L&S Lighting Intelligence

User Guide EN

Guide for the correct installation and use of
L&S lamps and control and power systems

ED.2024 - rev.0

Please read this guide carefully
and keep it safe for future reference

L&S Lighting Intelligence

This guide shows how L&S lighting systems operate, as well as the LED technologies used and the relative control and power systems. Please visit the "**Support Service**" section on the company website if you have any questions regarding faults or installation problems with L&S products.

ls-light.com

Please visit the **L&S YouTube channel**, using the QR code below to watch tutorials on how to correctly install and use
L&S lighting systems

General contents

1. Glossary

TERM	DEFINITION
Light fixture	Lamp/Spotlight built into a piece of furniture, complete with power cord
Power Connector	Connector at the end of the light fixture's power cord
Power (W)	Quantity of energy/current consumed/absorbed by the light fixture. Watt (W) is the measurement unit for power
Electrical grid/electrical system	System of devices and wiring designed to distribute electricity inside a building
Dimming	Variation in the light fixture's luminous intensity
Colour Temperature	Shade of light emitted by the light fixture: eg. 3000K = warm light (yellowish light colour), 4000K = natural light (whitish light colour). Kelvin degrees [K] is the measurement unit for colour temperature
MONO	Monochrome: lamp/spotlight with an LED source with one single colour temperature
EDC	Emotion Dual Color: light fixture with an LED source with two colour temperatures
EMOTION Jumper	5cm cable complete with dual male-female connection which lets you change the colour temperature in EDC light fixtures. It can be attached to the end of the EDC light fixture's power extension cord WITHOUT a built-in control system
Built-in control system	Electronic component built into the light fixture. It lets you switch it on and off. Certain built-in control systems also let you change the colour temperature or dim the light fixture
External control system	Electronic component outside the light fixture. It lets you switch it on and off. Certain external control systems also let you change the colour temperature or dim the light fixture.

1. Glossary

L&S

TERM	DEFINITION
IRS	Infrared Switch: infrared proximity control system built into the light fixture. Without touching the light fixture, the IRS will recognise hand movement and lets you switch it on and off (MONO, EDC) and change the colour temperature (EDC)
IRD	Infrared Door: infrared proximity control system. The IRD system will recognise any obstacles caused by doors/drawers and during opening/ closing lets you switch it on and off (MONO, EDC) and change the colour temperature (EDC)
TOUCH	Touch switch: this control system requires a short or longer press with your finger on the LED point of the TOUCH switch and lets you switch it on and off (MONO, EDC), dim the light (MONO) and change the colour temperature (EDC)
PIR	Occupancy sensor: this control system recognises when a person/object is nearby. When you get closer to the PIR sensor, it detects your movement and switches on the light fixture. After a certain period of time when the PIR sensor does not detect any more movement, the light fixture will be switched off
Power Supply / MEC Driver	Power supply device required for the light fixture to operate at a very low voltage (12VDC, 24VDC). The MEC Driver is the modular power system developed and patented by L&S
Power distributor	This component (Y Cable or Distributor Module) lets you connect multiple light fixtures to one single power supply/MEC Driver
Control Module	This is a component of the MEC Driver modular system: it lets you control various functions of any connected light fixtures (switching on, dimming, colour temperature, etc) through radio frequency transmitters or external control systems (eg. wired sensors)
Receiver Module	Control module complete with internal control unit set up to receive radio frequency, Bluetooth or Wi-Fi signals. Easily recognisable by its small black antenna
Transmitter	This radio frequency control system sends signals to a receiver module (eg. SMART UP, SMART SENSOR)
Pairing	This is a connection procedure between transmitter and receiver modules

2. Power supply and colour temperature

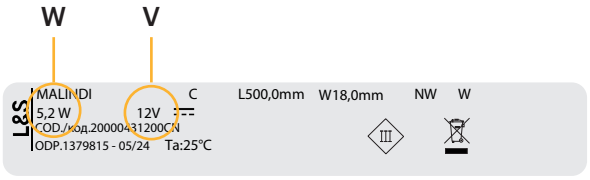
2.1 - LED light fixture power supply

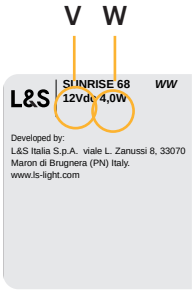
L&S LED light fixtures run on a very low 12 V or 24 V DC safety voltage: each light fixture therefore needs a Power Supply (§ 5 - also called a Driver), available with various power outputs, which converts the mains voltage of the socket (220-240V AC in Europe and 110-120V AC in the USA) into a low voltage so any connected light fixtures work properly.

Each light fixture is fitted with a power cord complete with connector on the end; the colour of the power connector clearly identifies the power supply voltage of the light fixture: Black 12 V / White 24 V: the colour matches the inputs/outputs on the Distribution or Control Modules connected to the light fixtures (§ 5.4)

⚠ ATTENTION

In any case, the power supply voltage of L&S light fixtures is always shown on the labels attached to the body of the lamps (label data) or on the power cord (eg. spotlights), along with the power absorbed (W) by the light fixture.





Always calculate the total absorbed power (W) of any light fixtures to be connected so you can select the right power supply unit: the power of the Driver must always be higher
(§ 6.6) than the total absorbed power (we recommend choosing a Driver with a power output that is at least 10% greater than the total absorbed power).

2.2 - Colour temperature: **MONO / EDC / EMOTION**

L&S light fixtures have built-in LEDs in the following colour temperatures:

- Warm Light "**WW**" (Warm White - **2700K** / **3000K**)
- Natural Light "**NW**" (Natural White - **4000K**)
- Cool Light "**CW**" (Cool White - **5000K** / **6500K**)

Depending on the LED technology used, light fixtures can be categorised into three types:

MONO WW NW CW

Monochrome LED (one single colour temperature that cannot be changed)

Functions:
- ON-OFF / Dimmer

Controlled by:
- Built-in "MONO" control systems (§ 3)
- External control systems (§ 4)
- Remote control systems (MEC Driver "MONO" Control Modules - § 5.6)

EDC & (Emotion Dual Color)

LED with two selectable colour temperatures (Warm Light "WW" or Natural Light "NW")
By default, EDC light fixtures switch on at the warmest colour temperature

Functions:
- ON-OFF / Dimmer / Colour Temperature Change

Controlled by:
- Built-in "MONO" control systems (§ 3)
- External control systems (§ 4)
- EMOTION Jumper Cable (§ 2.3)
- Remote control systems (MEC Driver "MONO" Control Modules - § 5.6)

EMOTION (Dynamic colour temperature)

LED with adjustable colour temperature (from Warm Light "WW" to Cool Light "CW")
By default, EMOTION light fixtures switch on at the warmest colour temperature and are compatible with control systems for EDC light fixtures

Functions:
- ON-OFF / Dimmer / Colour Temperature Setting

Controlled by:
- EMOTION Jumper Cable (§ 2.3)
- Remote control systems (MEC Driver "EDC" Control Modules - § 5.6)

2.3 - EMOTION Jumper

EMOTION Jumper is a 50mm cable for EDC light fixtures (§ 2.2) that lets you change the colour temperature from Warm "WW" (Warm White - the default setting) to Natural "NW" (Natural White): available in 12 V or 24 V DC versions, this cable can be attached to the end of the light fixture's power cord during installation, before connecting it to the Driver.

EDC LED: the EDC light fixture switches on by default at the warmest colour temperature "WW"

EDC LED + EMOTION Jumper: the EDC light fixture switches on at the Natural colour temperature "NW"

ATTENTION:

- Only use it with EDC or EMOTION light fixtures (§ 2.2).
  If used with EMOTION light fixtures, the cable will change the colour temperature from Warm "WW" (Warm White - the default setting) to Cool "CW" (Cool White).
- The EMOTION Jumper cable reverses the polarity of the low voltage supplied by the Driver: do not use the cable with light fixtures fitted with a built-in power-on system otherwise it might interfere with the operation of the power-on system (the colour temperature setting is managed through the switch/sensor on the light fixture).
- Do not use the EMOTION Jumper cable with MEC Driver Control Modules (§ 5.6 - the colour temperature is managed by the Module through compatible control systems)
- To keep a consistent colour temperature in any light fixtures connected to the driver, always make sure that all light fixtures are fitted with an EMOTION Jumper or not.

2.4 - Trouble-shooting

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The light fixture does not switch on	Connection	Check that the power connector is inserted correctly into the appropriate slot and connected to the power supply
The light fixture overheats or does not work	Wrong power supply	Check that the power supply voltage (Driver) matches the voltage of the light fixture (12 V or (24 V) DC). If they are not the same, disconnect the light fixture immediately
The light fixture blinks or does not work	Connection to the mains electrical system	Check that the connection to the mains electrical system meets applicable regulations. If the problem continues, remove the general power supply unit for a couple of minutes and then plug it back in
	Generic power supply	We recommend using original L&S power supply units to prevent the risk of any connected light fixtures malfunctioning
	Underpowered power supply	Make sure that the power (W) of any connected light fixtures (LED load) is always less than the power supplied by the connected L&S power supply unit.
	Power Supply Positioning	Do not put several power supply units on top of or next to each other in order to prevent the risk of any connected light fixtures overheating or malfunctioning
	Connecting wires	Do not use tangled wires to prevent the risk of any connected light fixtures overheating or malfunctioning
The EDC lamp is a different colour to other installed lamps	EMOTION Jumper	To keep a consistent colour temperature in any light fixtures connected to the power supply, always make sure that all light fixtures are fitted with an EMOTION Jumper or not.

3. Built-in control systems

3.1 - TOUCH Switch

Built-in touch switch only in MONO light fixtures (§ 2.2)
The light fixture is controlled by touching its screen on the signalling LED point (white LED) which is always visible. A quick press switches the light fixture on or off, while a longer press (with the light fixture switched on) controls the dimming.

MONO

Functions

- ON-OFF:
  press the signalling LED point once on the light fixture
- DIMMER:
  press the signalling LED point for longer, with the light fixture switched on

⚠ ATTENTION

- Light fixtures with a built-in TOUCH switch must not be connected to the Driver through external control systems (§ 4) or Control Modules (§ 5.6): only use the Distribution Module or Y Cable (§ 5.5)
- If the Driver is connected to a wall switch, light fixtures with a built-in TOUCH switch cannot be used.
- To prevent any temporary faults, do not expose the TOUCH switch to excessive direct light sources (eg. sunlight or light from other light fixtures)

3. Built-in control systems

3.2 - IRS (Infrared Switch)

Built-in infrared switch in MONO or EDC light fixtures (§ 2.2): the light fixture is switched on and off by moving your hand near the switch (within 6 cm) without touching it. To change the colour temperature (only on EDC light fixtures), you need to keep your hand near the IRS for about 3 seconds (do this with the light fixture already switched on)

MONO / EDC

Functions

- ON-OFF:
  move your hand near the switch without touching it
- Colour Temperature Change (EDC):
  with the EDC light fixture switched on, keep your hand near the switch for about 3 seconds

⚠ ATTENTION

- When first switched on, the switch will make the light fixture blink briefly.
- If the light fixture with IRS is left on, the switch will automatically turn the light fixture off after 18 hours of stand-by.
- Light fixtures with a built-in IRS must not be connected to the Driver through external control systems (§ 4) or Control Modules (§ 5.6): only use the Distribution Module or Y Cable (§ 5.5)
- If the Driver is connected to a wall switch, light fixtures with a built-in IRS cannot be used.
- Do not use the EMOTION JUMPER cable with light fixtures complete with a built-in IRS
- To prevent any temporary faults, do not expose the IRS to excessive direct light sources (eg. sunlight or light from other light fixtures).
  Furthermore, avoid any reflective surfaces within the switch's operating range.
  Excessive sources of steam directly on the IRS could cause the light fixture to switch on and/or off without touching it.

3.3 - IRD (Infrared Door)

Built-in door contact switch in MONO or EDC light fixtures (§ 2.2) which switches the light fixture on and off when drawer doors or fronts are opened or closed. To change the colour temperature (only on EDC light fixtures), you need to open and close the furniture/drawer door or front very quickly 3 times in a row.

MONO / EDC

Functions

- ON-OFF:
  Open/close the furniture/drawer door or front
- Colour Temperature Change (EDC):
  Open and close the furniture/drawer door or front very quickly 3 times in a row

⚠ ATTENTION

- The reading distance varies depending on the colour of the door: for dark surfaces it is 3 cm max, while for light surfaces it is 5 cm max. The IRD switch does not work with glass doors.
- When first switched on, the EDC IRD performs a set-up process of about 15 seconds (the light fixture blinks). Brightness will be reduced to 50%. At the end of this process, check that the switch is properly calibrated by opening and closing the door or drawer.
- In the event of a mains power failure, the light fixture will switch back on when power is restored. By opening and closing the door again, the lamp will start working again normally.
- If the light fixture with IRD switch is left on, the switch will automatically turn the light fixture off after 18 hours of stand-by.
- Light fixtures with a built-in IRD switch must not be connected to the Driver through external control systems (§ 4) or Control Modules (§ 5.6): only use the Distribution Module or Y Cable (§ 5.5)
- If the Driver is connected to a wall switch, light fixtures with a built-in IRD switch cannot be used.
- Do not use the EMOTION JUMPER cable with light fixtures complete with a built-in IRD switch
- To prevent any temporary faults, do not expose the IRD switch to excessive direct light sources (eg. sunlight or light from other light fixtures).
  Excessive sources of steam directly on the IRD switch could cause the light fixture to switch on and/or off without touching it.

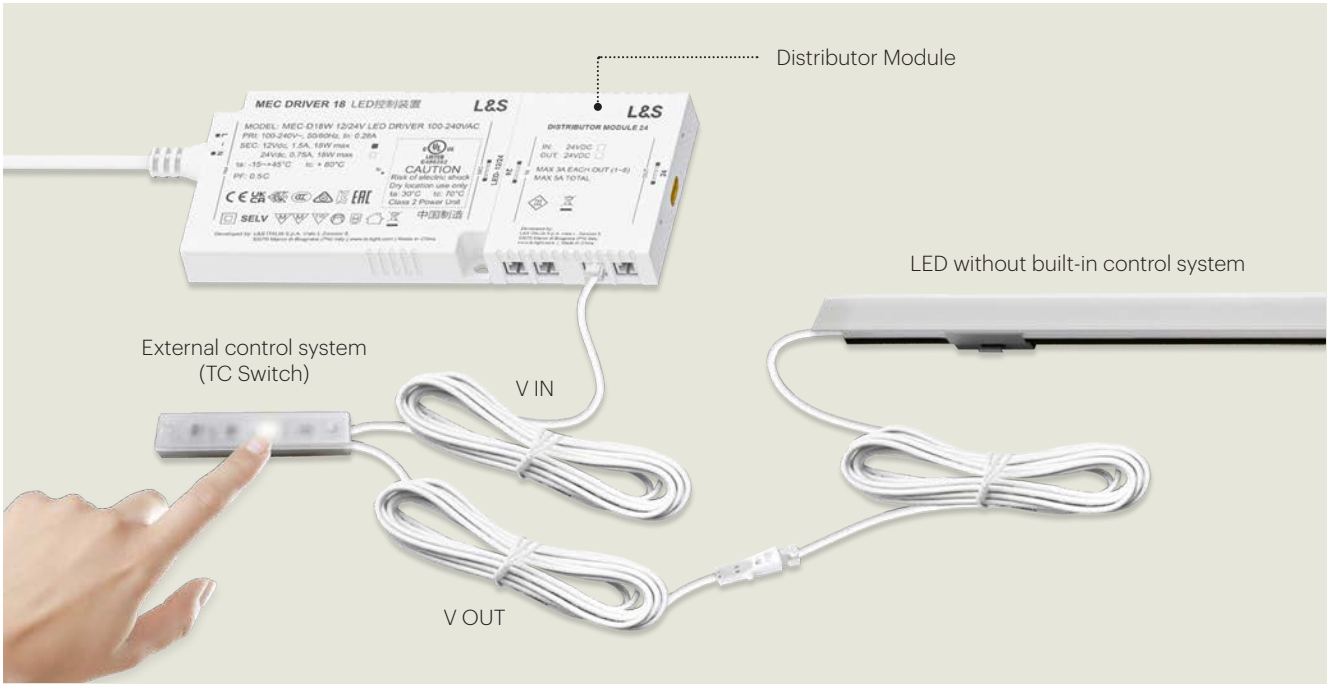
3.4 - Trouble-shooting

SYMPTOM	POSSIBLE CAUSE	SOLUTION
A light fixture with a built-in control system switches on or off on its own	Steam	Avoid any excessive sources of steam around the built-in control system
	Direct or reflected light	Avoid any excessive direct or reflected light on the built-in control system
A light fixture with a built-in control system does not work or blinks	Wall switch	You should not use wall switches connected to the Driver for light fixtures fitted with a built-in control system. If this option is necessary, before setting up light fixtures with a wall switch control, check that all these light fixtures have been switched on through the built-in control system. Wait at least 10 seconds between switching on and off with the wall switch
	Power supply connection	Light fixtures with a built-in control system should only be connected to the Driver through the Distribution Module or Y Cable (do not use external control systems or Control Modules)
	EMOTION Jumper	Do not use the EMOTION Jumper cable with EDC light fixtures fitted with a built-in power-on system
	DALI	Do not use the DALI system with light fixtures fitted with a built-in control system
A light fixture with a built-in IRS control system does not work or blinks	Lens	Check that the IRS lens is properly fitted on the light fixture screen
	Obstacle or reflection on the lens	Check that there are no reflective surfaces or obstacles within the IRS operating range. Remove the obstacle.
A light fixture with a built-in IRD control system does not work or blinks	Door finish	Check the finish on the door where the built-in IRD control system operates. The reading distance varies depending on the surface: 3cm max for dark surfaces, 5cm max for light surfaces. If necessary, attach the grey sticker provided onto the door near the IRD switch.

