

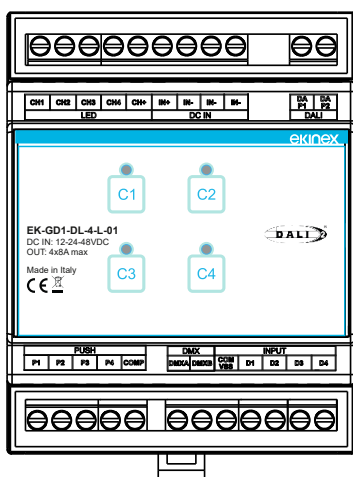
Multifunctional DALI-2 dimmer 12/24/48 Vdc 4 channels

Code: EK-GD1-DL-4-L-01



Datasheet STEKGD4DL1L01_EN

DALI-2 bus standard 4-channel device for controlling brightness, dynamic white (TW) and RGBW colour (DT6 and DT8) for low-voltage 12 / 24 / 48 Vdc LEDs, with flicker-free PWM dimming. DALI bus input 2 compliant with IEC 62386.



Description

The ekinex DALI-2 standard 4-channel dimmer EK-GD1-DL-4-L-01 is powered by 12 / 24 / 48 Vdc with flicker free PWM dimming and allows control of brightness, dynamic white (TW) and RGBW colour (DT6 and DT8) for low-voltage LEDs. Possibility to configure additional functions such as: isolated PUSH inputs, 0-10/1-10 active and passive potentiometer, switch, sensor, phase cut.

The inputs are DALI-2 bus type in accordance with IEC 62386. Mode settings are made via local dip-switches.

Main functional characteristics

- Dimmer with isolated PUSH inputs, 0-10/1-10 active and passive potentiometer, switch, sensor, phase cut, DALI-2 DT6, DALI-2 DT8, DMX512A-RDM, BLE
- Master/slave functionality on DMX512A-RDM
- Status LEDs of output channels and dimmer configuration
- PWM frequency: 390Hz - 3000Hz - 10000Hz
- Reverse polarity, short circuit, open circuit and voltage spike protection
- Dip-switch for setting the operating mode

Technical Data

Inputs

- Constant input voltage: 12 / 24 / 48 Vdc
- Supply voltage: 8 to 53 Vdc
- DALI-2 bus input compliant with IEC 62386

Outputs

- Number of outputs: 4
- PWM voltage output 12 / 24 / 48 Vdc
- Load type: single-colour, Tunable White, RGB, RGBW
- Output current: 0A to 8A per channel (384W @48Vdc per channel)
- Output current in single-channel mode from 0A to 32A (1536W @48Vdc)
- Rated power per output @12Vdc: 96 W
- Rated power per output @24Vdc: 192 W
- Rated power per output @48Vdc: 384 W

Command

- Control types: DALI-2 DT6 DT8, 0-10V / 1-10V, PUSH, linear potentiometer, switch, sensor, phase cut, DMX512A-RDM, BLE



Note: The values given for the nominal power input and output current are to be regarded as maximum values, depending on ventilation conditions, measured at an ambient temperature of 40 °C.

Environmental conditions and other characteristics

- Operating temperature: - 20 °C ... + 50 °C
- Storage temperature: - 40 °C ... + 60 °C
- Max. rated casing temperature (tc): 85 °C
- Thermal intervention: 150° C on microcontroller
- Relative humidity: 93% non-condensing
- IP20 degree of protection (luminaire installed)
- Power supply and output terminal wiring: 0.05 ÷ 3mm² (30 ÷ 12 AWG)
- Cable stripping: 5.0 - 6.0 mm
- Plastic casing
- 4 UM switch cabinet mounting device
- Safety Class II
- Weight 98 g
- Dimensions (WxHxD): 71 x 90 x 58 mm



Warning! For operating modes with push-button input: if the control voltage of the PUSH input is higher than the SELV voltage, the use of the optional terminal cover/cable clamp is required to keep the product in class II



Warning! t_c is positioned on the terminal screw corresponding to the figure in the section 'Control, signalling and connection elements'.

Protections

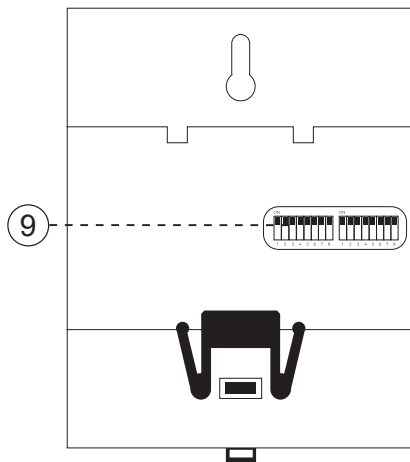
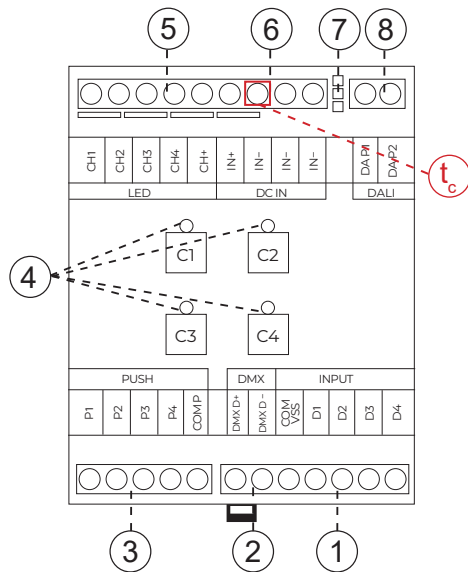
- OVP Input peak voltage protection¹
- RVP Reverse polarity protection¹
- OCP Output Open Circuit Protection
- SCP Output short-circuit protection

1) Control logic protections

Control, signalling and connection elements

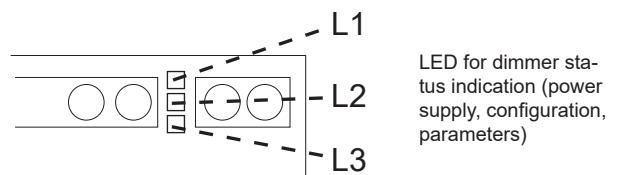
The dimmer has a screw terminal at the bottom, divided into 3 sections, for connection of the 0-10V / 1-10V input commands or potentiometer (1), DMX (2) and the switches or phase cut dimmer (3). At the top, there is a screw terminal, divided into 3 sections, for connecting the output loads (5), the 12 / 24 / 48 Vdc input power supply (6) and the DALI bus (8). Between terminals (6) and (8), there are 3 LEDs (7) which inform about the status of the device and the set configuration. At the front, there is a status LED with a button for each channel (4), which is lit if active: pressing the button causes the load connected to the channel to flash.

On the back of the device are dip-switches (9) for configuring the device. For details on settings, please refer to the following pages of this data sheet.



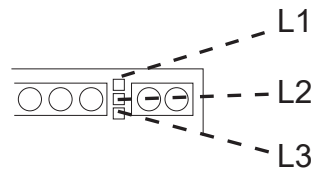
EK-GD1-DL-4-L-01

No.	Label	Link
1	COM VSS D1 / D2 / D3 / D4	0-10V / 1-10V control input or potentiometer
2	DMX D+ / DMX D-	DMX control input
3	P1 / P2 / P3 / P4 COM P	PUSH switch or phase cut dimmer control input
4	C1 / C2 / C3 / C4	Button / LED output channel active
5	CH1 / CH2 / CH3 / CH4 CH+	Load connection LED output
6	IN+ / IN-	Input power connection
7	-	Multicoloured dimmer status LED
8	DA P1 / DA P2	DALI bus terminal

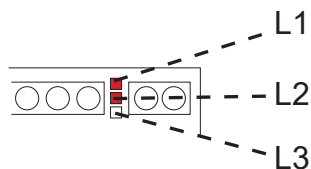


The meaning of the status LEDs is as follows:

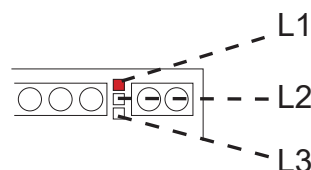
- L1, L2, L3 off: check power supply;
- L1 and L2 flash red: incorrect configuration;
- L1 flashes red: correct configuration, but wrong parameters (check dip-switches);
- L1, L2, L3 lit fixed with other colours: identifies the operating mode selected via dip-switch.



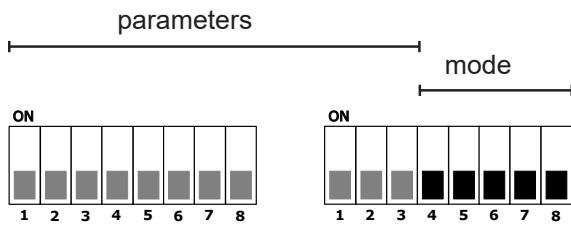
L1, L2, L3 off: check
dimmer power
supply



L1 and L2 flash red:
incorrect configuration



L1 flashes red:
correct configuration,
but wrong
parameters (check
dip-switches);



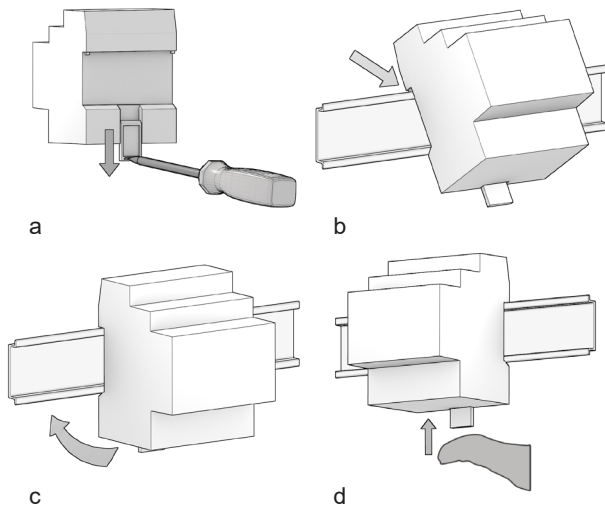
Configuration of parameters and mode via dip-switches

Assembly

The luminaires have an IP20 degree of protection and are therefore suitable for use in dry indoor areas, with mounting on a profile rail according to EN 60715 inside switchboards and electrical distribution cabinets.

When mounting, ensure that only the front panel is accessible; all other sides must not be accessible. Proceed as follows:

- Using a tool, bring the locking device to the fully lowered position (a);
- place the unit on the upper edge of the profile rail (b);
- Turn the unit towards the guide (c);
- Push the locking device upwards until it stops (d).



To unmount the unit, after disconnecting the inputs, outputs and power supply, slide down the locking device using a screwdriver and remove the unit from the profile rail.



Note. When installing in switchboards and distribution cabinets, the necessary ventilation must be ensured so that the temperature remains within the permissible operating range for the device.

TECHNICAL INSTALLATION NOTES



- Installation and maintenance should only be carried out with the power supply disconnected and by qualified personnel in accordance with current regulations.
- The product must be installed inside a surge-protected electrical cabinet.
- Check that the input and output connection cables are correctly inserted in the terminal carriage and not under the carriage itself. Incorrect insertion of the cable inside the carriage can lead to overheating or malfunctioning.
- Keep 230Vac and non-SELV circuits separate from safety extra-low voltage (SELV) circuits and all connections of this product. It is absolutely forbidden to connect, for any reason, directly or indirectly, the 230Vac mains voltage to the bus or other parts of the circuit. Use double-insulated cables.

Setup and Installation

The steps for installing the device are as follows:

1. Connect the LED loads to the LED output terminals - CH x (where x=1,...,4) and CH+ of the device;
2. Connect the local control (where applicable) to the INPUT, DMX or PUSH input depending on the desired configuration and/or the DALI bus to the corresponding DA P1 and DA P2 terminals of the device;
3. Connect the 12 / 24 / 48 Vdc power supply to the DC IN - IN +/- terminals of the device.

Connection to the DALI bus and PUSH / DMX / INPUT controls

The connection to the DALI bus network and controls is made via the screw terminal, located on the front of the luminaire at the top.

The length of the connecting cables between local control (where provided) and the device must be less than 20m; for cable lengths of more than 20m or in the presence of several control buttons, the use of a normally open monostable relay is recommended. Cables must be correctly dimensioned and must be isolated from any non-SELV wiring or live parts. Use double-insulated shielded and twisted cables.

The length and type of cables connecting to the DALI bus must comply with the protocol specifications and applicable standards; they must be insulated from any non-SELV wiring or live parts. Use double-insulated shielded and twisted cables.

All devices and control signals connected to the DALI bus and local control (where applicable) must be SELV (connected devices must be SELV or otherwise provide a SELV signal).

DALI terminal features and Controls

- Screw tightening of conductors
- Button and bus wiring: $0.05 \div 3\text{mm}^2$ (30 to 12 AWG)
- Recommended conductor stripping: $5.0 \div 6.0\text{mm}$
- Maximum connection length between dimmer-driver and control $< 20\text{m}$
- DALI bus connection cable length $< 25\text{m}$

Power connection

For the power supply, use only SELV-type power supplies with limited current, short-circuit protection and a power rating appropriate to the connected load. In the case of power supply units equipped with earth terminals, it is mandatory to connect ALL protective earth points (PE = Protection Earth) to a professionally executed and certified earth system.

DALI Terminal Features and Controls

- Screw tightening of conductors
- Power supply and LED wiring: $0.05 \div 3\text{mm}^2$ (30 TO 12 AWG)
- Recommended conductor stripping: $5.0 \div 6.0\text{mm}$
- Max. torque 0.5Nm

Outputs

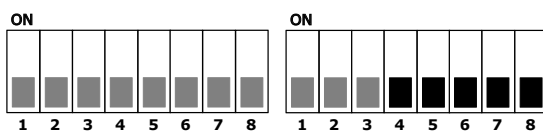
The length of the connecting cables between the product and the LED modules must be less than 20m; the cables must be correctly dimensioned and must be insulated from any non-SELV wiring or live parts. Use double-insulated shielded and twisted cables.

Operating modes

Installation diagrams are shown below for each operating mode.

1. DALI-2 DT6 1 output mode

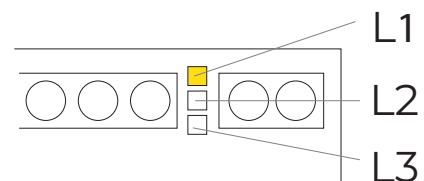
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L1 lights up yellow.

If the configuration is not correct, LEDs L1 and L2 will flash red.

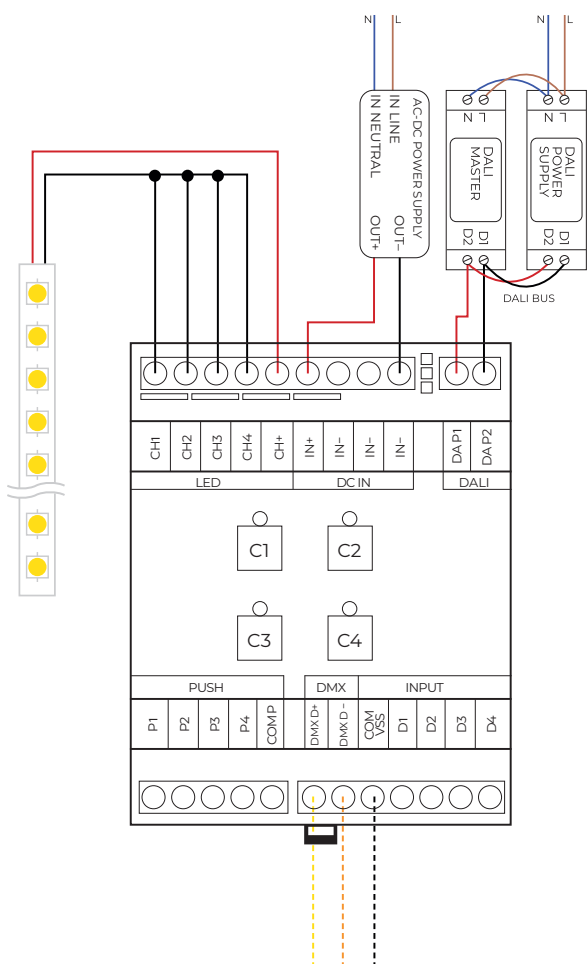
In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



The dimmer must be powered according to the polarity shown in Fig. 1 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 1.

In this mode the device acts as a DALI-2 DT6 1 single output dimmer, with a maximum current of 32A. The maximum current drawn by the DALI-2 bus is approx. 2mA.



Warning! When using loads >24A, see diagram in Appendix 1.

OPTIONAL

DMX512A-RDM synchronisation connection
for other dimmers EK-GD1-DL-4-L-01. See
diagram in Appendix 1.

Fig. 1 - DALI DT6 1-output connection

Once the dimmer is configured in DALI-2 mode, and disconnected from the DALI-2 bus, the output status switches to the POWER ON LEVEL set via the DALI-2 bus (Default ALL ON).

Reference standards:

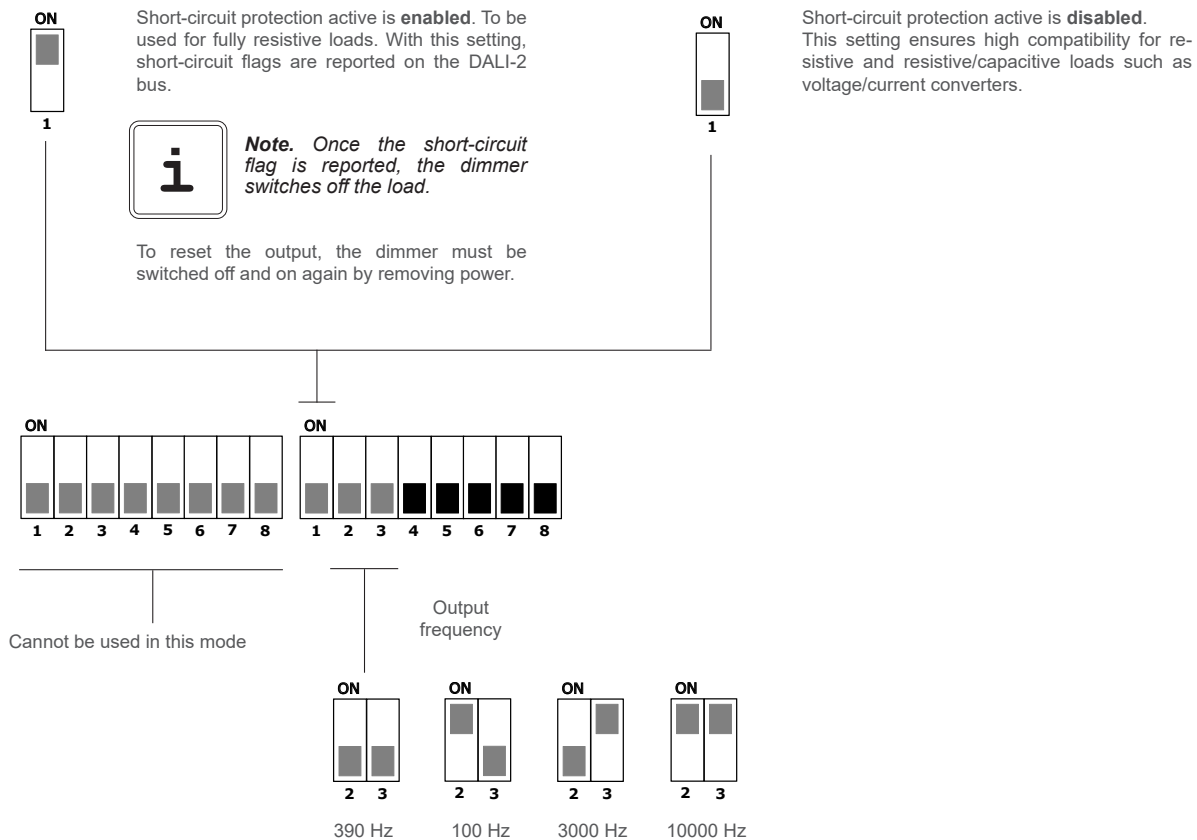
- IEC 62386-101 ED2
- IEC 62386-102 ED2
- IEC 62386-207 ED2 (DT6)

In this mode, parameters received from the DALI-2 bus are also sent to the DMX512A-RDM bus on fixed channels 1-2-3-4:
First DALI-2 device → DMX ADDRESS 1-2-3-4.



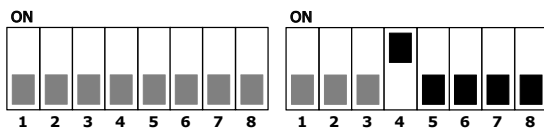
Note. BLE (Bluetooth) control is inhibited in this mode.

DALI-2 DT6 1 output - parameters



2. DALI DT6 4-output mode

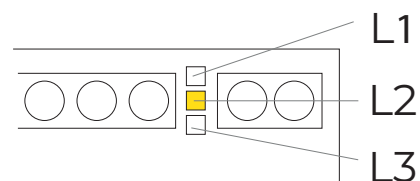
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L2 lights up yellow.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



The dimmer must be powered according to the polarity shown in Fig. 2 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

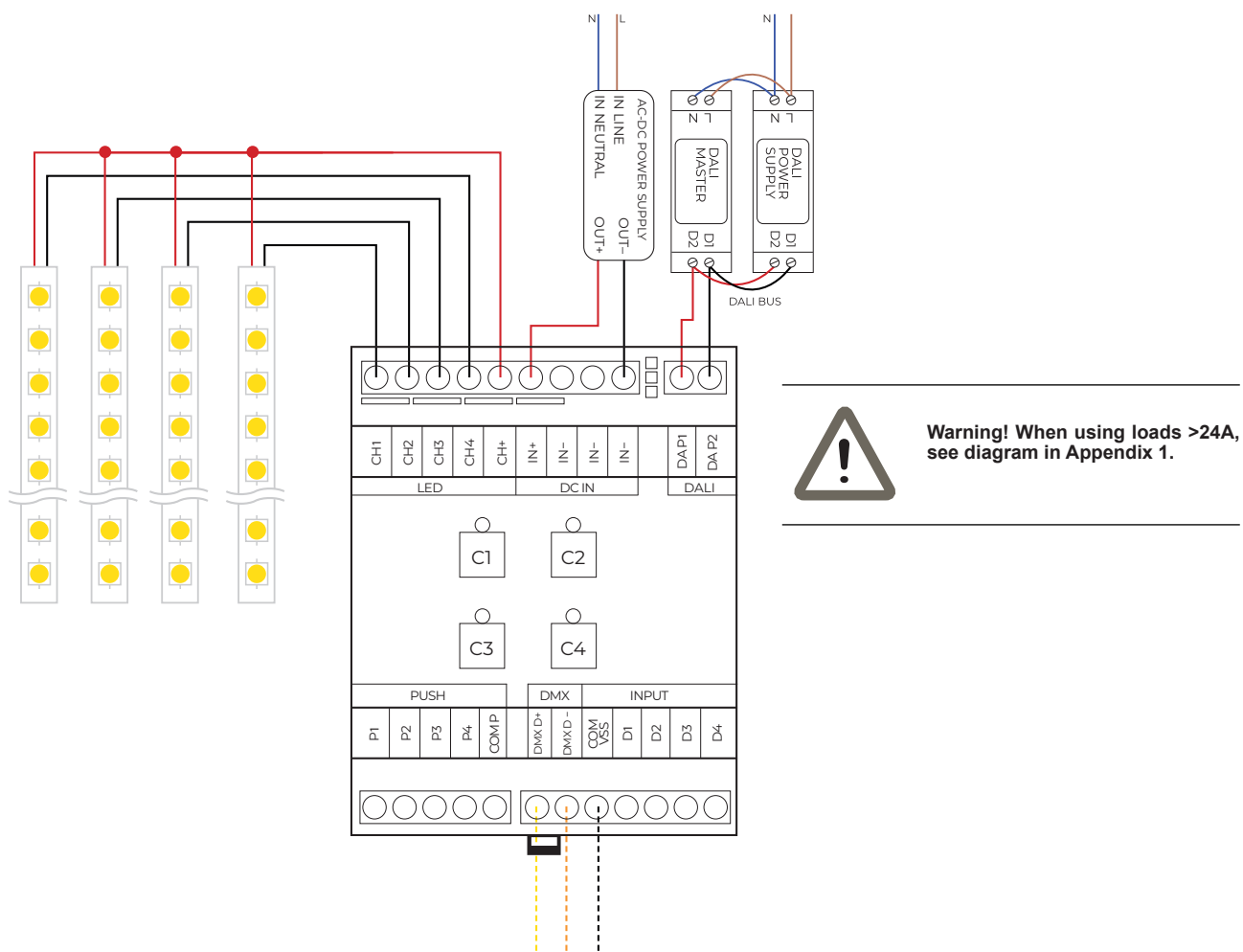
The outputs must be wired as shown in Fig. 2.

In this mode the device acts as a DALI-2 DT6 4-output dimmer and is recognised during addressing as 4 completely independent DALI-2 devices. The maximum current drawn by the DALI-2 bus is approx. 2mA.

Once the dimmer is configured in DALI-2 mode, and disconnected from the DALI-2 bus, the output status switches to the POWER ON LEVEL set via the DALI-2 bus (Default ALL ON).

Reference standards:

- IEC 62386-101 ED2
- IEC 62386-102 ED2
- IEC 62386-207 ED2 (DT6)



OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

Fig. 2 - DALI DT6 4-output connection

In this mode, the parameters received

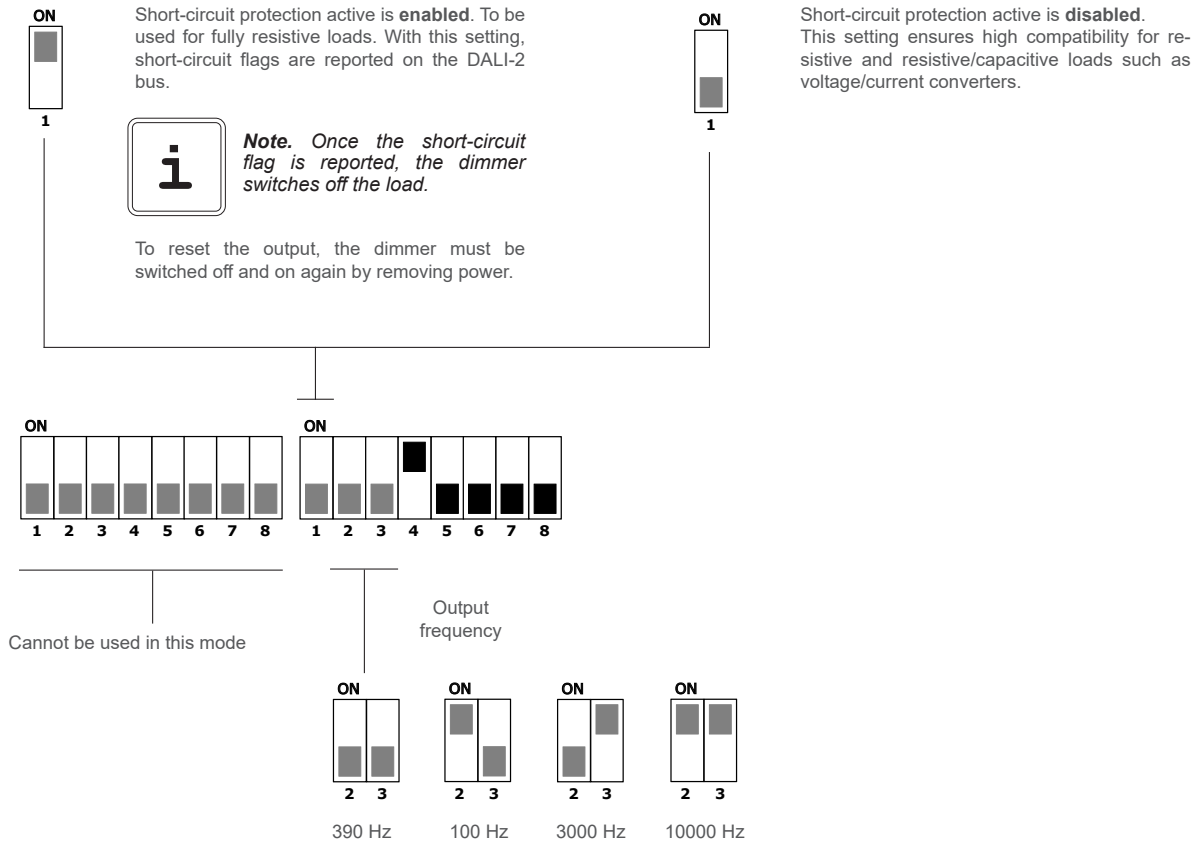
from the DALI-2 bus are also sent to the DMX512A-RDM bus on fixed channels 1-2-3-4:

- First DALI-2 device → DMX ADDRESS 1
- Second DALI-2 device → DMX ADDRESS 2
- Third DALI-2 device → DMX ADDRESS 3
- Fourth DALI-2 device → DMX ADDRESS 4



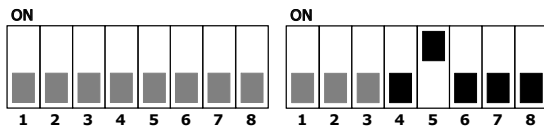
Note. BLE (Bluetooth) control is inhibited in this mode.

