button.
2. Send the minimum control value of analog input 1 (e.g.: turn the 0-10V dimmer down to its minimum) and press the ‘SET MINIMUM’ button.

Repeat these steps for analog inputs 2 and 3 (when they are in use). Use the sliders on the bottom of this window or enter specific values to manually adjust the analog input ranges.

When all inputs have been calibrated, press ‘SAVE’.

Creating analog triggers

There are four different ways to use the analog inputs:

- ▶ Push button or switch
- ▶ 0-10V dimmer
- ▶ 0-10V control signal from an external control system
- ▶ Potentiometer (50kΩ)

If this..

This menu shows the available input options.

- ▶ Analog channel: Select the analog channel 1-3 that you want to use for triggering.
- ▶ Analog type: Select the type of analog trigger. Use a dry contact or analog value.
- ▶ Event: Define the trigger event/state and optional delay or duration of the event.

Art-Net or DMX triggers

Home > Triggers > click '+' to add a trigger > select 'Art-Net or DMX'

You can use Art-Net and/or DMX to trigger various actions.

Art-Net triggers (default)

If this..

- ▶ Input universe: Select the input universe of the incoming signal.
- ▶ Channel: Select the channel that is used for this trigger.
- ▶ Minimum: Define the minimum channel value (0-254)
- ▶ Maximum: Define the maximum channel value (1-255).

DMX triggers

How to configure ports as DMX in?

You can configure the ports D1-D4 to one or two DMX inputs.

In case that port D1 & D2 and/or D3 & D4 are available (if no SPI protocol has been configured for these ports), you can choose which ports you want to configure as DMX input.

If all ports are already in use you have to re-configure the input/output configuration.

Home > Settings > In/out configuration and adjust I/O setting per port.

NOTE: DMX uses two lines for data; DMX + and DMX - and therefore requires two DiGidot C4 ports.

If this..

- ▶ Select DMX port: Select the DMX port where the trigger signal is coming from.
- ▶ Channel: Select the channel that is used for this trigger.
Minimum: Define the minimum channel value (0-254)
Maximum: Define the maximum channel value (1-255).

Power up

Home > Triggers > select '+' to add a trigger > select 'Power up'

This trigger will perform an action as soon as the DiGidot C4 booted or when the device is rebooted after performing a system restart.

If this..

- ▶ Automatically starts after DiGidot C4 start up

Onboard button

Home > Triggers > select '+' to add a trigger > select 'Button'

The onboard button of the DiGidot C4 can be programmed to trigger various actions. This feature is very useful for portable LED applications and demonstration setups.

If this..

- ▶ Button event: Select the preferred button event.
- ▶ Delay/duration (optional): Add a delay or duration in milliseconds to a button event.

Time/date

Home > Triggers > select '+' to add a trigger > select 'Time/date'

The DiGidot C4 has a build-in clock to trigger various time based actions. Every time the interface is loaded, the browser/app time will be used to synchronize the DiGidot C4 time and date. Once the time and date are set, the on-board battery will keep the internal clock running.

Automatic sync of time and date can be disabled in the device settings and allow for manual date/time override.

Go to: *Home > Settings > Device > deselect 'Sync time and date automatically'*

Please consider following regarding Time keeping accuracy:

The internal clock (RTC) has a deviation of 0.0038%, which means effectively that the clock can get behind up to ± 20 minutes per year.

In order to resynchronize the RTC, the C4 (network) must be connected to a computer or to the DiGidot C4 app and the interface must be loaded. The C4 will then automatically obtain the local real time and will reset its RTC.

If this..

Select '**TIME PERIOD**' for triggers that have to be active during a specific time frame.

E.g. A trigger is created with a time frame from 10 AM till 12 AM. When the DiGidot C4 is powered within this time frame, it will execute the associated action. The action will not stop at the end of the time frame (12 AM). You will need to create another trigger to stop the action at 12 AM. In the time frame it's possible to overwrite the action manually or with another trigger.

TIME PERIOD:

- ▶ Every: Repeating frequency of this trigger, e.g. every 'day' or every 'week' etc.
- ▶ Start: Define the time that marks the beginning of the time frame.
- ▶ End: Define the time that marks the end of the time frame.

Select **'TIME'** for triggers that have to be activated on specific times. These triggers will be fired only once when the defined time is reached. The DiGidot C4 will not activate the trigger retroactively.

TIME:

- ▶ Every: Repeating frequency of this trigger, e.g. every 'day' or every 'week' etc.
- ▶ Time and period fields: Define a date, time, period, etc. (multiple inputs possible depending on chosen frequency).

Digital trigger commands

You can send specific commands from external systems and devices to trigger various actions. These digital triggers are very useful for system integration and automation.

This also allows users to incorporate control over the DiGidot C4 in other software programs.

Detailed API information can be found in our DiGidot C4 API document on our website, go to <https://digidot.eu/support/documentation>

If you need further API information, please contact us.

OSC

Home > Triggers > select '+' to add a trigger > select 'OSC'

OSC (Open Sound Control) is a protocol that is often being used in audio and video applications in order to send data over a network. Due to the open and easy to use standard and various low cost OSC applications to create user interfaces, this protocol is ideal to be used in lighting applications.

There are various third party OSC applications that reported to work in combination with the DiGidot C4. A few apps that we can recommend are [TouchOSC](#) from hexler.net, [Lemur](#) from Liine or [Ctrl](#) from ON LX Ltd. Please note that DiGidot does not offer any support for third party apps and softwares.

Enable OSC trigger

Before creating OSC triggers, OSC must be enabled first. This can be done by creating an OSC trigger and press the **'enable'** link or do the following steps:

1. Go to:

Home > Triggers > click on the 3 dots in the top right blue bar > select 'HTTP, UDP and OSC'

2. *Enable the OSC triggers option and click the 'save' button.*

Add an OSC trigger

An OSC trigger can be created in two ways:

If..

1. Learn an incoming OSC Address

- ▶ Press the **'LEARN'** button and send the Address from an OSC app or software.

Note that the OSC sending application must be connected to the C4 network and the correct IP address of the recipient must be set.

2. Enter an OSC Address manually

- Enter the same Address that is used by to the OSC app or software.

After saving the OSC trigger it will be listed in the Triggers overview. Use the copy button in the trigger item to copy the OSC command and paste it to your software program.

Address for OSC editor

If an OSC Address has been entered in the trigger first, the same Address needs to be copied in the OSC editors address field (deselect 'Auto' in TouchOSC).

We recommend however to create the OSC interface first, then create the triggers and use the learn function automatically copy the OSC addresses that are associated with the OSC interface buttons and sliders.

UDP

Home ➤ Triggers ➤ select '+' to add a trigger ➤ select 'UDP'

UDP is a small message send over the network port. The DiGidot C4 can receive UDP messages. This can be useful if other software needs to control the DiGidot C4 controller. UDP is mostly used by developers. Downside of using UDP instead of HTTP is you will not get a conformation if you send a message, but UDP has slightly better performance.

Enable UDP trigger

In order to be able to create UDP triggers, it must be enabled first. This can be done by creating a UDP trigger and press the '**enable**' link or do the following steps:

1. Go to:

Home ➤ Triggers ➤ click on the 3 dots in the top right blue bar ➤ select 'HTTP, UDP and OSC'

2. Enable the OSC triggers option and click the 'save' button.

Add a UDP trigger

Home ➤ Triggers ➤ select '+' to add a trigger ➤ select 'UDP'

A UDP trigger can be created in two ways.

If..

1. Learn an incoming UDP message

- Press the '**LEARN**' button and send the message from an UDP app or software.
Note that the UDP sending application must be connected to the C4 network.

2. Enter an UDP message manually

- Enter the same message that is used by to the UDP app or software.