4. External control systems

4.1 - Overview

Light fixtures without a built-in control system can be controlled by using external systems for switching the light fixture on and adjusting the luminous intensity or colour temperature (on EDC light fixtures - § 2.2). These devices (touch switches, swing door sensors, control units with transmitters or wired sensors, etc) run on a low 12 V or 24 V DC voltage from a Driver (V IN cable) and feature an output cable (V OUT) for connecting light fixtures.
This section of the guide demonstrates the main problems with some of the most commonly used external control systems, separated here by model.



⚠ ATTENTION:

- Please carefully follow the guidelines in the instruction manual of each external power-on system to connect it correctly to the Driver and to any light fixtures
- Do not connect external control systems to the MEC Driver through Control Modules (§ 5.6): only use the Distribution Module or the "Y Cable" power splitter (§ 5.5)
- Only use external control systems with light fixtures that do not have a built-in power-on system
- If the Driver is connected to a wall switch, light fixtures with external control systems cannot be used
- Do not use the EMOTION Jumper cable (§ 2.3) with Dual Color light fixtures (EDC) connected to an external control system (unless indicated otherwise in the relative instruction manual): the colour temperature can be adjusted through the external control system
- Always follow the power supply voltage (12 V or 24 V DC) of any light fixtures to be connected.

MONO / EDC

Functions

- ON-OFF:
  Open/close the furniture door
- Colour Temperature Change (EDC):
  Open and close the furniture door very quickly 4 times in a row

⚠ ATTENTION:

- The reading distance varies depending on the colour of the door: for dark surfaces it is 2 cm max, while for light surfaces it is 7 cm max.
- This system is available with a Single Sensor (for wardrobes with just one door) or with a Master+Slave Dual Sensor (for wardrobes with two doors). A double IR DOOR TUBE cannot be used to make two single ones and vice versa: two single tubes cannot be used to make a double.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
A light fixture connected to the IR DOOR TUBE stays on even with the door closed	Door finish	Attach the grey sticker provided onto the door, in line with the IR DOOR TUBE
	Sensor reading	Open and close the door again to restart the sensor reading. If the problem continues, remove the general power supply unit for a couple of minutes and then plug it back in
A light fixture connected to the IR DOOR TUBE stays on for a long time even with the door closed	Stand-by	IR DOOR TUBE is set to 18 hours of stand-by, after which the light fixture will switch off automatically
EDC light fixtures connected to EDC IR DOOR TUBES in different compartments have different colour temperatures	External control system	Open and close the door quickly 4 times in a row to change the colour temperature of the light fixtures
EDC light fixtures connected to EDC IR DOOR TUBES in the same compartment have different colour temperatures	Emotion Jumper	Check that all the light fixtures connected are fitted with an EMOTION Jumper or not.

MONO / EDC

Functions

- ON-OFF:
  press the "ON" button once
- DIMMER:
  press the "ON" button for longer with the light fixture switched on
- Colour Temperature Change (EDC):
  press the "colour change" button once or for longer with the light fixture switched on

⚠ ATTENTION:

- The "ON" button lets you switch the light fixture on and off (single press) or adjust the luminous intensity (longer press)
- The colour temperature is changed (on EDC light fixtures) in two ways:
  - One step: by pressing and releasing the "Colour change" button.
  - With dynamic fluctuation: by pressing and holding down the "Colour change" button

SYMPTOM	POSSIBLE CAUSE	SOLUTION
I cannot adjust the luminous intensity of light fixtures connected to PUCKY	Control system	To adjust the luminous intensity of any connected light fixtures, you need to press and hold down the "ON" button when the light fixtures are switched on
I cannot adjust the colour temperature of EDC light fixtures connected to PUCKY	Control system	To adjust the colour temperature of any connected light fixtures, you need to press and hold down the special "Colour change" button when the light fixtures are switched on

MONO / EDC

Functions

- ON-OFF:
  press the signalling LED point once
- DIMMER:
  press the signalling LED point for longer
  with the light fixture switched on
- Colour Temperature Change (EDC):
  press the signalling LED point for longer
  with the light fixture switched off

⚠ ATTENTION:

- Any connected light fixtures are controlled by touching the screen of the TC SWITCH external control system on the signalling LED point.
- A quick press switches the light fixture on or off.
  A longer press (with the light fixture switched on) controls the dimming
  A longer press (with the light fixture switched off) changes the colour temperature

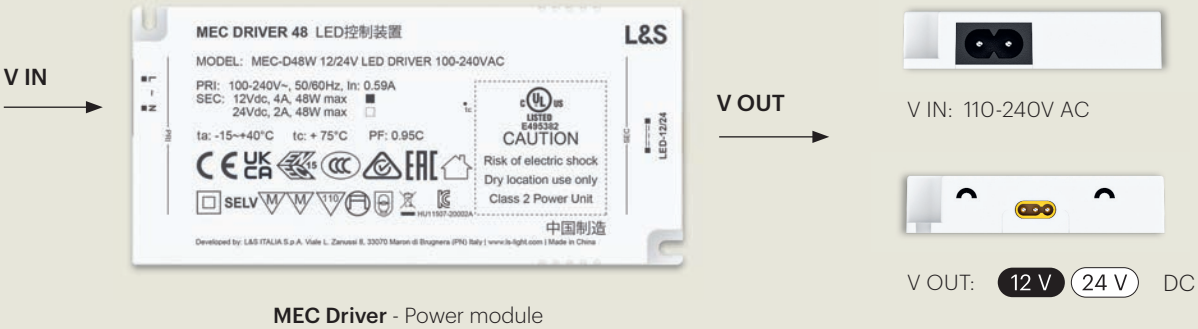
SYMPTOM	POSSIBLE CAUSE	SOLUTION
I cannot adjust the luminous intensity of light fixtures connected to TC SWITCH	Control system	To adjust the luminous intensity, any connected light fixtures must be switched on. You then need to press for longer on the TC SWITCH screen on the signalling LED point
An EDC light fixture connected to TC SWITCH does not change its colour temperature	Control system	Any connected light fixtures must be switched off in order to adjust the colour temperature. You then need to press for longer on the TC SWITCH screen on the signalling LED point

5. MEC Driver System

L&S

5.1 - System overview

This is a modular and combinable multi-voltage power system for managing LED light fixtures. The MEC Driver Power Module is the heart of the system and converts 110-240V AC mains voltage to a low 12 V or 24 V DC voltage so any connected light fixtures can work properly.



MEC Driver - Power module

The MEC Driver is available with various power outputs, from a minimum of 18W up to a maximum of 120W. The 90W and 120W versions are only available with a 24 V output voltage

18W 12 V 24 V

36W 12 V 24 V

48W 12 V 24 V

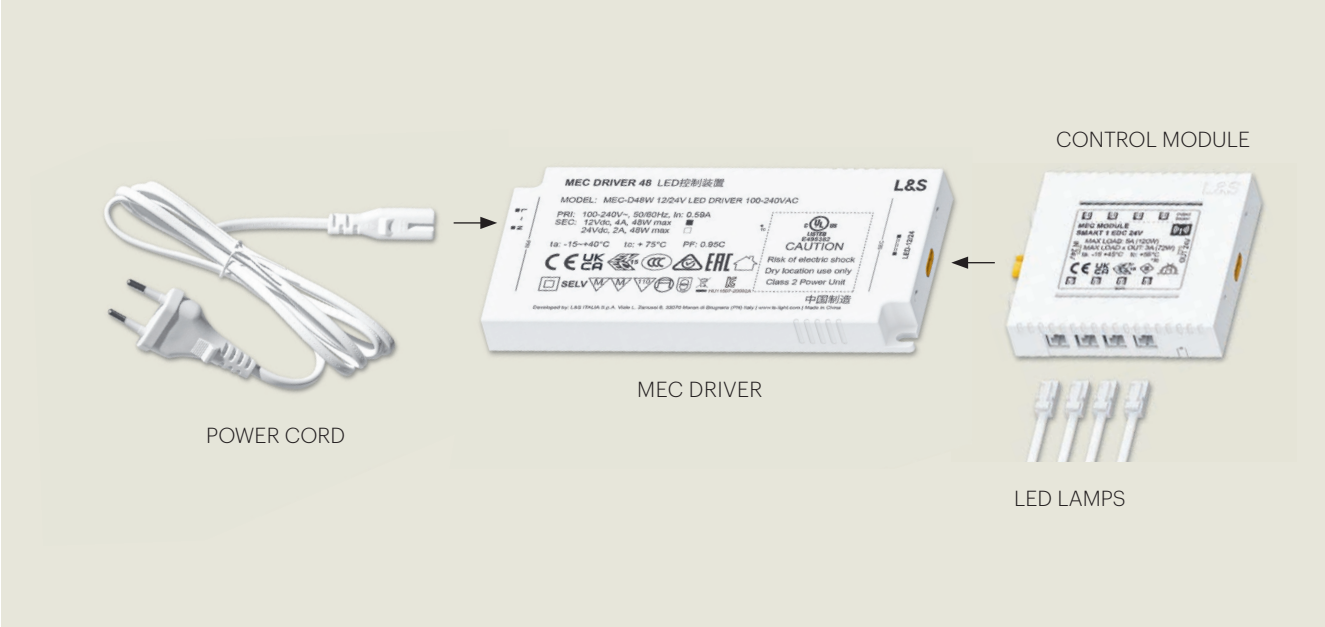
60W 12 V **- 72W** 24 V

90W 24 V

120W 24 V

5. MEC Driver System

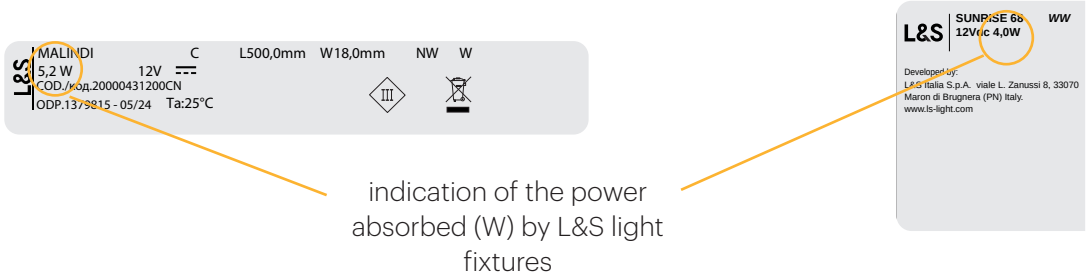
The MEC Driver can be simply and intuitively connected to Distributor Modules (§ 5.5 - for power only of any connected light fixtures) and Control Modules (§ 5.6 - to control any adjustable lighting functions through remote control and wireless sensors, wired sensors, smartphones or voice control). The MEC Driver system can be used in various countries around the world, thanks to the use of different power cords with specific plugs.



⚠ ATTENTION

All MEC Driver system components are sold separately.
The power cord is available in various models with different plugs based on the type of socket used: please choose the right cord for your relevant market.

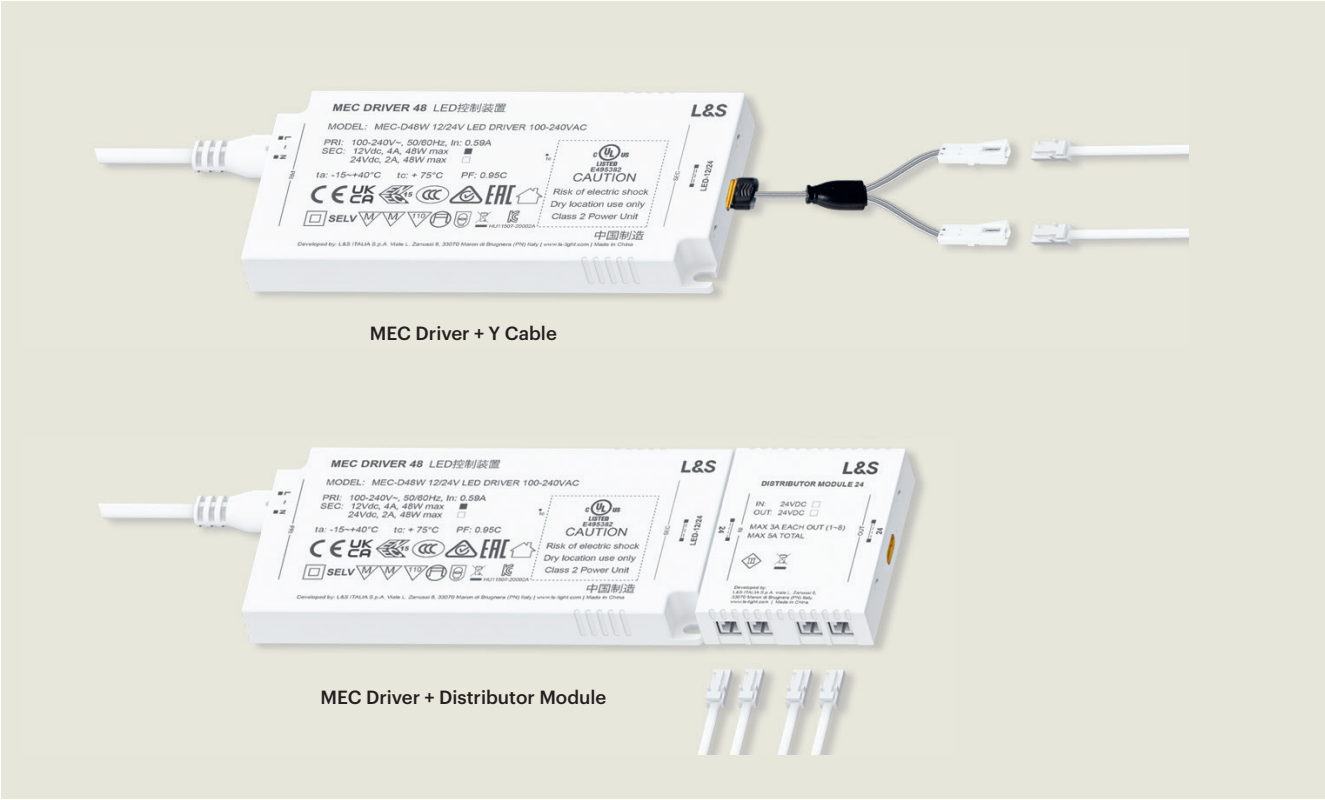
- Always calculate the total absorbed power (W) of any light fixtures to be connected so you can select the right power supply unit: the power of the MEC Driver must always be higher (§ 6.1) than the total absorbed power (we recommend choosing a power module with a power output that is at least 10% greater than the total absorbed power). The power of L&S light fixtures is clearly indicated on the labels (see below) attached to the body of the lamps (label data) or on the power cord (eg. spotlights)



indication of the power absorbed (W) by L&S light fixtures

5.2.1 - User scenarios: power only

Configuration for power only of light fixtures connected to the MEC Driver through a power splitter (Y Cable) or Distributor Module (§ 5.5): this is the preferred configuration if you want to control any connected light fixtures through a wall switch and does not allow light fixtures to be controlled remotely through remote control, sensors or voice control.



