

Code: KIT0011  
Collection: Moonflower  
Version: 00 Date:  
Brand: Ma&De

**linea**  
**light**  
group

Istruzioni per l'installazione  
Installation instructions  
Instrucciones para la instalaci3n  
Instructions pour l'installation  
Installationsanleitung

ATTENZIONE: la sicurezza dell'apparecchio è garantita solo con l'uso appropriato delle seguenti istruzioni; pertanto è necessario conservarle.

WARNING: to ensure safe operation of this fixture be sure to follow all these instructions. Keep these instructions in a safe place for future reference.

ATENCION: la seguridad del aparato se garantiza solo cumpliendo cuidadosamente las siguientes instrucciones; por ello, es necesario conservarlas.

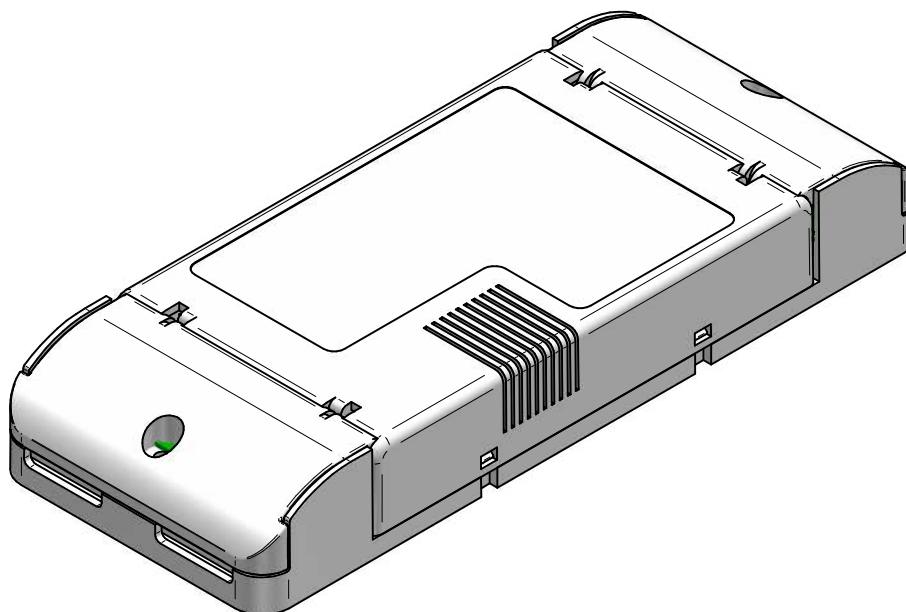
ATTENTION: la securite de l'appareil n'est garantie qu'en cas d'utilisation correcte des instructions suivantes; il faut par consequent les conserver.

ACHTUNG: die sicherheit des gerates wird nur durch sachgemasse befolgung nachstehender anweisungen gewahrleistet; ihre aufbewahrung ist deshalb sehr wichtig.

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## 1. INTRODUCTION

The purpose of this document is to illustrate the technical solution that has been studied for the management and control of the "Moonflower" project lighting scenes. The control unit can be used to manage 6 RGB channels (2R+2G+2B) through NO pushbuttons or DMX master. The internal software has been designed so that the output power of the RGB channels is balanced and does not exceed the max. current allowed by the LED module. Apart from ensuring the long life of the LED, this allows the level of brightness emitted by the module to be kept constant.

## BOARD INPUTS AND OUTPUTS

### INPUTS (11):

- Power supply input
- Input 485 (master)
- GND (earth connection of power supply)
- N.O. pushbutton 1 input (on/off/dim/time selection)
- N.O. pushbutton 2 input (pattern selection/fixed colour selection)