After saving the UDP trigger it will be listed in the Triggers overview. Use the copy button in the trigger bar to copy the UDP command and paste it to the desired destination.

HTTP

HTTP GET is a message send over the network port. The DiGidot C4 can receive HTTP Get messages. This can be useful if other software needs to control the DiGidot C4 controller. HTTP Get is mostly used by developers. Benefit of using HTTP instead of UDP is you will get a conformation if you send a message, but UDP has slightly better performance.

Enable HTTP trigger

In order to be able to create HTTP triggers, they must be enabled first. This can be done by creating a HTTP trigger and select **'enable'** or do the following steps:

1. Go to:

Home > Triggers > click on the 3 dots in the top right blue bar > select 'HTTP, UDP and OSC'

2. Enable the HTTP triggers option and click the 'save' button.

Add an HTTP trigger

Home > Triggers > select '+' to add a trigger > select 'HTTP'

Give the trigger a name when saving and a HTTP get URL will be created for triggering. You copy and past the URL in your browser to test the trigger.

If..

Use the IP Address of the selected device In order to send the HTTP command to the right device.

After saving the HTTP trigger it will be listed in the Triggers overview. Use the copy button in the trigger bar to copy the HTTP command and paste it to the desired destination.

Internal task

Home > Triggers > select '+' to add a trigger > Internal task'

This trigger can be used to trigger events when the DiGidot C4 is in a specific status, such as playing a scene or when in idle state.

If this..

Define the condition of an internal task which upon a trigger needs to be fired.

- ▶ Select an internal task such as 'Scene' or 'Art-Net'
 - ▶ Select a status of an internal task which triggers the event
- The idle status is defined as; ready to execute tasks, not playing a scene and no incoming Art-Net or DMX Signal is detected.

Sunrise / sunset

Home > Triggers > select '+' to add a trigger > Sunrise / sunset'

Sunrise and sunset triggers can be used to trigger events when the sun rises or sets. The DiGidot C4 will calculate the precise local sunrise or sunset time, based on GPS coordinates (longitude and

latitude) or according to the built in city list. It is also possible to program an offset to these events in order to start the trigger before or after the sun rises or sets.

Please consider following regarding Time keeping accuracy:

The internal clock (RTC) has a deviation of 0.0038%, which means effectively that the clock can get behind up to ± 20 minutes per year.

In order to resynchronize the RTC, the C4 (network) must be connected to a computer or to the DiGidot C4 app and the interface must be loaded. The C4 will then automatically obtain the local real time and will reset its RTC.

If this..

Enter location

There are two ways to enter the location of the project.

The first option is the online location finder. Enter the location, city and country for example and press enter. The Interface will provide the latitude and longitude and current sunrise and sunset time for this location. This option requires an internet connection.

The second option is the offline mode where the latitude and longitude can be entered manually or where you can choose from a list of popular cities. This is recommended when no internet access is available or when the google result is not accurate.

Choose one of the following options for this trigger:

Options

- ▶ Sunrise
- ▶ Sunset

It is possible to add or subtract time in minutes from the sunrise or sunset time by entering a positive or negative amount of minutes.

NOTE: You can make combinations of multiple triggers to control specific actions.

In order to so, select 'ADD INPUT' in the 'If this..' menu. Note that only the combination of all selected input triggers will trigger the action.

This feature is still in development and not yet fully supported for all combinations, please make sure you're running the latest firmware and contact us for further information.

Counter

Home > Triggers > select '+' to add a trigger > Counter'

Counter triggers can be used to trigger events when the counter is higher than the entered delay in milliseconds. The counter will start counting when the DiGidot startup and all triggers are loaded. This takes about 5 seconds from powering the DiGidot C4. The counter can also be reseted by trigger action.

If..

The counter time is higher than the entered delay time.

Trigger actions

If the trigger condition(s) on the “if” side are positive, one or more actions can be executed. When you’ve finished your trigger setup, click ‘SAVE’ to store your trigger settings.

Then..

This menu shows the available events that can be configured.

- ▶ Select the devices that needs to perform an action.
- ▶ Select the action type and action parameters in the “Event settings” window.

Action types

Select one of following actions from the drop down menu.

Play scene

- ▶ **Scene:** Select the desired pre recorded scene from the drop down menu.
- ▶ **Brightness:** Set the brightness for this action.

Play playlist

A playlist is a list of scenes with fade times and needs to be created in the main menu item called “Playlists”

- ▶ **Playlist:** Select the desired playlist from the drop down menu.

Action list

The action list allows multiple actions and sub actions to be triggered in consecutive order, by the same trigger input, every time this trigger state is positive.

Every step in this list is indicated by a #number and can be ordered with the drag and drop feature. Every action may contain one or multiple sub actions that are triggered at the same time. An action list always loops, this means it will start at the first step again if you trigger it at the last step of the action list.

- ▶ **Action 1:** Select an action from the drop down menu. An action will add one or more extra options depending on the action type. E.G. a Scene will add a drop down menu to select a scene and an option to set a fade time.
- ▶ **ADD SUBACTION:**

Speed: Change the playback speed for the scene or playlist of this action.

Transition time: Sets the time it takes for the change in speed to reach its selected value

Color (HSV) filter: Shift the color(s) for the scene or playlist of this action.

Color (RGB): Enter an RGB color value between 0, 0, 0, and 255, 255, 255 or select the color picker and pick a color or color preset. Please note that all colors are shifted based on the offset of the color by default. Red is always the starting point. If Red is shifted to green, the color will match. If the base color is orange and shifted to blue, the output color will become more like purple.

HSV filter type:

Offset: This option shifts all colors throughout the RGB color spectrum.

Add: This option adds a color to the default color(s) to create a new mix color.

Master brightness: Change the master brightness.

Brightness type: Select how you want to adjust the brightness.

Static value: Adjust the brightness with the brightness fader.

Steps: Is used to increase or decrease the master fader brightness level with a percentage of the current master brightness level. E.g. -8 will result in a decrease of 8%.

Fade time: Set the fade time for this brightness adjustment.

Send UDP message: Sends a UDP message over the network.

IP Address: Enter the IP address of the recipient.

Port: Enter the port number for the UDP message.

Message: Enter the UDP message for your recipient.

Send OSC message: Sends an OSC message over the network.

IP Address: Enter the IP address of the recipient.

Port: Enter the port number for the OSC message.

Address: Enter the address path where the message needs to be sent to within the recipient application.

Value: Enter the value for OSC message.

Link to another action: You can link to other actions that have already been created. This also allows you to trigger an action list for example.

Select action(s): Select action(s) from the pop up menu.

Enable/disable other trigger(s) input: This trigger will enable or disable one or more selected trigger inputs.

Select triggers: Select one or more triggers from the pop up menu.

New state: This is the on/off switch for this trigger input. Please note that in case this trigger input should become (in)active again, another counter

Reset counters: Select one or multiple counters that need to be reset.

Record actions:

Record options:

Prepare buffers: Prepares the buffers for the recording process. This action is required prior to the Start record action.

Start record: Starts recording incoming Art-Net or DMX Data. Please note that this action must be a new action and cannot be a sub action following the Prepare buffers action. Make sure that there is at least 1 sec time between the Prepare buffers and Start record action.

Stop record: Stops recording.

Play raw scene: Plays the unprocessed record.

Stop raw scene: Stops playing the record.

Save record: Saves the unprocessed record.

Custom action: This trigger opens a note pad where custom trigger code can be entered. This option is usually reserved for developers or custom made code.

Action examples: Select an action from the pop up window.

Restart: This trigger will perform a restart of the DiGidot C4 controller(s).

You can add multiple subactions per action.

+ ADD ACTION: Add another action to the action list.