DALI-2 DT6 4 outputs - parameters



3. DALI-2 DT8 1 output - Tunable White mode

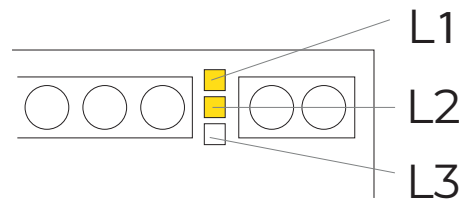
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LEDs L1 and L2 light up yellow.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



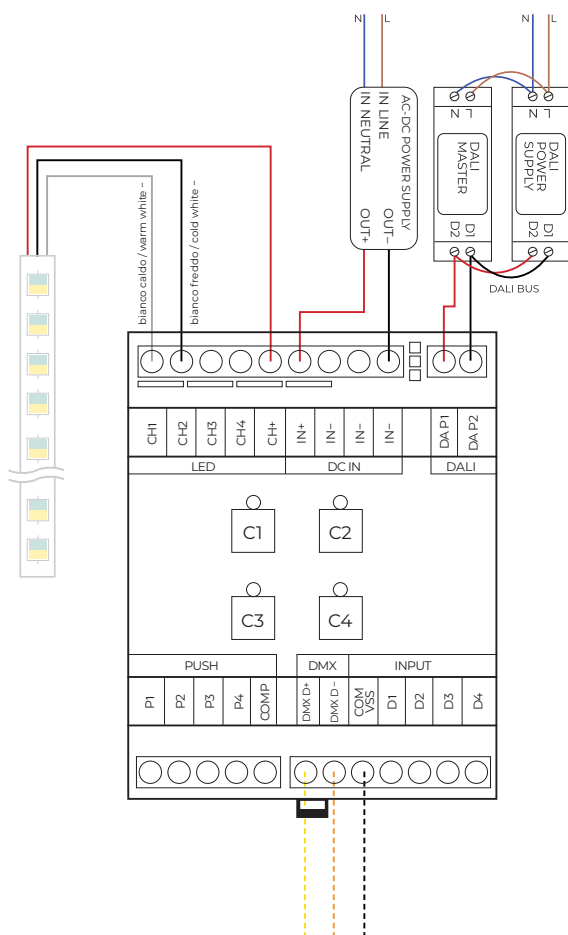
The dimmer must be powered according to the polarity shown in Fig. 3 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 3.

In this mode the device acts as a DALI-2 DT8 1 output tunable white dimmer, with maximum current 16A per channel. When using loads >8A per channel, put CH1 output in parallel with CH3 and CH2 in parallel with CH4 (see diagram in Appendix 1).

The maximum current drawn by the DALI-2 bus is approximately 2mA.

Once the dimmer is configured in DALI-2 mode, and disconnected from the DALI-2 bus, the output status switches to the POWER ON LEVEL set via the DALI-2 bus (Default ALL ON).



Warning! When using loads >8A, see diagram in Appendix 1.

OPTIONAL

DMX512A-RDM synchronisation connection
for other dimmers EK-GD1-DL-4-L-01. See
diagram in Appendix 1.

Fig. 3 - DALI DT8 1 output connection - Tunable White

Reference standards:

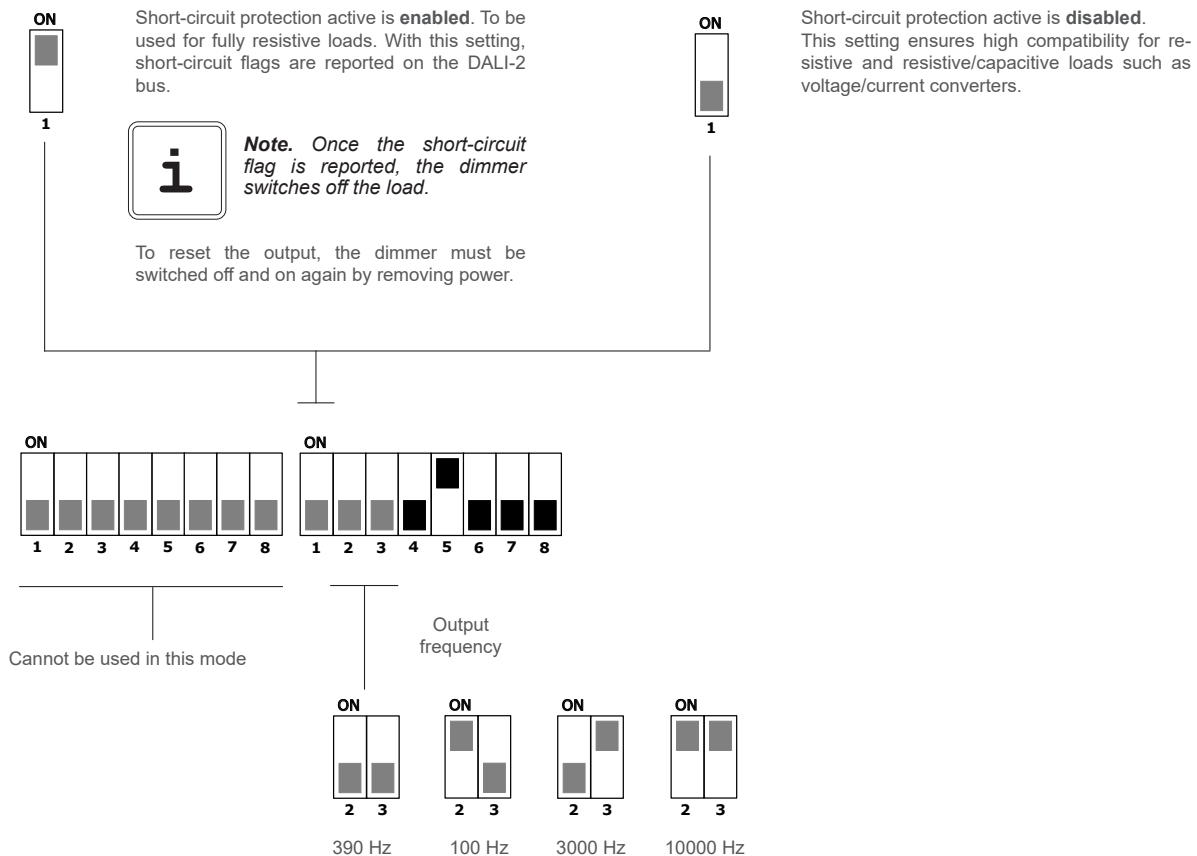
- IEC 62386-101 ED2
- IEC 62386-102 ED2
- IEC 62386-209 ED2 (DT8)

In this mode, parameters received from the DALI-2 bus are also sent to the DMX512A-RDM bus on fixed channels 1-3 for warm white output - warm white and 2-4 for cold white output - cold white.



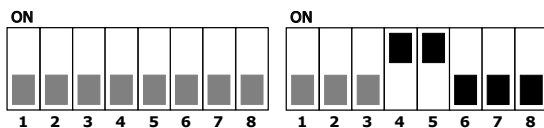
Note. BLE (Bluetooth) control is inhibited in this mode.

DALI-2 DT8 1 output Tunable White - parameters



4. DALI DT8 1 RGBW output mode

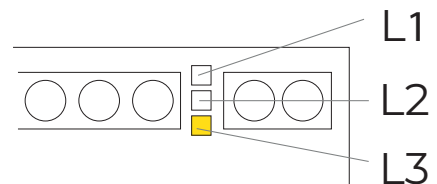
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L3 lights up yellow.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



The dimmer must be powered according to the polarity shown in Fig. 4 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

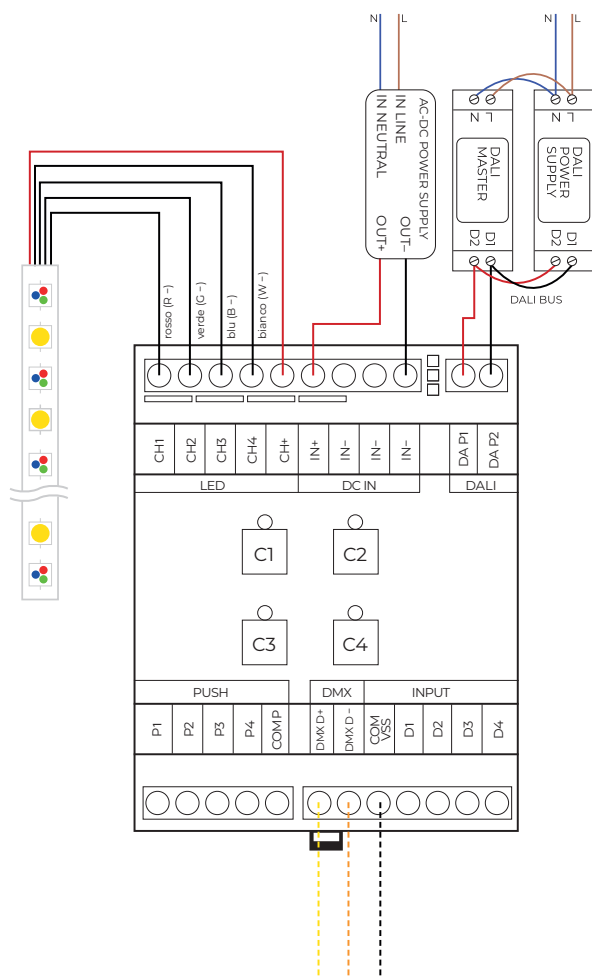
The outputs must be wired as shown in Fig. 4.

In this mode the device acts as a DALI-2 DT8 1-output RGBW dimmer, with a maximum current of 8A per channel.

The DT8 operating mode is RGBWAF.

The maximum current drawn by the DALI-2 bus is approximately 2mA.

Once the dimmer is configured in DALI-2 mode, and disconnected from the DALI-2 bus, the output status switches to the POWER ON LEVEL set via the DALI-2 bus (Default ALL ON).



Warning! When using loads >24A see diagram in Appendix 1.

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

Fig. 4 - DALI DT8 connection 1 RGBW output

Reference standards:

- IEC 62386-101 ED2
- IEC 62386-102 ED2
- IEC 62386-209 ED2 (DT8)

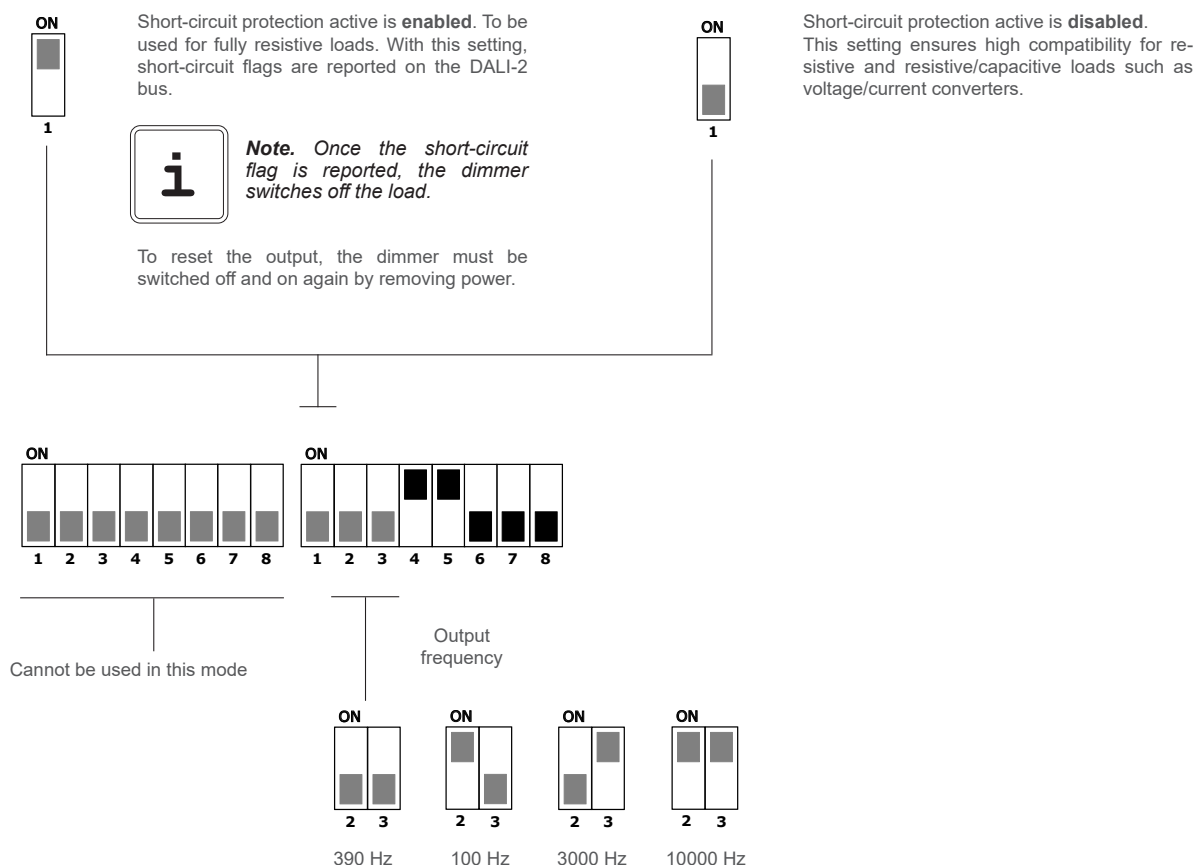
In this mode, parameters received from the DALI-2 bus are also sent to the DMX512A-RDM bus on fixed channels 1-2-3-4:

- Red channel DALI-2 → DMX ADDRESS 1
- Green channel DALI-2 → DMX ADDRESS 2
- Blue channel DALI-2 → DMX ADDRESS 3
- Channel white DALI-2 → DMX ADDRESS 4



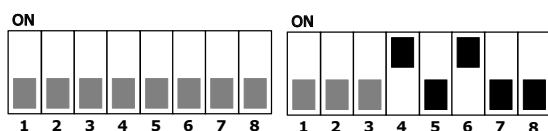
Note. BLE (Bluetooth) control is inhibited in this mode.

DALI DT8 1 output RGBW - parameters



5. DMX512A-RDM 1 output mode

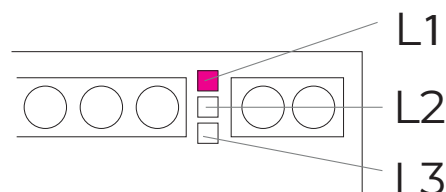
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L1 lights up violet.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



The dimmer must be powered according to the polarity shown in Fig. 5 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 5.

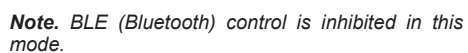
In this mode the device acts as a DMX512A-RDM dimmer with a single output, with a maximum current of 32A.

Reference standards:

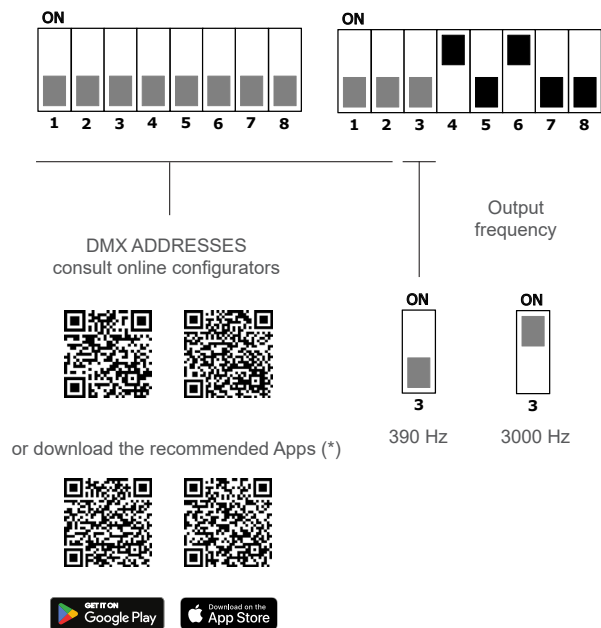
- ANSI E1.11 Entertainment Technology - USITT DMX512-A
- ANSI E1.20 Remote Device Management (RDM) entertainment technology



Fig. 5 - DMX512A-RDM 1 output connection



DMX512A-RDM 1 output - parameters



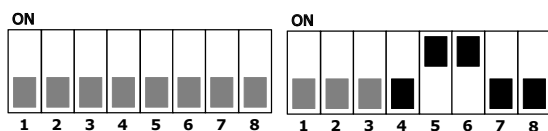
DMX ADDRESS											
CONFIGURATIONS	1	2	3	4	5	6	7	8		1	2
address via RDM (default address 1)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 15	ON	ON	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF

Setting the DMX address via Dip switches does NOT disable the possibility of configuring the address via RDM. Changing any of the DMX address Dip switches will reset the RDM address back to the address set via the physical Dip switches.

(*) The recommended Apps are made by third parties, they are not bound to the use of the dimmer.

6. DMX512A-RDM 3-output mode

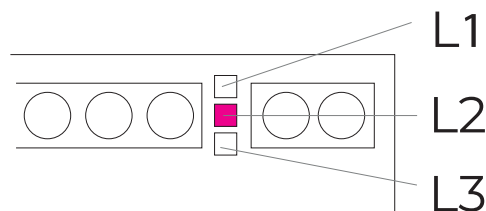
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L2 lights up violet.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



The dimmer must be powered according to the polarity shown in Fig. 6 via the DC IN+ and D terminals. C IN-. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 6.

In this mode the device acts as a DMX512A-RDM dimmer with 3 outputs, 8A per channel.

The CH1 output will correspond to the DMX address set via the parameter Dip switches.

The CH2 output will correspond to the DMX address set via the parameter Dip switches + 1.

The CH3 output will correspond to the DMX address set via the parameter Dip switches + 2.

The CH4 output in this mode is NOT enabled.

Reference standards:

- ANSI E1.11 Entertainment Technology - USITT DMX512-A

- ANSI E1.20 Remote Device Management (RDM) entertainment technology



Note. BLE (Bluetooth) control is inhibited in this mode.

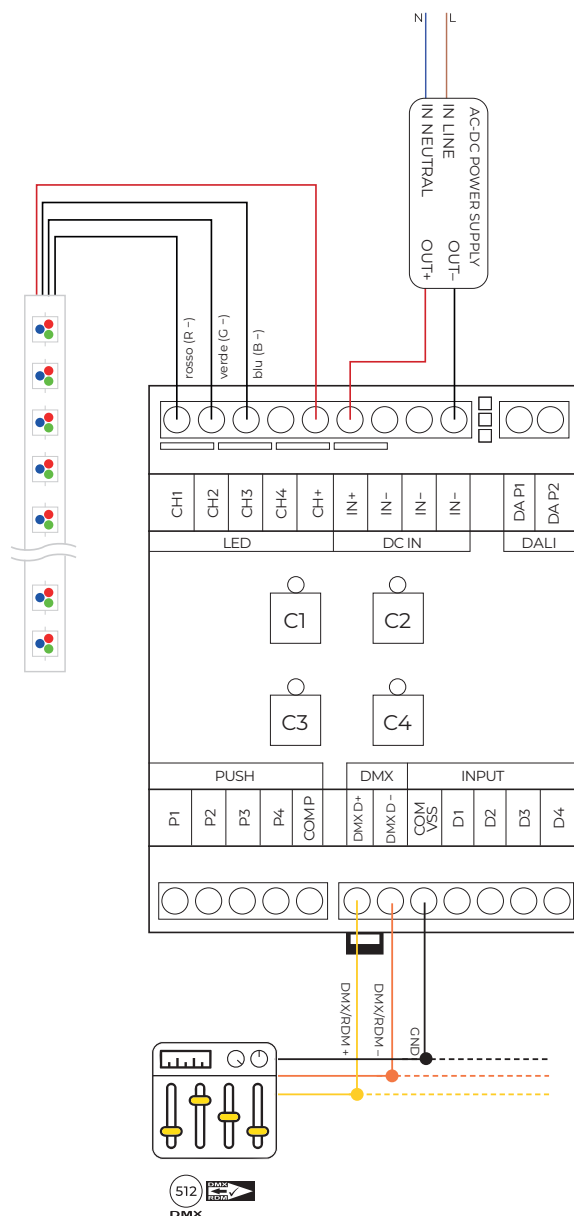
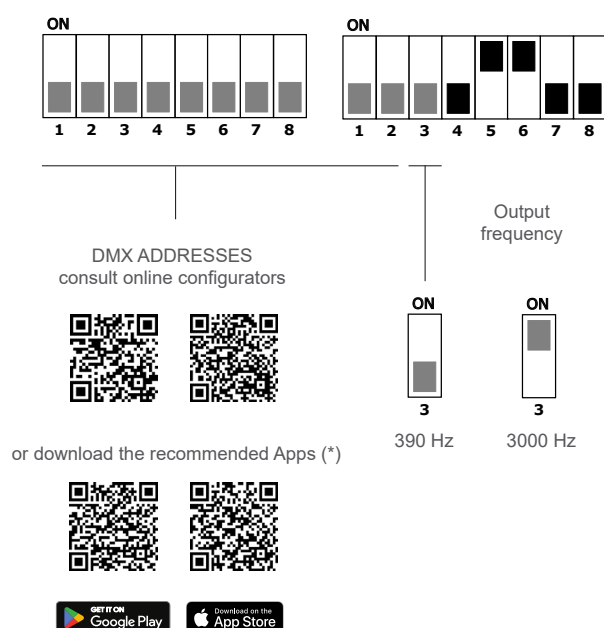


Fig. 6 - DMX512A-RDM 3 outputs connection

DMX512A-RDM 3 outputs - parameters



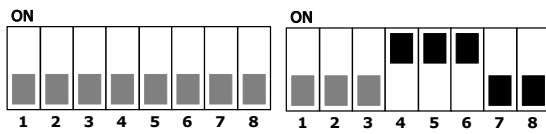
DMX ADDRESS											
CONFIGURATIONS	1	2	3	4	5	6	7	8		1	2
address via RDM (default address 1)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 15	ON	ON	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF

Setting the DMX address via Dip switches does NOT disable the possibility of configuring the address via RDM. Changing any of the DMX address Dip switches will reset the RDM address back to the address set via the physical Dip switches.

(*) The recommended Apps are made by third parties, they are not bound to the use of the dimmer.

7. DMX512A-RDM 4-output mode

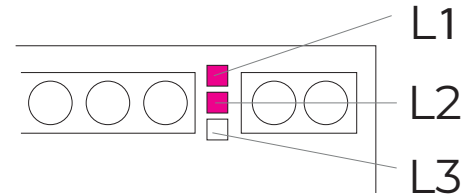
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LEDs L1 and L2 light up purple.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



The dimmer must be powered according to the polarity shown in Fig. 7 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 7.

In this mode the device acts as a DMX512A-RDM dimmer with 4 outputs, 8A per channel.

The CH1 output will correspond to the DMX address set via the parameter Dip switches.

The CH2 output will correspond to the DMX address set via the parameter Dip switches + 1.

The CH3 output will correspond to the DMX address set via the parameter Dip switches + 2.

The CH4 output will correspond to the DMX address set via parameter Dip switches + 3.

Reference standards:

- ANSI E1.11 Entertainment Technology - USITT DMX512-A
- ANSI E1.20 Remote Device Management (RDM) entertainment technology



Note. BLE (Bluetooth) control is inhibited in this mode.



Warning! When using loads >24A see diagram in Appendix 1.

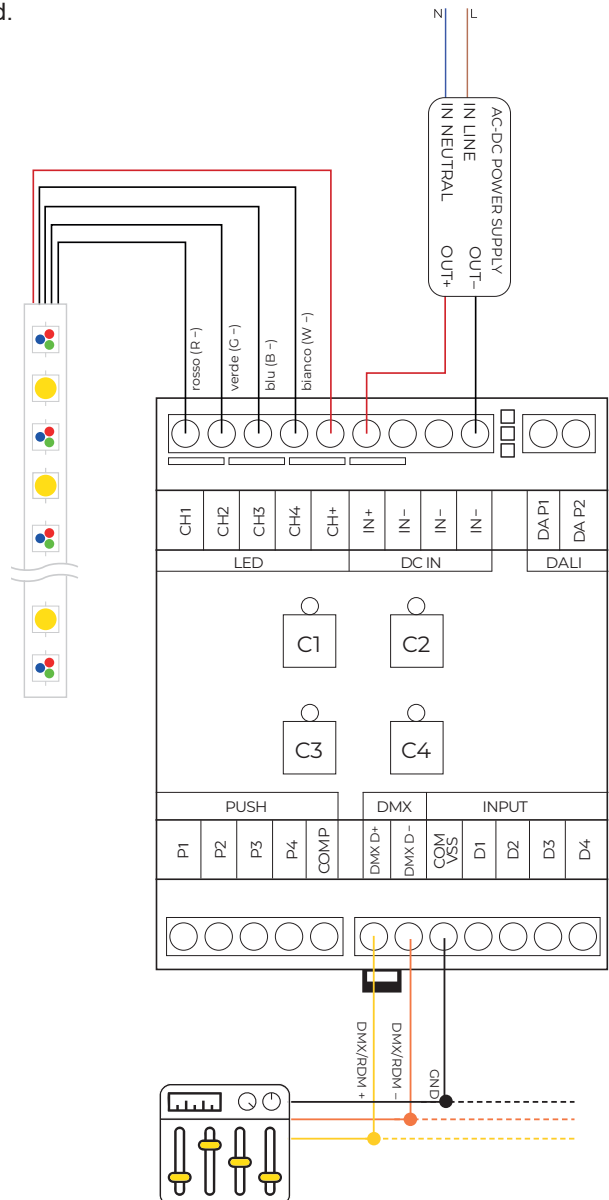
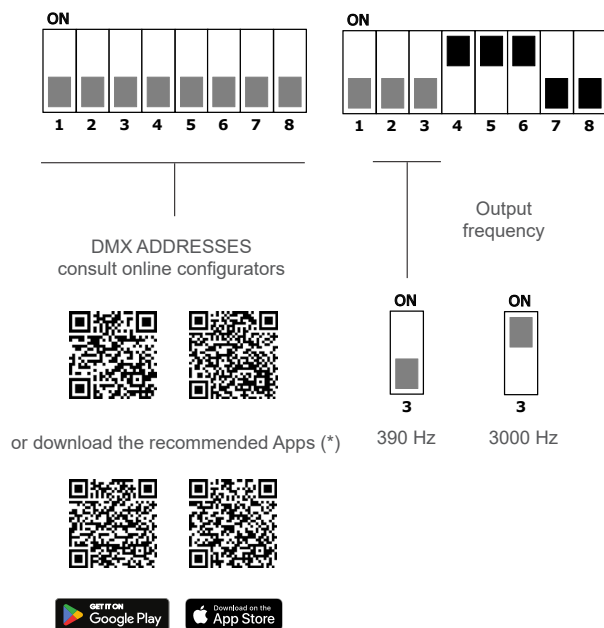


Fig. 7 - DMX512A-RDM 4-output connection

DMX512A-RDM 4 outputs - parameters



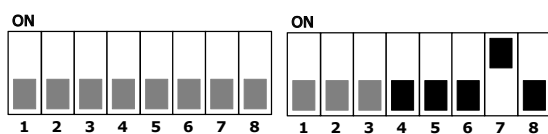
DMX ADDRESS											
CONFIGURATIONS	1	2	3	4	5	6	7	8		1	2
address via RDM (default address 1)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF		OFF	OFF
address 8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF
address 15	ON	ON	ON	ON	OFF	OFF	OFF	OFF		OFF	OFF

Setting the DMX address via Dip switches does NOT disable the possibility of configuring the address via RDM. Changing any of the DMX address Dip switches will reset the RDM address back to the address set via the physical Dip switches.