### INTERNAL PUSHBUTTONS:

- Pushbutton to define address/configuration

### OUTPUTS (8):

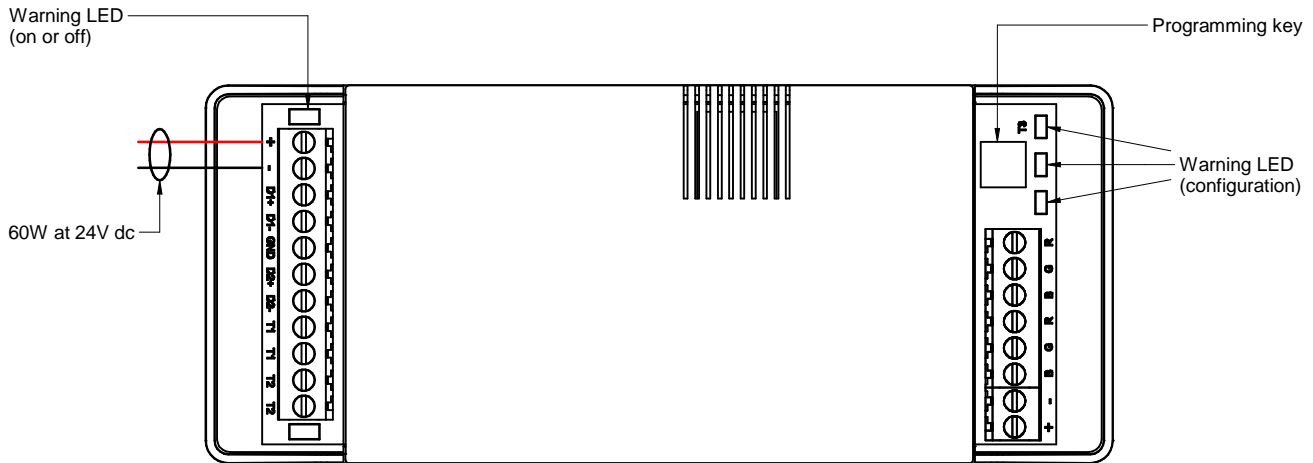
- 6 PWM channels
- Power supply outlets

## 2. SPECIFICATIONS

- Programming key (on the board)
- Warning LED (on the board)
- 2 RS 485 serials (1 standard plus one optional)
- 2 N.O. inputs
- Input: 24Vdc
- Input protection against polarity reversal
- Output: 24Vdc maximum 2.5A (60W at 24Vdc)
- 6 PWM channels @ 270Hz, 2.5 Ampere each (60W at 24Vdc)
- Channel control: PWM @ 270 Hz with output balanced on the RGB channels
- Working temperature: Tc= 55°C
- Protection rating IP40
- Maximum number of Linea Light slave control units connected in cascade: 5 pieces
- Maximum length of cables from N.O. pushbutton to control unit: 10 metres
- Maximum number of DMX slave control units connected in cascade: 32 pieces
- Possibility of unbalanced distribution of the load between the two channels
- Possibility of leaving one channel with no load
- Max. length of the DC line: see table below "Constant voltage drivers"

Section of 24V distribution cable	100W Zones (4A/mm <sup>2</sup> )	50W Zones (2A/mm <sup>2</sup> )
1 mm <sup>2</sup>	12,5 m	25 m
2,5 mm <sup>2</sup>	30 m	60 m
6 mm <sup>2</sup>	70 m	150 m

- Maximum length of the DMX line: 250 metres of primary line and 5 metres of secondary line
- Maximum length of the cables from master control unit to slave control unit: 250 metres
- Maximum length of the cables from slave control unit to slave control unit: 5 metres
- Maximum length of the cables from control unit to spotlight: 5 metres



### 3. FUNCTIONAL FEATURES

- Light control (on, adjustment, off) with NO pushbutton
  - Scene management (20+1) and times (4 modes) through NO pushbutton
- Possibility of using different drivers for different groups of spotlights but with the same control unit.  
 The only precaution is to ensure there is a common earth between the drivers:
- DRIVER + CONTROL UNIT for the first group of spotlights
  - DRIVER for the second group of spotlights
  - Common earth between the two groups of spotlights

Operating in DMX mode, a maximum of 32 control units can be connected in cascade, taking care not to create neutral-point connections, which would cause signal errors, but a backbone system from the first to the last spotlight with all the intermediate control units hung in parallel without passing from one to another. In this case termination resistances (approx. 120 ohm) are inserted on the first and the last control unit of the series to keep the PWM signal clean (square wave).

A booster will be needed to amplify the signal if more than 32 control units are to be installed.