Pause

This will pause any scene or playlist that is playing.

Effect: You can add an effect that determines the way a scene is stopped.

No effect (default): This will instantly pause the scene.

Speed transition: This will gradually decrease the speed to 0% within the entered time.

Brightness (fade out) transition: This will gradually decrease the brightness to 0% within the entered time.

Speed and brightness (fade out) transition: This will gradually decrease the speed and fade out the brightness to 0% within the entered time.

Resume

Resumes playing any paused scene or playlist.

Stop

Stops playing any scene or playlist.

Next

Skips to the next scene in the Scenes list or playlist.

Previous

Goes back to the previously played scene.

Speed

Changes the scene speed by adjusting the speed slider. 100 is the default scene speed and represents 100% of the original speed. Values higher than 100 represent a speed increase, values between 1 and 100 represent a decrease in speed, 0 represents a static value with no speed and values smaller than 0 will reverse the movement and will increase in speed when the negative value increase.

Transition Time: This will gradually decrease or increase the speed to the selected value within the entered time.

Master brightness

Changes the master brightness.

Brightness type: Select how you want to adjust the brightness.

Static value: Adjust the brightness with the brightness fader.

Steps: Is used to increase or decrease the master fader brightness level with a percentage of the current master brightness level. E.g. -8 wil result in a decrease of 8%.

Fade time: Set the fade time for this brightness adjustment.

Record

This trigger can be used to (remote) control various record functions.

Record options:

Prepare buffers: Prepares the buffers for the recording proces. This action is required prior to the Start record action.

Start record: Starts recording incoming Art-Net or DMX Data. Please note that this action must be a new action and cannot be a sub action following the Prepare buffers action. Make sure that there is at least 1 sec time between the Prepare buffers and Start record action.

Stop record: Stops recording.

Play raw scene: Plays the unprocessed record.

Stop raw scene: Stops playing the record.

Save record: Saves the unprocessed record.

Link to another trigger

You can link to other actions that have already been created. This also allows you to trigger an action list for example.

Select action: Select an action from the pop up menu.

Enable/disable other trigger input(s)

This trigger will enable or disable one or more selected trigger inputs.

Select triggers: Select one or more triggers from the pop up menu.

New state: This is the on/off switch for this trigger input. Please note that in case this trigger input should become (in)active again, another counter

Reset counters

Select one one or multiple counters that need to be reset.

Send UDP message

This trigger can be used to send a UDP message to external devices.

IP Address: Enter the IP address of the recipient.

Port: Enter the port number for the UDP message.

Message: Enter the UDP message for your recipient.

Send OSC message

This trigger can be used to send an OSC message to external devices.

IP Address: Enter the IP address of the recipient.

Port: Enter the port number for the OSC message.

Address: Enter the address path where the message needs to be sent to within the recipient application.

Value: Enter the value for OSC message.

Restart

This trigger will perform a restart of the DiGidot C4 controller(s).

Custom

Custom action: This trigger opens a note pad where custom trigger code can be entered. This option is usually reserved for developers or custom made code.

Action examples: Select an action from the pop up window.

Creating linked triggers

Home > Triggers > Linked triggers

Linked triggers are used to link input triggers to actions with variable values such as linking an analog input to the master brightness.

On this page it's possible to link the trigger input on the left to an action on the right. Simply select an input and an action to connect a trigger permanently. The established link is visualized by a

connected line between the two items.

Parameters that can be controlled by linked triggers are:

Speed

Hue (color)

Saturation

Brightness

Playlist

OSC

- OSC commands must be send to port 8000

UDP

- UDP commands must be send to port 6467

Further information about OSC and UDP triggers can be found here: *Home > Triggers > click on the 3 dots in the top right blue bar > select 'HTTP, UDP and OSC' and select the desired protocol tab.*

For some of these parameters it's possible to define a specific control range by adjusting the sliders. For the analog, Art-Net and DMX inputs it's required to set a minimum and maximum input value. Some triggers and some actions require further configuration, such as OSC and UDP where custom messages can be set.

NOTE: The amount of triggers that you can generate is limited due to available memory. Available memory is affected by the license, amount of configured universes, amount of actions, scenes that are playing, etc. In any case, the maximum amount of triggers is around 25. If too much triggers are created, this can result in memory overload and will cause a device crash. In such cases, it's best to remove the microSD card, make a copy of the microSD card, delete the contents of the triggers folder and insert the microSD card again. New triggers can be created but you should create less triggers than before.

Trigger watcher

Home > Triggers > Click the three dots in the top right blue bar > Trigger Watcher

The trigger watcher can be used to monitor trigger activity.

There are three tabs, 'ALL TRIGGERS', 'UDP MESSAGES' and 'OSC MESSAGES'. Select the the trigger tab that you want to monitor and click 'START WATCHING' all the trigger activities will be listed.

If you want to clear the screen Click 'CLEAR LOG' any time.

Groups

Home > Groups

This function allows you to create specific groups of DiGidot C4 controllers. This makes the configuration, identification, testing, restarting and organizing specific parts of your project or installation a lot easier. (This feature is still in development and will be updated in the future.)

Add a group

Home > Groups > click the '+' icon

Input fields

Title: Enter a name for this group.
Select devices: Check all devices that you want to add to this group.

Group settings

Home > Groups > submenu: Group settings

Input fields

Auto select group at startup: In the group settings you can set up a device or group that is selected in at the startup of the app. This can be useful if you create an "user" account that should only control those devices.

Hide single devices: When you enable this option, single devices will be hidden in the "My Devices" overview (select-box in the top bar). Groups will not be affected by this option.

Monitor

Home > Monitor

In the Monitor function you will find relevant information such as Ethernet latency, Status, MAC-Addresses, IP Addresses and Wi-Fi status and so forth. This can be helpful when setting up your network or for troubleshooting.

Ethernet latency

Ethernet latency shows the network message response time.
When the Ethernet latency light is green, the network connection is working.
When the Ethernet latency light is red the DiGidot C4 is not responding. Click on the "timeout" text to get more information about the timeout session.

Status

Definitions of device statuses:

- ▶ Playing [scene name]: Device is playing a scene or playlist.
- ▶ Scene FPS
- ▶ Incoming Art-Net FPS

Analog

This is the incoming values of the analog ports.

Name

This is the device name.

MAC Address

This is unique the device MAC Address.

IP Address

This is the device IP Address.

Wi-Fi

This is the status of the onboard Wi-Fi module.

Universe(s)

This shows the configured universe(s) that the DiGidot C4 listens to. There are two statuses:

- ▶ Red numbers indicate that no Art-Net data present.
- ▶ Green numbers indicate that Art-Net data is present.

Click on the device universes to open the Art-Net Watcher window, to monitor the incoming channel values.

Port

This shows which ports have been configured as an output.

If you click on a port, it will highlight the DiGidot C4 output until you click again.

Actions

Restart: will restart all devices that are currently selected and displayed on the Monitor page.

Highlight: will highlight all configured outputs of all selected and displayed devices on the Monitor page.

To select more or less devices, click on the “ALL DEVICES” button (select-box in the top bar) and select the preferred device or group.

Settings overview

Home > Settings

This page shows all settings and device configuration items.

Inputs & outputs configuration (manual configuration)

Home > Settings > In/out configuration

On this page you can manually configure the inputs and outputs.

Choose the output type (or DMX input) for these ports. Then click the blue + icon of each port to add universes. To edit the output options, click the universe item.

The DiGidot C4 is able to output one SPI protocol type simultaneously. If you select an SPI protocol for one port, this protocol will be used for all other output ports.

You can however make a combination of ‘DMX input’ or ‘DMX output’.

Combining ports example:

Port D1 is set to DMX out and will automatically be combined with port D2, because 2 data lines for a (balanced) DMX signal are required. You can now select a protocol for D3+D4.