(*) The recommended Apps are made by third parties, they are not bound to the use of the dimmer.

8. PUSH + BLE 1 output mode

In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L1 lights up blue.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.

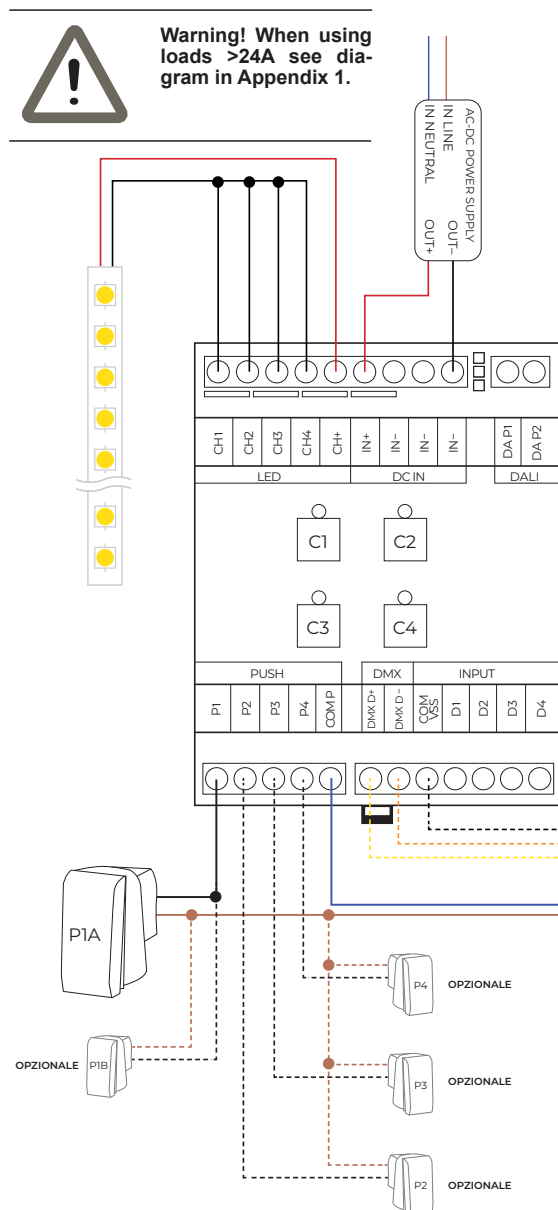
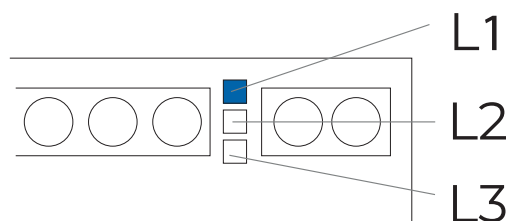


Fig. 8 - PUSH + BLE 1 output connection with push buttons referred to L and N

The dimmer must be powered according to the polarity shown in Fig. 8 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 8.

Control via pushbuttons can be done by directly using the mains voltage (110V/230VAC) as in Fig. 8, or the output voltage of the power supply unit (8V/53VDC), Fig. 9.

When installing the dimmer in the system, it is preferable to use the diagram shown in Fig. 8.

In this configuration, the dimmer ensures isolation from the mains voltage.

The input range between the COM P and P1/2/3/4 poles is DC: 10V/265V, AC 12V/265VAC 50/65Hz.

In this mode, all pushbuttons connected to input P1, P2, P3 and P4 will act on outputs CH1/CH2/CH3/CH4, which will act as a SINGLE OUTPUT of 32A maximum.

The maximum current drawn by each PUSH interface is approximately 2mA.

OPTIONAL
DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

The maximum distance of the dimmer from the buttons per interface must not exceed a total of 20 metres (e.g. P1A at a distance of 3 metres from the dimmer and P1B at a distance of 8 metres from the dimmer = 11 metres total distance).

For cable lengths of more than 20 m or in the presence of several control buttons, the use of a supporting normally open monostable relay is recommended (see diagram in Appendix 2).

The dimmer, in the event of a power failure, saves the state of the output so as to restore the set level when power is restored.

PUSH interface operation

- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum brightness (output = 100%). Fast maximum light mode.
- Long Press (prolonged pressure >1sec)
- If the dimmer is in the OFF state, it sets the output to the minimum value (default = 1%). Disturbance-free night mode.
- If the dimmer is in the ON state, prolonged pressure allows the output to be dimmed (up/down).

In this mode the status of the outputs is also sent on the DMX512A-RDM bus on fixed channels 1-2-3-4.

In this mode, the BLE interface is enabled for controlling the output via the App.



Note. Check that the input and output connection cables are correctly inserted in the terminal carriage and not under the carriage itself. Incorrect insertion of the cable inside the carriage can lead to overheating or malfunctioning.



Warning! When using loads >24A see diagram in Appendix 1.

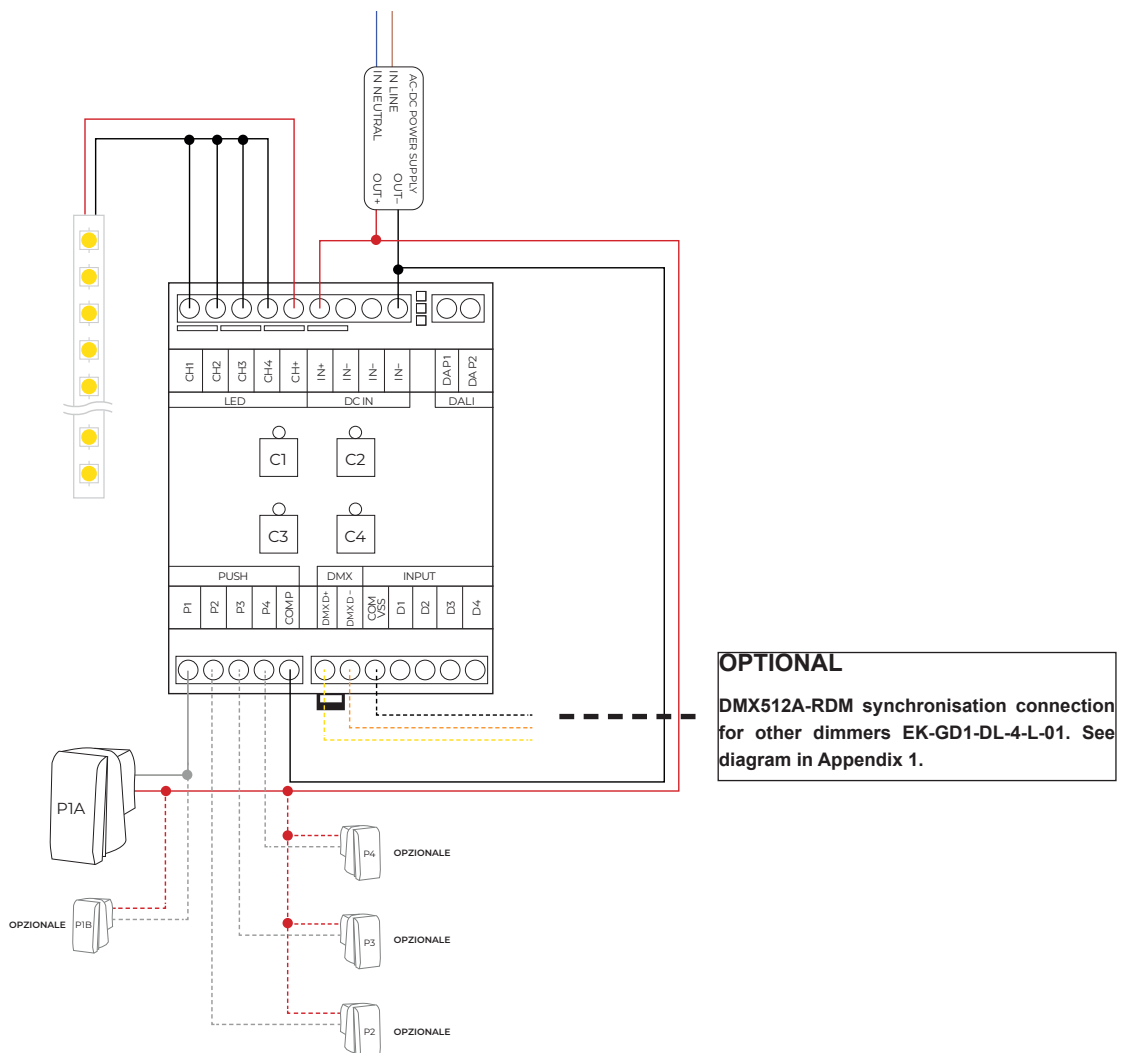
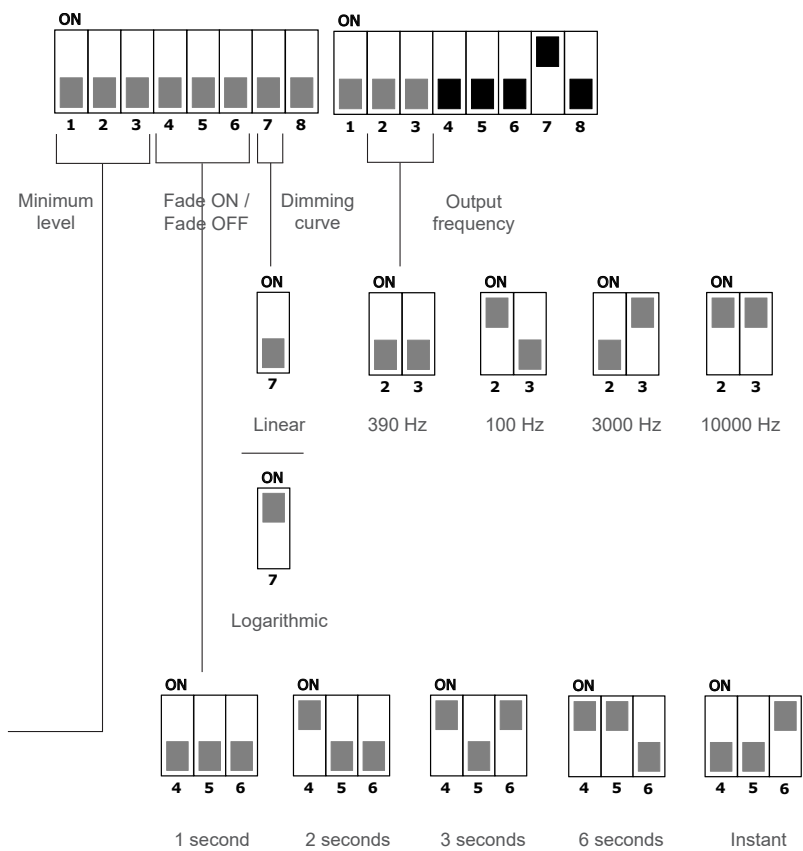
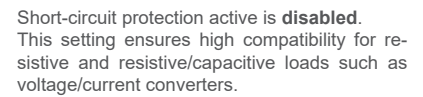


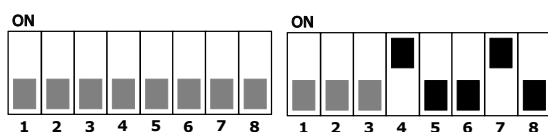
Fig. 9 - PUSH + BLE 1 output connection with push-buttons referring to extra-low voltage

PUSH + BLE 1 output - parameters



9. PUSH + BLE 4 outputs mode

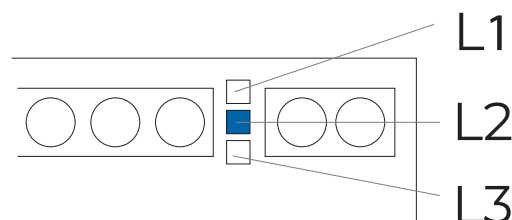
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L2 lights up blue.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.

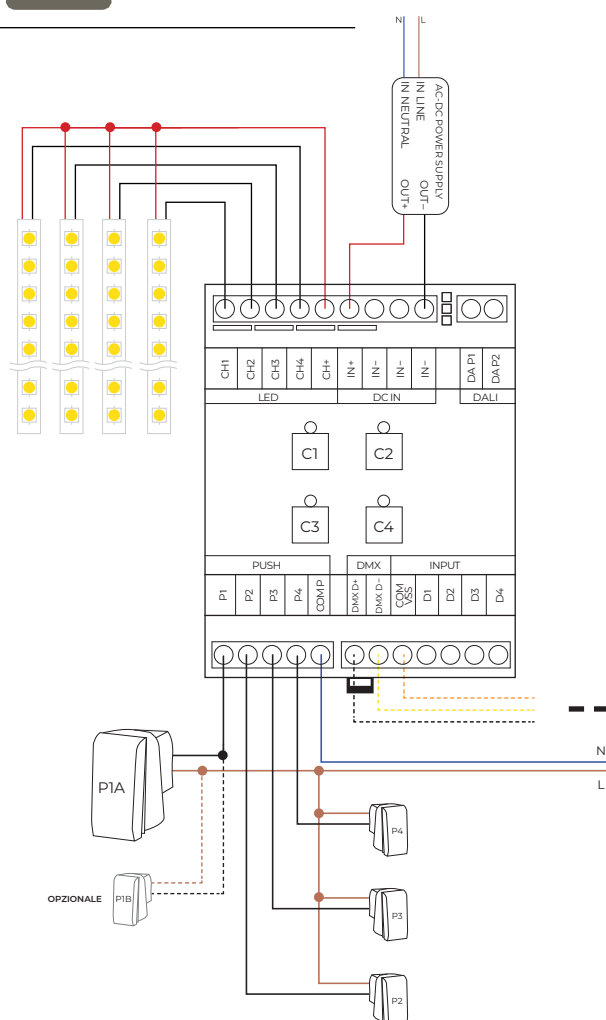


Fig. 10 - PUSH + BLE connection 4 outputs with pushbuttons referring to L and N

The dimmer must be powered according to the polarity shown in Fig. 10 via the terminals DC IN+ and DC IN-.

If the polarity of the power supply is reversed, the device will not be damaged. The outputs must be wired as shown in Fig. 10.

Control via pushbuttons can be done either directly using the mains voltage (110÷230VAC) as in Fig. 10, or using the output voltage of the power supply unit (8÷53VDC), Fig. 11.

When installing the dimmer in the system, it is preferable to use the diagram shown in Fig. 10.

In this configuration, the dimmer ensures isolation from the mains voltage.

The input range between COM P and P1/2/3/4 is

DC: 10÷265V, AC 12÷265VAC 50÷65Hz.

In this mode:

- The buttons on input P1A control output CH1.
- The buttons on input P2 control the CH2 output.
- The buttons on input P3 control the CH3 output.
- The buttons on input P4 control output CH4.

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

Other optional buttons can be connected in parallel to the main buttons (e.g. P1B).

The individual outputs can handle loads of up to 8A (32A total). The maximum current drawn by each PUSH interface is approximately 2mA.

The maximum distance of the dimmer from the buttons per interface must not exceed a total of 20 metres (e.g. P1A at a distance of 3 metres from the dimmer and P1B at a distance of 8 metres from the dimmer = 11 metres total distance).

For cable lengths of more than 20 m or in the presence of several control buttons, the use of a normally open monostable relay is recommended (see diagram in Appendix 2).

The dimmer, in the event of a power failure, saves the state of the output so as to restore the set level when power is restored.

BUTTONS interface operation

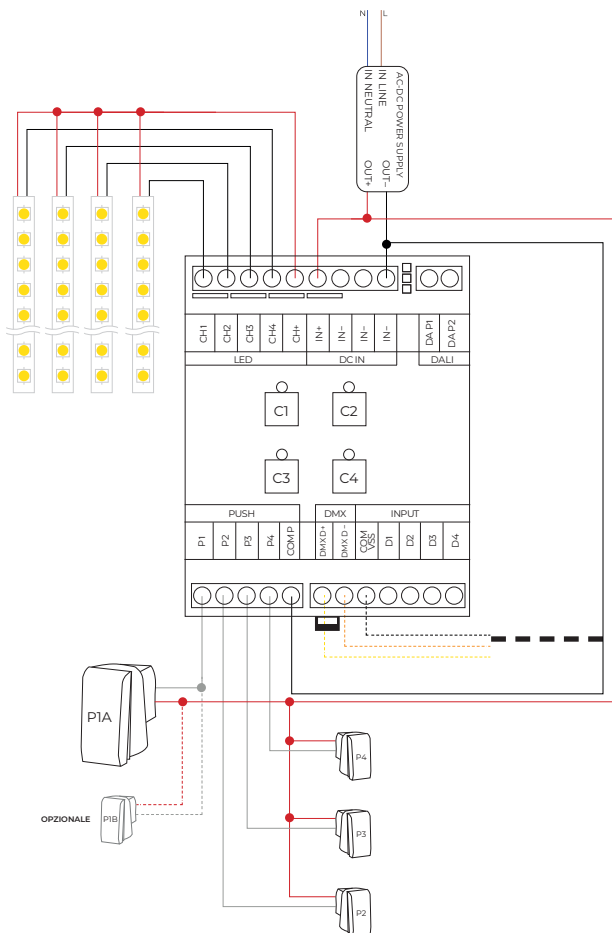
- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Maximum luminous taxosity (output = 100 %). Fast maximum light mode.
- Long Press (prolonged pressure >1sec)
- If the dimmer is in the OFF state, it sets the output to the minimum value (default = 1%). Disturbance-free night mode.
- If the dimmer is in the ON state, prolonged pressure allows the output to be dimmed (up/down).



Note. Check that the input and output connection cables are correctly inserted in the terminal carriage and not under the carriage itself. Incorrect insertion of the cable inside the carriage can lead to overheating or malfunctioning.



Warning! When using loads >24A see diagram in Appendix 1.



OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

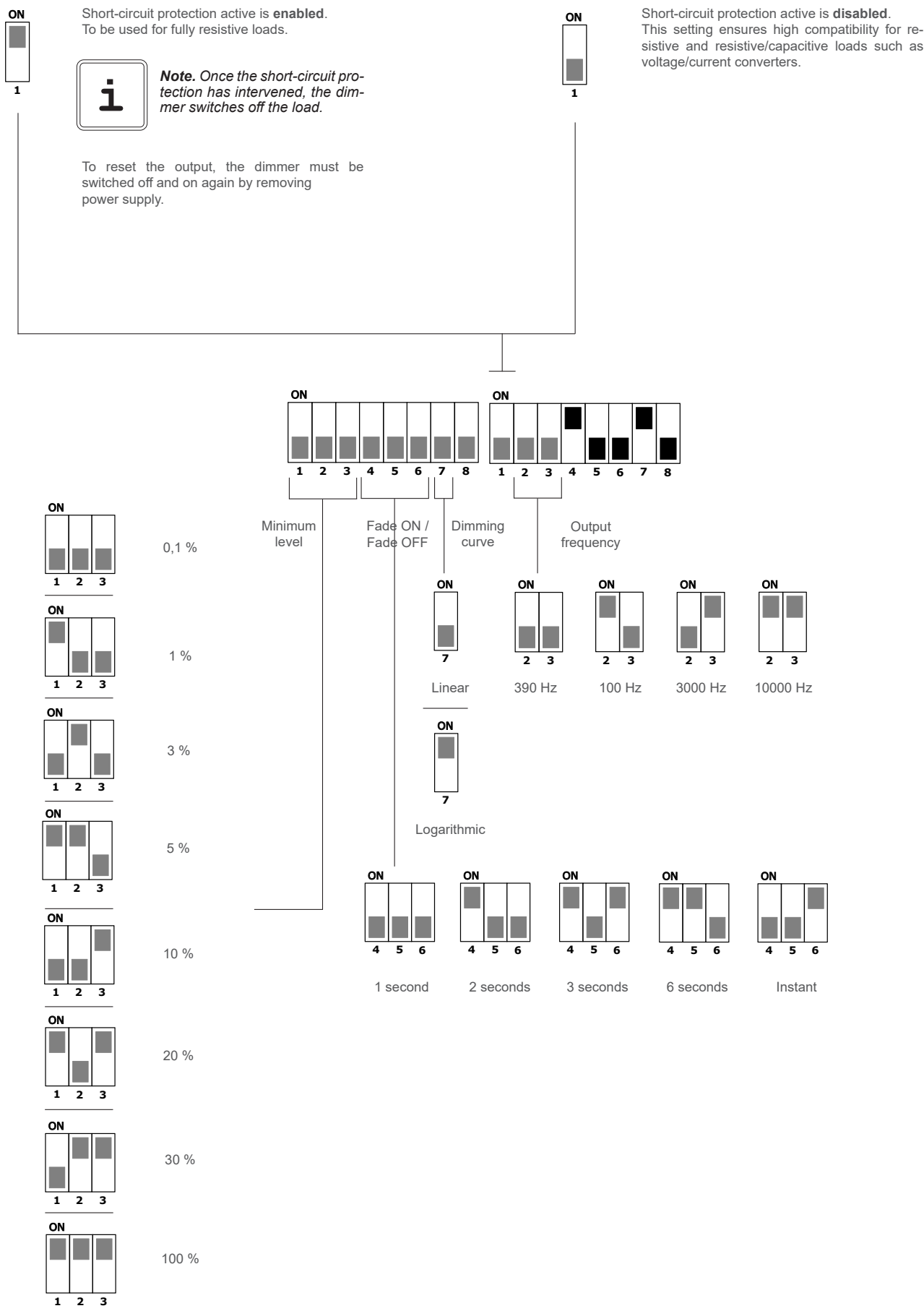
Fig. 11 - PUSH + BLE connection 4 outputs with push-buttons referring to extra-low voltage

In this mode, output states are also sent on the DMX512A-RDM bus on fixed channels 1-2-3-4:

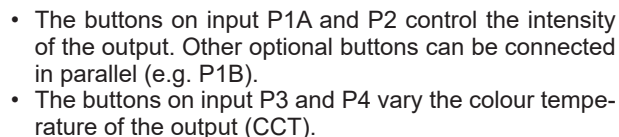
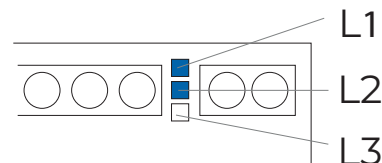
- Output CH1 → DMX ADDRESS 1
- Output CH2 → DMX ADDRESS 2
- Output CH3 → DMX ADDRESS 3
- Output CH4 → DMX ADDRESS 4

In this mode, the BLE interface is enabled for controlling the output via the App.

PUSH + BLE 4 outputs - parameters



In order to activate this control/operation mode, the dip-switches must be set as shown here.



For cable lengths of more than 20 m or in the presence of several control buttons, the use of a supporting normally open monostable relay is recommended (see diagram in Appendix 2).

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The dimmer, in the event of a power failure, saves the state of the output so as to restore the set level when power is restored.

P1A and P3 interface operation

- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum brightness (output= 100%)
- Long Press (prolonged pressure >1sec)
- If the dimmer is in the OFF state, set the output to the minimum value (default= 1%).
- If the dimmer is in the ON state, prolonged pressure allows the output to be dimmed (up/down).



Note. Check that the input and output connection cables are correctly inserted in the terminal carriage and not under the carriage itself. Incorrect insertion of the cable inside the carriage can lead to overheating or malfunctioning.

P2 and P4 interface operation

- Long Press (prolonged pressure >1sec)
- Colour temperature change
(e.g. Hot → Cold and Cold → Hot).
- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum output brightness (100 per cent).

In this mode, output states are also sent on the DMX512A-RDM bus on fixed channels 1-2-3-4:

Output CH1 → DMX ADDRESS 1

Output CH2 → DMX ADDRESS 2

Output CH3 → DMX ADDRESS 3

Output CH4 → DMX ADDRESS 4

In this mode, the BLE interface is enabled for controlling the output via the App.



Warning! When using loads >8A see diagram in Appendix 1.

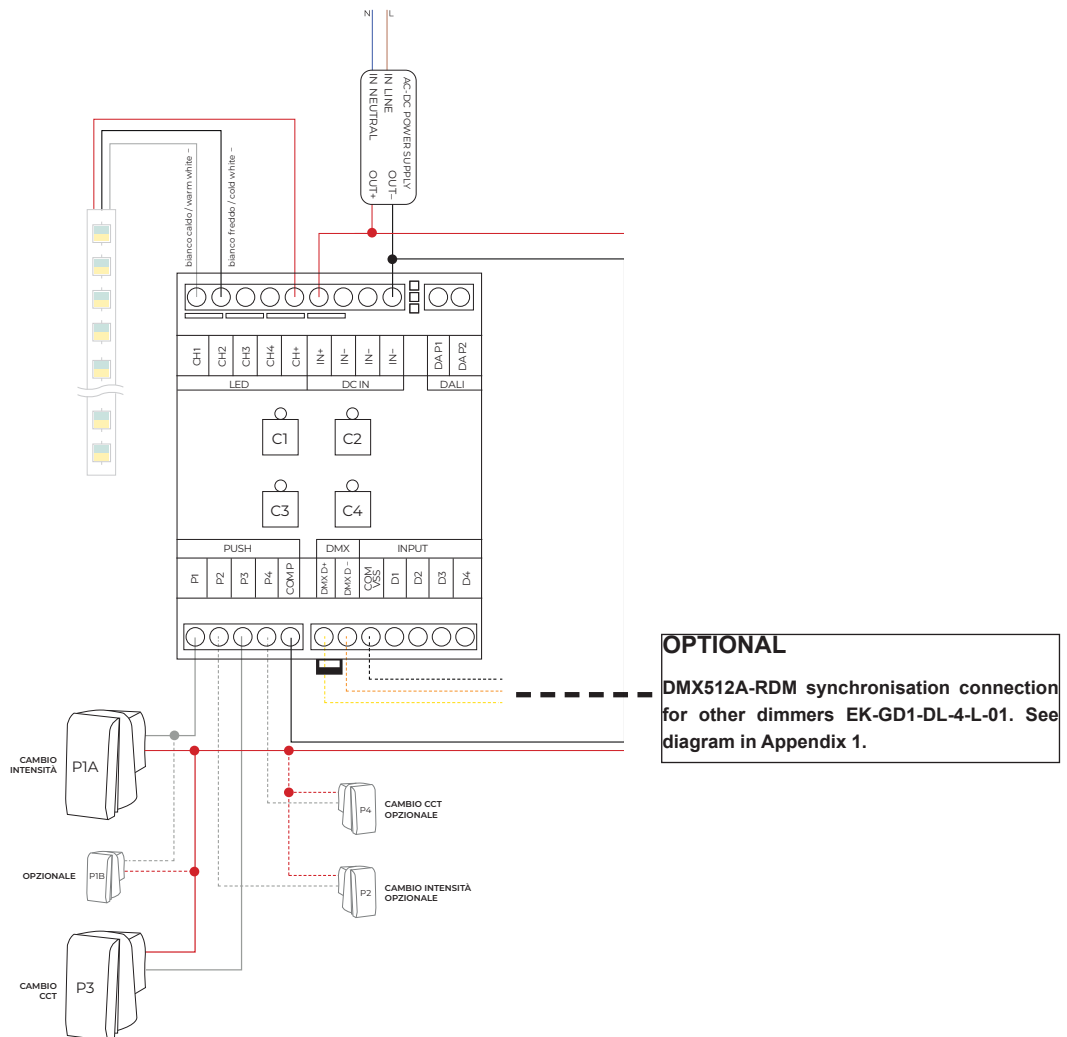
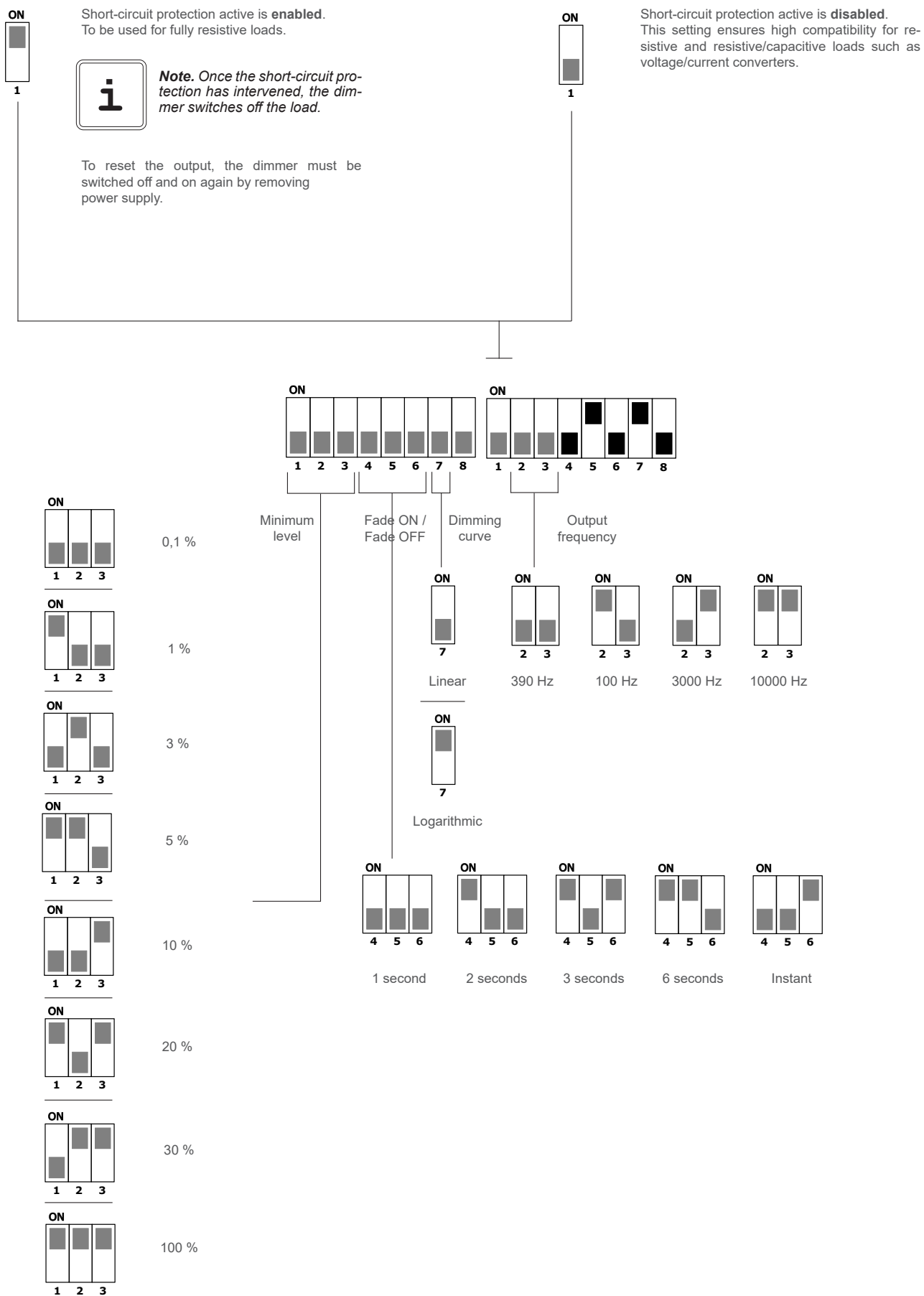


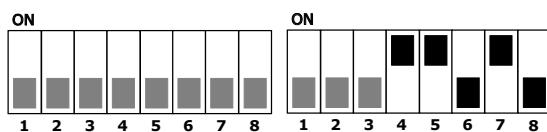
Fig. 13 - PUSH + BLE connection 1 output Tunable White with push-buttons referred to extra-low voltage

PUSH + BLE 1 output Tunable White - parameters



11. PUSH + BLE 2 outputs - Tunable White mode

In order to activate this control/operation mode, the dip-switches must be set as shown here.