The control unit is fitted with a programming key and warning LEDs to enable the following procedures to be carried out:


















- control unit CONFIGURATION
- assigned address VERIFICATION
- new address assignment

### 4. MAXIMUM QUANTITY OF ITEMS 7760 IN RELATION TO THE DRIVERS

Driver code	Number of items 7760 that can be installed
KIT0018	10
KIT0019	20
KIT0020	70
KIT0021	160

## SETTINGS USING THE EXTERNAL PUSHBUTTONS

- In mode A) and C) master:
- With PUSHBUTTON 1:
  - ON (press when off)
  - OFF (press when on)
  - DIMMING THE POWER (press and hold when on)
  - COLOUR CYCLE TIMES (press within 5 seconds)
- With PUSHBUTTON 2:
  - SELECTION OF PATTERN (press and release button repeatedly for less than 3 seconds to see the corresponding colour on the wall according to the following chart):




Programme No.	CH1 colours	CH2 colours	Effect		
1	White	White	Fixed scene		
2	Red	Yellow	Fixed scene		
3	Red	Green	Fixed scene		
4	Red	Blue	Fixed scene		
5	Red	Violet	Fixed scene		
6	Red	White	Fixed scene		
7	Yellow	Green	Fixed scene		
8	Yellow	Blue	Fixed scene		
9	Yellow	Violet	Fixed scene		
10	Yellow	White	Fixed scene		
11	Green	Blue	Fixed scene		
12	Green	Violet	Fixed scene		
13	Green	White	Fixed scene		
14	Blue	Violet	Fixed scene		
15	Blue	White	Fixed scene		
16	Violet	White	Fixed scene		
17	White - Red - Yellow - Off	White - Red - Yellow - Off	Dynamic scene		
18	White - Blue - Green - Off	White - Blue - Green - Off	Dynamic scene		
19	Yellow - Red - Violet	Yellow - Red - Violet	Dynamic scene		
20	Blue - Green - White	Blue - Green - White	Dynamic scene		
21	RGB	RGB	Fading scene		

The control unit will begin the pattern after 5 seconds.

If key 1 is pressed within these 5 seconds, the pattern is confirmed and the pattern time is selected as follows: press and release the pushbutton repeatedly (for less than 3 seconds) until the corresponding colour can be seen on the wall in accordance with the chart shown below.