Art-Net redirects

Art-Net universes/channels can be redirected to other Art-Net universes. In this case the second RJ45 network port will become the Art-Net output.

Click the '+' button to add Art-Net universes that need to be redirected.

Select the input universe that needs to be redirected and select the output universe on which this universe needs to be broadcasted and enter the amount of channels that need to be redirected. The default starting channel is 1.

Select the 'Advanced settings' for more universe specific settings such as the starting address, IP address of the Art-Net source, 16 bit input and other output options, etc.

Art-Net redirects are considered as output channels and will affect licensed channels.

This also means that you can record an Art-Net stream and play it back using Art-Net. Recorded universes can be outputted on different output universes, defined in the Art-Net redirect.

NOTE: The DiGidot C4 starts to count universes at 0 (zero)! Some softwares or consoles, such as MADRIX may start counting at universe 1.

TIP: Additional tools available!

In the right top menu you will often find additional tools under the three dots in the top right blue bar.

Autocomplete configuration

Use this tool to copy the configuration of the first port of the first device to the selected ports/devices. The interface will show various autocomplete options, depending on your system setup.

Global configuration

This page offers advanced configuration item options that apply to all selected devices.

Such as;

- ▶ Gamma Correction
- ▶ Color profile
- ▶ Fallback options
- ▶ IP Address filter

Input watcher

The input watcher is a useful tool that monitors incoming control signals. You can switch between:

- ▶ Art-Net: you can select a specific universe that you want to monitor
- ▶ DMX: switch between the inputs if you have configured one or more ports as DMX In.

Limit outputs

On this page you can set the master brightness, the brightness limiter and the adaptive power limiter.

- ▶ **Brightness limiter**

This option limits the individual channels to a specific percentage. This means that every channel or LED will never exceed this percentage.

E.g.: Limiting brightness to 50%, means that all individual channels can never exceed 50% but the control range per channel will remain the same. Effectively the percentage is applied to the input value for each channel.

► **Adaptive power limiter**

This option limits the total average output of all channels combined to a specific percentage in order to decrease total power consumption. Individual channels may still output up to 100%.

E.g.: Limiting power to 50% means that half of the channels can output 100% and the other half at 0% or all channels at 50%, etc.

In case you would try to output all channels to 75%, the output of all channels would be automatically limited to a total 50%, but will maintain ratios relative to each other.

Delete configuration

Deletes all IO configuration settings of selected devices.

In/out configuration item page

Home > Settings > In/out configuration > Universe item

Click on Port D1-D4 to select or change the output protocol. Click on the '+' symbol to add a universe to each port. Click on a universe item to change following settings.

Channels: Define the number of output channels.

Universe: Assign a universe number as input.

Further configuration options will be shown when you collapse the '**Show advanced settings**' option.

Advanced IO config

Start-channel

This option allows you to enter an offset value of the starting channel that this universe listens to. By entering a start channel (0-511), all channel data before this channel offset will be skipped.

Example

Goal: You want to use channels 100 up to channel 200 as output channel 0-100.

Configuration settings will be as follows:

- Start channel is set to 100.
- Channels is set to 200.

Explained: First, the start channel will shift 100 channels of the input. This will skip the first 100 channels of the universe. Then set the channels to 200, because 200 channels are required, starting after the first 100 skipped channels.

Create segments

This option combines multiple channels or LEDs in order to become one pixel/segment. It's recommended to use this option when the amount of control channels needs to be reduced, if you want to create larger pixel segments are required or if multiple channels of an SPIC control the same channel (e.g. Sometimes a 3 or 4 channel IC is used to control only white LED's within one package or module).

Segment type ➤ Select a segment type from the dropdown menu.

- ▶ No segments - Disables segments (Default)
- ▶ Create segments - Allows to create your own segmentation
- ▶ RGB(W) LED segments - Link multiple LEDs together (e.g.: channel 1&4&7, 2&5&8, ...)
- ▶ Single color segments - Groups channels together (e.g.: channel 1-3, 4-6, ...)

Examples

1. Repeating 3 RGB pixels: Output channels 1,2,3,4,5,6,7,8,9 will correspond to input channels 1,2 and 3.

Number of linked channels: 1

Repeat linkedchannels: 3

Input channels

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

Output channels

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

2. Convert a pixel product into simple '1,2,3,' chaser for less control channels: Copy the input channels 1,2,3, in the following order the outputs.

Number of linked channels: 3

Repeat linkedchannels: 1

Input channels

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

Output channels

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

3. Increase pixel size/ decrease channels: Combine/group multiple output channels into one, in order to save input channels.

NOTE: Combining input channels will not reduce the amount of output channels.

The DiGidot C4 is always limited to the total amount of output channels corresponding to the license. The number of input universes is not limited.

Gamma correction

Gamma correction adjust the overall brightness of the output. This option is used if you want to display real looking videos instead of high saturated effects.

Color profile

Rearrange the LED color order, for example from RGB to BGR. You can select a few standard conversion profiles or create your own Custom profile. This might be required for some LED products. The DiGidot C4 uses the default color order from the technical documentation of a selected IC/SPI protocol.

Fallback color

This function allows to select a color that will be send to all output channels as soon as no Art-Net signal is detected.

Color

Enter a RGB value between 0 and 255 per LED channel or use the color picker to select a color easily. If you use the color picker, you can also adjust the saturation and brightness by adjusting the sliders underneath. After selecting the fallback color, hit the ✓ button in the center of the color picker to confirm your selection.

Timeout

Enter a delay/timeout in ms (milliseconds) when the fallback color becomes active after signal loss.

Advanced input

Further universe specific settings can be changed;


- ▶ **Only accept Art-Net from IP Address:** enter a dedicated IP address that this universe listens to.
- ▶ **Analog dimming:** select one of the three analog inputs that will control the overall brightness of this IO configuration item.
- ▶ **16 bit input:** When sending 16 bit data to the DiGidot C4, two input channels are used for one color channel. If your IC does not support 16 bit and you want to convert 16 bit to 8 bit, please enable this option. If your input is 16 bit and your IC is too, it will be done automatically.
- ▶ **Second input (HTP merge):** This wil merge the selected universes together and transmit the merged signals to the designated output. Enter the desired universe, start channel and the amount of channels you want to merge.

Advanced output

Output options:

- ▶ **Bypass master dimmer:** Enable if you want this output not to be dimmed by a master dimmer or brightness trigger.
- ▶ **Max time until resend:** When no Art-Net is received within a given time the current output is resent to the IC's (LEDs). This is used to prevent data issues and IC timeout functions from happening because some IC's will switch to a default color or sequence when no SPI is received for a certain duration. This may also results in a decrease of frame rate (FPS). Reset this value to its default by pressing delete > generate a new universe again by selecting the blue + button of the specific D port.

When you are finished adjusting the advanced options, click 'save' to store the settings.

TIP: In order to quickly test your outputs you can toggle all ports on to full white when clicking the bulb  icon.

Network settings

Home > Settings > Network

This page shows a tab for both Ethernet (wired) and Wi-Fi (wireless) network related settings of the DiGidot C4.

MAC Address

This is the unique the device MAC Address. This address cannot be changed and is being used for identification and network communication.

Ethernet configuration

IP Address

The ethernet IP Address of the DiGidot C4.

Subnet-mask

Network broadcast range of your device.

Smart ethernet DHCP

Enable or disable the smart DHCP server. When enabled the DiGidot C4 will assign IP Addresses to devices that connect through ethernet.

In case you've changed any ethernet settings, click the 'SAVE' button to store them.

Wi-Fi configuration

The DiGidot C4 has a build-in Wi-Fi module which is able to make different types of wireless connections.