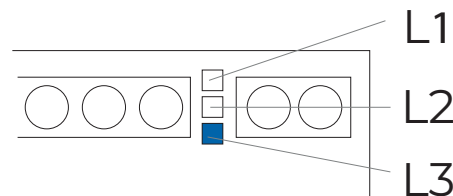
If the configuration is correct, once the dimmer is switched on, LED L3 lights up blue.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.



The dimmer must be powered according to the polarity shown in Fig. 14 via the terminals DC IN+ and DC IN-.

If the power supply polarity is reversed, the device will not suffer any damage. The outputs must be wired as shown in Fig. 14.

Control by means of push-buttons can be carried out by directly using the mains voltage (110÷230VAC) as in Fig. 14, or the output voltage of the power supply unit (8÷53VDC), Fig. 15. For the installation of the dimmer in the system, it is preferable to use the diagram shown in Fig. 14.

In this configuration, the dimmer ensures isolation from the mains voltage.

The input range between the COM P and P1/2/3/4 poles is DC: 10÷265V, AC 12÷265VAC 50÷65Hz.

In this mode:

- The buttons on input P1 control the intensity of output TW1.
- The buttons on input P2 change the colour temperature of output TW1 (CCT).
- The buttons on input P3 control the intensity of output TW2.
- The buttons on input P4 vary the colour temperature of output TW2 (CCT).

Other optional buttons can be connected in parallel to the main buttons.

Individual outputs can handle loads up to 8A.

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

The maximum current drawn by each PUSH interface is approx. 2mA. The maximum distance of the dimmer from the push-buttons per interface must not exceed a total of 20 metres (e.g.: P1 at a distance of 3 metres from the dimmer and another push-button in parallel on input P1 at a distance of 8 metres from the dimmer = 11 metres total distance).

For cable lengths of more than 20 m or in the presence of several control buttons, the use of a normally open monostable relay is recommended (see diagram page <?>).

The dimmer, in the event of a power failure, saves the state of the output so as to restore the set level when power is restored.

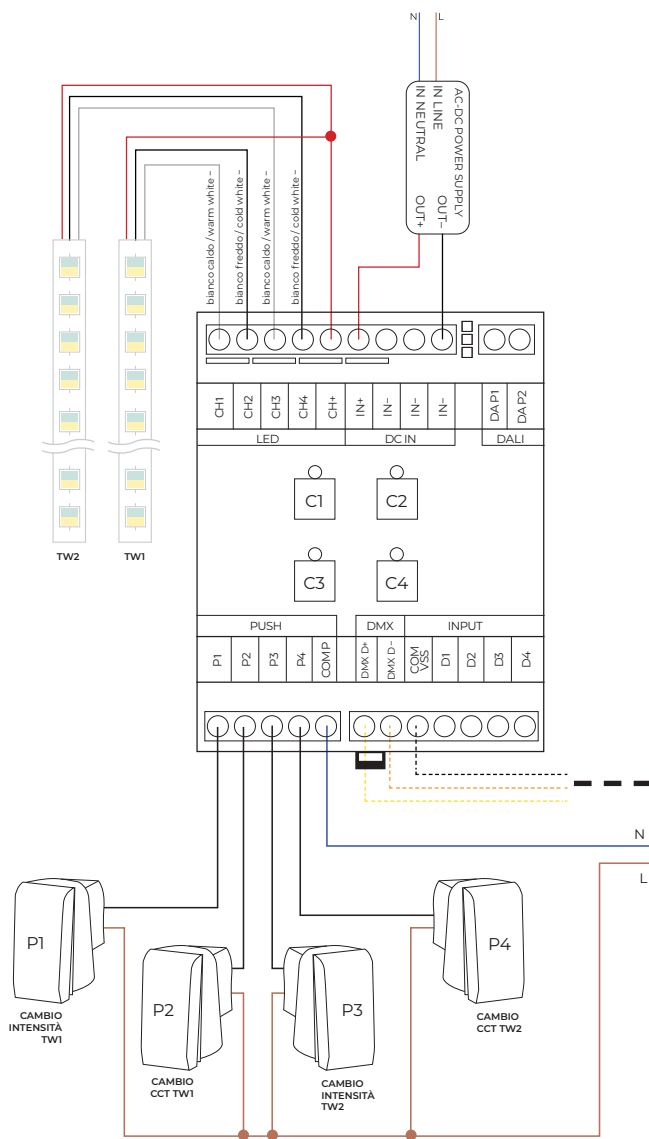


Fig. 13 - PUSH + BLE connection 2 TW outputs with push buttons referring to L and N

P1 and P3 interface operation

- Single Click (rapid pressure <1sec)
- Switches the corresponding output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum brightness of the corresponding output (output= 100%)
- Long Press (prolonged pressure >1sec)
- If the corresponding output is in the OFF state, set the output to the minimum value (default = 1%).
- If the output is in the ON state, prolonged pressure allows dimming of the corresponding output (up/down).



Warning! When using loads >24A see diagram in Appendix 1.

P2 and P4 interface operation

- Long Press (prolonged pressure >1sec)
- Colour temperature change of corresponding output (e.g. Hot → Cold and Cold → Hot).
- Single Click (rapid pressure <1sec)
- Switches the corresponding output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum brightness of the corresponding output (100 per cent).

In this mode, output states are also sent on the DMX512A-RDM bus on fixed channels 1-2-3-4:

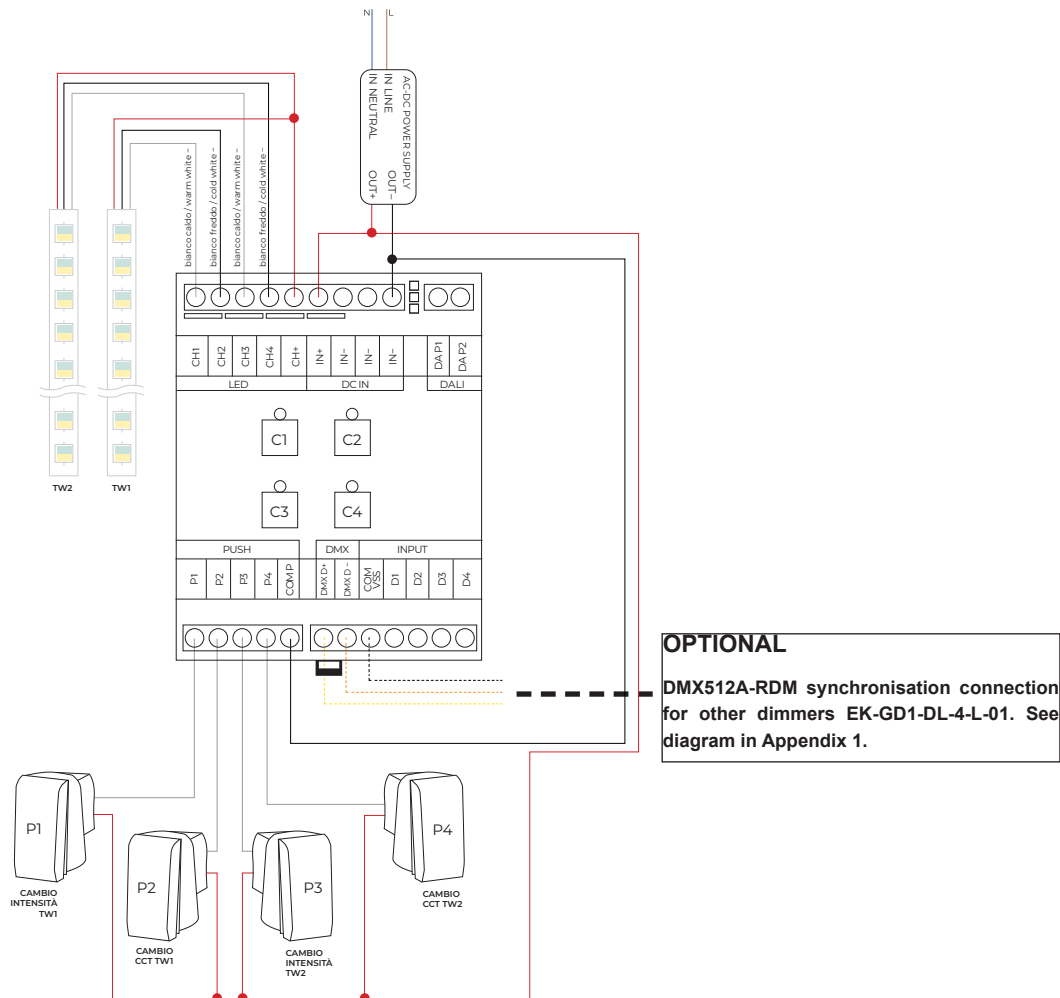
Output CH1 → DMX ADDRESS 1

Output CH2 → DMX ADDRESS 2

Output CH3 → DMX ADDRESS 3

Output CH4 → DMX ADDRESS 4

In this mode, the BLE interface is enabled for controlling the output via the App.

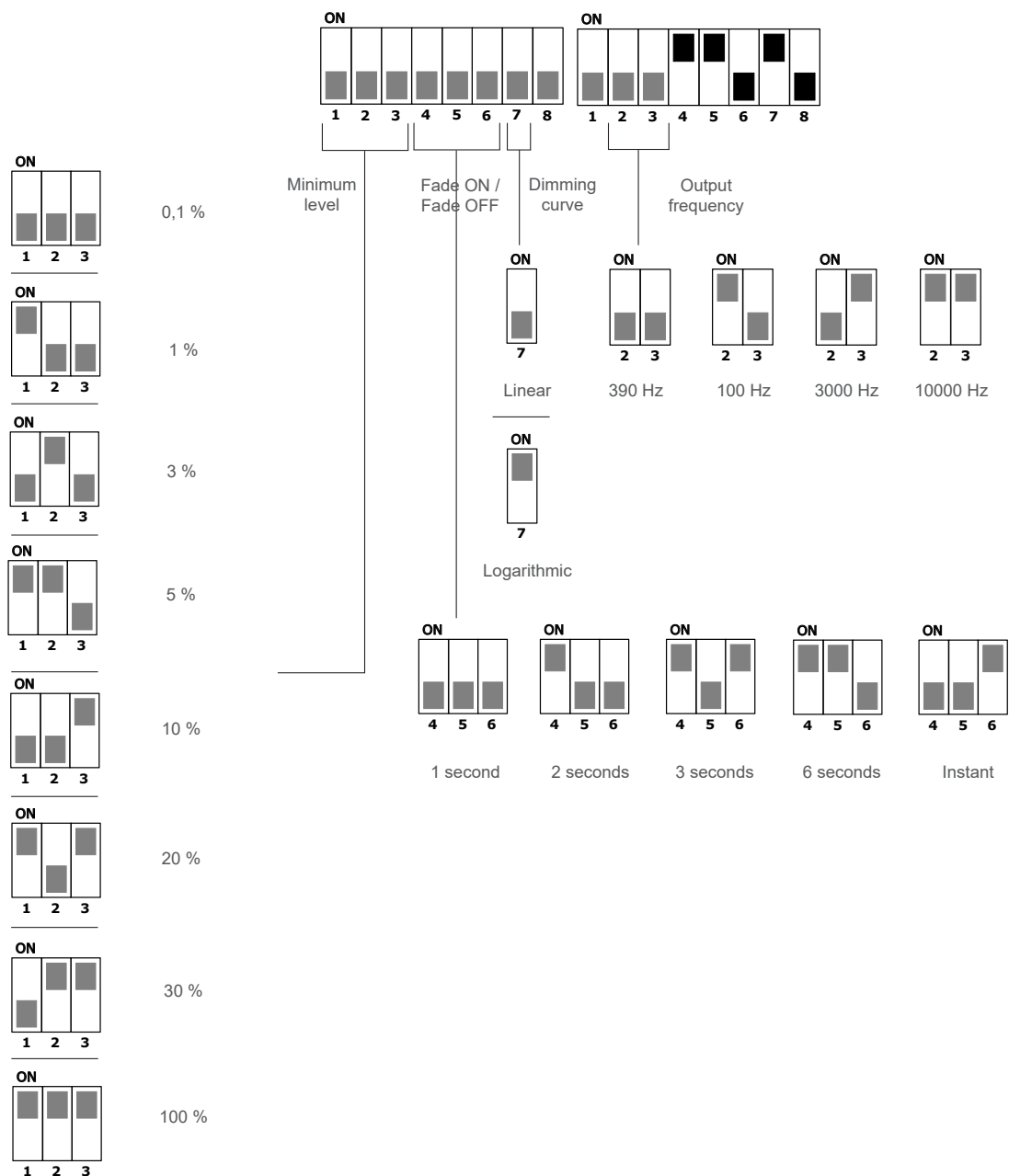
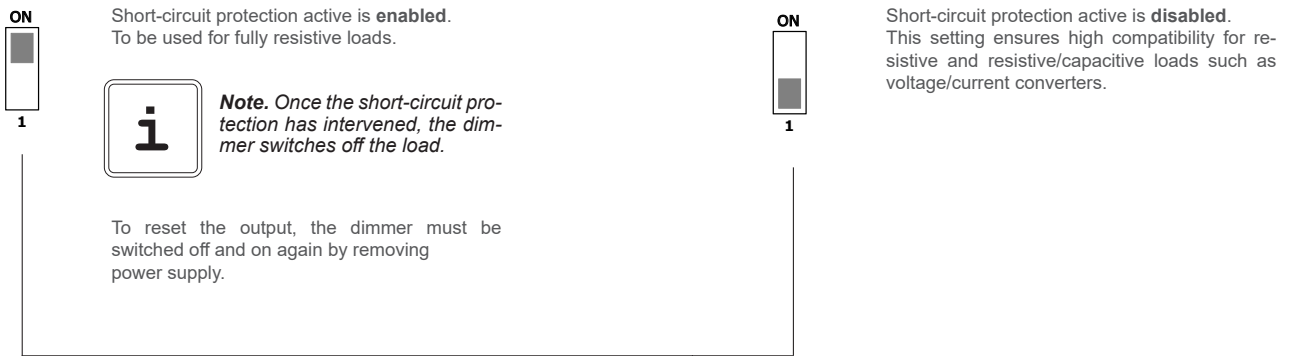


OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

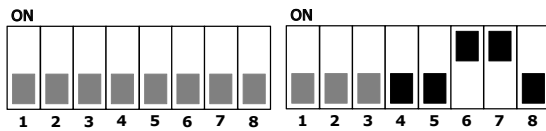
Fig. 15 - PUSH + BLE connection 2 Tunable White outputs with push-buttons referred to extra-low voltage

PUSH + BLE 2 outputs Tunable White - parameters



12. PUSH + BLE 1 output - DimToWarm mode

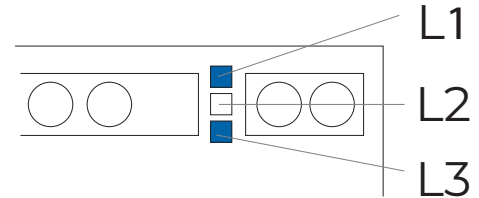
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LEDs L1 and L3 light up blue.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >8A see diagram in Appendix 1.

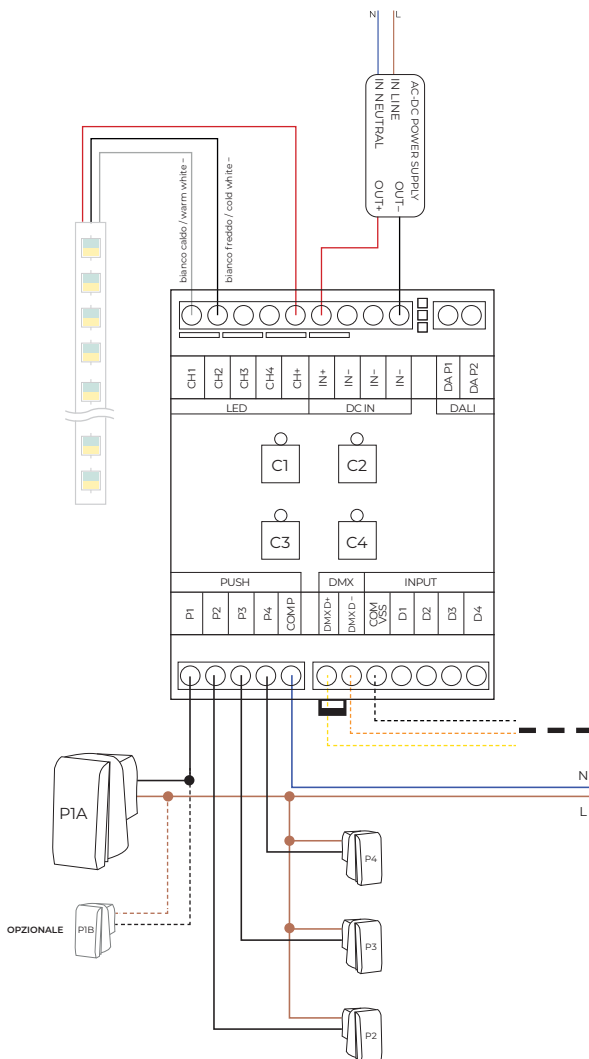


Fig. 16 - PUSH + BLE connection 1 DimToWarm output with pushbuttons referred to L and N

The dimmer must be powered according to the polarity shown in Fig. 16 via the DC IN+ and DC IN- terminals.

If the polarity of the power supply is reversed, the device will not be damaged. The outputs must be wired as shown in Fig. 16.

Control via pushbuttons can be done either directly using the mains voltage (110÷230VAC) as in Fig. 16, or using the output voltage of the power supply unit (8÷53VDC), Fig. 17.

When installing the dimmer in the system, it is preferable to use the diagram shown in Fig. 16.

In this configuration, the dimmer ensures isolation from the mains voltage.

The input range between the COM P and P1/2/3/4 poles is DC: 10÷265V, AC 12÷265VAC 50÷65Hz.

In this mode all buttons connected to input P1A/P1B, P2, P3 and P4 will act on the CH1/CH2 outputs which will act as a SINGLE 8A DimToWarm OUTPUT per channel.

The CH3 and CH4 outputs can be used to increase the maximum current to 16A per channel.

The maximum current drawn by each PUSH interface is approximately 2mA.

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

The maximum distance of the dimmer from the buttons per interface must not exceed a total of 20 metres (e.g. P1A at a distance of 3 metres from the dimmer and P1B at a distance of 8 metres from the dimmer = 11 metres total distance).

For cable lengths of more than 20 m or in the presence of several control buttons, the use of a supporting normally open monostable relay is recommended (see diagram in Appendix 2).

In the event of a power failure, the dimmer saves the status of the outputs so that the set level is restored when the power is restored.

BUTTONS interface operation

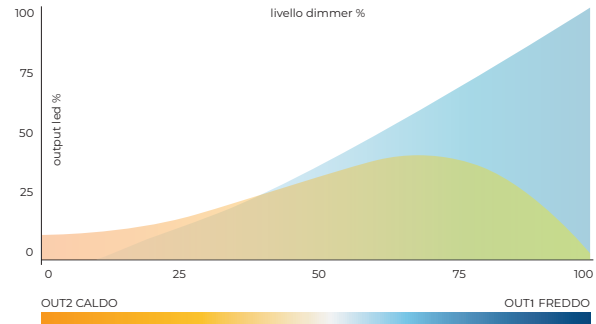
- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum brightness (output = 100% CCT = cold).
Fast maximum light mode.
- Long Press (prolonged pressure >1sec)
- If the dimmer is in the OFF state, it sets the output to the minimum value and CCT = warm. Disturbance-free night mode.
- If the dimmer is in the ON state, prolonged pressure allows the output to be dimmed (up/down) at the same time as the CCT change.

LOW brightness = warm colour temperature

HIGH brightness = cold colour temperature



Warning! When using loads >8A see diagram in Appendix 1.



In this mode, output states are also sent on the DMX512A-RDM bus on fixed channels 1-2-3-4:

Output CH1 → DMX ADDRESS 1

Output CH2 → DMX ADDRESS 2

Output CH3 → DMX ADDRESS 3

Output CH4 → DMX ADDRESS 4

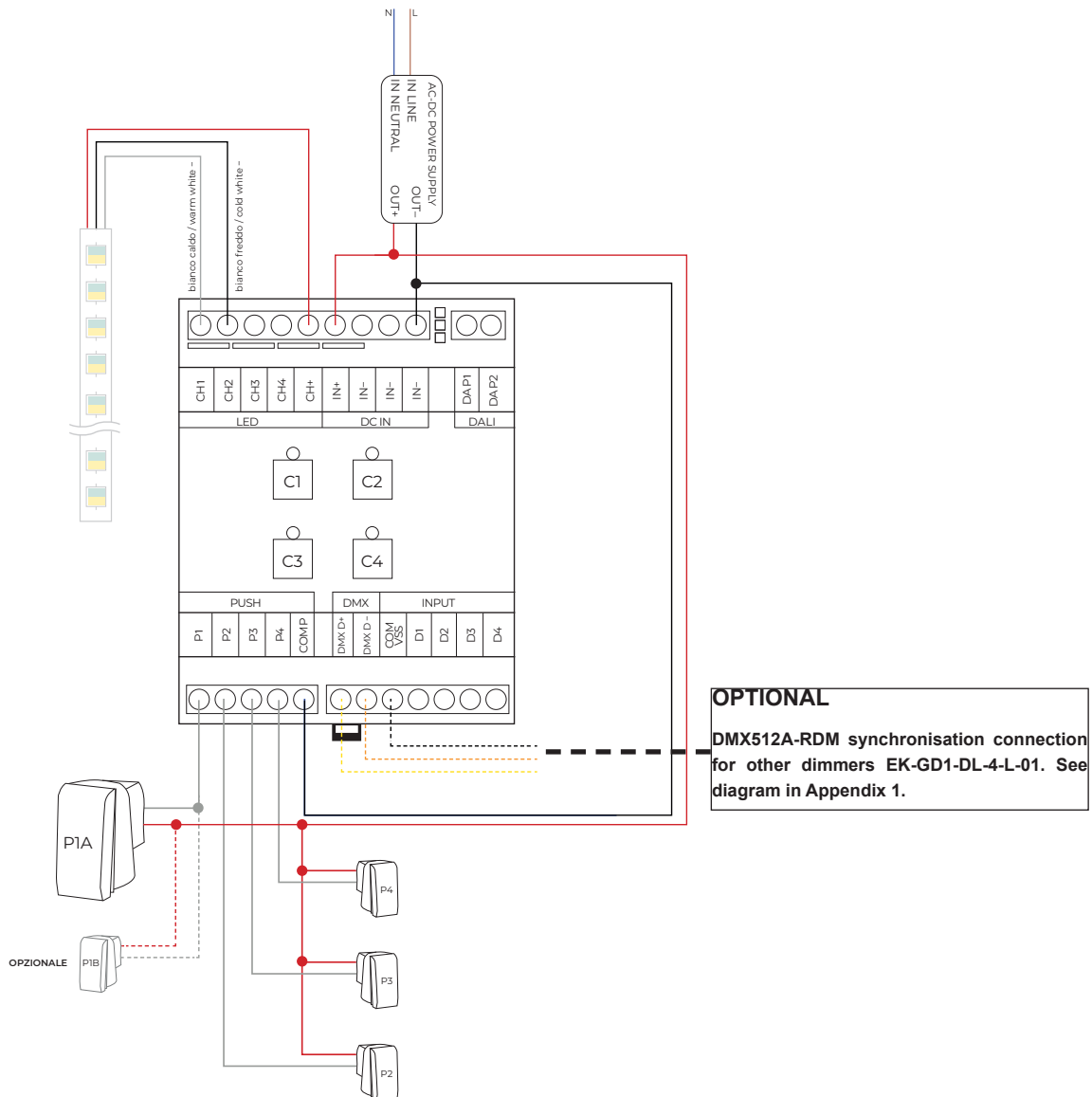


Fig. 17 - PUSH + BLE connection 1 DimToWarm output with pushbuttons referring to extra-low voltage

PUSH + BLE 1 output DimToWarm - parameters

ON

1

Short-circuit protection active is **enabled**.
To be used for fully resistive loads.

i

Note. Once the short-circuit protection has intervened, the dimmer switches off the load.

To reset the output, the dimmer must be switched off and on again by removing power supply.

ON

1

Short-circuit protection active is **disabled**.
This setting ensures high compatibility for resistive and resistive/capacitive loads such as voltage/current converters.