MEC Driver + Y Cable

MEC Driver + Distributor Module

⚠ ATTENTION

- The Distribution Module/Y Cable can be connected to light fixtures without a switch and to light fixtures fitted with a built-in power-on system (§ 3) or external control systems (§ 4)
- If you are using a wall switch connected to the MEC Driver, only connect the Distribution Module/Y Cable to light fixtures without a built-in power-on system.
- EDC light fixtures (§ 2.2) can be connected to a Distributor Module/Y Cable by using a Jumper Cable (§ 2.3) for choosing the colour temperature during installation: do not use a Jumper Cable with EDC light fixtures fitted with a built-in power-on system as the colour temperature is adjusted through the switch/sensor on this device.

5.2.2 - User scenario: power + control

This is the configuration of the MEC Driver with control modules (§ 5.6) for controlling any adjustable lighting functions (switching on, dimmer, colour temperature, etc) through radio frequency transmitters (remote control and wireless sensors), wired sensors, smartphones or voice control.

⚠ ATTENTION:

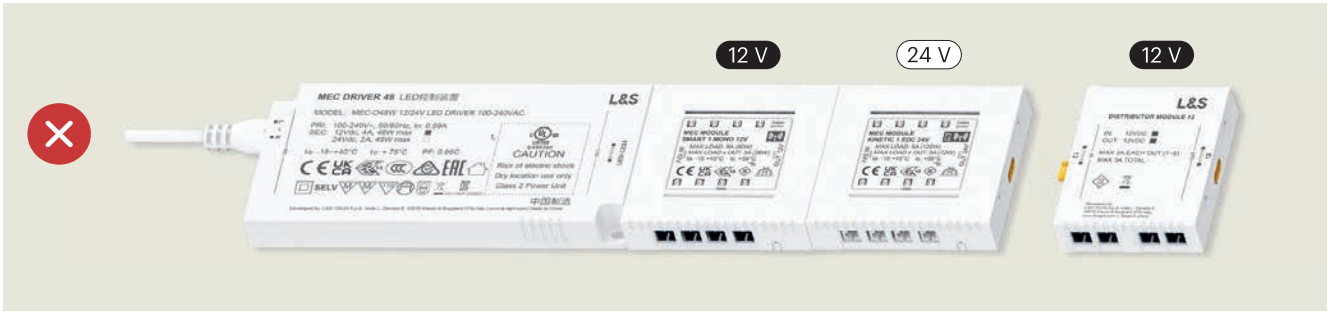
- Control Modules can only be connected to light fixtures that do not have a built-in power-on/control system (§ 3) or an external one (§ 4).
- Do not use the MEC Driver system + Control Modules with a wall switch
- EDC light fixtures (§ 2.2) can only be connected to Control Modules compatible with EDC technology: the colour temperature is adjusted by the Module through the relative remote controls or control accessories. Never use the EMOTION Jumper cable (§ 2.3) to connect EDC light fixtures with Control Modules.
- Control Modules always switch back on to their last setting before they were switched off (whether they were switched off by a transmitter/remote control or due to a power supply voltage failure). Light fixtures connected to Control Modules are switched both on and off gradually with a delay of 0.5 seconds (Fade ON/OFF). By following the appropriate procedure indicated in the user manual, you can set an automatic power-off timer for Control Modules

5. MEC Driver System

5.3 - In-line connection of multiple modules

Distribution Modules (§ 5.5) and Control Modules (§ 5.6) can be connected with each other in a line to the MEC Driver as long as you keep the same 12 V or 24 V power supply voltage.

CORRECT CONNECTION: Same operating voltage for all connected modules



INCORRECT CONNECTION: Modules with different/mixed operating voltages

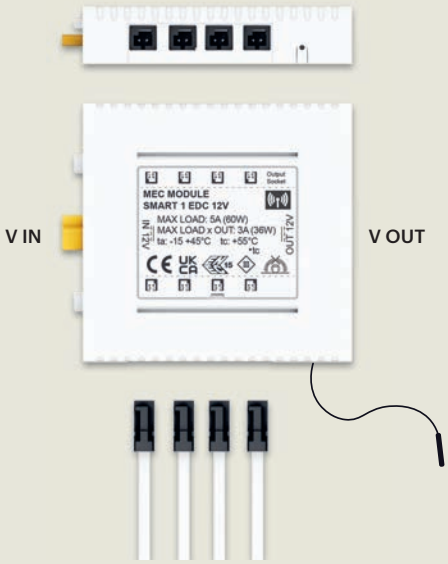
ATTENTION:

You can connect up to a maximum of 5 modules in a line. The first connected module determines the output voltage distributed to any subsequent modules connected: regardless of the connection order to the power supply, every module keeps its same functions (Distribution or Control) and the same number of inputs/outputs (§ 6.6).

5.4 - Module power supply voltage

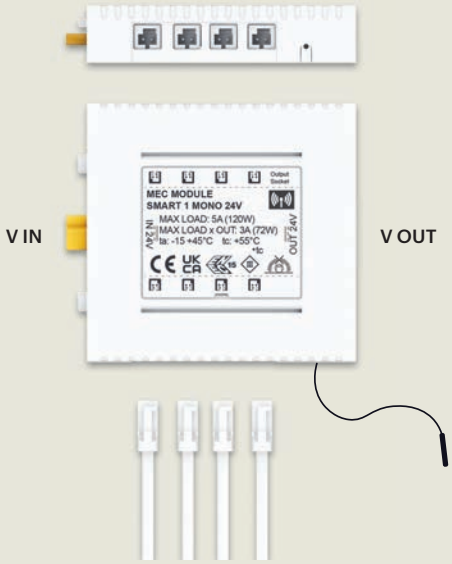
The power supply voltage of Distribution Modules (§ 5.5) and Control Modules (§ 5.6) can be recognised by the colour of the inputs/outputs on the module (Black 12 V / White (24 V)), which matches the colour of the connectors on the cable of the light fixtures. In any case, the operating voltage is indicated with the data shown on the module itself.

12 V



60W max (total)
36W (single input)

(24 V)



120W max (total)
72W (single input)

⚠ ATTENTION

Each MEC Driver module has a maximum load (W), as indicated on the module itself, which depends on the module's operating voltage and is expressed for each single input/output or as a total (all inputs/outputs):

12 V : **60W max** (total) **/ 36W** (single input/output)

(24 V) : **120W max** (total) **/ 72W** (single input/output)

In any case, the maximum connectable load depends on the power (W) supplied by the power supply unit connected to the modules: calculate the total absorbed power (W) of any light fixtures to be connected so you can select the right power supply unit (§ 6.1)

5.5 - Power distributors | **Distribution module**

This module is for **power only** of LED light fixtures (up to 8). It is available with 12 V or 24 V and can be used with MONO or EDC LEDs (§ 2.2). Compatible with wall switches connected to the MEC Driver.

12 V

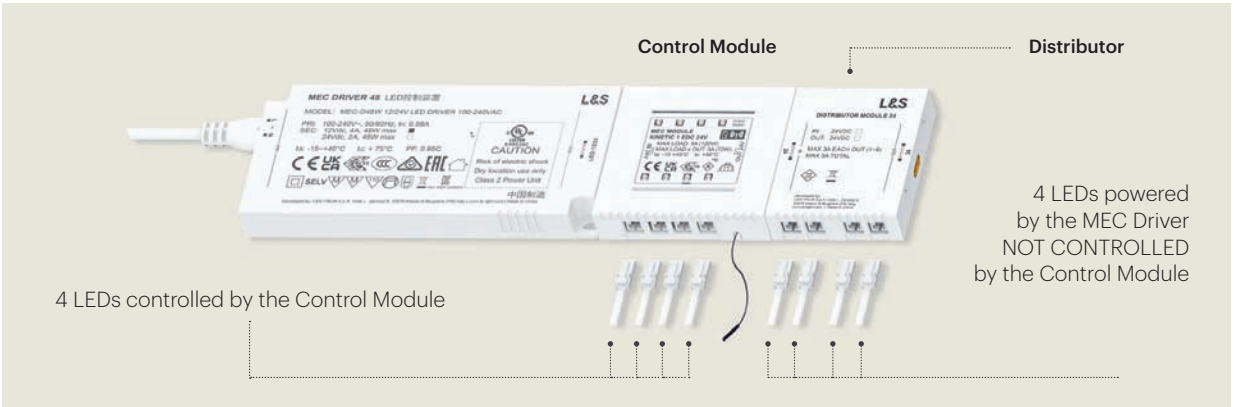
60W max total
36W single input

24 V

120W max total
72W single input

ATTENTION:

- This module is compatible with light fixtures that do not have a switch or are fitted with a built-in power-on system (§ 3) or an external one (§ 4). If you are using a wall switch connected to the MEC Driver, only connect the Distribution Module to light fixtures without a built-in/external power-on system.
- EDC light fixtures can be connected (§ 2.2) by using an EMOTION Jumper Cable (§ 2.3) for choosing the colour temperature during installation: do not use the cable with EDC light fixtures fitted with a built-in power-on system as the colour temperature is adjusted through the switch/sensor on this device.
- Keep the same power supply voltage (12 V or 24 V) for an in-line connection to other Distributor Modules/Control Modules: a Distributor Module placed after a Control Module does not increase its number of outputs, but rather it only works as a voltage distributor for any light fixtures connected to it (§ 6.6)



5.5 - Power distributors | **Y Cable**

This is a **power splitter** (Y Cable) for LED light fixtures. It is available with 12 V or 24 V and can be used with MONO or EDC LEDs (§ 2.2). Compatible with wall switches connected to the MEC Driver.

12 V

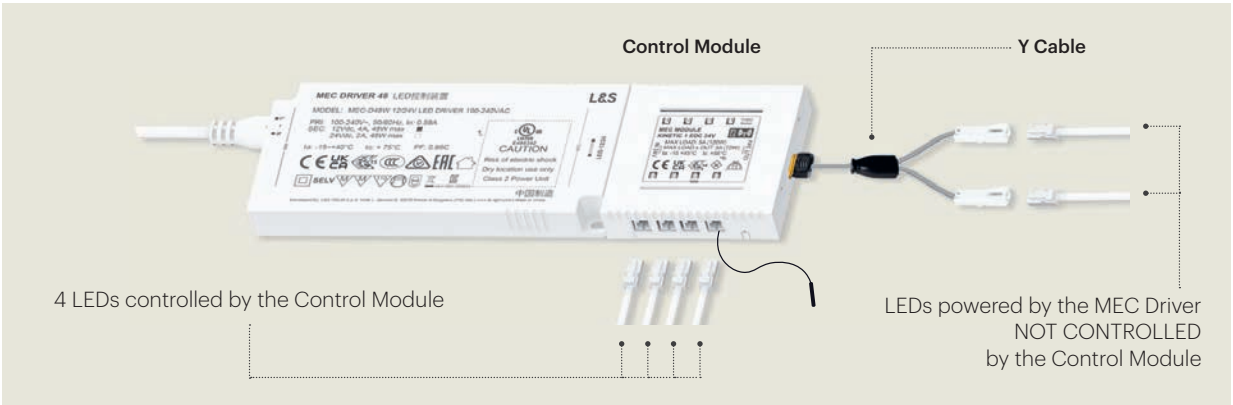
18W max (total)

24 V

48W max (total)

⚠ ATTENTION:

- It is compatible with light fixtures that do not have a switch or are fitted with a built-in power-on system (§ 3) or an external one (§ 4). If you are using a wall switch connected to the MEC Driver, only connect the Y Cable to light fixtures without a built-in/external power-on system
- EDC light fixtures can be connected (§ 2.2) by using an EMOTION Jumper Cable (§ 2.3) for choosing the colour temperature during installation: do not use the cable with EDC light fixtures fitted with a built-in power-on system as the colour temperature is adjusted through the switch/sensor on this device.
- Keep the same power supply voltage (12 V or 24 V) for an in-line connection to other Distributor Modules/Control Modules: a Y Cable placed after a Control Module does not increase its number of outputs, but rather it only works as a voltage distributor for two LED light fixtures



5. MEC Driver System

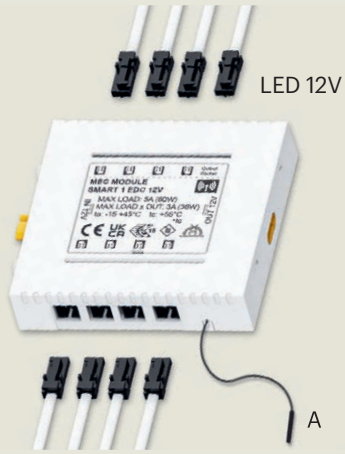
5.6 - Control modules | **SMART 1**

This 1-channel radio frequency receiver module is available with 12 V or 24 V in MONO or EDC versions (§ 2.2): choose the module based on the type of light fixtures to be connected.

Simultaneous control of up to 8 light fixtures with compatible L&S transmitters (§ 5.9)

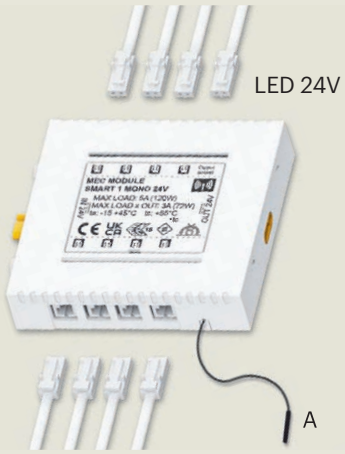
USER MANUAL

12 V



60W max total / **36W** single input

24 V



120W max total / **72W** single input

CONTROL

RADIO FREQUENCY TRANSMITTERS
(not included)

ATTENTION:

- Functions: ON/OFF - Dimmer - Colour Temperature Change (with EDC light fixtures)
- Only use it with light fixtures that do not have a built-in power-on system (§ 3) or an external one (§ 4)
- Do not use the EMOTION Jumper cable (§ 2.3) with EDC light fixtures connected to the module: the colour temperature is adjusted through the module
- Keep the same power supply voltage (12 V or 24 V) for an in-line connection to other Distributor Modules/Control Modules (§ 5.3)
- This module is fitted with a receiving antenna (A): do not put it in contact with metal parts and do not damage, tangle or cut it

5.6 - Control modules | **SMART 4**

This 4-channel radio frequency receiver module is available with 12 V or 24 V in MONO or EDC versions (§ 2.2): choose the module based on the type of light fixtures to be connected

Individual control of up to 4 light fixtures with compatible L&S transmitters (§ 5.9)

USER MANUAL

12 V

60W max total / **36W** single input

24 V

120W max total / **72W** single input

CONTROL

RADIO FREQUENCY TRANSMITTERS
(not included)

⚠ ATTENTION:

- Functions: ON/OFF - Dimmer - Colour Temperature Change (with EDC light fixtures)
- Only use it with light fixtures that do not have a built-in power-on system (§ 3) or an external one (§ 4)
- Do not use the EMOTION Jumper cable (§ 2.3) with EDC light fixtures connected to the module: the colour temperature is adjusted through the module
- Keep the same power supply voltage (12 V or 24 V) for an in-line connection to other Distributor Modules/Control Modules (§ 5.3)
- This module is fitted with a receiving antenna (A): do not put it in contact with metal parts and do not damage, tangle or cut it

5.6 - Control modules | **SMARTY VOICE**

This 1-channel radio frequency and Wi-Fi receiver module is available with 12 V or 24 V in MONO or EDC versions (§ 2.2): choose the module based on the type of light fixtures to be connected.