Wi-Fi mode

There are three options for Wi-Fi mode.

1. Off: this disables the internal Wi-Fi module.
2. Connect to Wi-Fi: The DiGidot C4 will connect to another Wi-Fi network. If the Wi-Fi network is secured, you need to enter the network password.
3. Access Point: The Access Point mode will create a Wi-Fi access point that you can access with your mobile device or computer.

Access Point

The Access Point mode will create a Wi-Fi access point that you can access with your mobile device or computer.

IP Address

The Wi-Fi IP Address of the DiGidot C4.

Subnet-mask

Network broadcast range of your device.

Gateway

The gateway of the network.

Wi-Fi name (SSID)

The Wi-Fi network name that will be found by your device when scanning for wireless networks.

Wi-Fi security

The Wi-Fi security protocol can be set to open or secured (WPA2).

Password

The Wi-Fi password that's required to connect to the Wi-Fi network. (minimum of 8 characters)

Hide SSID

Hide or show the Wi-Fi network name when devices search for Wi-Fi connections. When hidden you can only connect to the access point by manually entering the SSID.

Channel

Wi-Fi channel can be set between 1 and 14 or you can choose for 'auto'.

Enable DHCP

Enable or disable the DHCP server. When enabled the DiGidot C4 will assign IP Addresses to devices that connect to the access point. The built in DHCP server is smart and detects and adapts if there is already a DHCP server present in the network.

DHCP start IP Address

This is the starting IP Address of the IP Address range that the DiGidot C4 can assign to other devices in the network.

DHCP end IP Address

This is the last IP Address of the IP Address range that the DiGidot C4 can assign to other devices in the network.

Enable BSSID

Enable the use of BSSID

Access Point settings example

IP Address:	172.16.0.1
Subnet-mask:	255.0.0.0
Security Wi-Fi:	Secured
Wi-Fi password	123456789
Wi-Fi name:	DiGidot C4 Wi-Fi
Wi-Fi channel:	Auto
Hide SSID:	Disabled
Enable DHCP:	Enabled
DHCP start IP Address	172.16.0.2
DHCP end IP Address	172.16.0.30
Enable BSSID	Disabled

Connect to Wi-Fi

The DiGidot C4 will connect to another Wi-Fi network. If the Wi-Fi network is secured, you need to enter the network password.

Select a network

This shows a list of available Wi-Fi networks found by the DiGidot C4.

After selecting a network, you will be asked to enter the network password in case it is protected.

Static IP

Enable the option to fill in a static IP Address. When disabled the DiGidot C4 will use DHCP to get an IP Address from the network.

IP Address

The (static) Wi-Fi IP Address of the DiGidot C4. Make sure it's in the same IP Address range as the network you are connecting with.

Subnet-mask

Network broadcast range of your device.

Connect to Wi-Fi settings example

Select a network:	HomeNetwork
Password:	HomeNetworkPassword
Static IP:	Disabled

NOTE: Avoid Interference with Wi-Fi

The following items can cause interference with the Wi-Fi signal:

- ▶ Microwave ovens
- ▶ Direct Satellite Service (DSS) radio frequency leakage
- ▶ Electrical installations such as power-lines, electrical railroad tracks and power-stations
- ▶ Wireless devices that operate in the 2.4 GHz range.

Do not install this device in metal or aluminium cabinets when you want to use direct Wi-Fi communication. If you have problems with your DiGidot C4 communication, change the channel that your device is using for Wi-Fi or switch to Auto-Channel.

In the right top menu you find additional tools under the three dots in the top right blue bar.

Restart all

This will restart all devices in the network.

Global settings (multiple devices only)

This page offers global settings that will be apply to all selected devices.

Such as;

- ▶ Subnet mask
- ▶ Gateway
- ▶ Smart DHCP server

Device

Home > Settings > Device

This page shows devices settings of the DiGidot C4.

Device name

The name of the device by which it can be identified.

Status LEDs

The status LEDs can be dimmed in four levels:

- 100%
- 25%
- 10%
- 0% (off)

Ethernet LEDs

Disabled/enable the ethernet LEDs.

Time settings (extended only)

It's possible to synchronize the time of the computer or smart device with the DiGidot C4 when loading the interface. If disabled you can manually enter a time and date. The time can be used for triggering scenes. Once the time and date are set, the on-board battery will keep the internal clock running.

Actions

- ▶ **Restart** - Restarts the DiGidot C4
- ▶ **Format SD** - Formats the microSD card inside the DiGidot C4 (extended only)

License

Home > Settings > License

On this page you can view the license(s) of your DiGidot C4 device(s).

License upgrade

Click the 'Buy license' and follow the instructions.

It's also possible to buy a license upgrade online, visit www.digidot.eu, create an account, register your device(s) and upgrade from the my devices tab at my account page.

Another option quick option to upgrade a DiGidot C4 is to use your smart device camera, scan the QR code on the DiGidot C4 device label and follow the the link to our website.

Having trouble upgrading your DiGidot C4 license?

Detailed updating instructions can be found on our website.

You will need your device QR code or the MAC-Address, serial number and your customer/company details for the upgrade procedure.

Having trouble upgrading your DiGidot C4? Please contact us at support@digidot.eu.

NOTE: If an immediate upgrade is required, please choose Credit Card, PayPal, iDeal, SOFORT Banking or Bancontact during the upgrade check out process. Other payment options will take a few days to process after the payment was completed.

Offline upgrade

The DiGidot C4 can be upgraded at any time, even when it doesn't have internet connection.

In order to upgrade your device(s) follow these steps:

1. Write down the MAC Addresses and serial number, listed on the product label.
2. Visit our website www.digidot.eu on a computer or smart device with internet connection.
3. Login to your account or create an account on our website.
4. Go to 'My devices' and select the devices based on MAC Addresses that you want to upgrade.

If you have not yet added your devices to your DiGidot account, you can enter the MAC Address and Serial Number or Product Key and click the 'Add device' button or the 'Scan QR Code' button if your device has an on board camera.

Another option is to use your smart device on camera mode, photograph the QR code on the DiGidot C4 device label and follow the the link to our website.

5. Then select an upgrade option for your device. Then complete the checkout.
6. After the payment is done, you can view your device at the my devices page again and download the license key. Or copy the license key from the attachment from the 'license key' e-mail.
7. Open the file and copy the license key text.
8. Go to the DiGidot C4 interface and go to settings > license. Then toggle the option for the offline upgrade. A text field will appear. Paste the license key in the field and then click 'upgrade'.

Account

Home > Settings > Account

This page allows to create accounts by enabling the accounts option. A popup will appear to create an 'admin' account. These login credentials will be asked if you log in to the DiGidot C4.

After the 'admin' account is created, it's possible to create accounts with different access levels. This can be used to restrict access to some parts of the interface for some users. A user for example may only playback scenes and playlists. When a user (with 'user' rights) logs in, the user will automatically be redirected to the scene page.

Interface

Home > Settings > Interface

This page offers a few user interface related options. These settings are stored in your browser or DiGidot C4 app.

Theme Switch from Light to Dark color mode when this is preferable.

Developer mode
> Console

This mode adds the 'Console' menu item to the Home page.
Opens a command editor which should only be used by advanced users or if instructed by DiGidot support.

Update

Home > Settings > Update

When there is an internet connection, the user interface will automatically show if a firmware update is available. Please note that it is possible to update multiple devices at a time. Before updating please make sure that all connected devices have the same firmware version, that all devices are all switched on and connected by wired Ethernet. Follow the update instructions from the interface.

Offline update

When no internet connection is available, you can download the latest update from our website and then manually upload it to the DiGidot C4.