ON

1 2 3 4 5 6 7 8

ON

1 2 3 4 5 6 7 8

ON

1 2 3

0,1 %

ON

1 2 3

1 %

ON

1 2 3

3 %

ON

1 2 3

5 %

ON

1 2 3

10 %

ON

1 2 3

20 %

ON

1 2 3

30 %

ON

1 2 3

100 %

ON

4 5 6

1 second

ON

4 5 6

2 seconds

ON

4 5 6

3 seconds

ON

4 5 6

6 seconds

ON

4 5 6

Instant

ON

7

Linear

ON

2 3

390 Hz

ON

2 3

100 Hz

ON

2 3

3000 Hz

ON

2 3

10000 Hz

ON

7

Logarithmic

ON

1 2 3 4 5 6

Minimum level

ON

1 2 3 4 5 6

Fade ON / Fade OFF

ON

1 2 3 4 5 6

Dimming curve

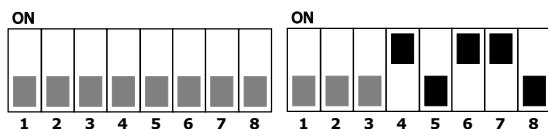
ON

1 2 3 4 5 6

Output frequency

13. PUSH + BLE 1 output - Static RGBW mode

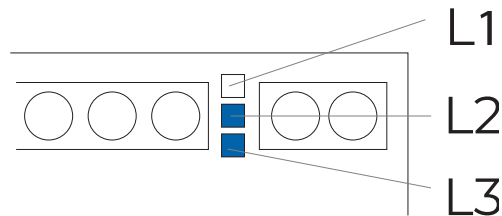
In order to activate this control/operation mode, the dip-switches must be set as shown here.



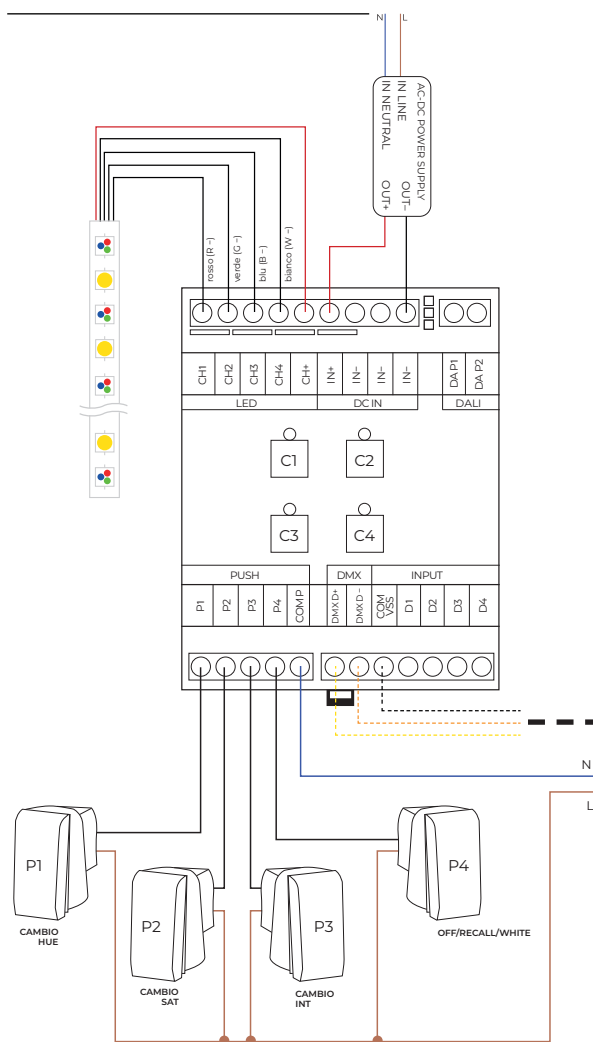
If the configuration is correct, once the dimmer is switched on, LEDs L2 and L3 light up blue.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.



The dimmer must be powered according to the polarity shown in Fig. 18 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged. The outputs must be wired as shown in Fig. 18.

Control by means of push-buttons can be carried out by directly using the mains voltage (110÷230VAC) as in Fig. 18, or the output voltage of the power supply unit (8÷53VDC), Fig. 19. For the installation of the dimmer in the system, it is preferable to use the diagram shown in Fig. 18.

In this configuration, the dimmer ensures isolation from the mains voltage.

The input range between the COM P and P1/2/3/4 poles is DC: 10÷265V, AC 12÷265VAC 50÷65Hz.

In this mode:

- The buttons on input P1 control the HUE (hue).
- The buttons on input P2 vary the SAT (saturation).
- The buttons on input P3 control the INT (output intensity value).
- The buttons on input P4 switch scenes on, off and recall scenes on the dimmer.

Other optional buttons can be connected in parallel to the main buttons.

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

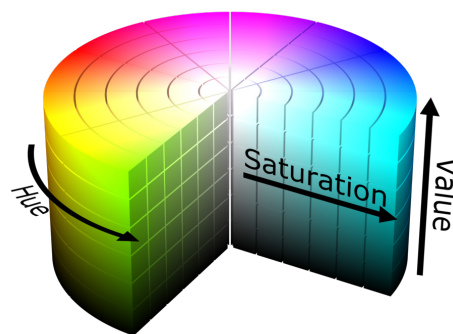


Fig. 18 - PUSH + BLE connection 1 static RGBW output with buttons referred to L and N

Individual outputs can handle loads up to 8A.

The maximum current drawn by each PUSH interface is approximately 2mA.

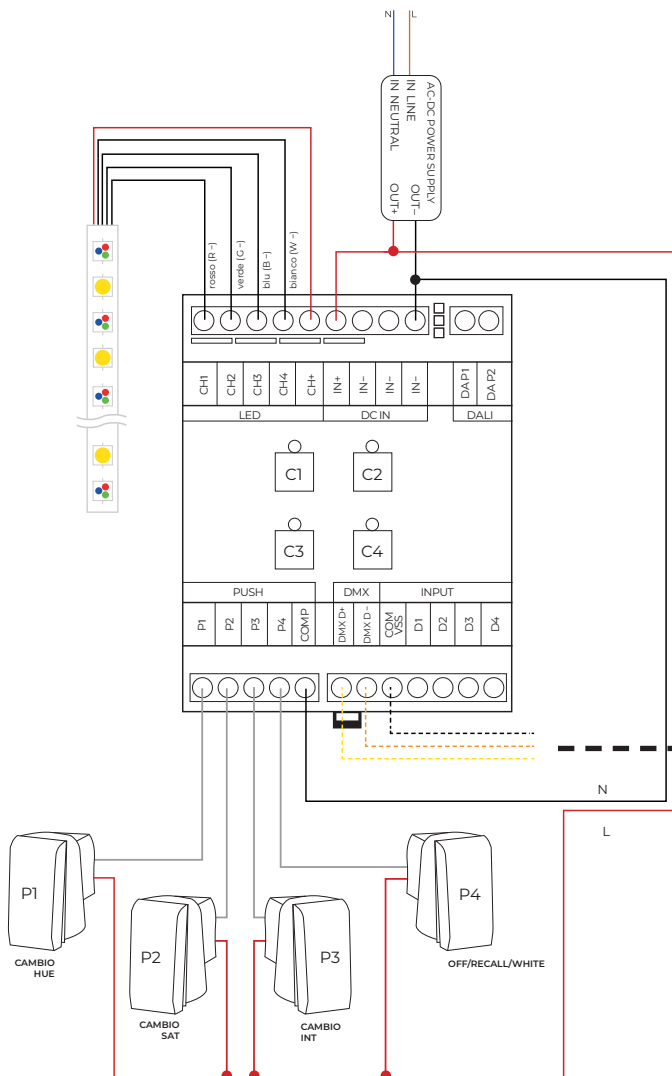
The maximum distance of the dimmer from the buttons per interface must not exceed a total of 20 metres (e.g. P1 at a distance of 3 metres from the dimmer and another button in parallel on input P1 at a distance of 8 metres from the dimmer = 11 metres total distance).

For cable lengths of more than 20 m or in the presence of several control buttons, the use of a supporting normally open monostable relay is recommended (see diagram in Appendix 2).

In the event of a power failure, the dimmer saves the status of the outputs so that the set level is restored when the power is restored.



Warning! When using loads >8A see diagram in Appendix 1.



P1 interface operation

- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum INT-Intensity of output (100%).
- Long Press (prolonged pressure >1sec)
- If the output is in the OFF state, set the INT-Intensity to the minimum value (default = 1%).
- If the output is in the ON state, prolonged pressure allows increasing or decreasing the HUE-tone (colour change).

P2 interface operation

- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum INT-Intensity of output (100%).
- Long Press (prolonged pressure >1sec)
- If the output is in the OFF state, set the INT-Intensity to the minimum value (default = 1%).
- If the output is in the ON state, prolonged pressure allows the SAT-saturation to increase or decrease (rise/fall).

P3 interface operation

- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum INT-Intensity of output (100%).
- Long Press (prolonged pressure >1sec)
- If the output is in the OFF state, set the INT-Intensity to the minimum value (default = 1%).
- If the output is in the ON state, prolonged pressure allows the INT-Intensity to increase or decrease (rise/fall).

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

Fig. 19 - PUSH + BLE connection 1 RGBW static output with push-buttons referred to extra-low voltage

P4 interface operation

- Single Click (rapid pressure <1sec, 5 seconds after last click)
- ON/OFF.
- Single Click Repeat (within 5 seconds of first single click)
- With the output in the ON state, within 5 seconds after the first single click, the output alternates between the following states:

RECALL(*), White and OFF.

- Double Click (rapid pressure <1sec)
- Sets output to maximum INT-Intensity.
- Long Press (prolonged pressure >1sec)
- If the output is in the ON state, prolonged pressure allows increasing or decreasing brightness (up/down).

In this mode, output states are also sent on the DMX512A-RDM bus on fixed channels 1-2-3-4:

Output CH1 → DMX ADDRESS 1

Output CH2 → DMX ADDRESS 2

Output CH3 → DMX ADDRESS 3

Output CH4 → DMX ADDRESS 4

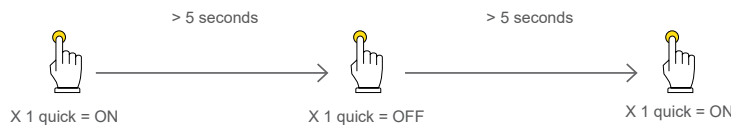
In this mode, the BLE interface is enabled for controlling the output via the App.



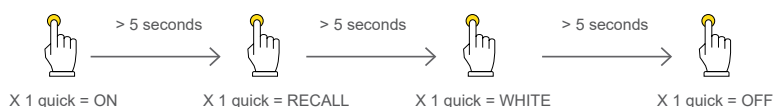
Note. Check that the input and output connection cables are correctly inserted in the terminal carriage and not under the carriage itself. Incorrect insertion of the cable inside the carriage can lead to overheating or malfunctioning.

The P4 button is particularly useful in situations where only one button can be wired.

- Switching on and off is performed by rapid pressure of the P4 button at intervals of more than 5 seconds.

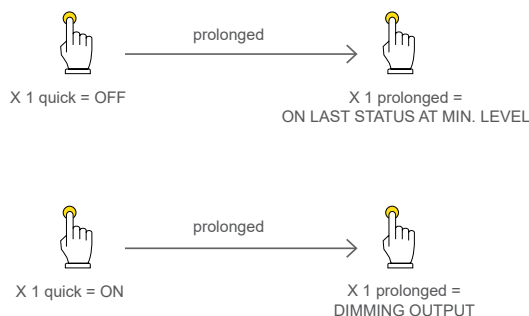


- To cycle the output between RECALL(*), WHITE and OFF, it will be necessary to quickly press the P4 button again within 5 seconds of the first click.



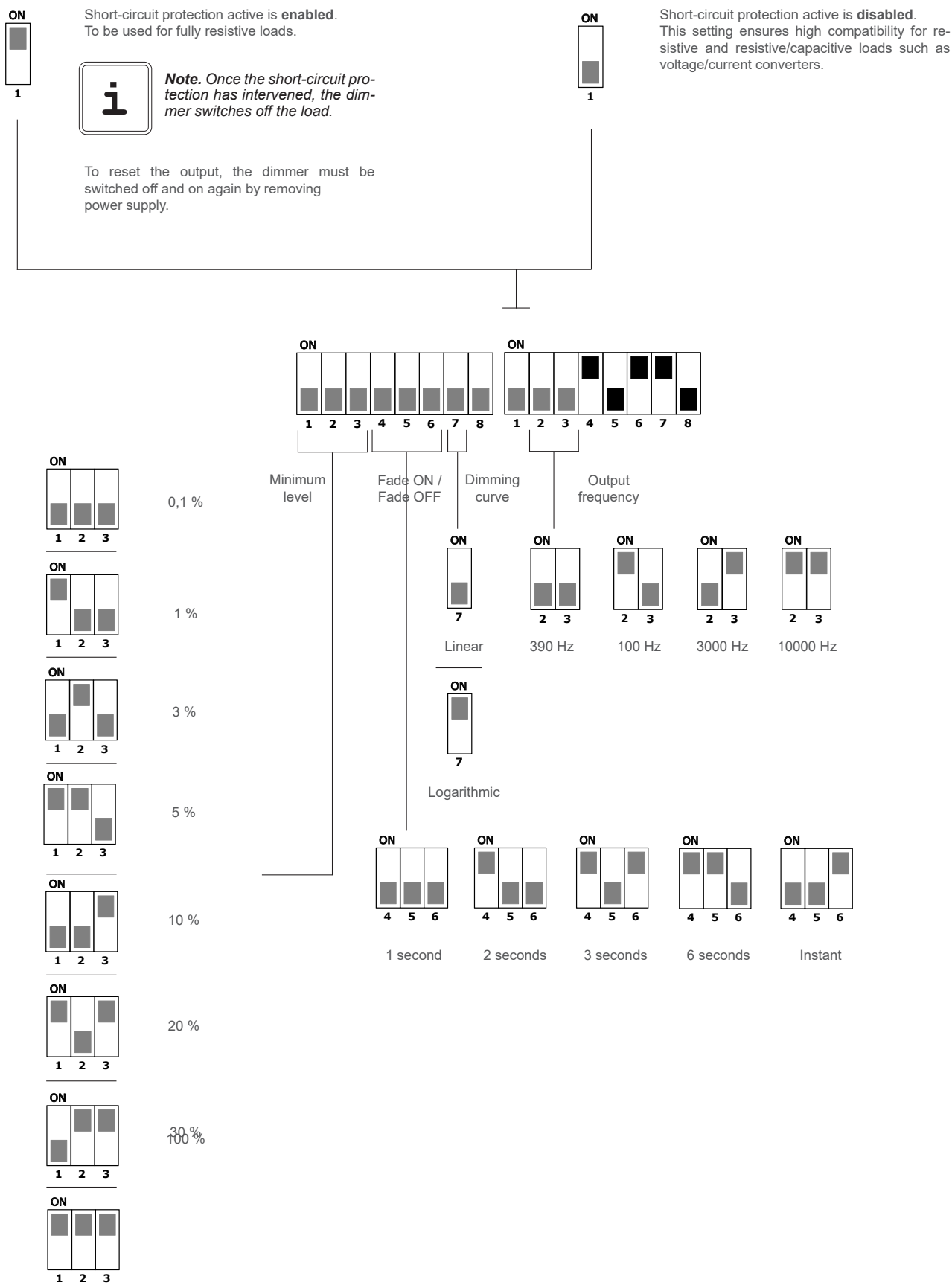
or

- Finally, button P4 can also be used to dim the output (long press) or, with output OFF, to switch the last output state to the minimum brightness level by long press.



(*) RECALL last RGB scene (= last setting given by P1, P2 and P3): this button intelligently controls the output by recalling the colour or WHITE channel and simultaneously switching on, off and dimming.

PUSH + BLE 1 output RGBW static - parameters



ON

1 2 3 4 5 6 7 8

ON

1 2 3 4 5 6 7 8

ON

1 2 3

0,1 %

ON

1 2 3

1 %

ON

1 2 3

3 %

ON

1 2 3

5 %

ON

1 2 3

10 %

ON

1 2 3

20 %

ON

1 2 3

30 %

ON

1 2 3

100 %

Minimum level

Fade ON / Fade OFF

Dimming curve

Output frequency

ON

7

Linear

ON

2 3

390 Hz

ON

2 3

100 Hz

ON

2 3

3000 Hz

ON

2 3

10000 Hz

ON

7

Logarithmic

ON

4 5 6

1 second

ON

4 5 6

2 seconds

ON

4 5 6

3 seconds

ON

4 5 6

6 seconds

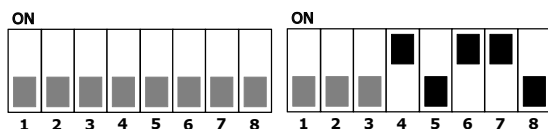
ON

4 5 6

Instant

14. PUSH + BLE 1 output - dynamic RGBW mode

In order to activate this control/operation mode, the dip-switches must be set as shown here.



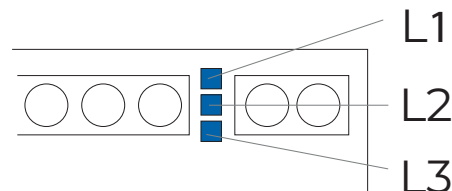
If the configuration is correct, once the dimmer is switched on, LEDs L1, L2 and L3 light up blue.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.



The dimmer must be powered according to the polarity shown in Fig. 20 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged. The outputs must be wired as shown in Fig. 20.

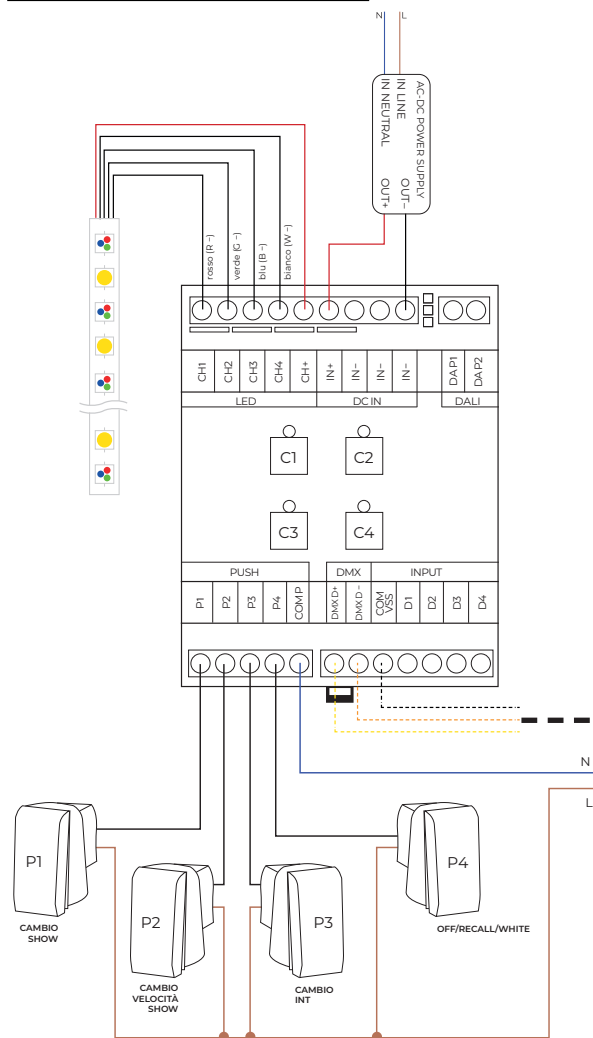
Control via pushbuttons can be done either directly using the mains voltage (110÷230VAC) as in Fig. 20, or the output voltage of the power supply (8÷53VDC), Fig. 19. For the installation of the dimmer in the system, it is preferable to use the diagram shown in Fig. 20.

In this configuration the dimmer guarantees isolation from mains voltage. The input range between the COM P and P1/2/3/4 poles is DC: 10÷265V, AC 12÷265VAC 50÷65Hz.

In this mode:

- The buttons on input P1 change the show.
- The buttons on input P2 vary the speed of the show.
- The buttons on input P3 control the INT (output intensity).
- The buttons on input P4 switch scenes on, off and recall scenes on the dimmer.

Other optional buttons can be connected in parallel to the main buttons.



OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

Individual outputs can handle loads up to 8A.

The maximum current drawn by each PUSH interface is approximately 2mA.

The maximum distance of the dimmer from the buttons per interface must not exceed a total of 20 metres (e.g. P1 at a distance of 3 metres from the dimmer and another button in parallel on input P1 at a distance of 8 metres from the dimmer = 11 metres total distance).

For cable lengths of more than 20 m or in the presence of several control buttons, the use of a supporting normally open monostable relay is recommended (see diagram in Appendix 2).

In the event of a power failure, the dimmer saves the status of the outputs so that the set level is restored when the power is restored.

Fig. 20 - PUSH + BLE connection 1 dynamic RGBW output with buttons referring to L and N

P1 interface operation

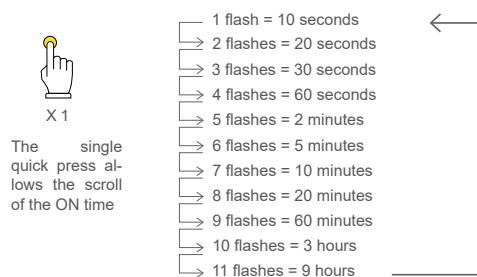
- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum INT-Intensity of output (100%).
- Long Press (prolonged pressure >1sec)
- Alternate shows and fixed colours according to the sequence shown in the table opposite.

P2 interface operation

Only for type 'Show' (see table opposite)

- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum INT-Intensity of output (100%).
- Long Press (prolonged pressure >1sec)
- The duration of the show varies.

Each press corresponds to the number of flashes shown below:



P3 interface operation

- Single Click (rapid pressure <1sec)
- Switches the output on or off (ON/OFF).
- Double Click (rapid pressure <1sec)
- Set maximum INT-Intensity of output (100%).
- Long Press (prolonged pressure >1sec)
- If the output is in the OFF state, set the INT-Intensity to the minimum value (default = 1%).
- If the output is in the ON state, prolonged pressure allows the INT-Intensity to increase or decrease (rise/fall).

P4 interface operation

- Single Click (rapid pressure <1sec, 5 seconds after last click)
- ON/OFF.
- Single Click Repeat (within 5 seconds of first single click)
- With the output in the ON state, within 5 seconds after the first single click, the output alternates between the following states:
RECALL (*), White and OFF.

TYPE	COLOUR
Show	Hue Show
	Colour Dissolve Show
	Colour Cold Dissolve Show
	Colour Hot Dissolve Show
	Red Show
Fixed colour	White
	Warm White
	Cold White
	Red
	Orange
	Tangerine
	Melon
	Yellow
	Lime
	Acid Green
	Green Apple
	Fluo Green
	Green
	Aqua Green
	Caribbean Green
	Sky Blue
	Clear Sky Blue
	Manganese Blue
	Blue
	Iris
	Lavender
	Violet
	Fluo Pink
	Pink
	Shocking Pink
	Dark Pink
	Pale Pink
	Purple

- Double Click (rapid pressure <1sec)
 - Sets output to maximum INT-Intensity.
-
- Long Press (prolonged pressure >1sec)
 - If the output is in the ON state, prolonged pressure allows increasing or decreasing brightness (up/down).
- In this mode, output states are also sent on the DMX512A-



Note. Check that the input and output connection cables are correctly inserted in the terminal carriage and not under the carriage itself. Incorrect insertion of the cable inside the carriage can lead to overheating or malfunctioning.

RDM bus on fixed channels 1-2-3-4:

Output CH1 → DMX ADDRESS 1

Output CH2 → DMX ADDRESS 2

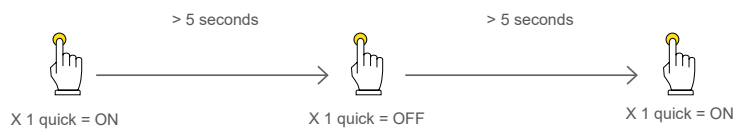
Output CH3 → DMX ADDRESS 3

Output CH4 → DMX ADDRESS 4

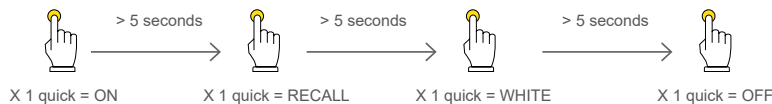
In this mode, the BLE interface is enabled for controlling the output via the App.

The P4 button is particularly useful in situations where only one button can be wired.

- Switching on and off is performed by rapid pressure of the P4 button at intervals of more than 5 seconds.



- To cycle the output between RECALL(*), WHITE and OFF, it will be necessary to quickly press the P4 button again within 5 seconds of the first click.



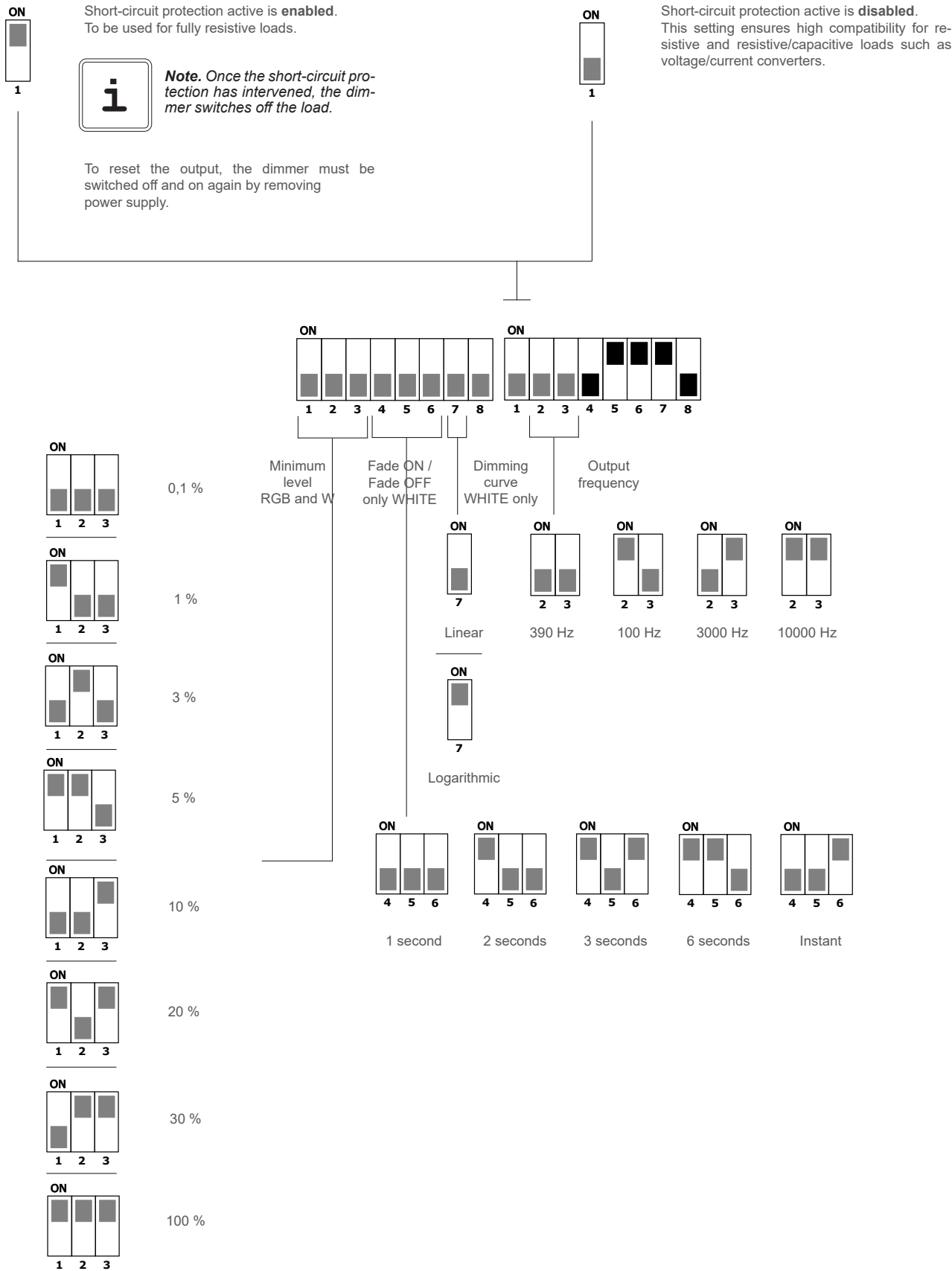
or

- Finally, button P4 can also be used to dim the output (long press) or, with output OFF, to switch the last output state to the minimum brightness level by long press.