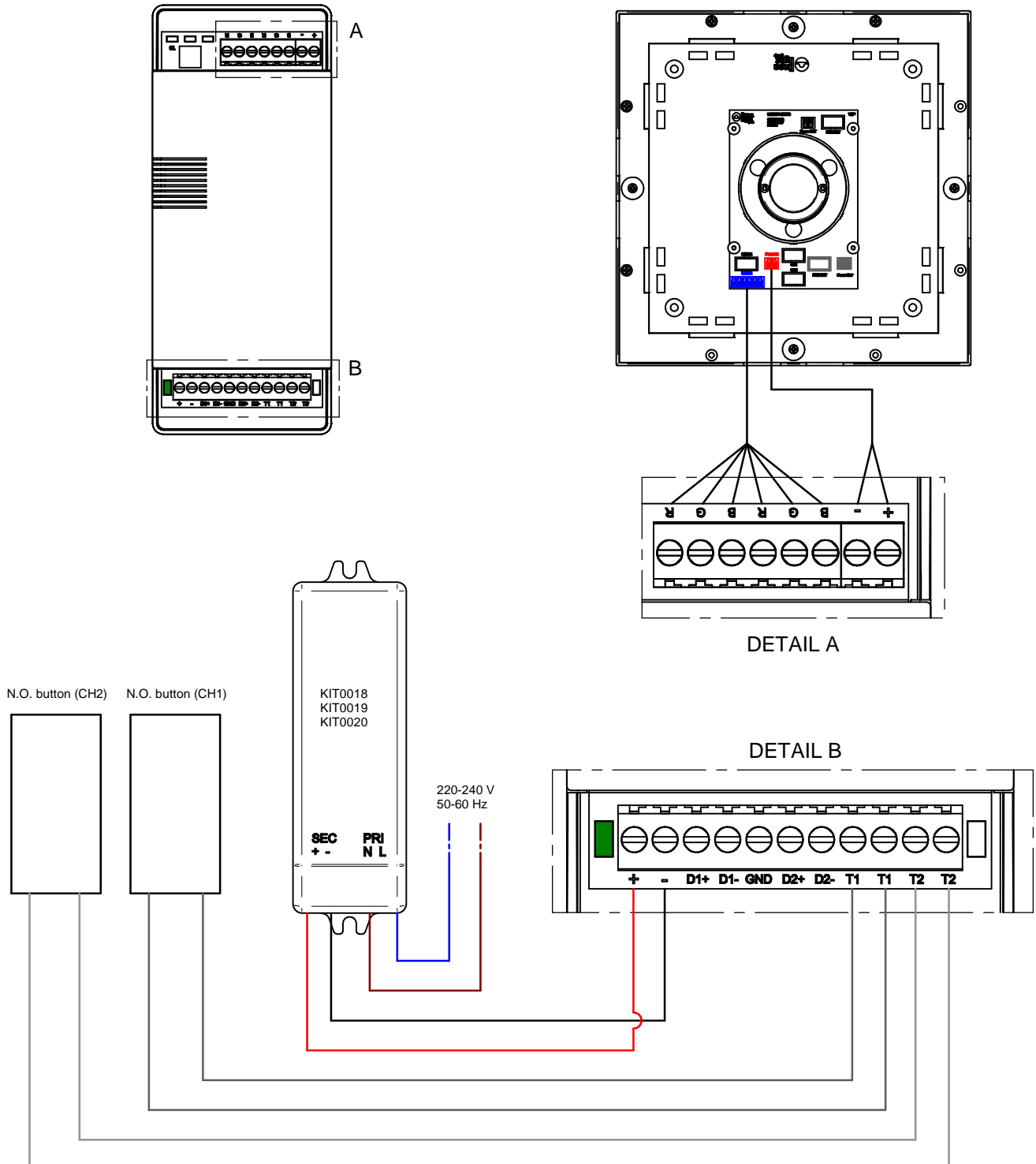
### SELECT THE FIXED COLOUR:

To select a fixed colour for the entire wall, press key 2 and hold. After 3 seconds the control unit will start to show the various colours on the wall with a 60-second FADE cycle. To memorise a colour, press the button again while the colour is displayed.