Open your web browser and go to the following address: <http://<ip-address of the DiGidot C4>/fwupdate.htm>. Click the "Browse" button and locate the update file. Then Click "update" to start the update process (this may take a few minutes).

After the update is completed the DiGidot C4 status lights will return to idle state, fading blue to light blue.

By default the IP Address of the DiGidot C4 is 10.254.254.254. When you have configured an IP Address you can use that IP Address as well.

Backup and restore

Home > Settings > Backup and restore

The DiGidot C4 has a backup feature that allows to back-up the device settings from multiple devices. The backup will save all of accounts settings, network settings, device settings and triggers. Please note that information on the microSD card such as scenes, playlists and app settings are not backed up. Those files can be backup by removing the microSD card from the DiGidot C4 and copying it manually to a computer (fastest method), or you can go to Home > Settings > File browser and click on the download button to download files on to a computer.

TIPS & TROUBLESHOOTING











Standard troubleshooting checklist





1. Double check all cables and connections.
2. Is the DiGidot C4 powered correctly? The minimum Voltage is 5 Vdc.
3. Are the LEDs powered correctly?
4. Are all power supplies connected correctly to your mains power supply.
5. Is your network setup done correctly?
 1. Prevent IP Address conflicts
 2. Make sure that the subnet mask range is set correctly and that all IP Address are set within the appropriate range.
6. Are the inputs and outputs configured correctly?
 1. Make sure that the correct IC/SPI protocol is configured.
 2. Make sure that input and output matches the system setup.
Please note: Some software start universe counting from 1 instead of universe 0.
7. Is your ground (DC-) from the DiGidot C4 output terminal connected to all the grounds of the LED products power supplies?
8. Make sure that not more than one browser session is opened and connected to the DiGidot C4 interface.
9. Clear your browser cache or try incognito mode.
10. Refresh the interface by pulling down the top of the interface page. The pull to refresh action can be executed on the Scenes, Playlist, Account, Triggers, Input- & output configuration, Network, License, Update, File browser and Device page.

Status LEDs

There are several states of the device. Different states are shown using both the top and the side status LEDs of the DiGidot C4.

Definition of status light indicators:

Light colors	Category	Explanation
 Fading blue-cyan light	Informative	The DiGidot C4 is Idle with a license
 Fading blue-green	Informative	The DiGidot C4 is receiving incoming signal (Art-Net/DMX)
 Fading blue-magenta	Informative	The DiGidot C4 is playing a scene
 Fading blue-white	Informative	The DiGidot C4 is recording or processing a scene
 Fading green-off	Informative	Settings successfully stored or device successfully discovered
 Fading white-off	Informative	The DiGidot C4 is updating the Wi-Fi firmware
 Fading yellow-off	Informative	Preparing factory reset, keep button pressed until fading stops
 Blinking white to cyan	Informative	Temporary Wi-Fi Access-point is activated
 Blinking red for 3 seconds	Error	The General (temporary) unknown error
 Alternating red	Error	The microSD card must be formatted

	Alternating blue-red	Error	The DiGidot C4 system is frozen, a reset will be performed
	Alternating red-yellow	Error	The internal battery is empty or has a problem
	Alternating red-white	Error	The DiGidot C4 has crashed, a reset will be performed
	Alternating purple-purple	Error	Self test during startup failed

NOTE: In case of a Battery Error: Both top- and side status lights are alternating from yellow to red for 3 seconds, contact DiGidot for further instructions.

Network status lights

Ethernet left LED (orange or green) - Link established

Ethernet right LED (blinking green) - Data transfer active

NOTE: In case that the status lights are not lighting up when the device is powered and connected to a network, the status lights may be switched off in the user interface.

Open the user interface and go to *Home > Settings > Device* to check and switch them back on again.

No output signal from DiGidot C4

Make sure that:

- ▶ the DiGidot C4 is powered.
- ▶ master brightness, port limiters are not set to zero.
- ▶ the HSV filter is not set to black.
- ▶ the inputs and outputs are configured.
- ▶ the scene is compatible with the outputs.
- ▶ in case your data cable between the DiGidot C4 and your first LED/IC is longer than 2 meters (6.5 ft), please reduce this length to an absolute minimum and check if this solves the problem. If the controller(s) now output correctly, the data cable runs were too long for your setup.
- ▶ the lighting fixtures/LEDs that need to be controlled are powered.

DiGidot C4 not receiving Art-Net

Make sure that:

- ▶ the DiGidot C4 is powered and is properly connected to the Art-Net console/computer.
- ▶ incoming Art-Net signal on the status lights located on the top and side of the DiGidot C4. When the status LEDs are green with blue it's receiving Art-Net signal. (see the product explanation and status lights explanation).
- ▶ the network, input and output configuration of the DiGidot C4 device is setup properly.
- ▶ the computer/device that is sending Art-Net is set up to match the network settings.
- ▶ the computer/device that is sending Art-Net is set up to match the universe inputs.
- ▶ the Art-Net status can also be checked in the interface on the Monitor page.

Art-Net software doesn't recognize the DiGidot C4

Make sure that:

- ▶ the DiGidot C4 powered and properly connected to the Art-Net console/computer.
- ▶ in order for the DiGidot C4 to be discoverable for any software, you need make sure that the network and one or more output(s) have been configured properly.
- ▶ the DiGidot C4 controller is reported to work with most well known Art-Net consoles and softwares. Some Art-Net consoles only work in the 2.0.0.255 range. Please configure your device in the same range if necessary.

In case your console or software continues to fail to discover the DiGidot C4 you can try to reboot your DiGidot C4 device(s). If the problem still remains please contact DiGidot support.

Wireless connection lost after configuring a trigger

After saving a trigger, the C4 automatically performs a reboot to apply and load the new trigger settings. When working wirelessly with the DiGidot C4 app or OSC, the wireless connection might get lost due to rebooting the system.

Make sure that:

- ▶ when you are using the quick Wi-Fi Access point (by holding the button for 10 seconds) the created Wi-Fi access point is temporary. To keep the Wi-Fi access point after a reboot you have to save the Wi-Fi network settings in the interface.
- ▶ the wireless connection is still connected to the right access point, because mobile devices might connect to another access point automatically when the wireless connection is interrupted. Go to the wireless settings of the mobile device and verify its wireless connection.

C4 controllers are not starting up

In case you are using DiGidot C4 controllers together with a PxLNet Transmitters it may happen that the C4 controllers do not start up.

The DiGidot C4 and DiGidot PxLNet Transmitters require a minimum internal operating voltage voltage in order to work properly. Please double check the minimum operating voltages of your products first. When connecting multiple devices to the same power supply, the inrush current of all devices combined might exceed the output capability of the power supply, which means that not enough power can be supplied during startup.

Solution:

- ▶ Disconnect power
- ▶ Reduce the amount of devices that are connected to the same power supply to one.
- ▶ Re-apply power the system and check if the first device boots properly.
- ▶ Disconnect power again and restore connection to the next device.
- ▶ Repeat this sequence up to the number that controllers start to fail during startup.
- ▶ Use another power supply to boot the next devices or use a delayed switch circuit to reduce inrush current.

Make sure that:

- ▶ The operating voltage measured at the DiGidot C4 or PxLNet Transmitter is at least as specified.
- ▶ Cables do not introduce significant voltage drops

Solution:

- ▶ Reduce the amount of devices that are connected

Factory reset

Some problems require a factory reset if nothing else seems to work. In this way the DiGidot C4 device returns to its factory default. The factory reset will reset the input/output configuration, device settings, network settings and user accounts.

Recorded scenes, playlists and triggers will not be deleted. After resetting, the device can be accessed through IP Address 10.254.254.254.

WARNING! Deleted settings cannot be restored, please make a backup, before resetting the device.