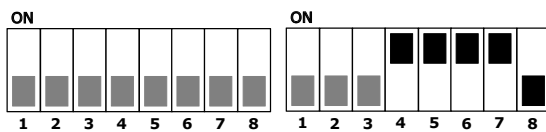
(*) RECALL last RGB scene (= last setting given by P1, P2 and P3): this button intelligently controls the output by recalling the colour or WHITE channel and simultaneously switching on, off and dimming.

PUSH + BLE 1 dynamic RGBW output - parameters



15. 0-10V/1-10V active/passive and linear potentiometer 47Kohm - 1 output mode

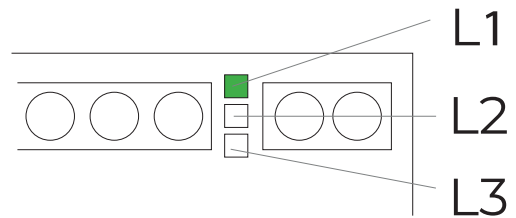
In order to activate this control/operation mode, the dip-switches must be set as shown here.



If the configuration is correct, once the dimmer is switched on, LED L1 lights up green.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.

The dimmer must be powered according to the polarity shown in Fig. 21 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged. The outputs must be wired as shown in Fig. 21.

The control signal from an active or passive 0-10V/1-10V actuator must be connected to the terminals between the COM poles VSS and D1 (optional D2/ D3/ D4) for output control.

The output can handle loads up to 32A.

The maximum current drawn by the dimmer from the single 0-10V/1-10V interface is 0.2 mA.

By default, the dimming curve follows a linear course proportional to the control voltage.

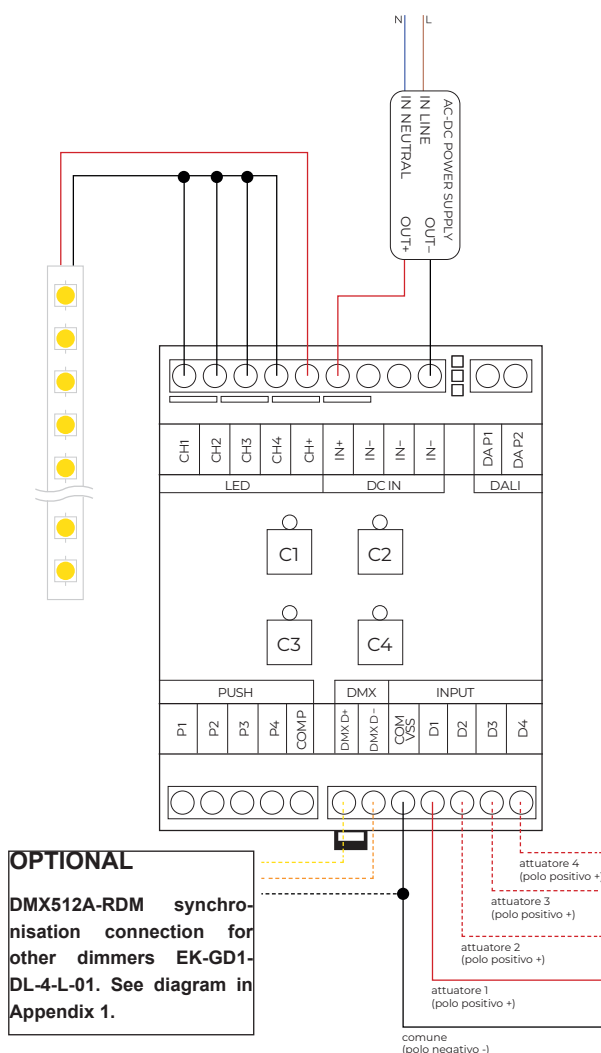
A voltage value below 1V is interpreted as load off.

If the 0-10V/1-10V signal is disconnected, the dimmer sets the output to the maximum level Compliant IEC/ EN60929.

The maximum distance of the dimmer from the 0-10V/1-10V actuator must not exceed 10 m; the use of shielded cables and double SELV isolation from the mains voltage is recommended.



Pay attention to the polarity of the cables, reversal could lead to flashing, malfunction or damage.



OPTIONAL
DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

0-10V/1-10V from ACTIVE or PASSIVE actuator (sinking or sourcing)

Fig. 21 - 0-10V/1-10V active/passive connection - 1 output



The output can handle loads up to 32A.

By default, the dimming curve follows a linear course proportional to the control voltage.

A resistance value of less than 2.5 Kohm is interpreted as load off. The maximum brightness value is reached when the value of 45 Kohm is exceeded.

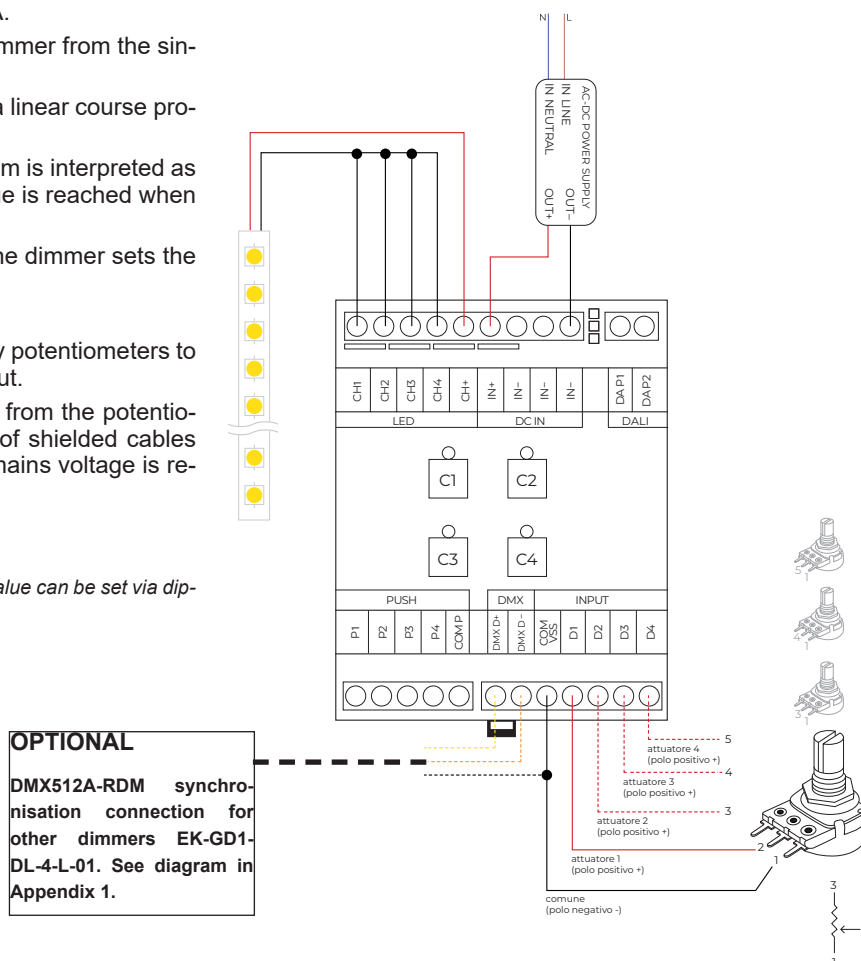
If the potentiometer is disconnected, the dimmer sets the output to maximum brightness.

We recommend the use of good quality potentiometers to avoid flickering or instability of the output.

The maximum distance of the dimmer from the potentiometer must not exceed 2 m; the use of shielded cables and SELV double insulation from the mains voltage is recommended.

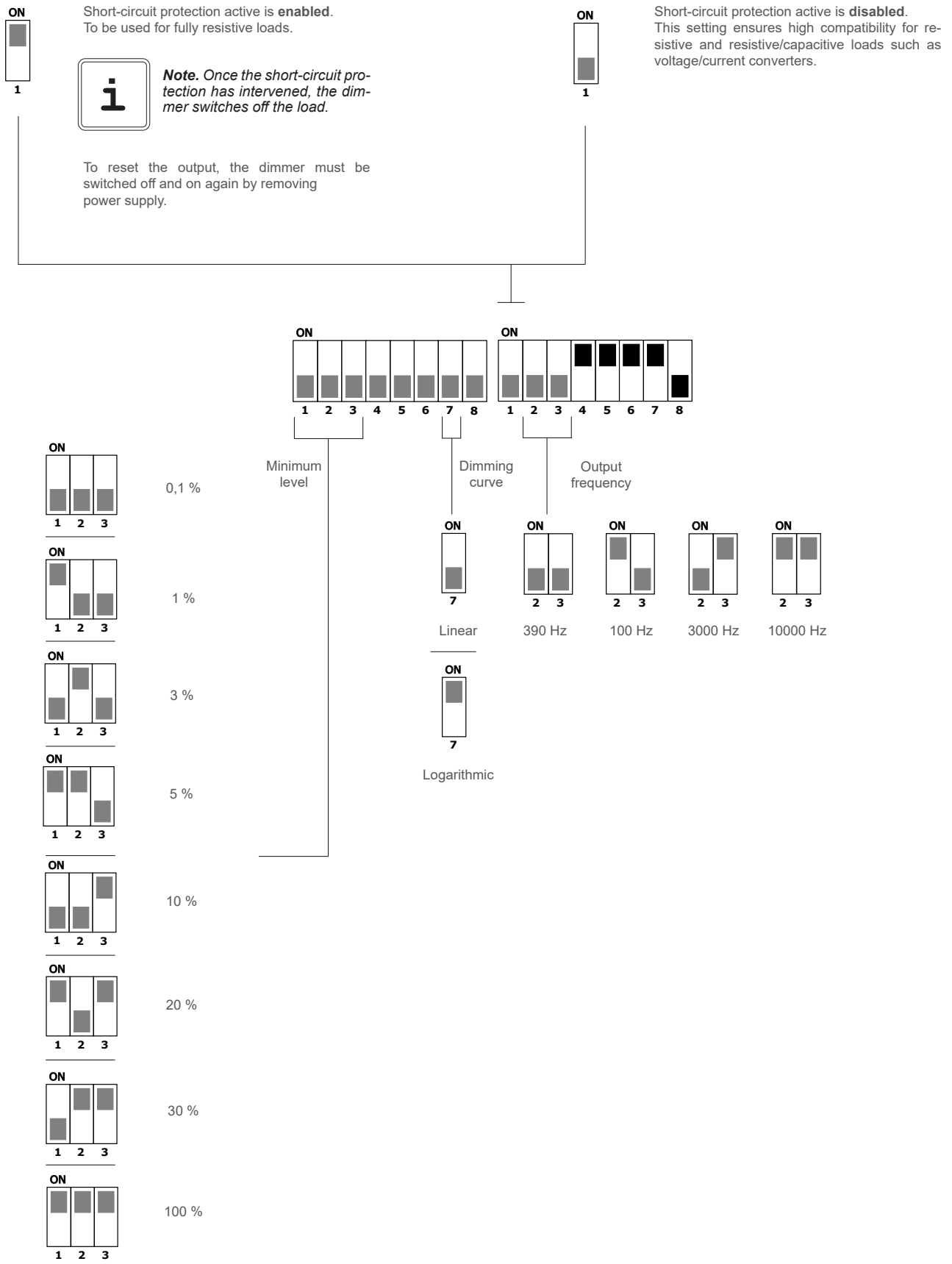


Note. The minimum output value can be set via dip-switch

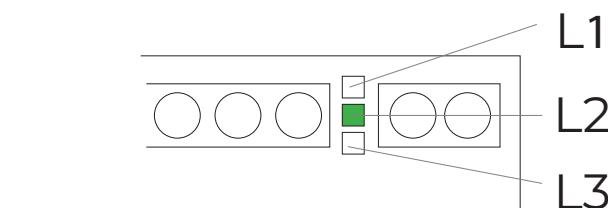
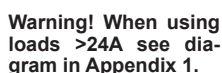
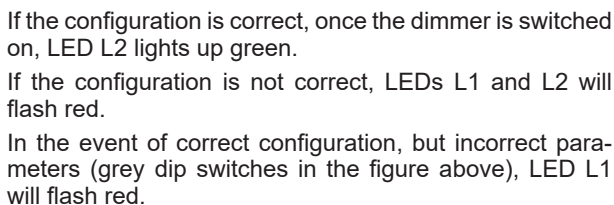


43

0-10V/1-10V active/passive and linear potentiometer 47Kohm - 1 output - parameters



In order to activate this control/operation mode, the dip-switches must be set as shown here.



The dimmer must be powered according to the polarity shown in Fig. 23 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged. The outputs must be wired as shown in Fig. 23.

The control signal from an active or passive 0-10/1-10V actuator must be connected to the terminals between the poles:

- COM VSS and D1 for controlling the CH1 output;
- COM VSS and D2 to control the CH2 output;
- COM VSS and D3 to control the CH3 output;
- COM VSS and D4 for controlling the CH4 output.

Individual outputs can handle loads up to 8A.

The maximum current drawn by the dimmer from the single 0-10V/1-10V interface is 0.2 mA.

By default, the dimming curve follows a linear course proportional to the control voltage.

A voltage value below 1V is interpreted as load off.

If the 0-10V/1-10V signal is disconnected, the dimmer sets the output to the maximum level Compliant IEC/EN60929. The maximum distance of the dimmer from the 0-10/1-10V actuator must not exceed 10m; the use of shielded cables and double SELV isolation from the mains voltage is recommended.

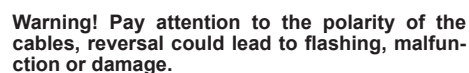


Fig. 23 - 0-10V/1-10V active/passive connection - 4 outputs

The control signal coming from the 47Kohm linear potentiometer must be connected to the terminals between the COM poles VSS and D1 (optional D2/ D3/ D4) for the control of the potentiometer.r control of the output.



Warning! When using loads >24A see diagram in Appendix 1.

The output can handle loads up to 32A.

The maximum current drawn by the dimmer from the single 0-10V/1-10V interface is 0.2 mA.

By default, the dimming curve follows a linear course proportional to the control voltage.

A resistance value of less than 2.5 Kohm is interpreted as load off. The maximum brightness value is reached when the value of 45 Kohm is exceeded.

If the potentiometer is disconnected, the dimmer sets the output to maximum brightness.

The use of good quality potentiometers is recommended to avoid flickering or output instability.

The maximum distance of the dimmer from the potentiometer must not exceed 2 m; the use of shielded cables and SELV double insulation from the mains voltage is recommended.



Note. The minimum output value can be set via dip-switch

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

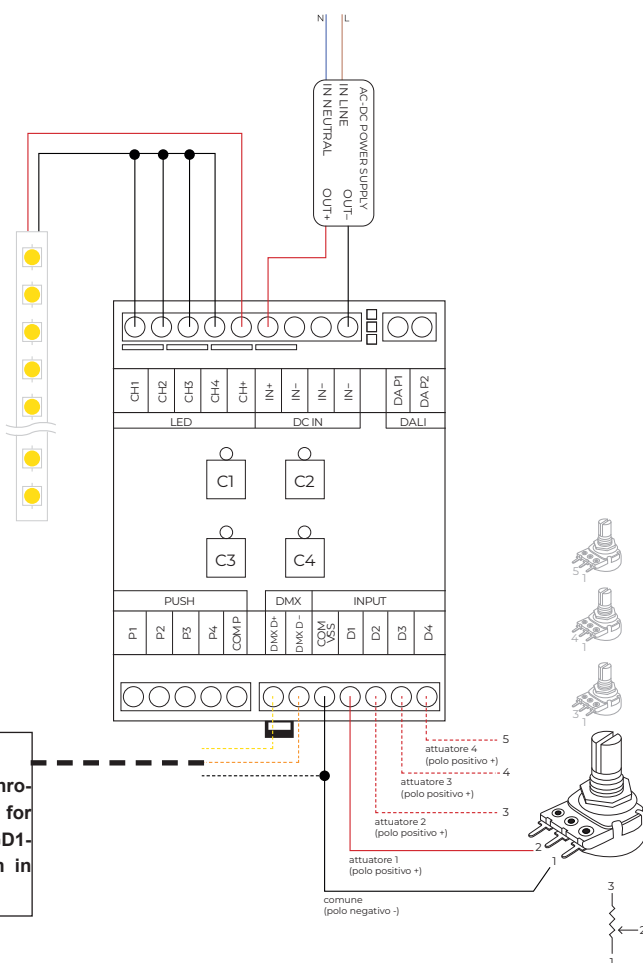
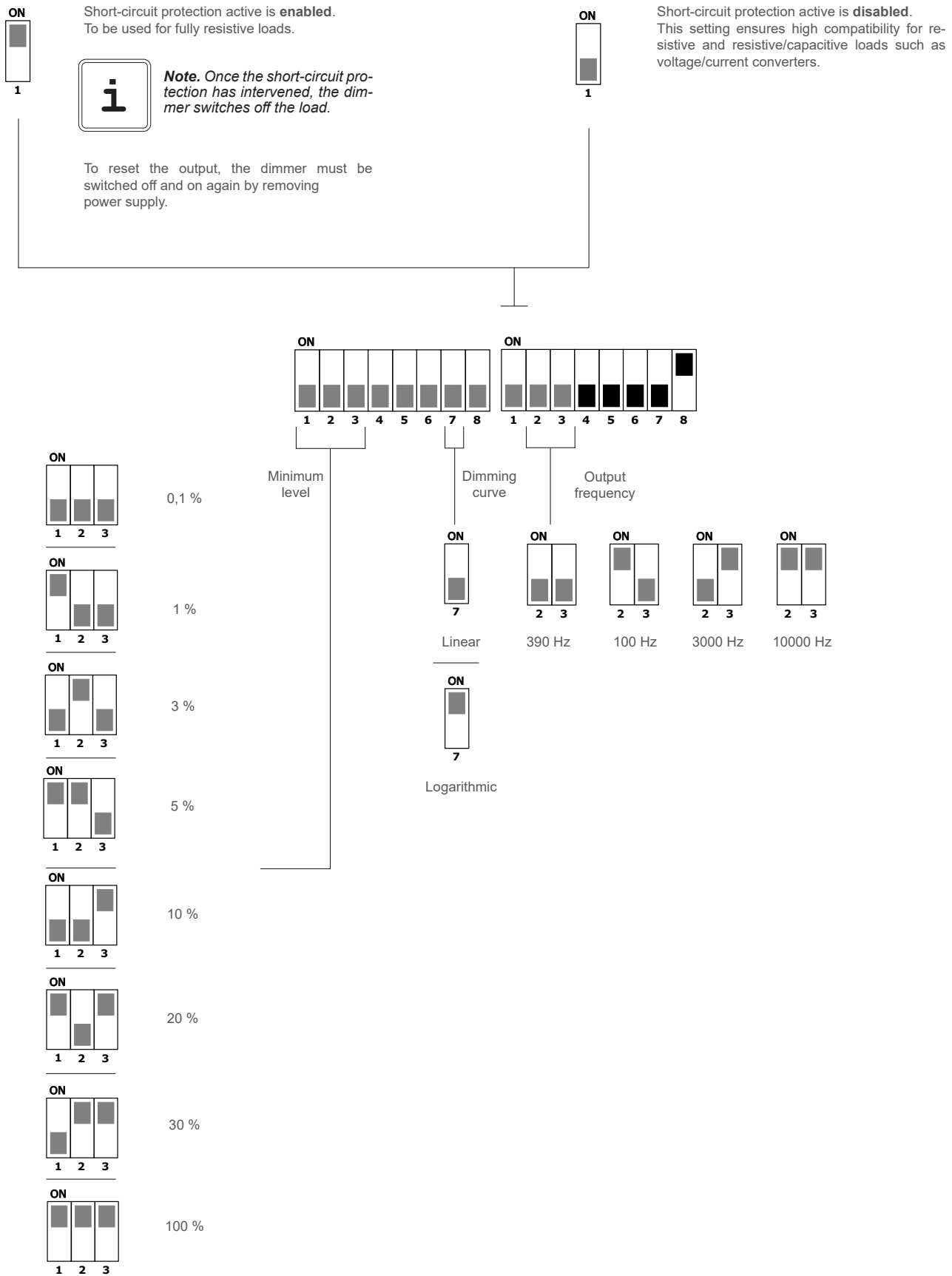


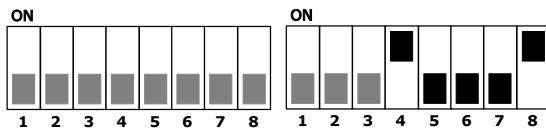
Fig. 24 - Linear potentiometer connection 47Kohm - 4 outputs

0-10V/1-10V active/passive and 47Kohm linear potentiometer - 4 outputs - parameters



17. Phase cutting - 1 output mode

In order to activate this control/operation mode, the dip-switches must be set as shown here.



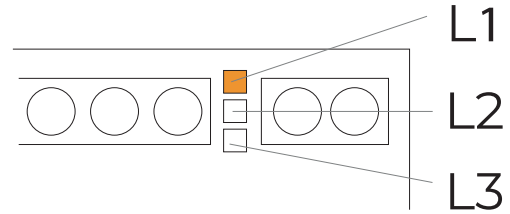
If the configuration is correct, once the dimmer is switched on, LED L1 lights up orange.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.



The dimmer must be powered according to the polarity shown in Fig. 25 via the terminals DC IN+ and DC IN-. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 25.

The output can handle loads up to 32A.

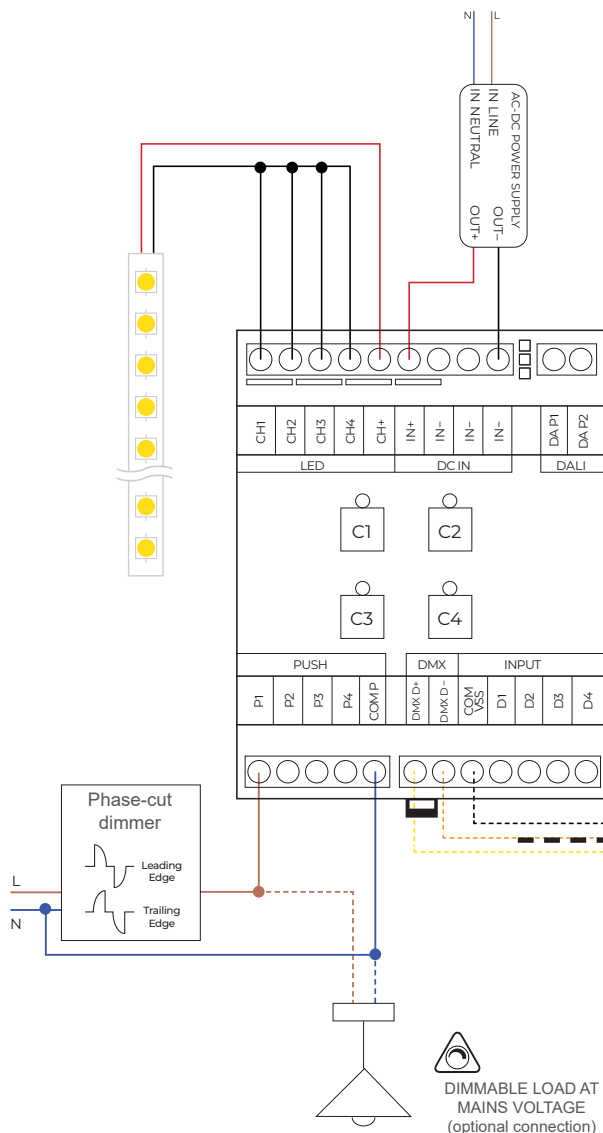
To use the PHASE CUT signal for output control, connect the cut phase (voltage range AC 12÷265Vac 50÷65Hz) from the PHASE CUT dimmer to P1, and the NEUTRAL of the system to COM P.

The control input can operate with phase cut or neutral cut. In the case of cut neutral it will be necessary to bring the system phase directly to COM P and the cut neutral to P1.

The input signal does not require polarisation. The maximum current drawn by the PHASE CUT interface is approx. 2mA.

The picture in Fig. 25 represents the connection diagram with a dimmer equipped with 1 output pole for phase cutting.

The connection of the dimmer must be carried out as if the EK-GD1-TP-4-L-01 itself were a dimmable load at mains voltage.



OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

The interface is capable of working with all types of phase cutting:

- TE: Trailing Edge
- LE: Leading Edge: Ascending Phase
- Hybrid, central, delayed and mixed phase cutting.

Fig. 25 - 1-pole - phase cut connection

Phase cut dimmers that do not handle a minimum current of 2mA may lead to flickering or flickering of the dimmer output. If flickering or flashing occurs, it may be necessary to increase the output load at the phase cut dimmer.

To increase the load, a load resistor can be used and placed at the output of the phase cut dimmer between COM terminal P and P1.

Here are some resistance values and power:

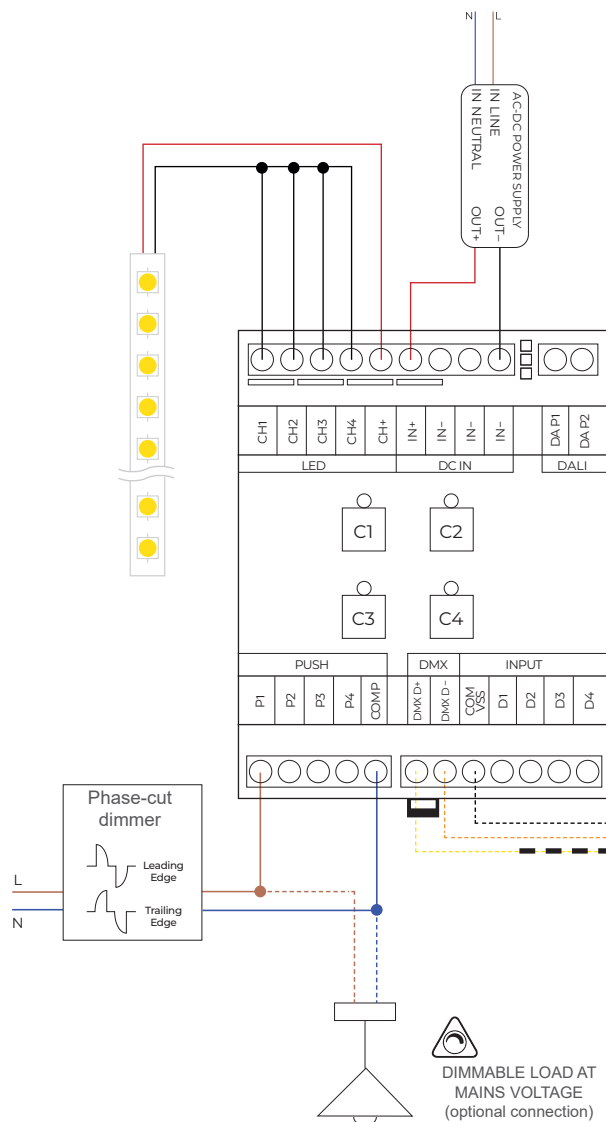


Fig. 26 - 2-pole - phase cut connection

Mains voltage 230V

Resistance value 27K minimum resistor power 3W:

perceived load of the phase cut dimmer at full light 2W

Resistance value 10K minimum resistor power 7W:

perceived load of the phase cut dimmer at full light 5.5W

Resistance value 5K minimum resistor power 15W:

perceived load of the phase cut dimmer at full light 10W

Mains voltage 110V

Resistance value 13K minimum resistor power 3W:

perceived load of the phase cut dimmer at full light 2W

Resistance value 5K minimum resistor power 7W:

perceived load of the phase cut dimmer at full light 5.5W

Resistance value 2.7K minimum resistor power 15W: perceived load of dimmer phase cut at full light 10W



Caution! The resistor used as a dummy load may become hot. Take care not to place it near the dimmer.

For the complete list of compatibilities, please check at pagina 60.