Time	Colour
2 minutes	
10 minutes	
30 minutes	
60 minutes	

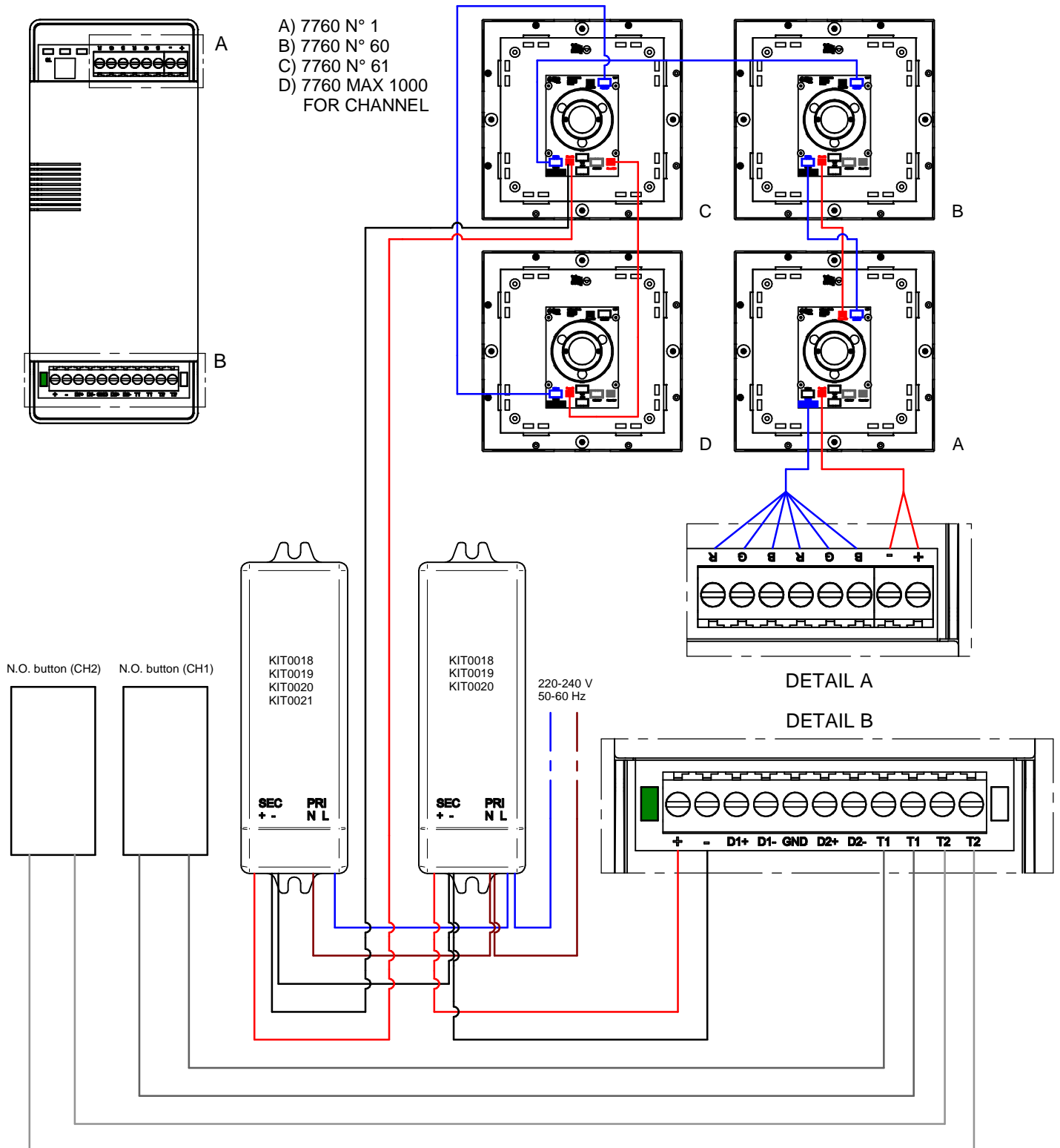
## 5.1 STAND ALONE with pushbutton control (from 1 to 60 items 7760)

**Stand Alone board:** press the key. The Green LED comes on. If the key is released before 3 seconds have elapsed, Mode a) is enabled. The Green LED remains on.



## 5.2 STAND ALONE with pushbutton control (from 61 to 1000 items 7760 per channel)

**Stand Alone board:** press the key. The Green LED comes on. If the key is released before 3 seconds have elapsed, Mode a) is enabled. The Green LED remains on.