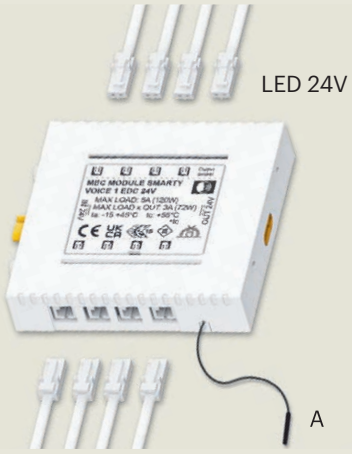
Simultaneous control of up to 8 light fixtures through compatible L&S transmitters (§ 5.9) and voice control ("Smarty Voice" app with Amazon Alexa or Google Home devices).

USER MANUAL

12 V

60W max total / **36W** single input

24 V



120W max total / **72W** single input

CONTROL

VOICE CONTROL

RADIO FREQUENCY TRANSMITTERS
(not included)

⚠ ATTENTION:

- Functions: ON/OFF - Dimmer - Colour Temperature Change (with EDC light fixtures)
- Only use it with light fixtures that do not have a built-in power-on system (§ 3) or an external one (§ 4)
- Do not use the EMOTION Jumper cable (§ 2.3) with EDC light fixtures (§ 2.2) connected to the module: the colour temperature is adjusted through the module
- Keep the same power supply voltage (12 V or 24 V) for an in-line connection to other Distributor Modules/Control Modules (§ 5.4)
- This module is fitted with a receiving antenna (A): do not put it in contact with metal parts and do not damage, tangle or cut it

SMARTY VOICE: Wi-Fi app for controlling connected light fixtures through Amazon Alexa or Google Home devices. Available to download for free by using the QR codes to the side. Please follow the configuration procedures indicated in the user manual

App Store

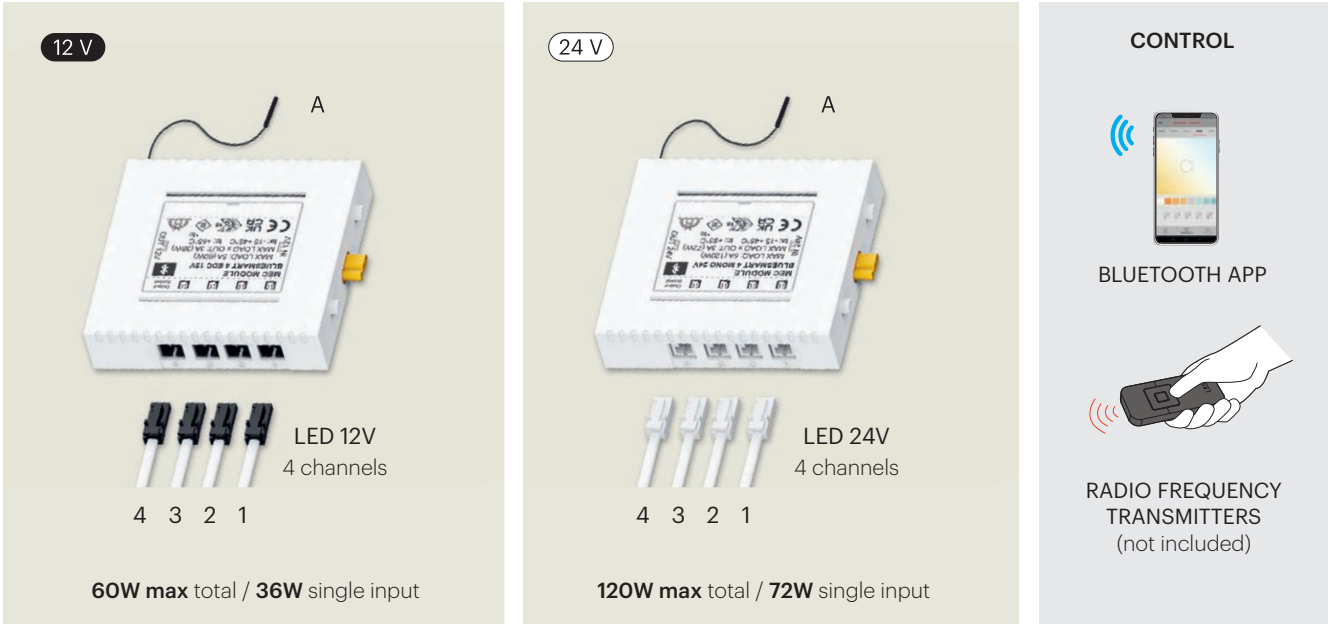
Google Play

5.6 - Control modules | **BLUESMART**

This 4-channel radio frequency and Bluetooth receiver module is available with 12 V or 24 V in MONO or EDC versions (§ 2.2): choose the module based on the type of light fixtures to be connected

Individual control of up to 4 light fixtures through a Smartphone ("BlueSmart" app) and compatible L&S transmitters (§ 5.9).

USER MANUAL



ATTENTION:

- Functions: ON/OFF - Dimmer - Colour Temperature Change (with EDC light fixtures)
  The smartphone app also lets you create customised scenarios
- Only use it with light fixtures that do not have a built-in power-on system (§ 3) or an external one (§ 4)
- Do not use the EMOTION Jumper cable (§ 2.3) with EDC light fixtures (§ 2.2) connected to the module: the colour temperature is adjusted through the module
- Keep the same power supply voltage (12 V or 24 V) for an in-line connection to other Distributor Modules/Control Modules (§ 5.4)
- This module is fitted with a receiving antenna (A): do not put it in contact with metal parts and do not damage, tangle or cut it

L&S

BLUESMART: Bluetooth app for controlling connected light fixtures through your smartphone. Available to download for free by using the QR codes to the side. Please follow the configuration procedures indicated in the user manual

App Store

Google Play

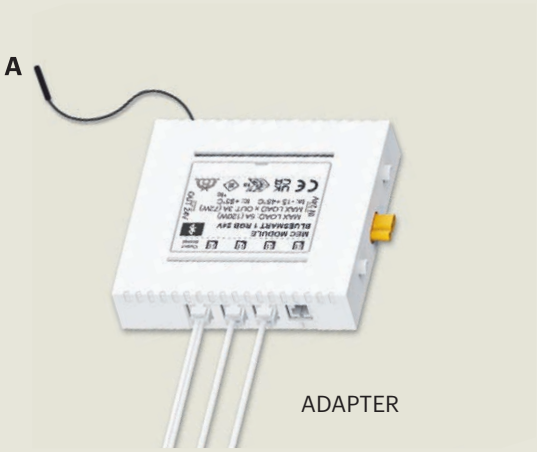
5.6 - Control modules | **BLUESMART RGB**

(24 V) 1-channel radio frequency and Bluetooth receiver module

Controls RGB/RGB+W LED Strips through a Smartphone ("BlueSmart" app) and an L&S SMART 4 RGB transmitter (§ 5.9)

USER MANUAL

(24 V)



120W max total / **72W** single input

CONTROL

BLUETOOTH APP

SMART 4 RGB
TRANSMITTER
(not included)

⚠ ATTENTION:

- Functions: ON/OFF - Dimmer - Colour change (RGB/RGBW) - White mode (RGB+W)
  The smartphone app also lets you create customised scenarios
- Only use it with RGB/RGBW LED light fixtures that do not have a built-in power-on system
- Keep the same power supply voltage ((24 V)) for an in-line connection to other Distributor Modules/ Control Modules. One single BlueSmart RGB module can be connected for the entire line (§ 5.4)
- This module is fitted with a receiving antenna (A): do not put it in contact with metal parts and do not damage, tangle or cut it

L&S

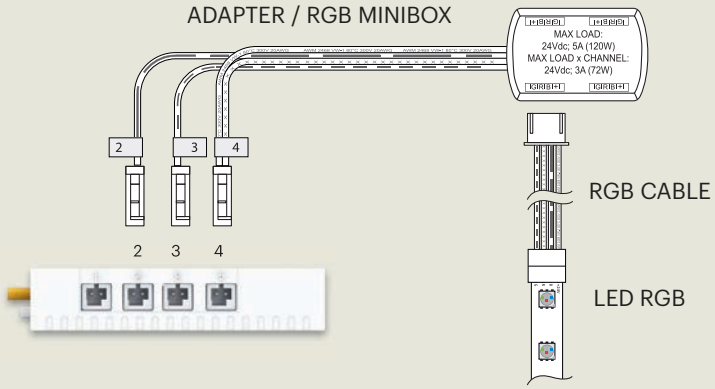
BLUESMART: Bluetooth app for controlling connected light fixtures through your smartphone. Available to download for free by using the QR codes to the side. Please follow the configuration procedures indicated in the user manual

App Store

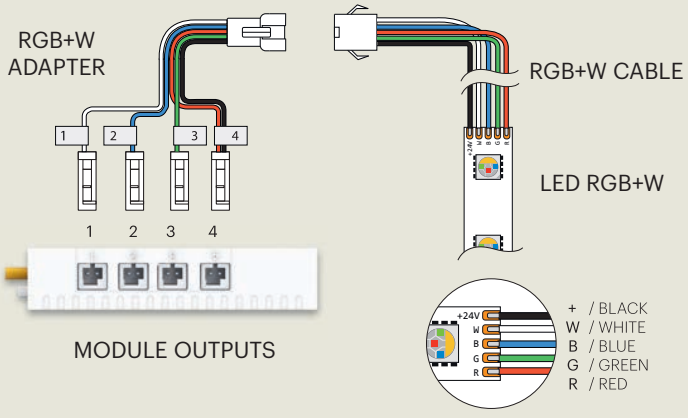
Google Play

Choose the specific adapter cable based on the type of light fixtures to be connected (RGB or RGBW): the adapter cables are not included with the BLUESMART RGB module. Follow the procedures indicated in the module user manual to set the RGB or RGBW mode correctly and to connect the adapter cables to the module by inserting them into their respective numbered outputs on the module (eg. cable 1 = output 1, cable 2 = output 2, etc)

24 V RGB ADAPTER



24 V RGB+W ADAPTER

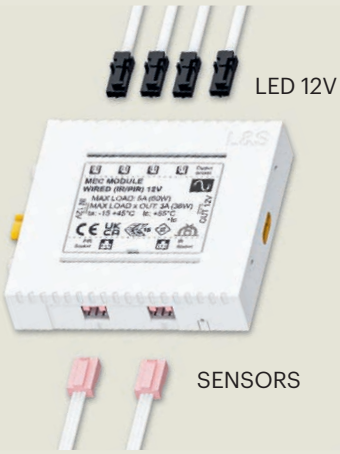


This module for wired sensors is available with 12 V or 24 V

Simultaneous control of up to 4 MONO or EDC light fixtures (§ 2.2)

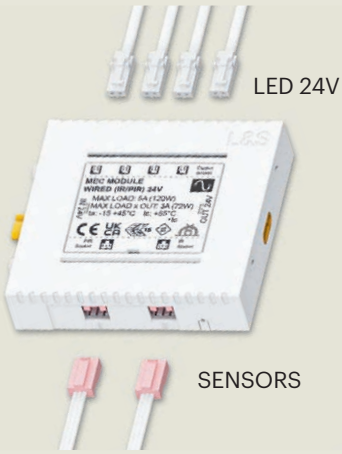
USER MANUAL

12 V



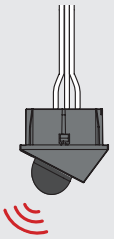
60W max total / **36W** single input

24 V



120W max total / **72W** single input

CONTROL



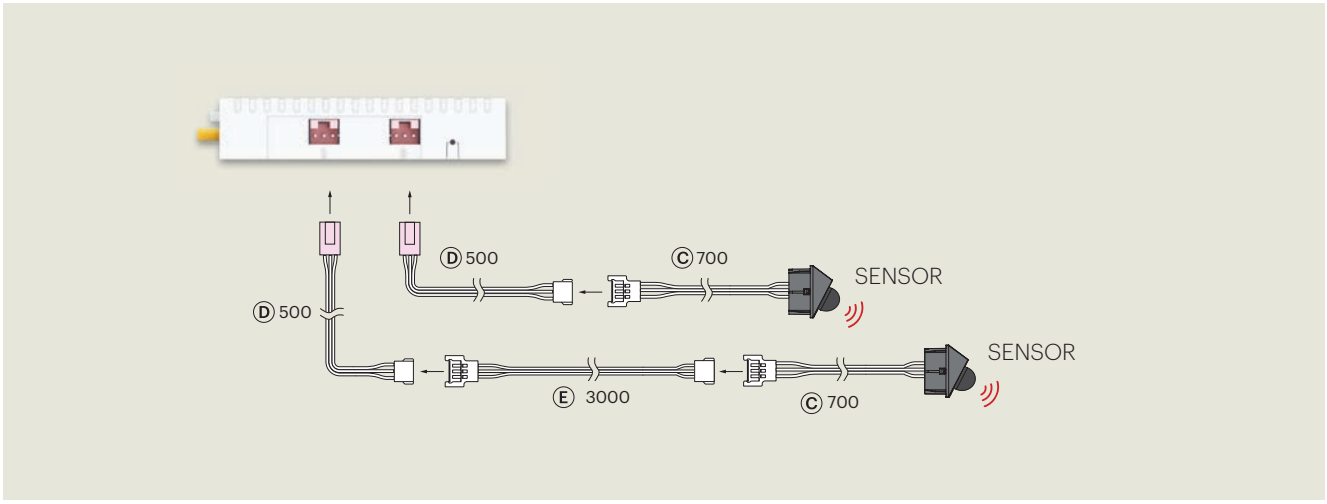
WIRED SENSORS
(not included)

ATTENTION:

- Any compatible sensors (not included - see page to the side) connected to the module let you simultaneously switch on or off all the light fixtures connected to the module
- You can connect up to 2 sensors to each module (both sensors control all the light fixtures connected to the module).
- EDC light fixtures (§ 2.2) can be connected to WIRED C by using the EMOTION Jumper cable (§ 2.3) for choosing the colour temperature during installation.
  It is therefore not possible to change the colour temperature through the sensors connected to the module.
- Only use it with light fixtures that do not have a built-in power-on system (§ 3) or an external one (§ 4)
- Keep the same power supply voltage (12 V or 24 V) for an in-line connection to other Distributor Modules/Control Modules.

5. MEC Driver System

Each compatible sensor has specific controls which can be set by following the appropriate procedure indicated in the manual: it also keeps the same settings if the module reboots after a power failure. The sensors come with a standard 700+500mm cable (C+D): a 3000mm extension can be connected if necessary, which must be ordered separately (E - just one extension can be connected for each sensor).



PIR SENSOR
Recessed motion sensor

Recessed hole: Ø20mm.
This sensor works properly if installed at a height of 1 to 2.5 m. YOU can set the auto power-off time by choosing between 16 or 180 seconds (from the last detected movement).

TOUCH SWITCH
Recessed touch switch

Recessed hole: Ø20mm ON/OFF Function: press quickly to switch the light on and off; DIMMER Function: press for longer to continuously adjust the luminous intensity (10%-100%).

IR DOOR WEDGE
Swing door sensor

Surface mounted: you can adjust the brightness to 10% for any connected lamps once the door is closed (to create decorative lighting on furniture with glass doors when closed).
Dual IR sensor, perfect for furniture with two doors.

DOUBLE IR SENSOR
Swing door sensor

Recessed installation: you can adjust the brightness to 10% for any connected lamps once the door is closed (to create decorative lighting on furniture with glass doors when closed).
Dual IR sensor, perfect for furniture with two doors.