OPTIONAL

DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

Several EK-GD1-DL-4-L-01 per phase cut dimmer can be connected in parallel. The maximum number of EK-GD1-DL-4-L-01 dimmers corresponds to:

PHASE-CUT DIMMER MAXIMUM CURRENT/0.002

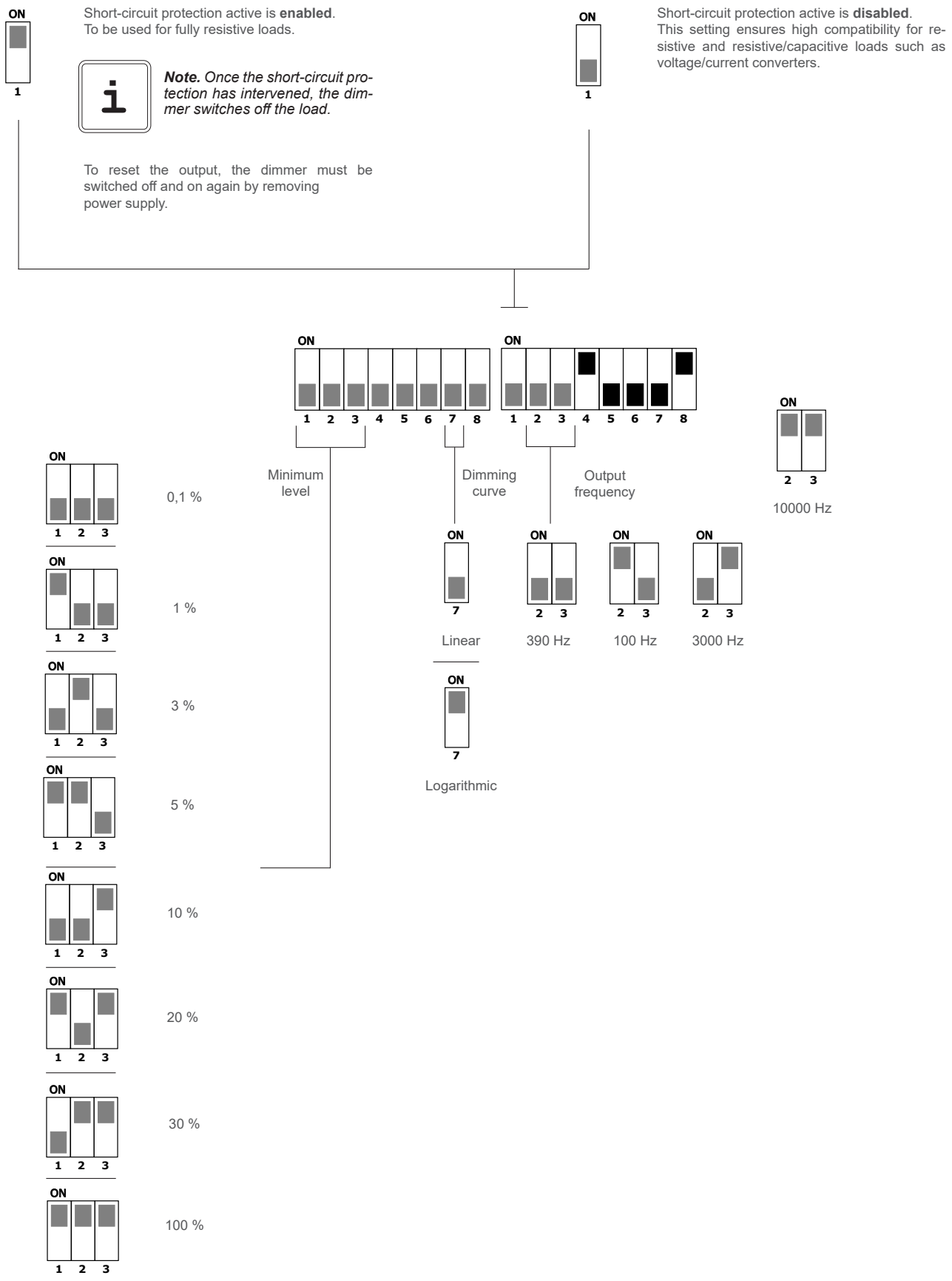
E.g. 0.5A maximum current phase cut dimmer
= 0.5/0.002= 250 maximum dimmers in parallel.



Warning! For operation of the EK-GD1-DL-4-L-01 dimmer with PHASE CUT input, in combination with the connected BTICINO phase cut output dimmers (K4411C, 4411C, L4411C) it is necessary to set the latter in dimmer mode as opposed to the default ON/OFF mode with which they are sold.

See Appendix 2 for more details on the scheme.

Phase cut 1 output - parameters



ON

23

3000 Hz

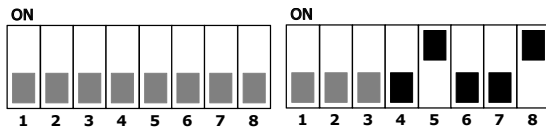
ON

7

Logarithmic

18. Dimming on power failure 1 output

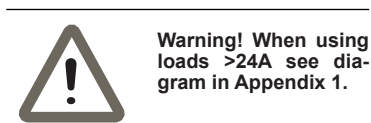
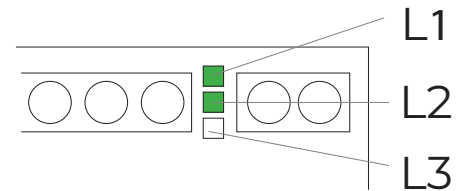
In order to activate this control/operation mode, the dip-switches must be set as shown here.



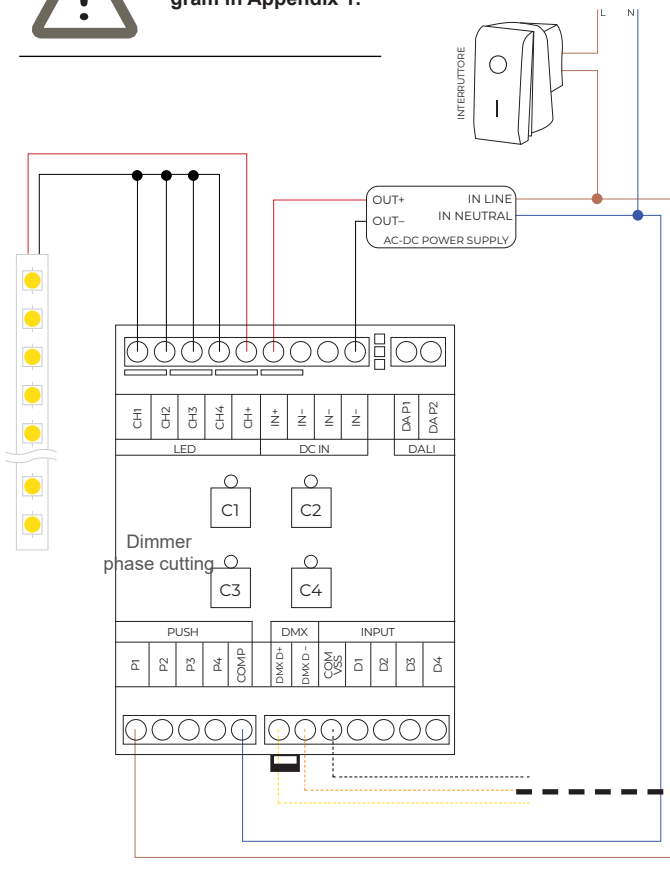
If the configuration is correct, once the dimmer is switched on, LEDs L1 and L2 light up green.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.



The dimmer must be powered according to the polarity shown in Fig. 27 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

The outputs must be wired as shown in Fig. 27.

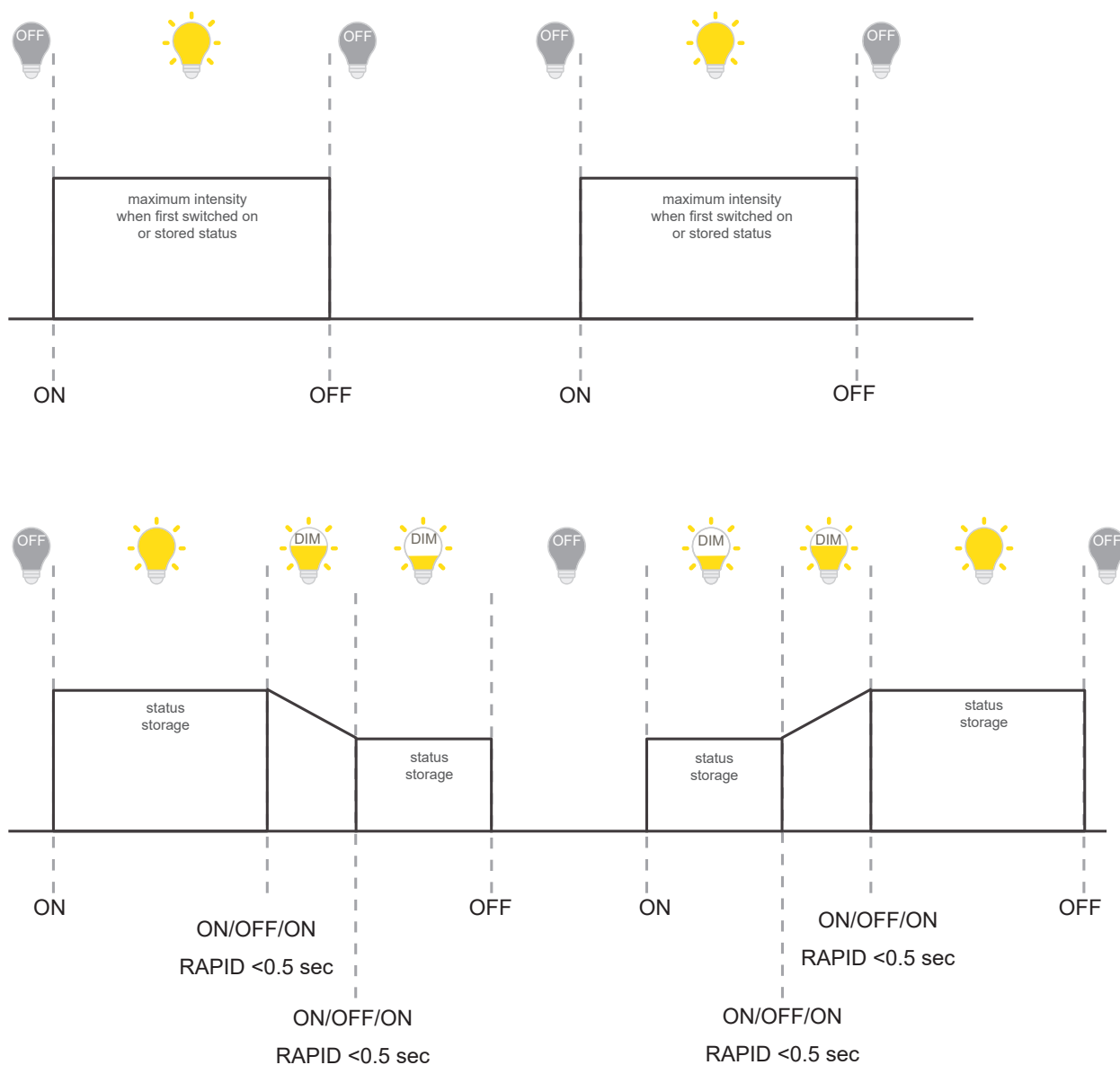
Switch control is achieved by connecting the mains voltage (AC 12+265VAC 50+65Hz) to the COM P and P1 terminals as in Fig. 27.

PHASE or NEUTRAL can be interrupted by a switch, diverter or inverter to switch on, switch off and dim the load connected to the dimmer.

OPTIONAL
DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

Fig. 27 - Dimming connection on power failure - 1 output

The logic with which the load dimming will be performed is shown in the diagram below:



Use the pushbutton to switch on the lights.

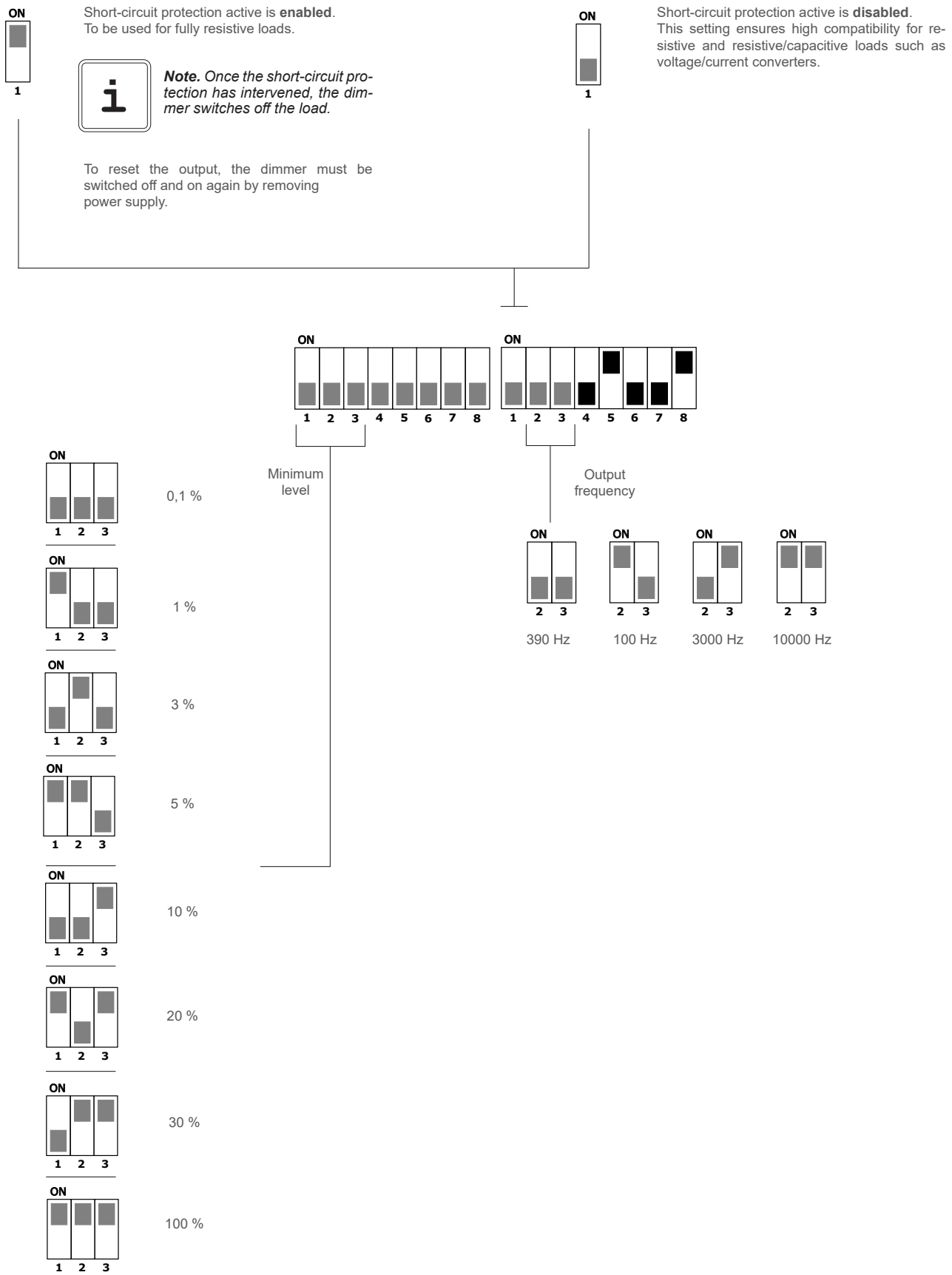
Quickly switch off the lights with the pushbutton and then switch them on again (within a maximum of 0.5 seconds). The brightness will gradually increase.

Press the switch again at the desired brightness to adjust it. The chosen brightness will be stored automatically.

If the switch is not pressed again within 8 seconds, the brightness will reach the maximum level. This level will be stored automatically.

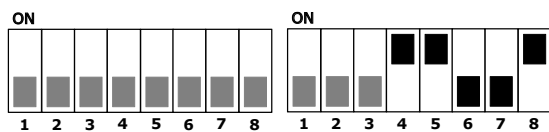
By means of dip-switches, the minimum brightness can be adjusted.

Dimming on power failure 1 output - parameters



19. Timed/Garage Mode 4 outputs mode

In order to activate this control/operation mode, the dip-switches must be set as shown here.



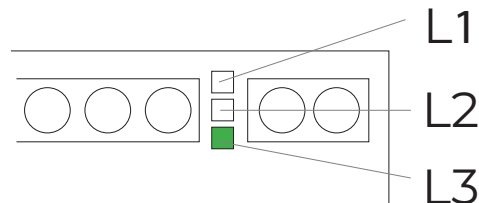
If the configuration is correct, once the dimmer is switched on, LED L3 lights up green.

If the configuration is not correct, LEDs L1 and L2 will flash red.

In the event of correct configuration, but incorrect parameters (grey dip switches in the figure above), LED L1 will flash red.



Warning! When using loads >24A see diagram in Appendix 1.



The dimmer must be powered according to the polarity shown in Fig. 28 via the DC IN+ and DC IN- terminals. If the polarity of the power supply is reversed, the device will not be damaged.

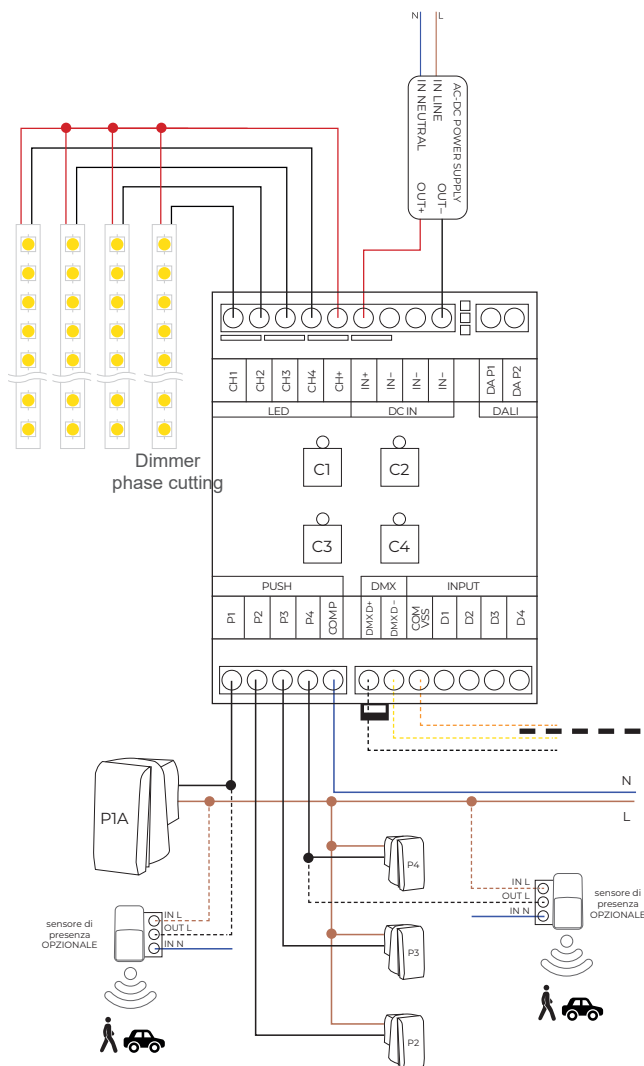
The outputs must be wired as shown in Fig. 28.

Control by means of a switch is achieved by connecting the mains voltage (AC 12÷265VAC 50÷65Hz) to terminals COM P and P1/P2/P3/P4 as in Fig. 28. PHASE or NEUTRAL can be activated via NO push-buttons or presence/passage sensors.

In this mode:

- The buttons/sensors on input P1A control output CH1.
- The buttons/sensors on input P2 control the CH2 output.
- The buttons/sensors on input P3 control output CH3.
- The buttons/sensors on input P4 control output CH4.

In idle state, each individual channel is set to 'minimum brightness' (parameter settable via Dip switches with default = 0).



OPTIONAL
DMX512A-RDM synchronisation connection for other dimmers EK-GD1-DL-4-L-01. See diagram in Appendix 1.

When a contact is closed, on the activation edge, the corresponding channel is switched on at maximum brightness (default = 100 %), which can also be set via the Dip switches. This state is maintained for the switch-on time (settable via the Dip switches). Any other activation edge will reset the switch-on time.

When the set time expires, the brightness returns to the minimum level.

Fig. 28 - Timed/Garage Mode 4-output connection

In this mode, output states are sent also on the DMX512A-RDM bus on fixed channels 1-2-3-4:

Output CH1 → DMX ADDRESS 1

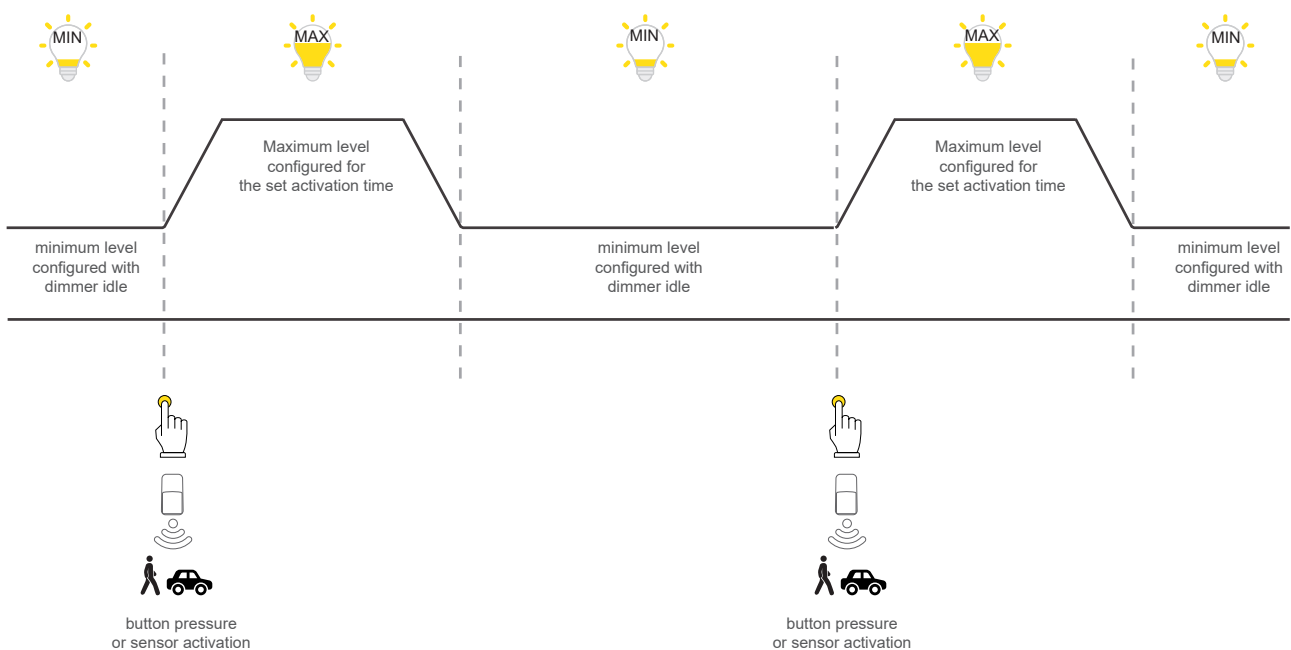
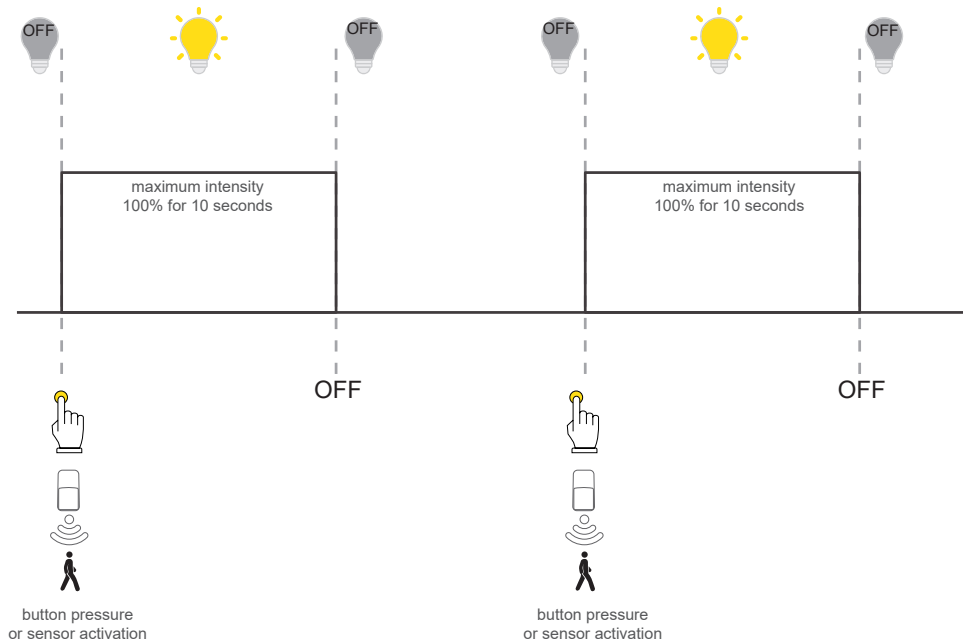
Output CH2 → DMX ADDRESS 2

Output CH3 → DMX ADDRESS 3

Output CH4 → DMX ADDRESS 4

Default parameters:

- minimum 0%
- maximum 100%
- activation time 10 seconds



Timed/Garage Mode 4 outputs - parameters



Short-circuit protection active is **enabled**.
To be used for fully resistive loads.

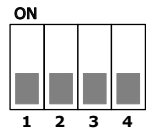


Note. Once the short-circuit protection has intervened, the dimmer switches off the load.

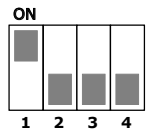
To reset the output, the dimmer must be switched off and on again by removing power supply.



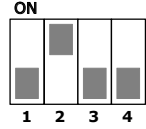
Short-circuit protection active is **disabled**.
This setting ensures high compatibility for resistive and resistive/capacitive loads such as voltage/current converters.