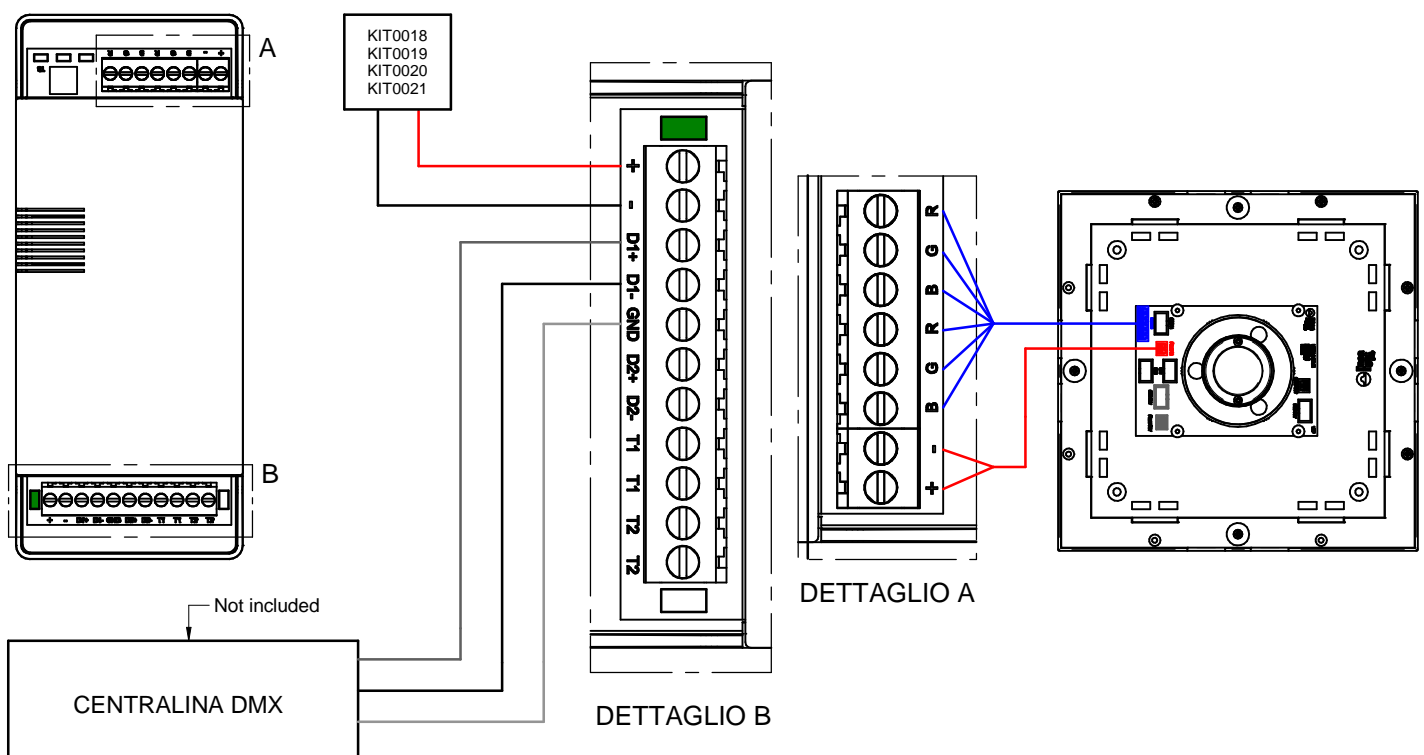
### 5.3 SLAVE DMX controlled by a remote DMX master