24 V 1-channel radio frequency receiver module

Simultaneous control of up to 8 EDC light fixtures (§ 2.2)
only through the special L&S KINETIC SWITCH transmitter

USER MANUAL

24 V

120W max total / **72W** single input

CONTROL

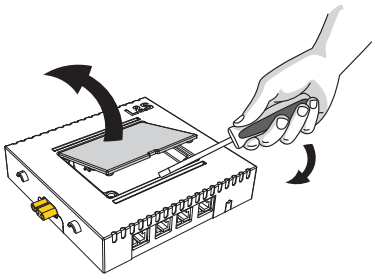
KINETIC SWITCH
TRANSMITTER
(not included)

⚠ ATTENTION:

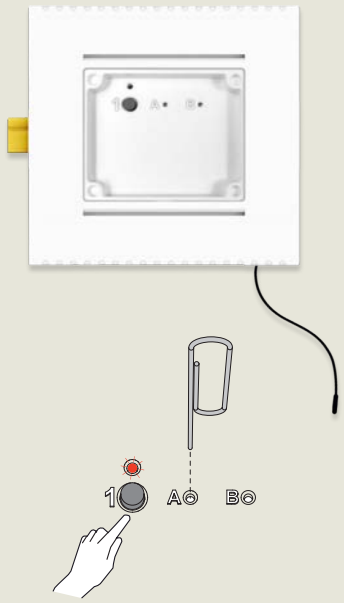
- Functions: ON/OFF - Dimmer - Colour Temperature Change
- The KINETIC Module is only compatible with the special KINETIC SWITCH remote control, a transmitter with piezoelectric technology that works without the use of batteries.
  The remote control is not included with the module.
- You can pair up to 3 KINETIC Modules to one single remote control by following the procedure indicated in the module user manual.
- Only use it with light fixtures that do not have a built-in power-on system.
- Do not use the EMOTION Jumper cable (§ 2.3) with EDC light fixtures (§ 2.2) connected to the module: the colour temperature is adjusted through the module
- Keep the same power supply voltage (24 V) for an in-line connection to other Distributor Modules/ Control Modules (§ 5.4)
- This module is fitted with a receiving antenna (A): do not put it in contact with metal parts and do not damage, tangle or cut it

5.7 - Control module programming

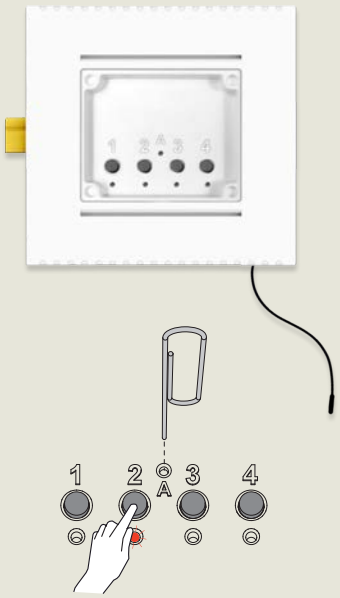
Each control module (§ 5.6) has a programming keypad, which is needed to pair transmitters, to configure apps for voice control or to select the module settings: to access the programming keypad, just remove the module cover using a paper clip or a flat-headed tool.



Smart 1 / Smarty Voice / Kinetic



Smart 4 / BlueSmart



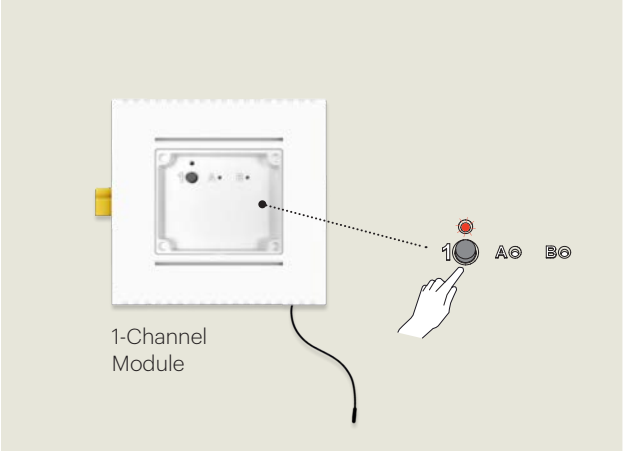
Wired C

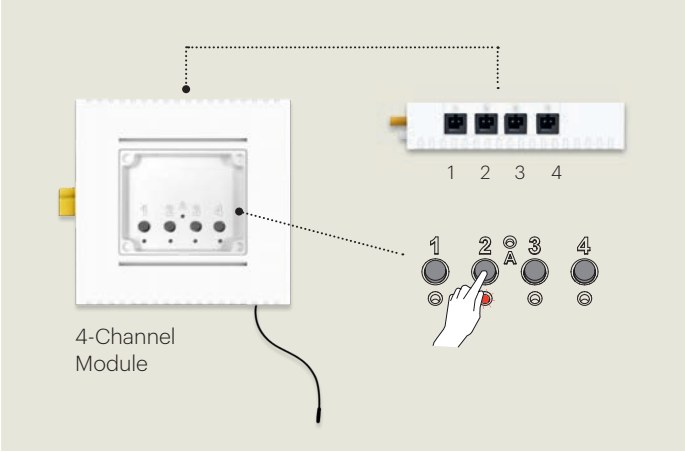
⚠ ATTENTION:

- Close the cover back up once you have finished the programming procedures
- Depending on the settings to be programmed, the programming buttons can be pressed just once or for longer, including by using a paper clip; the number of buttons and the relative programming procedure varies based on the module: please refer to the module instruction manual

5.8 - Transmitter/Receiver Module pairing

Receiver Modules (also called "Receivers") are Control Modules (§ 5.6) that can be recognised by their **black antenna**, which is needed to receive the radio frequency signal sent by any compatible transmitters (remote control or wireless sensors - § 5.9). The procedure is demonstrated below for pairing a transmitter with a receiver module (also see § 6.7):





- Access the programming keypad (§ 5.7) of the Module to be paired and press "button 1" once (1-channel modules: SMART 1 / SMARTY VOICE / KINETIC) or press the button for the LED output that you want to pair (4-channel modules: SMART 4 / BLUESMART - Button 1 = output 1, Button 2 = output 2, etc).
  The red LED on the module will turn a steady red
- Within 10 seconds, send a signal (ON BUTTON) with the transmitter that you want to pair.
  The LED on the module will blink 3 times and then switch off: the transmitter is now paired with the Receiver Module

⚠ ATTENTION:

For their default settings, Receiver Modules do not have any paired transmitters saved in their memory: before pairing a radio frequency transmitter with a Receiver Module, make sure that the MEC Driver system is working and properly powered (plugged in), that the module is securely attached to the power supply unit and that any lamps are connected.

- The transmitter pairing procedure must be repeated for each radio frequency Receiver Module connected in a continuous line to the MEC Driver (§ 6.8)
- You can pair multiple transmitters (up to 10) with one single Receiver Module
- To pair a specific channel on a multichannel transmitter (SMART UP 4) with a receiver, just select the desired channel on the transmitter (see transmitter manual) before starting the procedure from point 1 (§ 6.9)
- To delete (unpair) a transmitter from the memory of a Receiver Module, just follow the procedure indicated in the manual of the Module used.
- SMART GHOST and SMART SWITCH transmitters have a different pairing procedure, which is indicated in the relative user manual

5.9 - Radio frequency transmitters (433.92MHz)

⚠ **ATTENTION:** You can pair multiple transmitters (up to 10) with one single Receiver Module (§ 5.8), as well as one single transmitter with multiple Modules (up to 6). For the functions of each transmitter, please refer to the relative instruction manual, which can be downloaded through the QR Code.

1-channel transmitters:

- Simultaneous control of all the light fixtures connected to 1-channel receiver modules
- Control of one single light fixture connected to a specific output on a 4-channel receiver module

SMART UP 1
Remote control with buttons

SMART SWITCH
Remote control that can be built into existing systems as a wall button

SMART TOUCH
Touch remote control for recessed installation or with a wall spacer.

SMART GHOST
Recessed sensor for installation in swing doors

SMART SENSOR O
PIR sensor with touch buttons for use as a remote control. For recessed installation or with a wall spacer.

SMART SENSOR
PIR sensor for surface-mounted installation with touch buttons for use as a remote control

4-channel transmitters:

- Each channel can be paired with one or multiple outputs on a 4-channel Receiver Module, so you can individually control any connected light fixtures
- Each channel can be paired with one or multiple 1-channel Receiver Modules, so you can simultaneously control all the connected light fixtures

SMART UP 4
Remote control with buttons

SMART 4 RGB
Exclusive remote control for BLUESMART RGB modules

5.10 - Trouble-shooting: power and control

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The power system does not work	Connection	Check that the power extension cord, Distributor Module and Receiver Module are properly attached to the MEC Driver
The second Module connected in a line to the MEC Driver does not work	Voltage	Check that the voltage of the connected Modules is the same (12 V or 24 V): the first module connected to the MEC Driver determines the output voltage for any subsequent modules
The Distributor Module, connected in a line to a Receiver Module, does not respond to the radio frequency transmitter paired with it	Installation	The Distributor Module placed after the Receiver Module does not increase its number of outputs, but rather it only works as a voltage distributor. If you need to connect multiple light fixtures to the Receiver Module, you must include an additional Receiver Module.
The Distributor Module does not work with radio frequency transmitters	Pairing	The Distribution Module provides power only for any connected light fixtures and does not have an internal radio frequency control unit for remote use through transmitters
I have two Receiver Modules connected in a line but the radio frequency transmitter only works with one	Pairing	Check that you have carried out the transmitter pairing procedure with both connected Receiver Modules
The light fixtures connected to a 4-channel Receiver Module (SMART 4 - BLUESMART) do not switch on when using a radio frequency transmitter	Pairing	Check that you have paired the transmitter with the Module correctly: the procedure must be repeated for each channel or for any desired channels
	Connection	Check that each light fixture is connected to the right output on the Module for the transmitter's paired channel: eg. Output 1-Channel 1, Output 2-Channel 2, etc.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
I cannot find the button to press for pairing the radio frequency transmitter with the receiver module	Pairing	Lift up the flap on the receiver module using a flat-headed tool
I have pressed and held down the programming button on the Receiver Module but the radio frequency transmitter is not pairing	Pairing	A longer press of the programming button is used to delete a paired transmitter from the Module's memory. Press the button once to pair the transmitters correctly with the Receiver Module
The radio frequency transmitter is not working	Pairing	Check that the transmitter is correctly paired with the Receiver Module. Lift up the flap on the Module using a flat-headed tool and send a signal with the transmitter: the LED on the module will turn green if the transmitter is paired correctly with the Module, while it will turn red if you need to carry out the pairing procedure again.
	Battery	Replace the transmitter's battery with the same model/voltage: *CR2032 3V* for Smart Up 1 and Smart Up 4. *CR2450 3V* for Smart 4 RGB, Smart Touch, Smart Ghost, Smart Switch, Smart Sensor and Smart Sensor O
The Receiver Module's antenna is damaged after installation	Maintenance	Replace the damaged Smart Module
I have a KINETIC module and cannot pair radio frequency transmitters	Pairing	The KINETIC Module can only be paired with the special KINETIC SWITCH transmitter

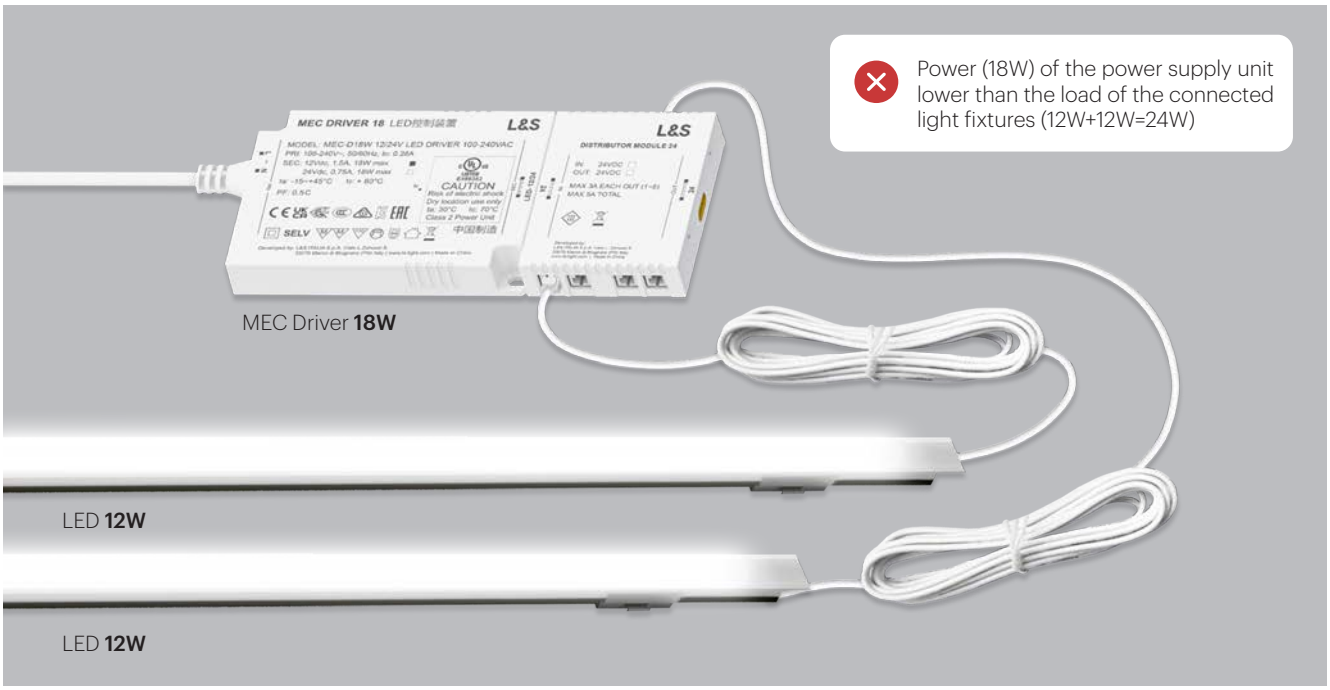
5.10 - Trouble-shooting: power and control

SYMPTOM	POSSIBLE CAUSE	SOLUTION
I have a WIRED C module and cannot pair radio frequency transmitters	Pairing	The WIRED C Module only works with special wired control systems (IR DOOR WEDGE, DOUBLE IR SENSOR, PIR SENSOR or TOUCH SENSOR) and cannot be paired with any type of transmitter
I have a WIRED C Module with an IR DOOR WEDGE / DOUBLE IR SENSOR wired swing door sensor and any connected light fixtures stay switched on, but less bright, even with the door closed	Set-up	The Module has been set to "10%". Lift up the flap on the Module using a flat-headed tool to access the "IR" programming button: press the button and check that the button's status LED is switched on in the "OFF" position.
I have a WIRED C Module with a wired PIR SENSOR and any connected light fixtures take a long time to switch off when I close the door	Set-up	The Module has been set to "180s". Once it detects the door is closed, the wired PIR SENSOR switches off any light fixtures connected to the Module after 16 or 180 seconds: this time can be set on the WIRED C Module. Lift up the flap on the Module using a flat-headed tool to access the "PIR" programming button: press the button and check that the button's status LED is switched on in the "16s" position.