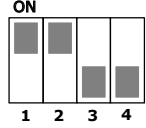
10 seconds



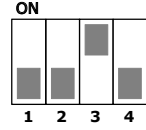
20 seconds



30 seconds



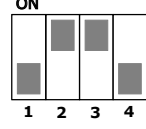
60 seconds



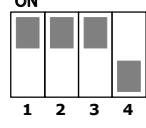
2 minutes



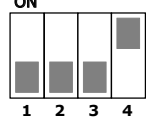
5 minutes



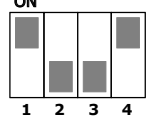
10 minutes



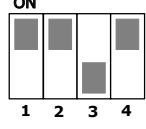
20 minutes



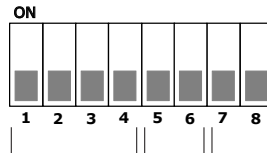
60 minutes



3 hours

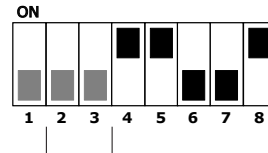


9 hours

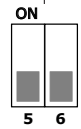


Activation time

Minimum level



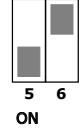
Output frequency



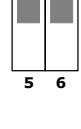
0%



5%



10%



30%



390 Hz



100 Hz



3000 Hz



10000 Hz

Maximum level



100%



90%



80%



70%

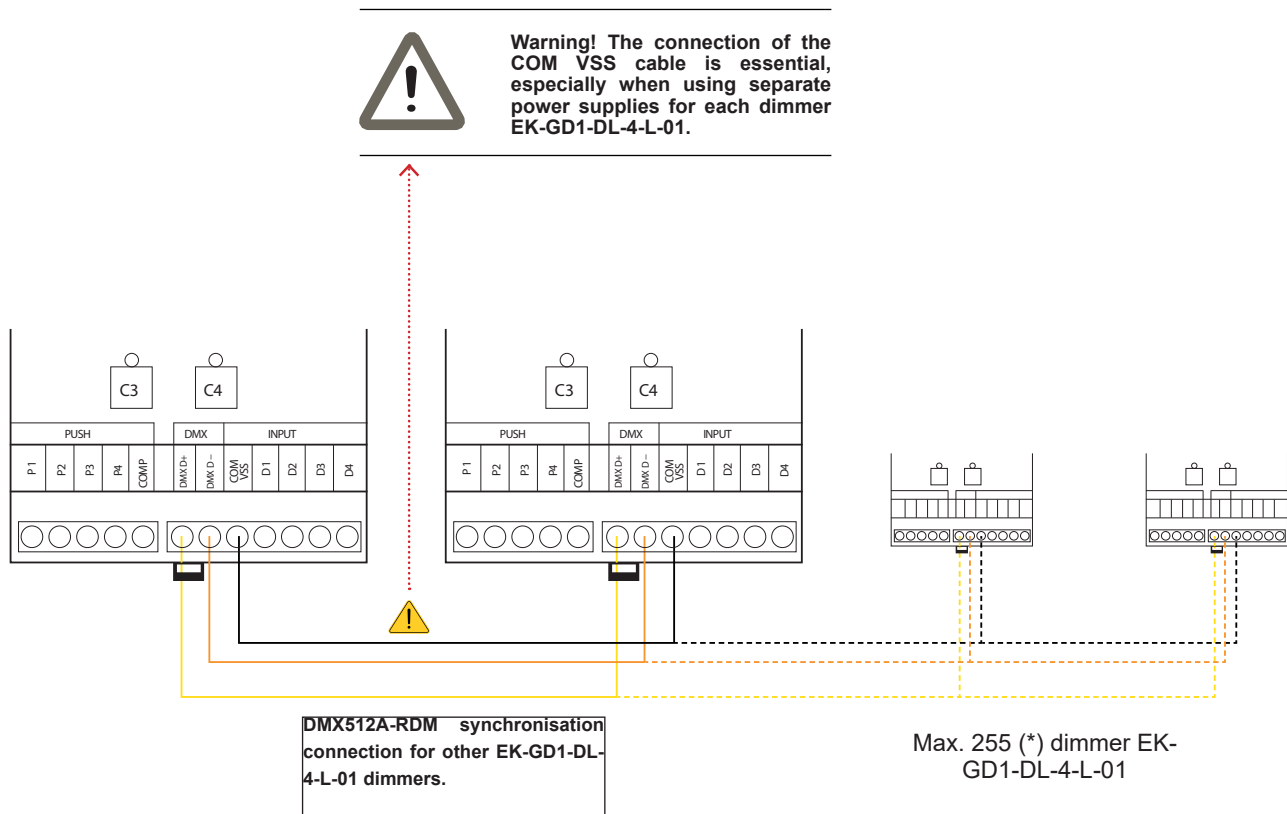
Power supply

The diagram illustrates the wiring for a DALI dimmer system. It includes an AC-DC power supply, a DALI MASTER, a DALI POWER SUPPLY, and an LED strip with various channels and inputs. The power supply is connected to the LED strip and the DALI bus. A warning symbol indicates a connection point for the OUT- output.



Wiring diagram for the DALI version of the LED strip light. The diagram shows the connection of an AC-DC power supply, a DALI MASTER, and a DALI BUS. The power supply is connected to the LED strip's IN+ and IN- terminals. The DALI MASTER is connected to the DALI BUS, which is then connected to the DALI strip's DP1 and DP2 terminals. The LED strip is connected to the DALI strip's CH1, CH2, CH3, CH4, and CH+ terminals. A warning symbol indicates that the power supply must be connected to the correct terminals.

Master/slave



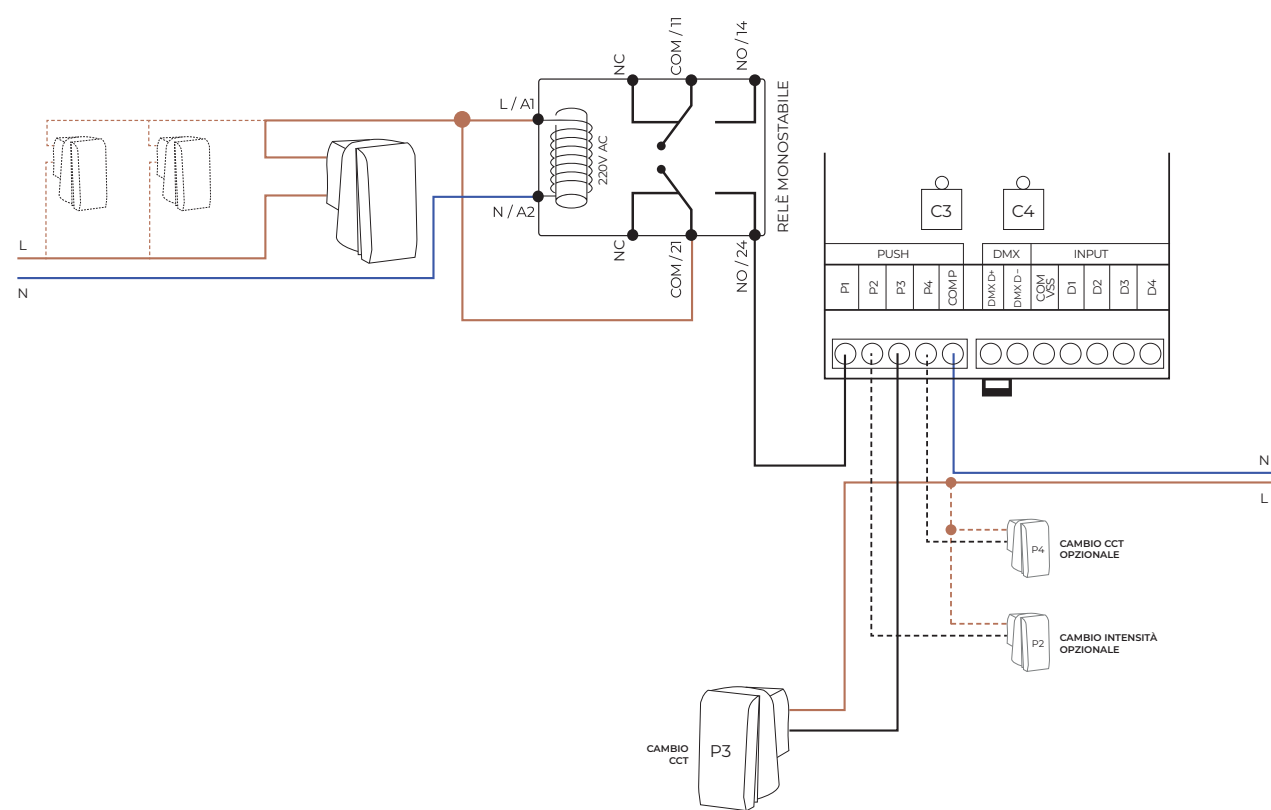
(*) The RS485 driver used for DMX transmission is capable of handling 32 unit-loads.

In DMX slave mode, the RS485 driver has a unit-load of 1/8. The theoretical limit of slaves that can be connected to a single MULTI-4CV-DIN is therefore $32 \times 8 = 255$ slaves + a master.

This limit is theoretical, as the total length of the DMX BUS, the quality of the wiring and the data rate may affect the maximum number of dimmers that can be connected.

It is therefore recommended not to exceed 64 dimmers.

Support relays



Compatibility list
0-10/1-10V

MARK	DEVICE
OSRAM	AA589970035
JUNG	F-6661-51165010
ACTEC	SDF30
LUTRON	DVSTV-XX DVSCSTV-XX DVSTV-453PH-VH DVSTV-453PH-VH-C
TCI	REG1-10V

Compatibility list
Phase cutting

MARK	DEVICE
BTICINO	K4411C 4411C L4411C N4411C NT4411C L4411N* N4411N* NT4411N*
VIMAR	ARKÉ 19595 PLANA 14135* PLANA 14135.1 PLANA 14136.1 PLANA 14139 PLANA 14595 EIKON 20595.0 LINE 30805
NEWLAB	PUSH-230V-AI DALI-230V DALI-230V-500W DALI-230V-1KW
TECNEL	TE7636 TE7637
FINDER	TYPE 15.91
RELCO	RTMOMEGA TO RN 0865*
DALCNET	DAC-230-1CH-DALI DAC230-1CH
ARENALUCI	LC1019ZGSAC-HP
EKINEX	EK-GD1-TP-4-HV EK-GD1-TP-4-HV-N EK-GD2-TP-1-HV EK-GD2-1-HV EK-GD2-DL-1-HV EK-GD1-DL-4-HV
SUNRICHER	SR-ZG9101SAC-HP SR-2303SAC-HP
LEF	KEYDIMECOTC
GEWISS	CHORUSMART GEWGWA1221

*(load added to the output of the phase cut dimmer required).

Compatibility list
Monostable relays

MARK	DEVICE	CONTACT MAPPING
FINDER	40.62.8.230.000 (relays) 40.52.8.230.000 (relays)	COM = 11 / 21 NO = 14 / 24 A1 = L interrupted A2 = N
FINDER	95.65 (relay port)	COM = 11 / 21 NO = 14 / 24 A1 = L interrupted A2 = N
FINDER	26.01.8.230.000 (relays)	COM = 2 NO = 1 A1 = L interrupted A2 = N

Appendix 2 -Supplementary schemes
Wiring compatible products - PHASE CUTTING

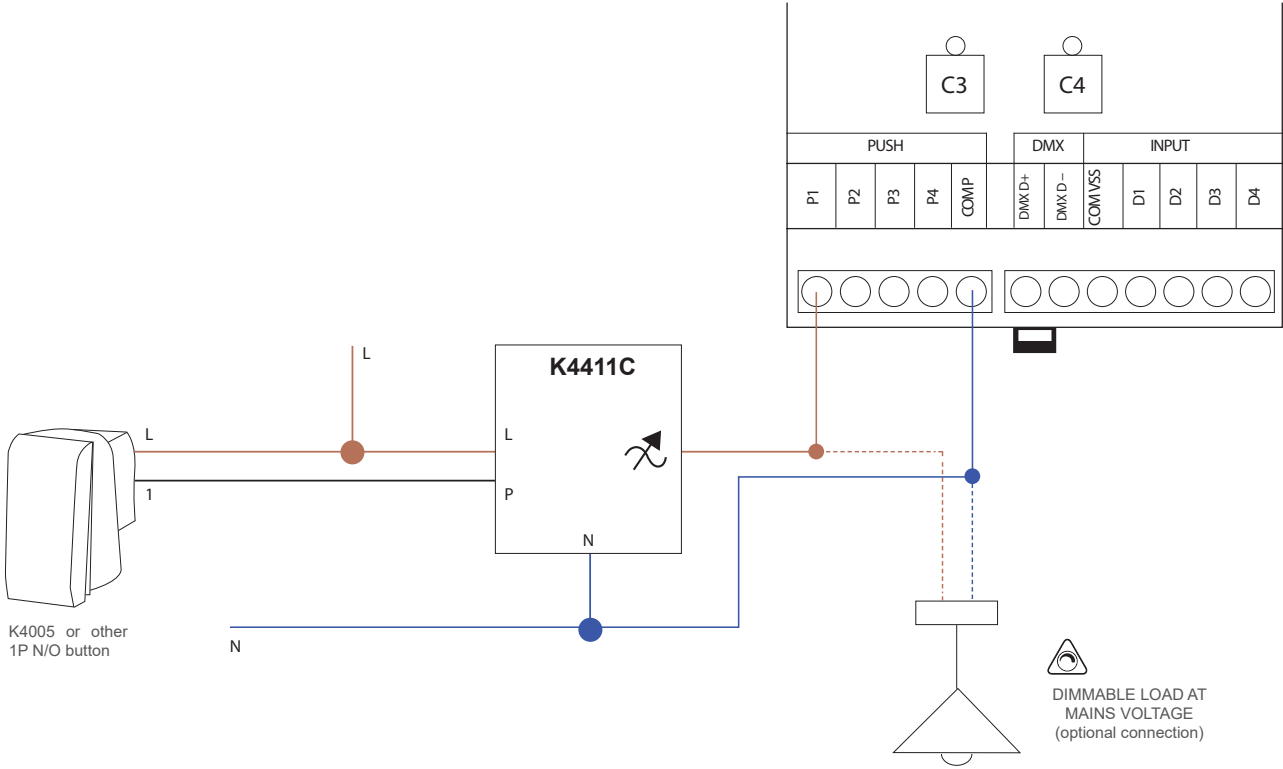


Fig. 29 - Connection CUT PHASE 1 pole cut phase + BTicino K4411C

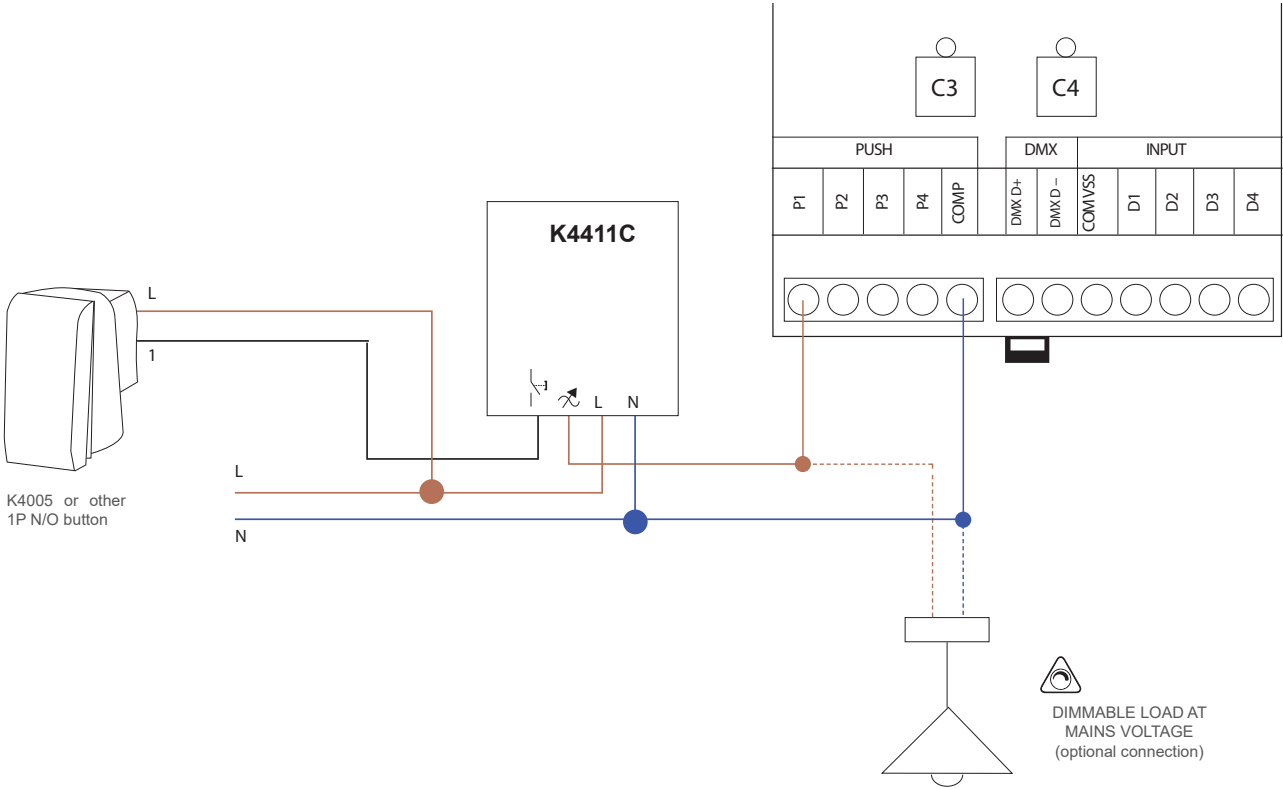


Fig. 30 - Connection CUT PHASE 1 pole cut phase + BTicino K4411C

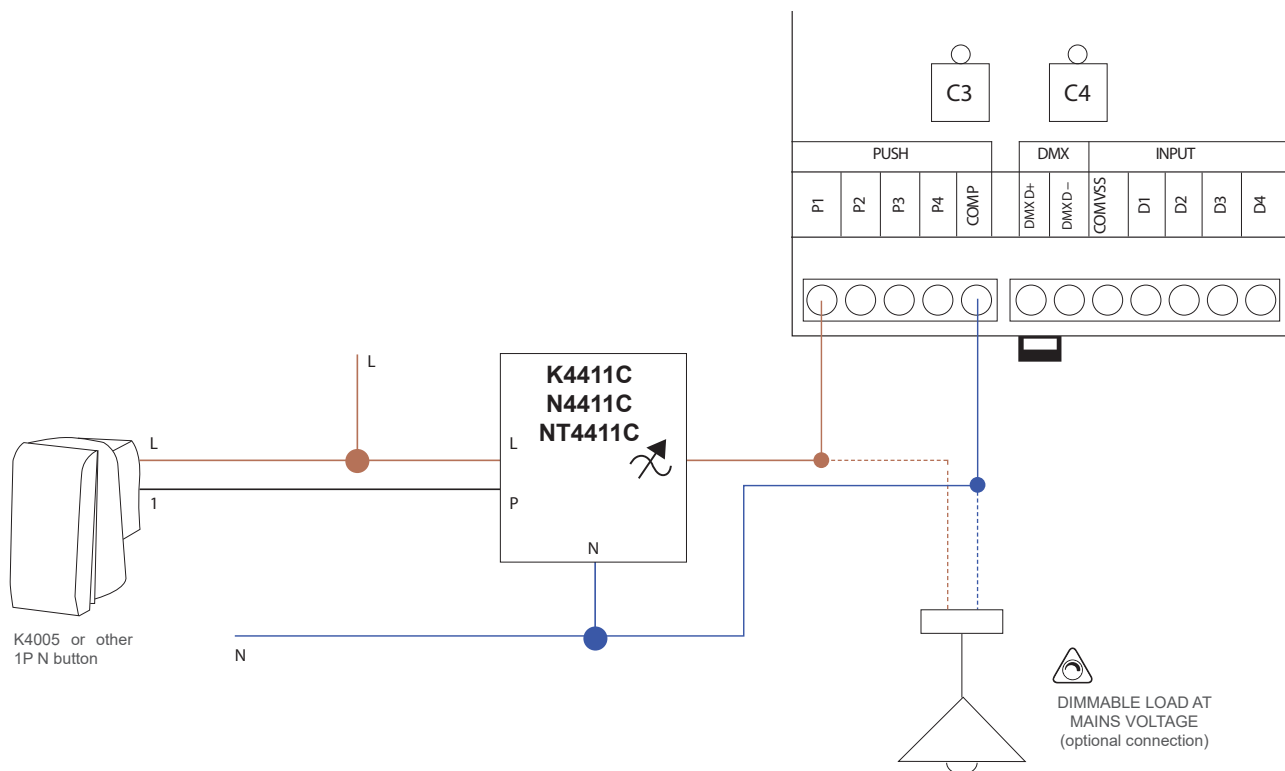


Fig. 31 - Connection CUT PHASE 1 pole cut phase + BTicino L4411C / N4411C / NT4411C

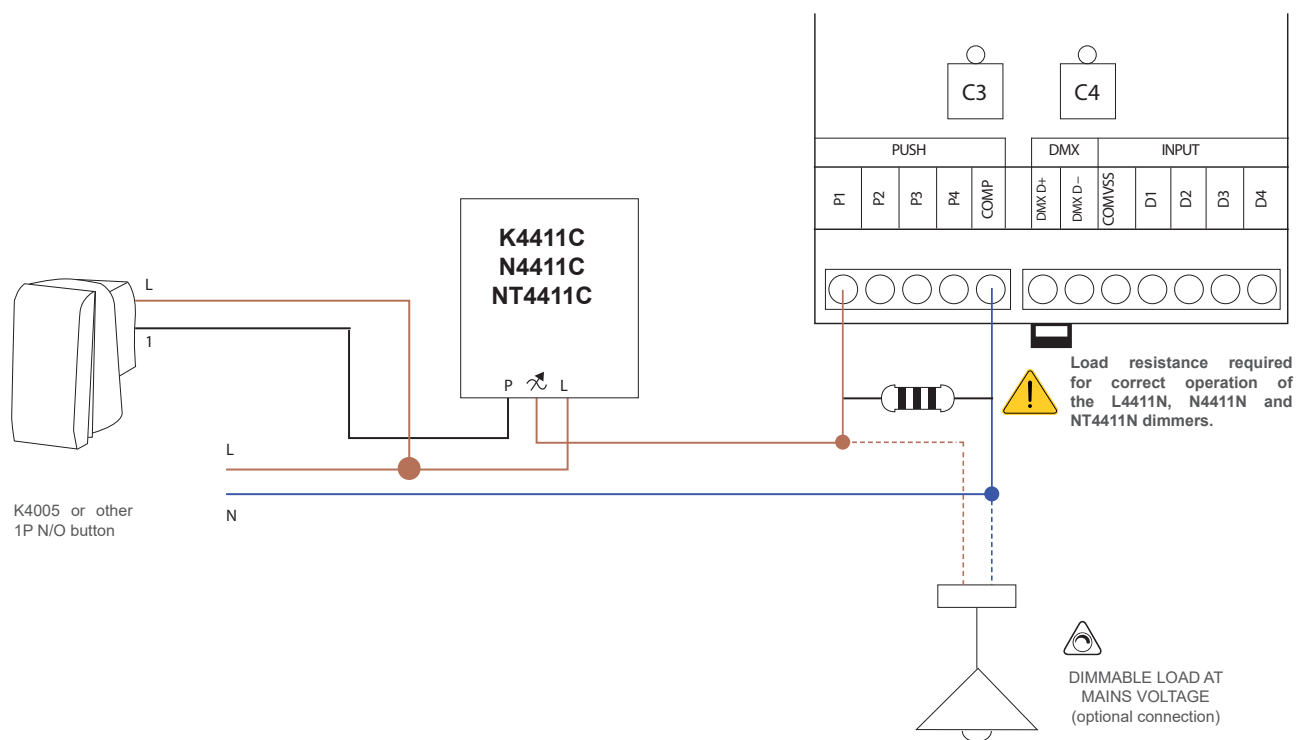
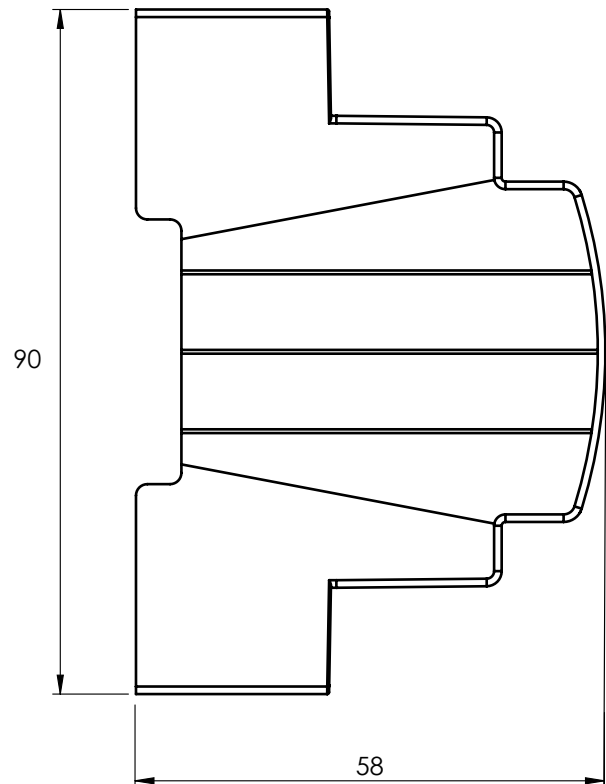
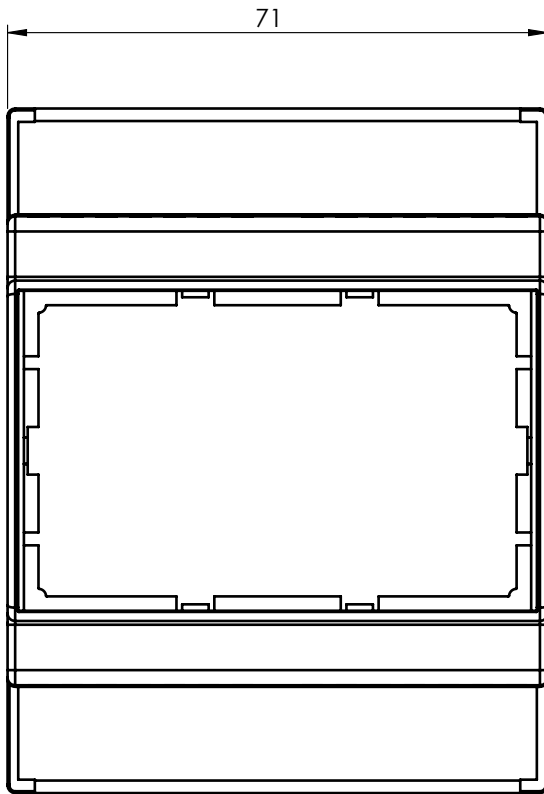


Fig. 32 - Connection CUT PHASE 1 pole phase-cut + Bticino L4411C / N4411C / NT4411C

Dimensions [mm]



Marking

- CE, UKCA: the product complies with the Electromagnetic Compatibility Directive (2014/30/EU), the Low Voltage Directive (2014/35/EU) and the RoHS III Directive (2011/65/EU).
- Reference standards: EN 61347-1:2015, EN 61347-2-13, EN 55015:2013+A1:2015, EN 61547:2009, EN 50581:2012, IEC/EN 62386-101/102/207 Ed. 2 (DT6) and 209 Ed. 2 (DT8), IEC/EN 60929-E.2.1.

References

- IEC/EN 61347-1:2015 Lamp controlgear - Part 1: General and safety requirements
- IEC/EN 61347-2-13 Controlgear for electric light sources - Safety - Part 2-13: Particular requirements - Electronic controlgear for LED light sources
- EN 55015:2013+A1:2015 Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
- EN 61547:2009 Equipment for general lighting purposes - EMC immunity requirements
- EN 50581:2012 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
- IEC/EN 62386-101 Ed. 2 - Digital addressable lighting interface, General requirements - System
- IEC/EN 62386-102 Ed. 2 - Digital addressable lighting interface, General requirements - Control gear

- IEC/EN 62386-207 Ed. 2 - Digital addressable lighting interface, Particular requirements for control gear - LED modules (device type 6).
- IEC 60929 Ed.2.1 - Control interface for controllable ballasts - control by DC voltage - functional specification

Maintenance

The device is maintenance-free. Use a dry cloth for cleaning. Solvents or other aggressive substances must not be used.

Disposal



The product described in this data sheet at the end of its useful life is classified as waste from electronic equipment according to the European Directive 2012/19/EU (WEEE recast), implemented in Italy by no. 49 of 14 March 2014, and cannot be disposed of as undifferentiated municipal solid waste



Warning! Improper disposal of the product may cause serious damage to the environment and human health. For proper disposal, please inform yourself about the collection and treatment methods prescribed by your local authorities.

Document

This data sheet refers to ekinex release A1.0® code EK-GD1-DL-4-L-01 and is available for download at www.ekinex.com in PDF (Portable Data Format).

File name	Release device	Update
STEKGD1DL4L01_EN_v.1.0.pdf	A1.0	02 / 2026

Warnings

- The assembly, electrical connection, configuration and commissioning of the device may only be performed by qualified personnel in compliance with the applicable technical standards and laws in force in the respective countries
- Opening the device housing results in immediate termination of the warranty period
- In the event of tampering, compliance with the essential requirements of the applicable directives for which the appliance has been certified is no longer guaranteed
- ekinex devices® defective items must be returned to the manufacturer at the following address: ekinex® S.p.A. Via Novara 37, I-28010 Vaprio d'Agogna (NO)

Other useful information

- The instruction sheet must be handed over to the end customer together with the project documentation
- For more information on the product, please contact ekinex Technical Support® to the e-mail address: support@ekinex.com or consult the website www.ekinex.com
- Each ekinex device® has a unique serial number on the label. The serial number can be used by installers and system integrators for documentation purposes and should be added to any communication addressed to ekinex technical support® in the event of device malfunction
- DALI, DALI-2 and their logos are registered trademarks of the Digital Illumination Interface Alliance (DiiA).

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