#### Mode b): DMX Slave: MODE b) CAN ONLY BE ENTERED FROM MODE a).

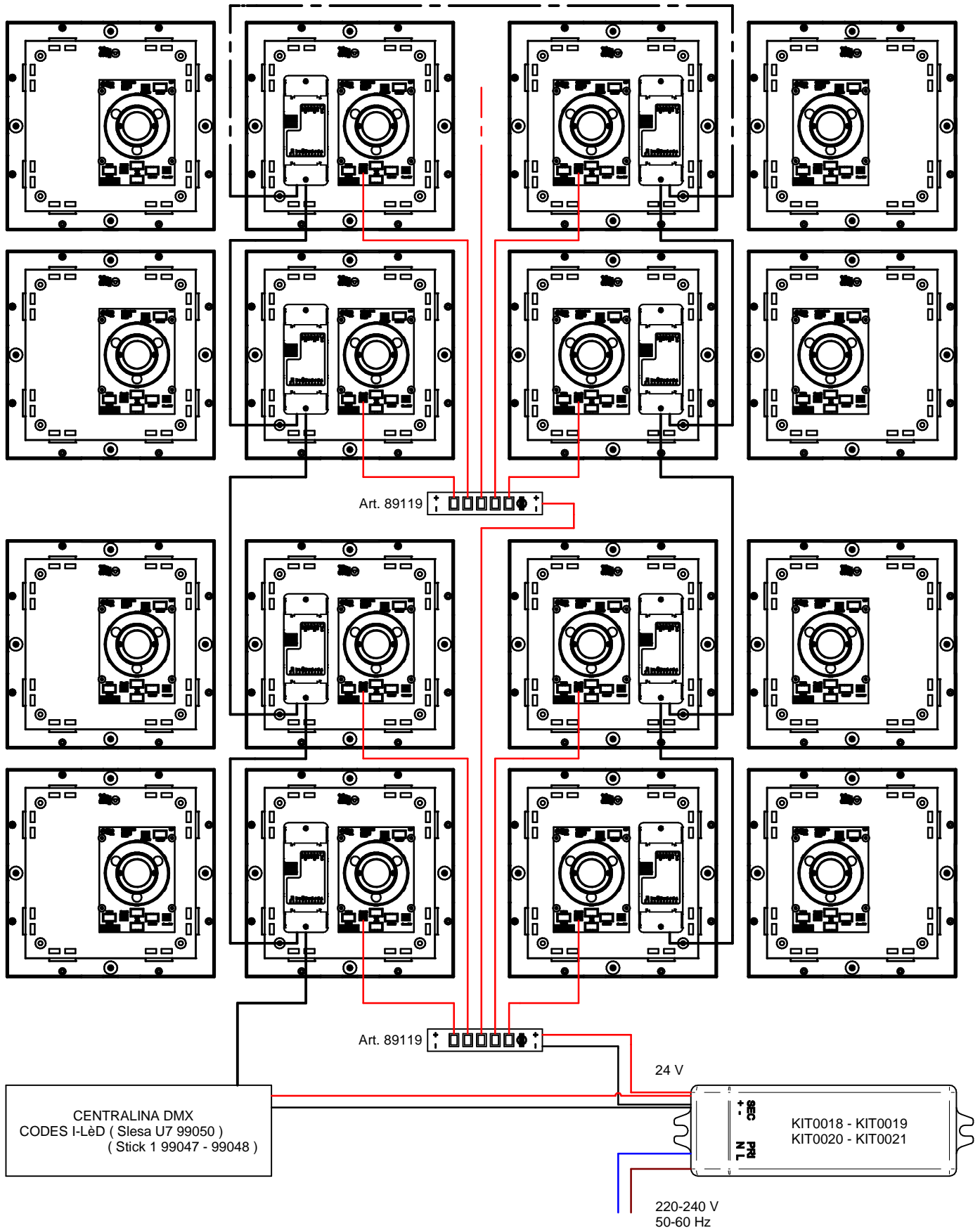
Press and hold the key. The Green LED comes on. Still holding the key, after 3 seconds the Green and Red LEDs come on. Release the key before 6 seconds have elapsed; the LEDs go out. Mode b) is now active. After one second delay you enter the address setting mode: the tens digit LED (Green) and the units digit LED (Red) of the receiving address come on. The hundreds digit LED (Yellow) remains off to show that programming of the hundreds digit is active. To set the relative number, press the programming key as many times as the number to be inserted. The hundreds digit LED (Yellow) blinks every time the key is pressed to show that the value has been stored in the control unit. Wait for 5 seconds before setting the number for the tens digit. The hundreds digit LED (Yellow) comes on and the tens digit LED (Green) goes out. To set the number for the tens digit, repeat the procedure described for the hundreds digit. Wait for 5 seconds before setting the number for the units digit. The tens digit LED (Green) comes on and the units LED (Red) goes out. To set the number for the units digit, repeat the procedure described above. E.G.: to set the address 251 on the control unit, with the hundreds digit LED (Yellow) off, press the key twice. The hundreds digit LED blinks to indicate that the value has been stored. Wait 5 seconds. The hundreds digit LED (Yellow) comes on and the tens digit LED (Green) goes out. Press the key 5 times. The tens digit LED blinks to indicate that the value has been stored. Wait 5 seconds. The tens digit LED (Green) comes on and the units digit LED (Red) goes out. Press the programming key once. The units digit LED blinks to indicate that the value has been stored. Wait 5 seconds. Having set the address, the green and red LEDs come on and remain on.

**In Mode b). Display of the address:** Press and hold the key. The green LED comes on for entry into mode a). Still holding the key, after 3 seconds the Green and Red LEDs come on ready for setting mode b) and DMX address and after a total of 5 seconds the LEDs go out. Release the key. The address is displayed: the hundreds digit LED (Yellow) blinks for as many times as the number of the hundreds digit, while the tens digit LED (Green) blinks for as many times as the number of the tens digit and the units digit LED (Red) for as many times as the number of the units digit. E.G.: if the control unit has the address 251, the hundreds digit LED blinks twice. The tens digit LED blinks 5 times and the units digit LED blinks once.

**In Mode b). Output:** Press the key. The green LED comes on for entry into mode a). Release the key to return to Mode a).