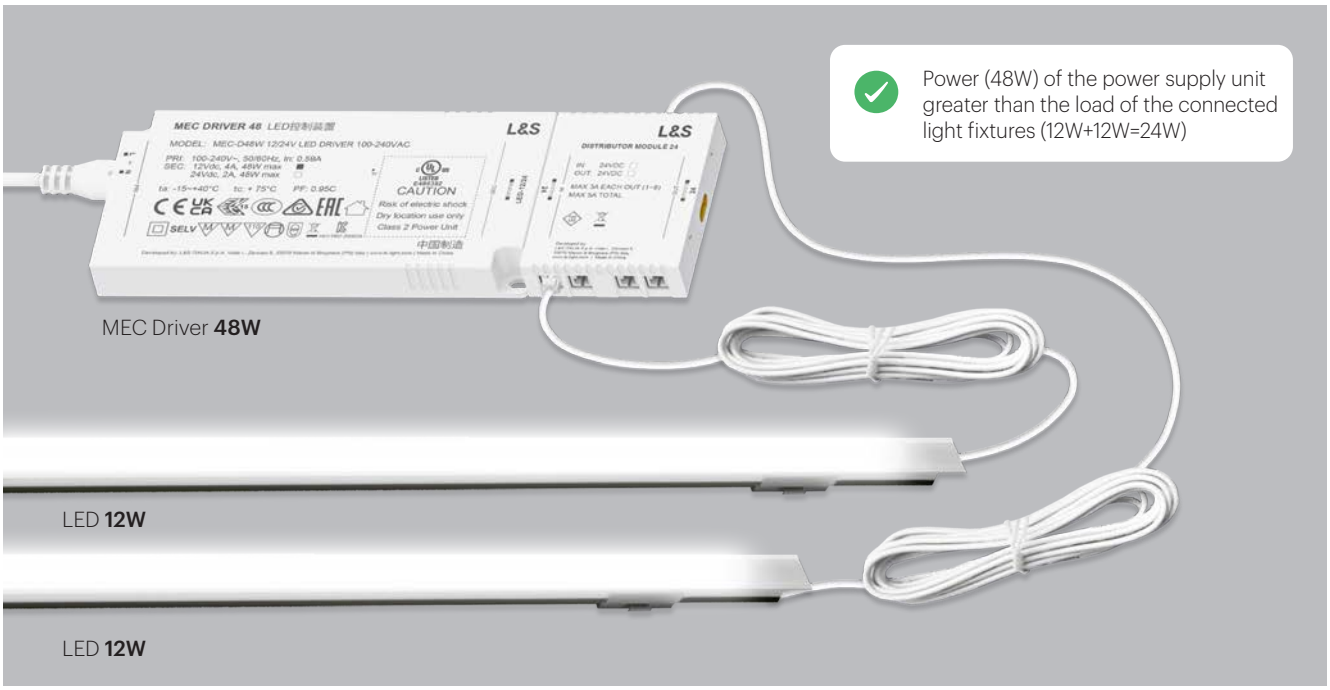
6. Common mistakes

6.1 - Underpowered power supply

When the power supplied by the power supply unit (W) is **lower than the total LED load** (W) of any connected light fixtures, these lights will blink with a strobe effect. In the example below, the 18W MEC Driver power supply **cannot handle the total load** of 24W of the connected light fixtures.

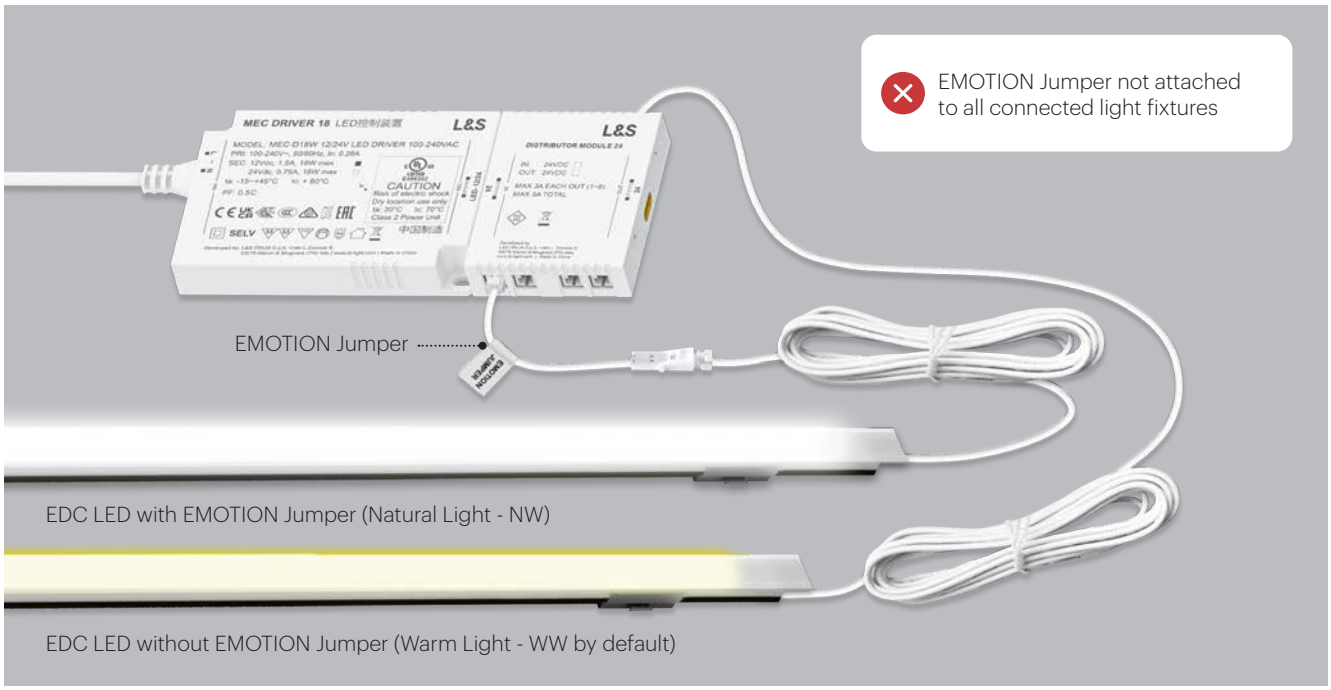


Use a power supply unit with a **power output higher than the total LED load** of the connected light fixtures: in the example below, the 48W MEC Driver is able to handle the total load of 24W.

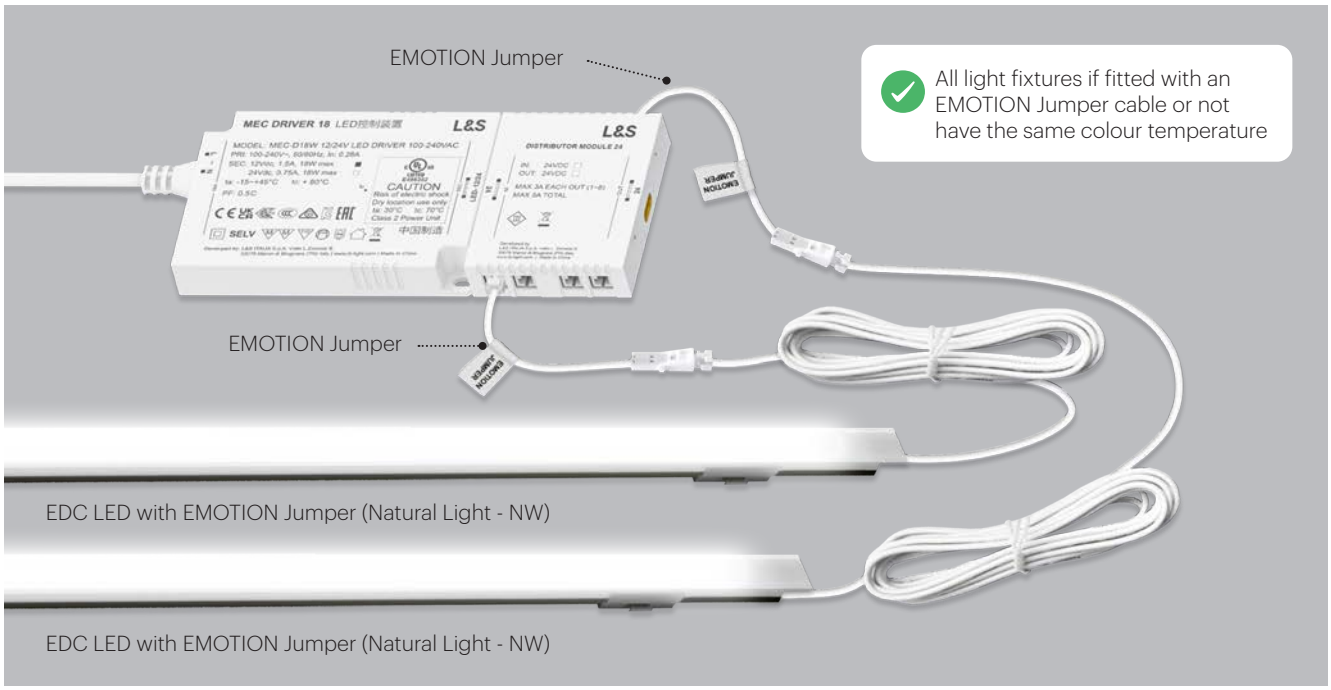


6.2 - Different colour temperatures

EDC light fixtures (§ 2.2) connected to the power supply **switch on by default at the warmest colour temperature available** (Warm White). If I connect the EMOTION Jumper cable (§ 2.3), the light fixture changes its temperature from warm to natural (Natural White)



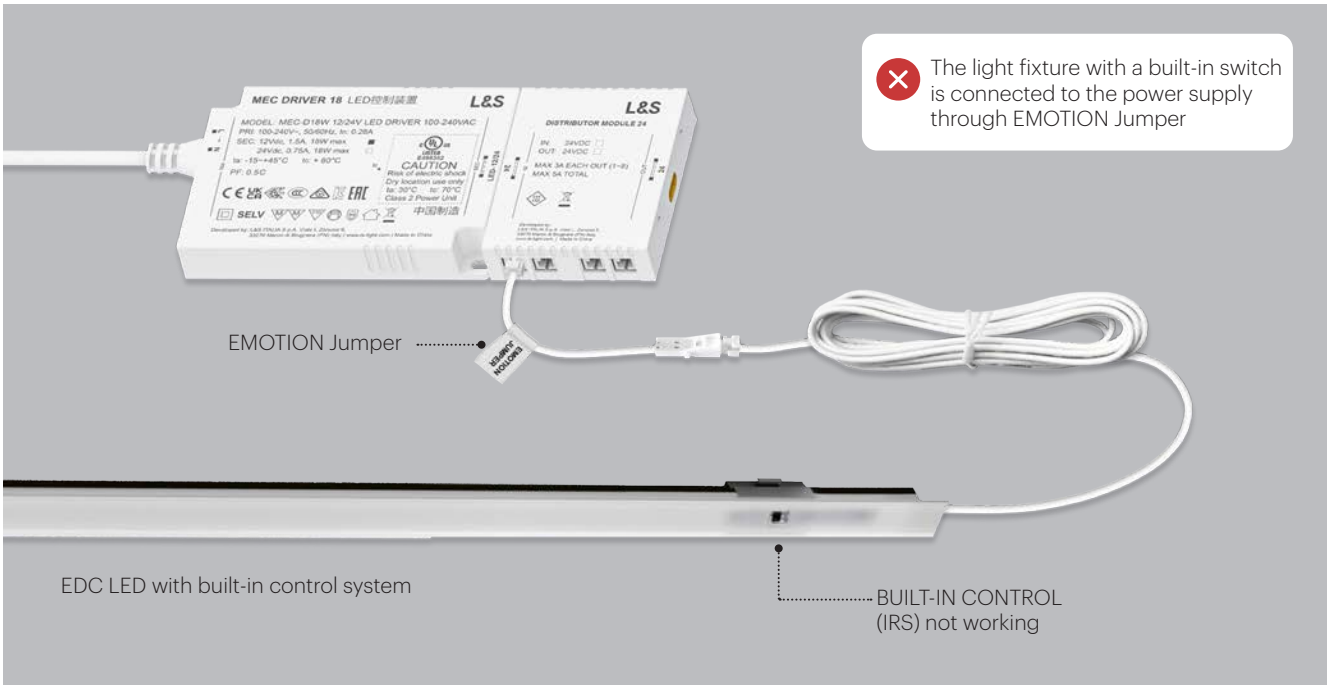
Always make sure that **all light fixtures are fitted with an** EMOTION Jumper or not to keep a consistent colour temperature in any light fixtures connected to the power supply



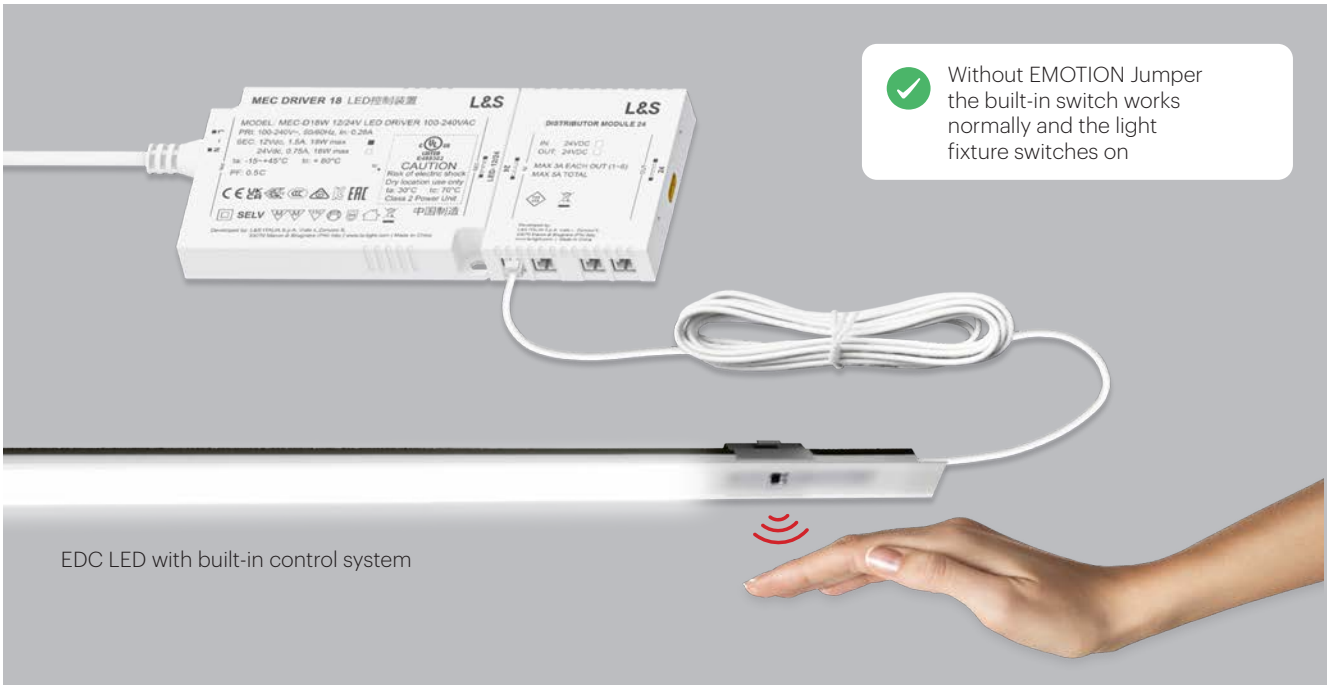
6. Common mistakes

6.3 - Incorrect connection of light fixtures with built-in control

If you use the EMOTION Jumper cable (§ 2.3) with an EDC light fixture (§ 2.2) **fitted with a built-in control system** (§ 3), a fault will occur and the light will not switch on