Factory reset procedure:

1. Disconnect the power of the DiGidot C4.
2. While pressing the onboard button, re-apply power to the device and hold the button for 5 seconds. Both top- and side status light will blink 5 times yellow, then it remains on, which indicates that you can release the button. The device will reboot and is then ready to use.

In case you're not able to perform this reset due to accessibility and if the C4 network is or can be connected to a computer with internet access, contact DiGidot support for remote assistance.

Having trouble with your DiGidot C4 Setup?

When you have followed all the steps from the manual and still having problems settings up the DiGidot C4, you can visit our online support page digidot.eu/support or send us an e-mail: support@digidot.eu Please make a backup file and send it along with your email, as this will make trouble shooting for our engineers a lot easier.

If you can't connect to the DiGidot C4 User Interface try to open the user interface by opening Google Chrome and typing <http://10.254.254.254> in the address bar and press enter.

When the user interface does not load or seems unresponsive you can reload the page. When reloading doesn't resolve the problem you need to:

- ▶ Make sure the DiGidot C4 is connected correctly to a power source according to the wiring instructions.
- ▶ Make sure that the device is connected to a computer or mobile device.
- ▶ Empty your browser cache.
- ▶ Check for IP conflicts.
- ▶ Check your network connection and network settings. You can verify the connection of the network cable with the ethernet status lights of the RJ45 bus.

Make sure that the computer network is in the same range as the DiGidot C4. For example when your DiGidot C4 is configured to use the IP address “10.0.0.2” with subnet mask “255.0.0.0” your computer network needs to be in that same “10.x.x.x” range on subnet mask “255.0.0.0”.

You can test your network connection with the DiGidot C4.

On Windows

Click the Start Menu > All Apps > Windows System > Command Prompt.

You can also find the Windows Command Prompt by right clicking on the Start button > Command Prompt.

On Mac OS

Open the Utilities Folder > Applications folder and open the Terminal App or you can use Spotlight by clicking CMD + Spacebar and search for Terminal App.

Type ping and the IP Address of the DiGidot C4 “ping 10.254.254.254” and then press the Enter key of your keyboard to ping the DiGidot C4 device. A timeout will indicate a broken connection.

If you still can't access your DiGidot C4, is the interface page not loading correctly or are the discovered devices not added automatically try to empty your browser cache and re-power and reload the user interface.

Forgot the username or password for the DiGidot C4?

When you have lost your username or password you can perform a factory reset of the DiGidot C4. The reset function will restore the factory settings. Information on the microSD card will not be erased. After resetting you can access the device on the default IP Address.

If you have made a backup, you can restore the device configurations according to the backup & restore instructions.

Can't find your protocol/IC?

The DiGidot C4 supports the most SPI protocols of all Art-Net to SPI controllers on the market. However technology is evolving rapidly and we're not always the first to know when there's new product IC chip with a new protocol on the market.

In case you have or want to use an IC that is not listed in our supported IC's overview, please contact support@digidot.eu. We will do our best to support your IC with a new firmware update soon after.

Need to cover greater cable distances between the outputs and first LED/IC?

If the cables between the outputs and LED/IC are longer than 2 metres (7 ft), we recommend to boost the signal in order to make sure that the system will work properly. Please use DiGidot range extending equipment such as PxLNet Transmitters and PxLNet Transceivers, which can be found on our website www.digidot.eu. The DiGidot PxLNet range extending equipment the SPI signal range can

be extended up to 250 meters (820 ft). This does not apply to DMX, the DMX signal has a standard range of max. 500 meters (1640 ft).

NOTE: SPI (Serial Peripheral Interface) protocols are originally designed for on board data communication between microcontrollers and other high speed processing components. Because SPI protocols are mostly communicating at extremely high speeds (in the MHz range) and were not designed to leave a PCB (Printed Circuit Board), long cable runs to transfer the data signal, are not accounted for. This means that a lot of malfunctions occur when cable lengths are too long.

Some LED's/colors are not responding correctly

This is a common issue that occurs when the voltage drops below a certain minimum.

Please check the voltage at the end of the LED strip and note that if you're running a 5 Vdc products for example, the data signal runs also on this level. If the voltage drops to 3.5 Vdc for example, this means that the IC's are not able to work properly and the data packets become corrupted. The LED's also require a certain minimum voltage (forward voltage), which varies per LED and color.

Reasons for voltage drops:

- ▶ Too long cable runs between power supply and LED product.
- ▶ Inappropriate wire gauge between power supply and LED product.
- ▶ Design of LED product that does not allow for high enough currents to pass (too small copper lanes and high resistance). Some LED strips for example cannot be daisy chained because of this. Contact your LED product manufacturer for technical specifications.

Based on the amount of current draw (amount of simultaneous LED's/colors being lit), the voltage may fluctuate and cause an intermittent fault. This means that in some cases everything might seem to work fine and sometimes when content or colors change, it might not.

Solutions:

1. Check the voltage with a voltage meter at the beginning of the line. If the voltage dropped at the beginning already, compared to the PSU voltage, please shorten the supply cables, increase wire gauges or increase the supply voltage if possible (some power supplies have a voltage adjust potentiometer that can be used to increase the output voltage a few percent).

NOTE: Do not exceed the supply voltage at the beginning of your data line/at your first LED product.

2. Re-supply voltage at some point (where the voltage drop measured is significant) before the faulty LEDs are visible (e.g. in the middle of the line) or at the end of the line.

NOTE: Re-supplying power must be done from the same power supply or if another power supply is being used, all grounds of all power supplies must be connected in order to balance the ground potential.

TIP: Do not use excessive wire gauges to transfer data from the DiGidot C4 to the LED products, this will only increase the risk of failures. Typically we recommend to use wire gauges for the data signal of 0.3-0.5 mm² (20-22 AWG).

No microSD card

The DiGidot C4 Extended versions that require a DiGidot microSD card. If the DiGidot microSD card is not present or formatted properly, the status lights will blink alternating red.

Solution: (Re-)Formatting the microSD card

- ▶ From the User Interface go to “browser” and find your device in the left column. From the device row you can use the tool icon to open the microSD card information dialog.
- ▶ From the microSD card information dialog choose “Format SD Card” this will format the microSD card Note that all stored information will be lost!
- ▶ Confirm to continue the formatting process.

If a microSD card is inserted in a DiGidot C4 Live version, both status light will also blink alternating red.

Solution: Please remove the microSD card and restart the device.

C4 Extended crashes

When the DiGidot C4 Extended crashes or if unexpected microSD card errors occur, it is likely that there is a voltage problem. The DiGidot C4 microSD card drive requires a minimum voltage in order to operate properly and in some situations there can be sudden voltage drops that cause malfunctions. Double check that the supply voltage is always at a minimum of 5 Volts.

Unknown error

Disconnect and reconnect the DiGidot C4 from its power source to perform a reset. When none of the troubleshooting tips or the reset solves the problem you might need to open a technical support ticket. Please fill out a support ticket form on our website.

Interface issues

We are constantly working on new features, improvements and bug fixes. In case you experience any interface issues or if you want to test new features that we’re working on, we offer a semi-stable beta interface version. In order to use a beta version you can go to: Home > Settings > Update and select a beta firmware from the firmware version overview. The beta versions are listed at the end of the list.

In any case if you encounter any interface issues we kindly ask to report it to us by email to support@digidot.eu.

FAQ

How many universes can be recorded?

The DiGidot C4 Extended will only record the universes that are configured in the device.

The limitation of recorded universes is therefore defined by the license. All recorded universes can simultaneously be redirected to the Art-Net output.

If the amount of universes that you want to record exceeds the amount of universes corresponding to your license, you have to use multiple C4 Extended controllers with the right amount of universes and configure them to the appropriate universes. Once you start recording, all C4 Extended controllers will start recording their designated universes.