### EXAMPLE INSTALLATION DMX





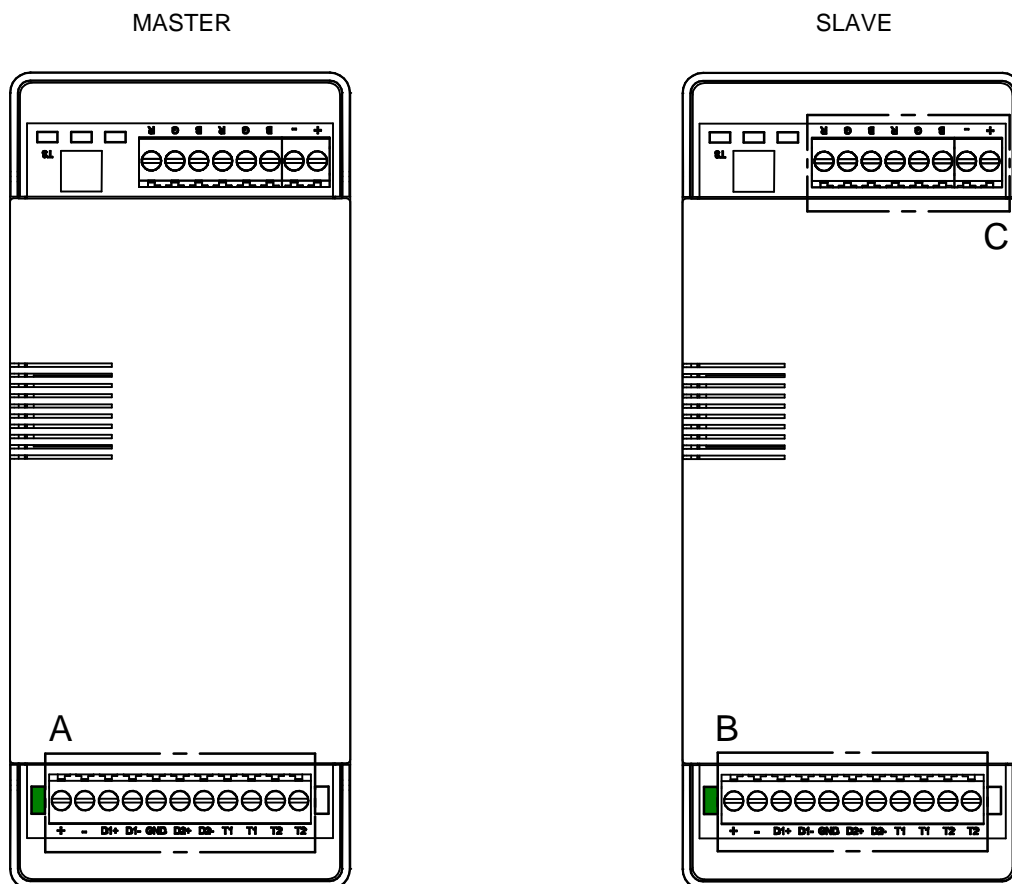
## 5.4 Linea Light MASTER with pushbutton control and 5 slave boards maximum

**Mode c): Setting the Slave: MODE c) Slave CAN ONLY BE ENTERED FROM MODE a).** Press and hold the key. The Green LED comes on. Still holding the key, after 3 seconds the Green and Red LEDs come on and after 6 seconds the Yellow and Red LEDs come on. Release the key before 9 seconds have elapsed; Mode c) Slave is active. The red and yellow LEDs remain on.

**In Mode c) Slave: Output:** press the key. The green LED comes on for entry into mode a). Release the key to return to Mode a).

**Mode c): Setting the Master: MODE c) Master CAN ONLY BE ENTERED FROM MODE a).** Press and hold the key. The Green LED comes on. Still holding the key, after 3 seconds the Green and Red LEDs come on, after 6 seconds the Yellow and Red LEDs come on and after 9 seconds you enter Mode c) Master. The Yellow LED comes on and remains on.

**In Mode c) Master: Output:** press the key. The green LED comes on for entry into mode a). Release the key to return to Mode a).



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