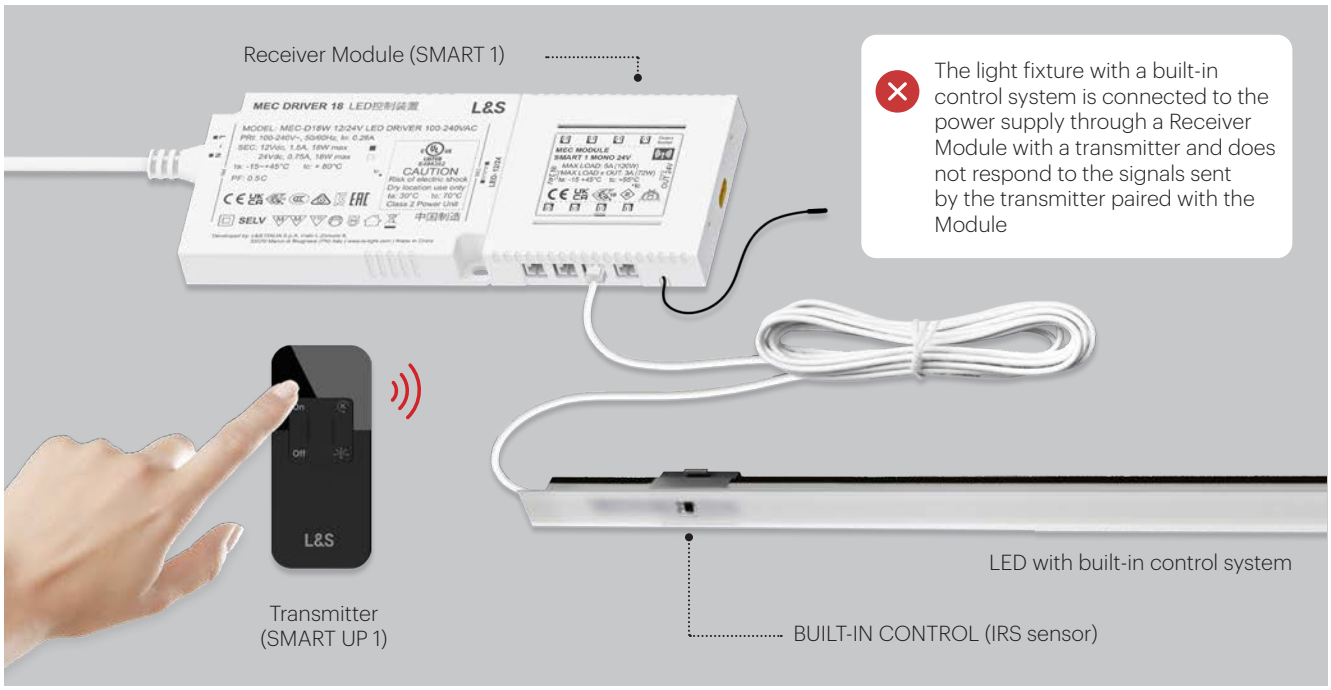
Make sure that any light fixtures fitted with a built-in power-on system are directly connected to the power supply, **without using the EMOTION Jumper cable.**



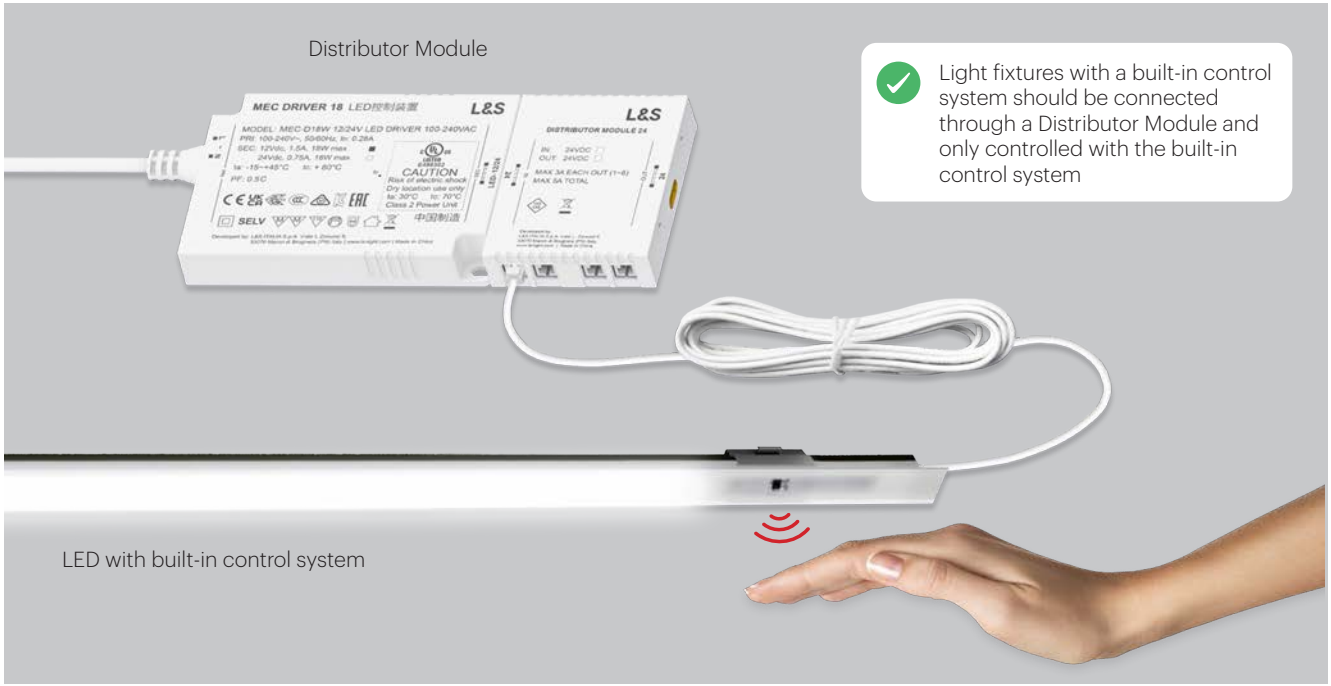
6. Common mistakes

6.4 - Using radio transmitters with light fixtures with built-in control

Light fixtures fitted with a built-in control system (§ 3) **cannot be connected to any Control Modules**, so it will not even be possible to use remote transmitters or wired sensors compatible with the Module to switch on any connected light fixtures.

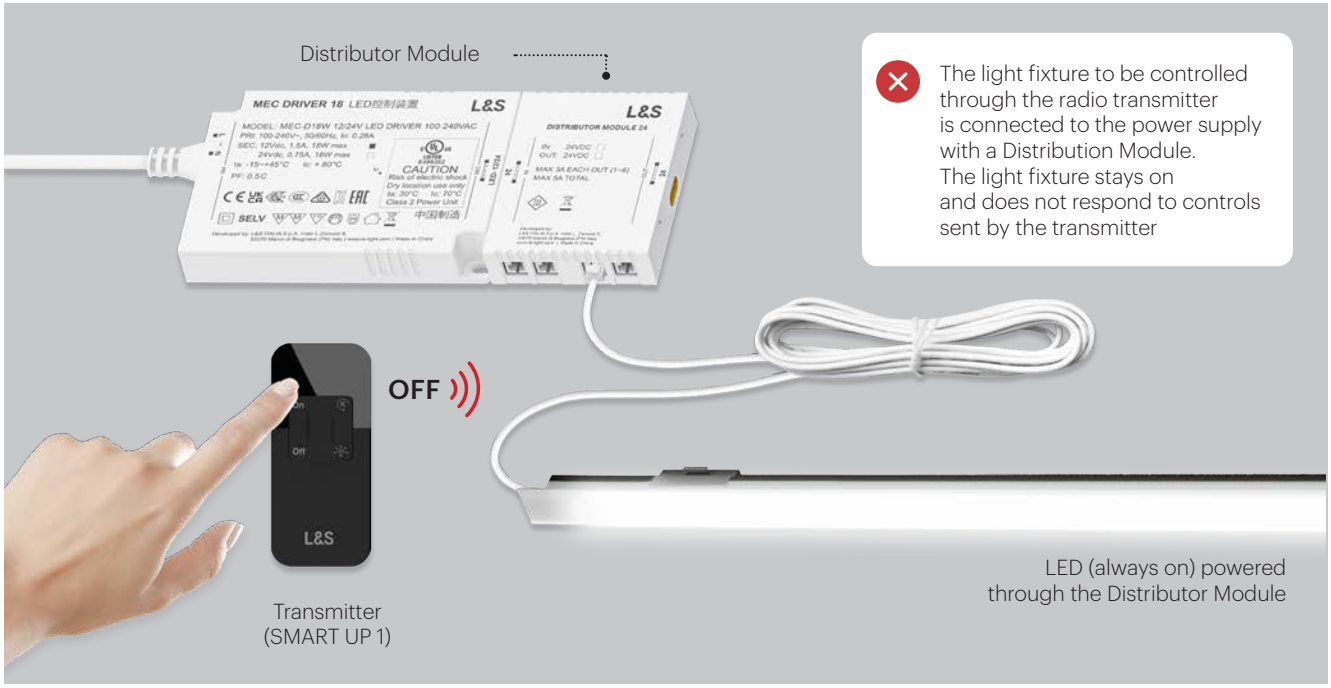


Make sure that any light fixtures fitted with a built-in power-on system are connected to the power supply **through a power distributor** (Distribution Module or Y Cable - § 5.5).

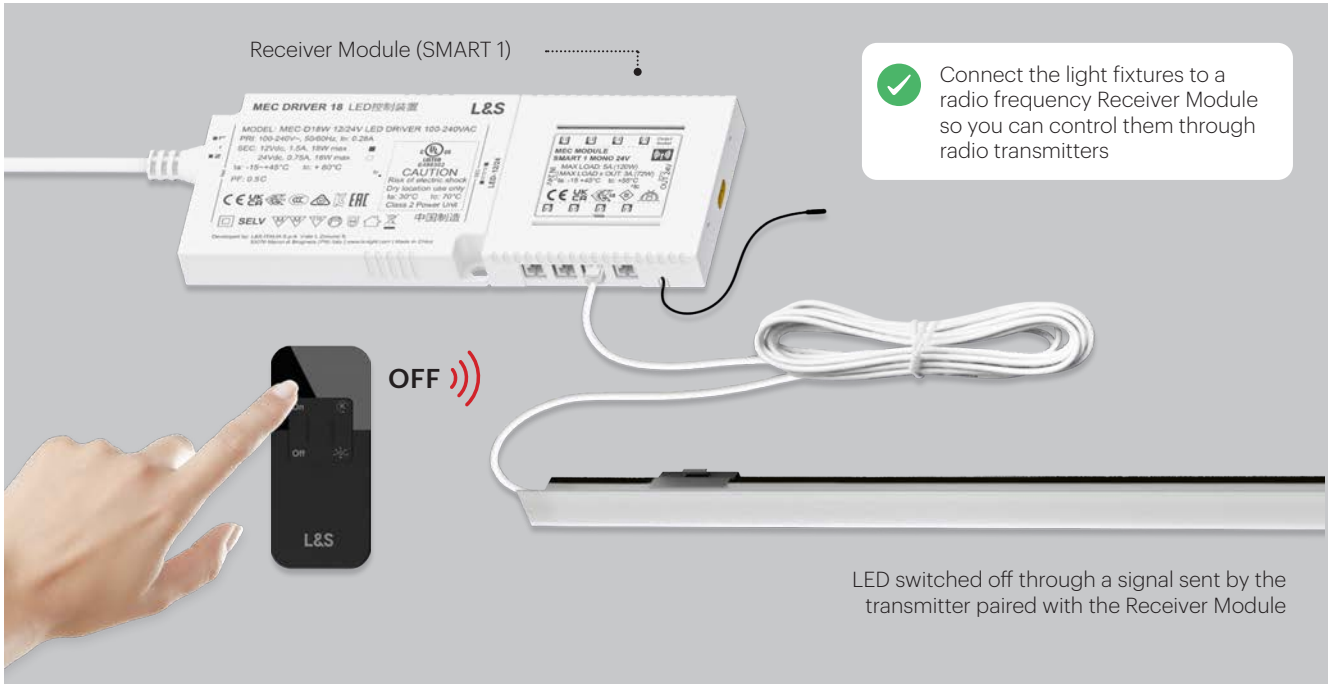


6.5 - Using radio transmitters with Distributor Modules

Power distributors (Distributor Module / Y Cable - § 5.5) only provide 12 V or 24 V DC power to any connected light fixtures and **cannot be controlled** by remote transmitters (§ 5.9) as they do not have a control unit to receive radio frequency signals.

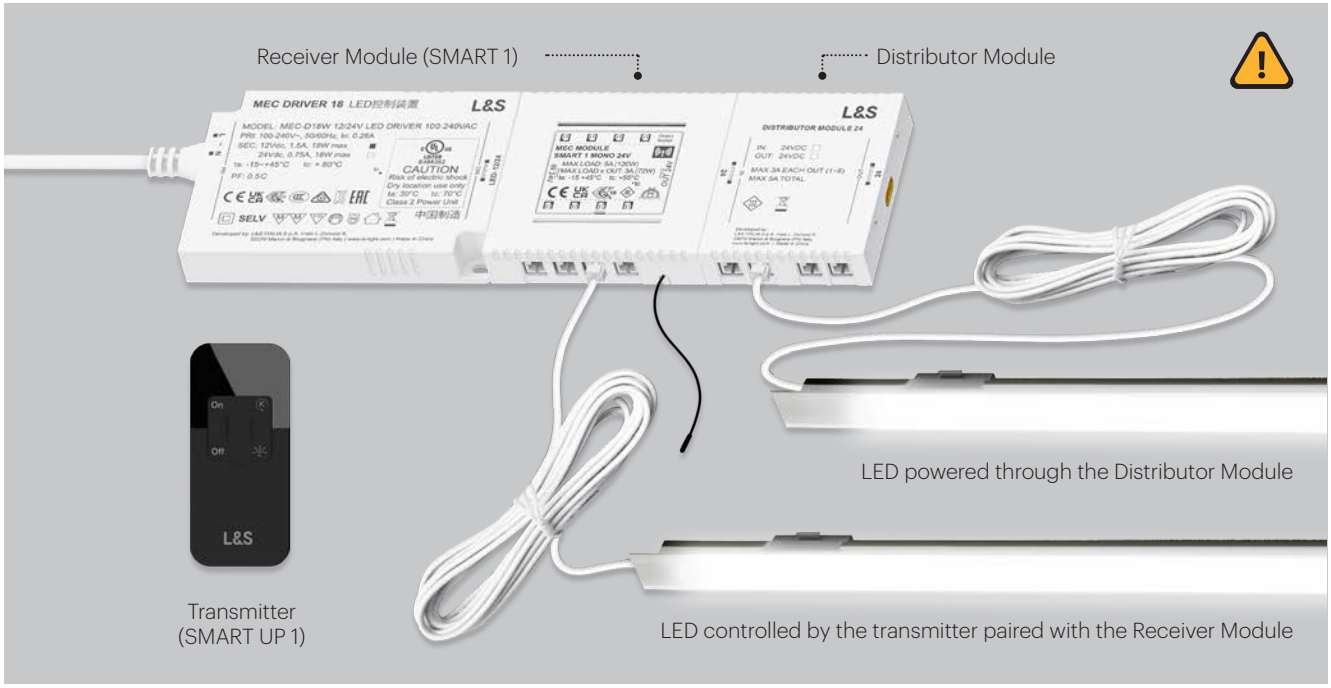


If you need to control light fixtures through radio transmitters, you will need to use a **radio frequency Receiver Module** (black antenna - § 5.8) to connect the light fixtures.