There is no limitation in terms of universe numbers, you can record any universe that's being transmitted within the same Art-Net network.

What is the storage capacity of the C4 Extended?

The 8GB microSD card (when formatted) is automatically partitioned into two 4 GB partitions. One partition is used as flash buffer for recordings and the other 4 GB partition is used to store scenes and settings. Use only original industrial grade DiGidot microSD cards. Other memory cards will not work.

The average theoretical recording time limit with 8 universes is approximately 10 hours.

Can licenses be combined in a network?

Yes, it's possible to combine various licenses such as Live and Extended within one network.

One application example could be that the DiGidot C4 Extended version is used to record an Art-Net stream which is triggered by the analogue inputs. The control signal will then be sent by Art-Net to all other devices which can output the amount of universes, corresponding to the specific licenses. Please note that in order to maintain sync, we recommend to use high speed routers/ethernet switches.

How does the DiGidot C4 know what time it is?

As soon as you load the DiGidot C4 interface, the browser time of your computer or mobile device is copied. The internal battery will keep track of time, until you load the interface again to synchronize time. Please note that the browser time is not necessarily accurate, because it can be set manually or correspond to different time zones. If you are going to use time based triggers and events, please make sure to verify your browser time.

Why do I get a repeating message; "The SD card(s) need to be formatted"?

When you keep on getting this message during start up and when loading the interface, this often indicates that the operating voltage of the DiGidot C4 is a little too low. The chance for this error

message increases when powering the DiGidot C4 from the end of the LED product(s) and when more LEDs are turned on. Please check the voltage at the screw terminal of the DiGidot C4 and re-apply power or change your wiring if necessary.

TIP: There are some 'hidden' menus available in the interface and DiGidot app, which can be accessed when pressing a button or slider for about one second.

E.G.: On the 'Scenes' page, when playing a scene, you can maximize the player bar (page bottom right). This will show three sliders for Speed, Hue and Brightness. When pressing the slider bars, an extra screen with additional options will appear.

ACCESSORIES

DiGidot offers various accessories for your installation.

Please contact your DiGidot reseller to order other following DiGidot products.

Transmitter and receiver modules

DiGidot PxLNet Transmitter

Art. no.: 20342

- ▶ Operating voltage: 12-24Vdc
- ▶ Converts up to four unbalanced SPI signals to PxLNet to transmit over large distance up to 250 meters (requires DiGidot receiver modules)
- ▶ Converts four DMX TTL signals to four balanced DMX outputs
- ▶ Inter connects all grounds

DiGidot PxLNet Transceiver

Art. no.: 20344

- ▶ Operating voltage: 5-24 Vdc
- ▶ Two operating modes:
- ▶ Receiving mode: Converts PxLNet to the original SPI protocol
- ▶ Transmitting mode: Converts SPI protocol to PxLNet
- ▶ Can directly be soldered to the beginning or end of most SPI controlled LED strips
- ▶ RJ45 bus and solder pads for signal input

DiGidot TRRS Trigger Cable

Art. no.: 20903

- ▶ Optional cable to connect 3 analogue trigger inputs to DiGidot C4 Extended
- ▶ 1 meter in length

DiGidot RJ45 Network Cable

Art. no.: 20330

- ▶ RJ45 Network cable for connecting and daisy chaining DiGidot C4 (included with DiGidot C4 Extended)

DiGidot USB Power Cable

Art. no.: 20331

- ▶ Power cable to connect DiGidot C4 to 5 Vdc USB port (included with DiGidot C4 Extended)

DiGidot DIN-Rail Clip

Art. no.: 20902

- ▶ Optional DIN-rail Mounting Clip for DiGidot C4

DiGidot 8GB microSD Card

Art. no.: 20901

- ▶ Industrial grade spare microSD memory card for DiGidot C4 Extended (included with DiGidot C4 Extended)

DiGidot RJ45 DMX Adapter

Art. no.: 20329

- ▶ Connects to a network cable that runs from a PxLNet Transmitter port and can be plugged in any DMX controlled product with an XLR-3 socket.

For further DiGidot products, Transceiver kits and accessories visit our website www.digidot.eu.

VARIOUS

Online resources

For technical specifications, latest documentation, manuals, product information, support and upgrades, please visit www.digidot.eu.

Remarks

We've put great care in writing this manual. However in case you encounter any discrepancies or unclarities, please contact us. This manual and feature specific instructions are based on firmware and interface versions mentioned in the chapter 'Manual version'.

NOTE: This manual covers information for the DiGidot C4 Live and Extended controllers. In case of C4 Live controllers, some of the features may not be displayed in the user interface because they are limited to the Extended version only (refer to appropriate symbols in this manual).

Terminology

SPI	Serial Peripheral Interface; This is an interface bus between that is used to send data between microcontrollers and IC's.
IC	Integrated Circuit; this is an electronic component which houses a ready made circuit that is able to perform one specific task. An IC can be placed separately on a PCB or integrated in a LED package to control/drive a LED or segment/array of LEDs.

IC/SPI protocol	Type of control protocol that is used by an IC.
Scene	A scene can also be referred to as a cue and can contain static and dynamic values that control specific channels.
Playlist	A playlist consists of multiple scenes that are played in a specific order according to pre programmed parameters.
Action list	A sequence of actions triggered by only one trigger.
Universe	Typically a universe is referred to as one DMX control network consisting of 512 control channels, also typically associated with one DMX output. DiGidot also refers to a universe as one set of 512 control Channels that belong to specific Art-Net or DMX universes. But when we mention more than one universes on one output for example, we always refer to them as amount of control channels and not necessarily as DMX universes.
I/O configuration	Input/Output configuration, determines how and which signals the C4 is controlled by and how the ports of the C4 are configured.
DMX	Digital MultipleX is a universal lighting control protocol which is standardized by USITT and ESTA.
Art-Net protocol	Is a TCP IP protocol that allows multiple DMX universes to be sent over an ethernet network and was standardized by Artistic License Holdings Ltd.

Compliances & EU declaration of Conformity

This product is designed and produced by DiGidot BV, Amsterdam, The Netherlands.

Country Of Origin is The Netherlands. Official Certificates of Origin can be issued upon request.



Hereby, DiGidot Technologies BV declares that the DiGidot C4 device complies with and was tested according to essential requirements of all relevant CE directives.
Certificate of CE conformity: No. 2016/119-1



cETL US Listed - Intertek 5010008 I.T.E.
Conforms to ANSI/ UL 62368-1
Cert. to CAN/CSA C22.2#62368-1



DiGidot Technologies BV is a registered DMX-RDM manufacturer at tsp.esta.org, under ID 00B6h.

DiGidot Technologies BV registered Art-Net manufacturer at artisticlicence.com, under ID 0x0fd0.

Warranty



This product is covered by a carry-in manufacturer's warranty of 2 years which covers any design faults, production faults and component failures.

Warranty voids if the product was installed or used incorrectly or not in accordance with this manual, and/or if the product was damaged due to external factors, opened, modified or electrically overloaded. Warranty conditions of DiGidot Technologies B.V. apply. Warranty claims have to be issued by email: support@digidot.eu.

Disposal and recycling



This product should not be disposed with other household waste. When you decide to dispose this product and/or its battery, do so in accordance with local environmental and recycling regulations.

Feedback

Tell us all about your experience with DiGidot!

The continuous development of the DiGidot control platform is only possible thanks to feedback from our users. If you have any suggestions, please contact us by email: info@digidot.eu.

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Manual version

This manual version may pre date the firmware version of your DiGidot C4 controller. Some functions may be different and new features may have been added. Please make sure that you're using the manual that matches your firmware version.

This manual corresponds to DiGidot C4 firmware version listed below this page.