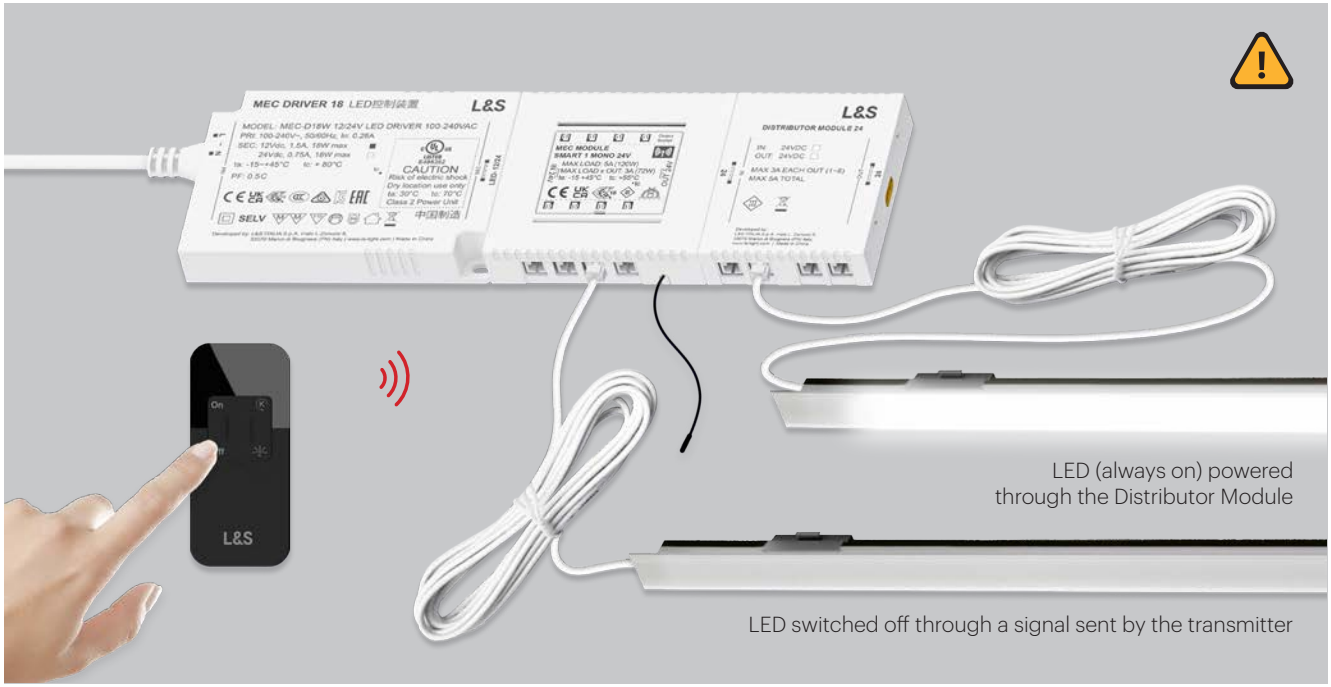


6.6 - In-line connection of power distributors

A power distributor (Distributor Module/Y Cable - § 5.5) placed after a radio frequency Receiver Module (with a black antenna - § 5.8) **does not increase its number of outputs**, but rather it only works as a voltage distributor for any light fixtures connected to it.

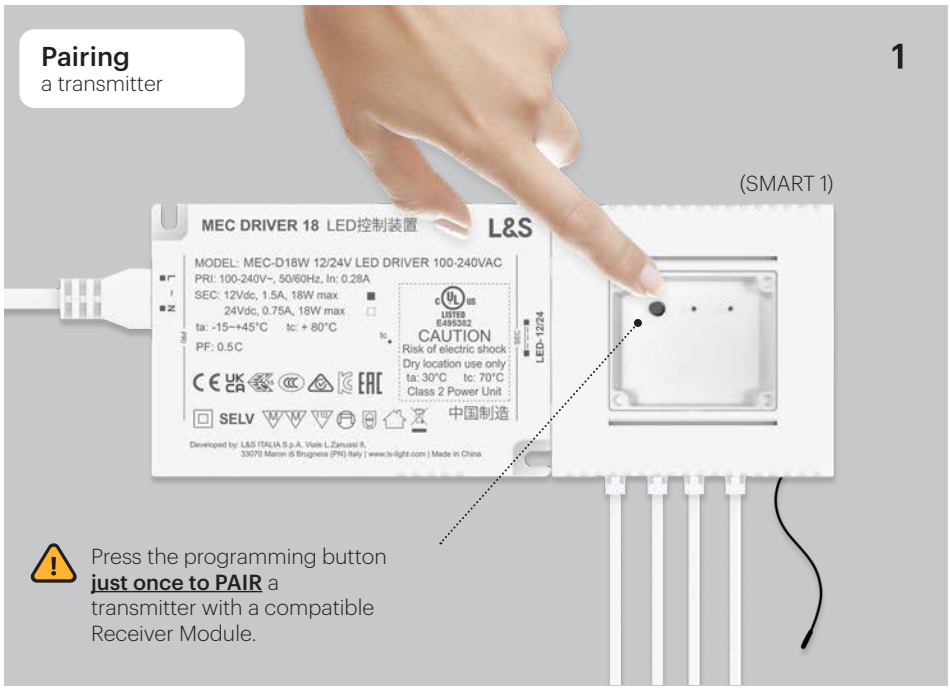


The transmitter only controls (i.e. switches off in the example below) any light fixtures connected to the paired Receiver Module: the light fixtures connected to the Distributor Module **will always stay on**.

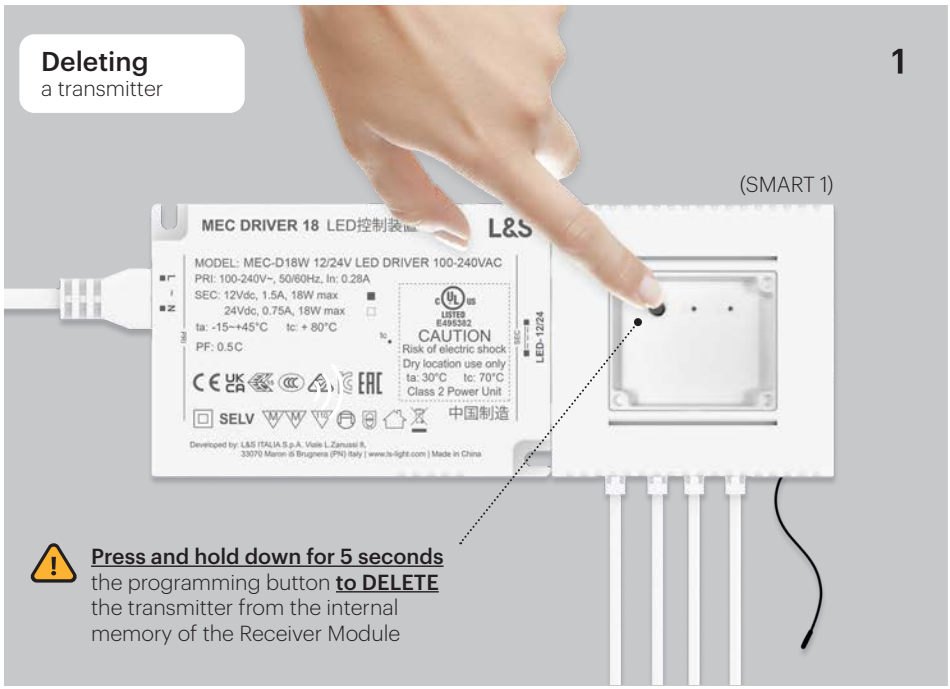


6.7 - Pairing a transmitter with the Receiver Module

To pair a transmitter with a compatible radio frequency Receiver Module (black antenna - § 5.8), you need to press the module's programming button (or the button for the output to be paired on any multichannel Modules) **just once to then send a signal with the transmitter to be paired**.

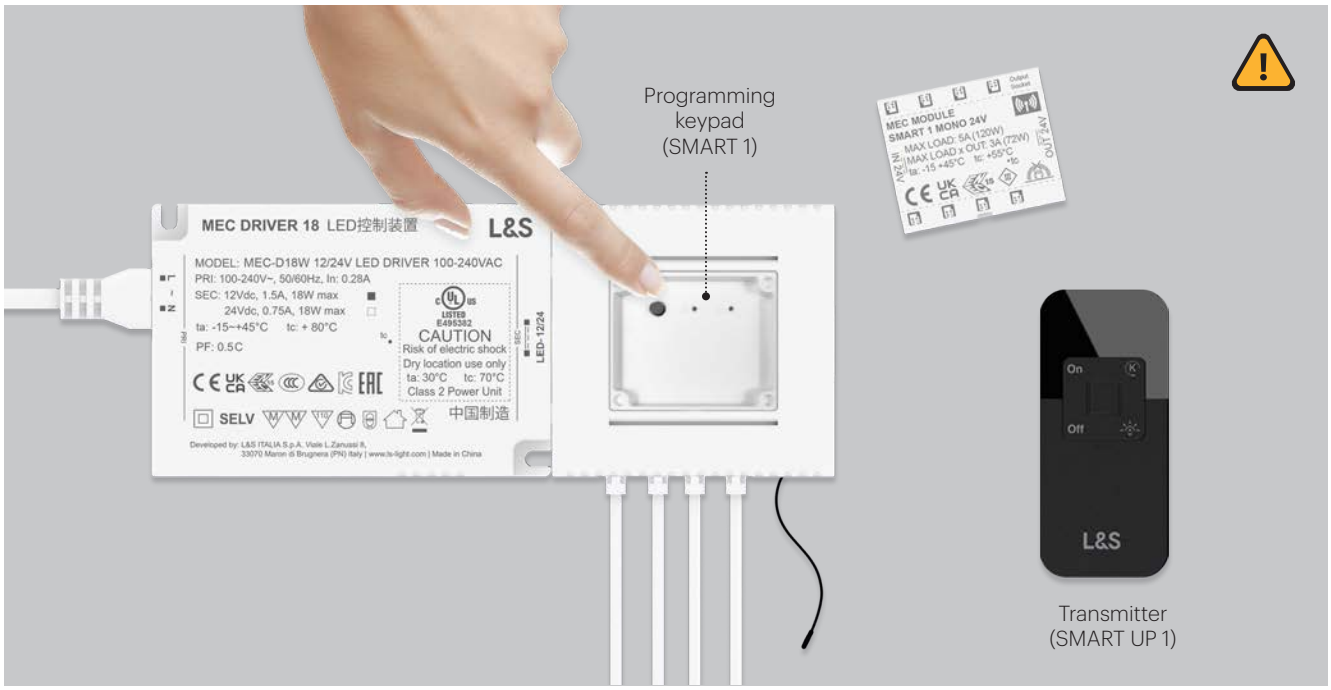


While if **I press and hold down** (5 sec) the programming button and send a signal with the remote control, it will be **deleted** from the Receiver Module's memory.

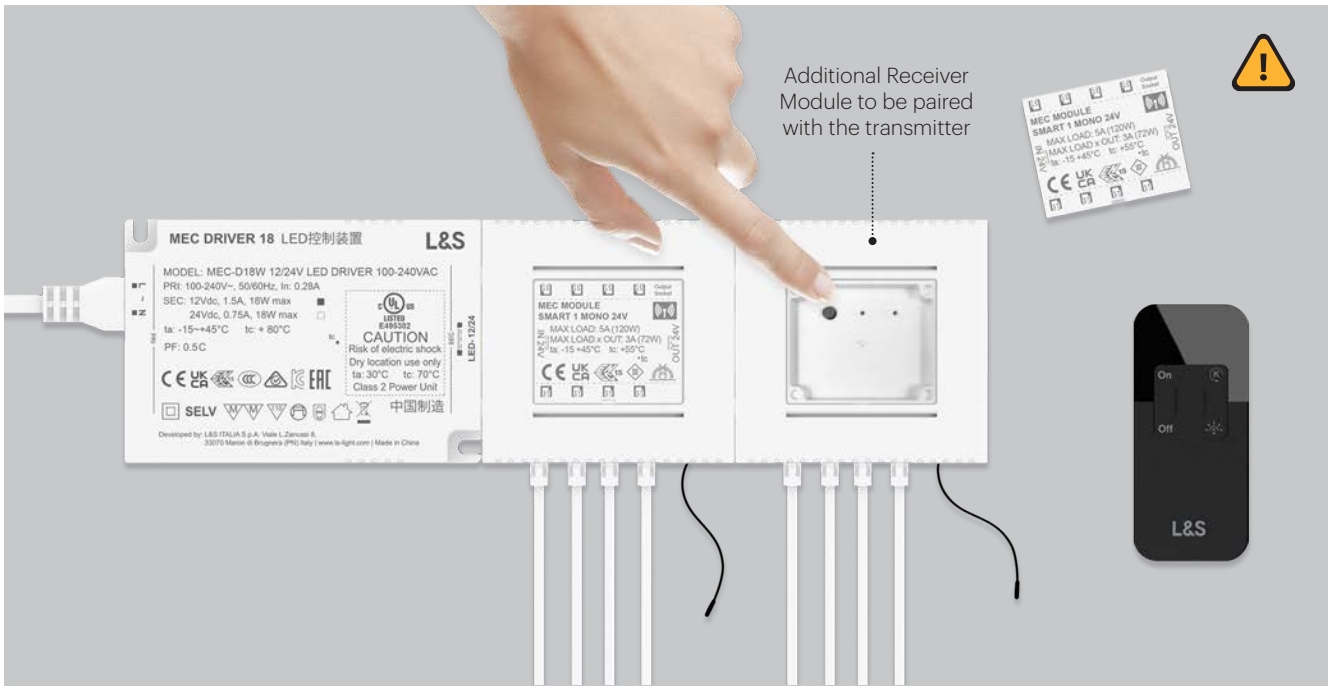


6.8 - Pairing a transmitter with multiple Receiver Modules in a line

In order to use a transmitter (§ 5.9) with a compatible radio frequency Receiver Module (with a black antenna - § 5.8), you will need **to follow the relative pairing procedure** (as indicated in the Module's manual) by accessing the programming keypad on the Module used.

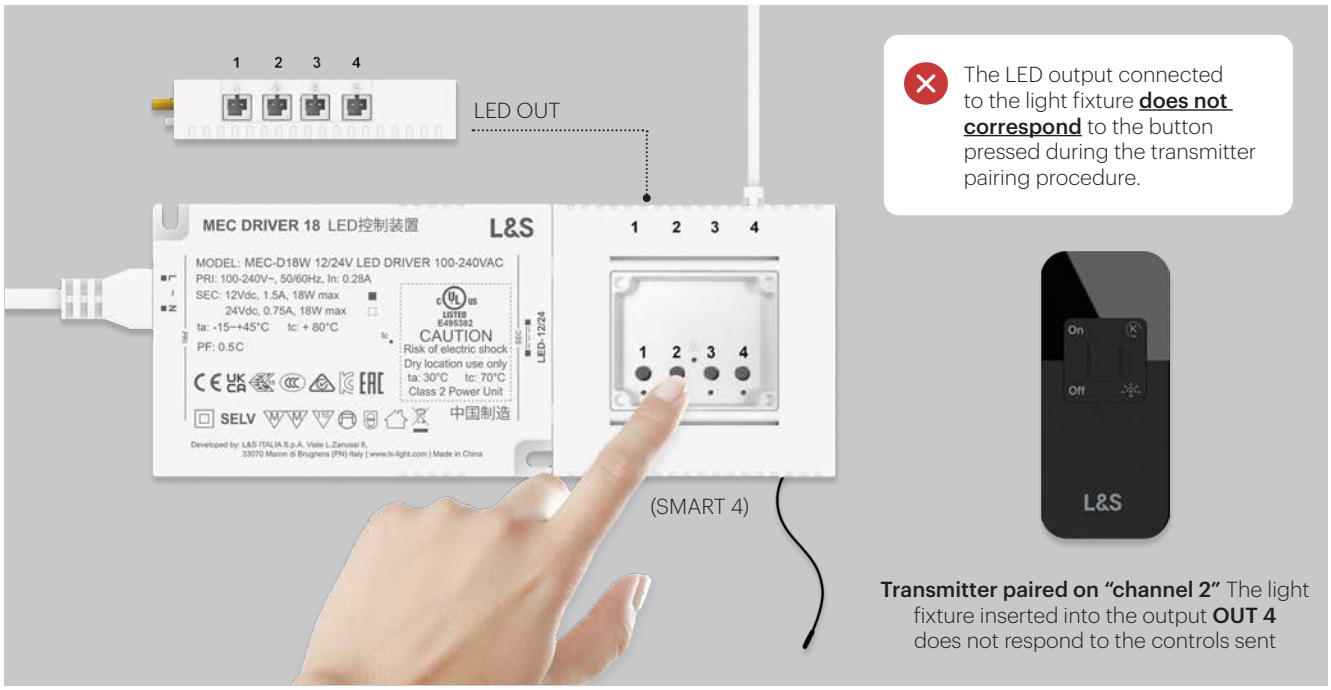


When multiple Modules are connected in a line, you always still need to carry out the transmitter pairing procedure **on all the connected Modules** so you can control them through the transmitter.

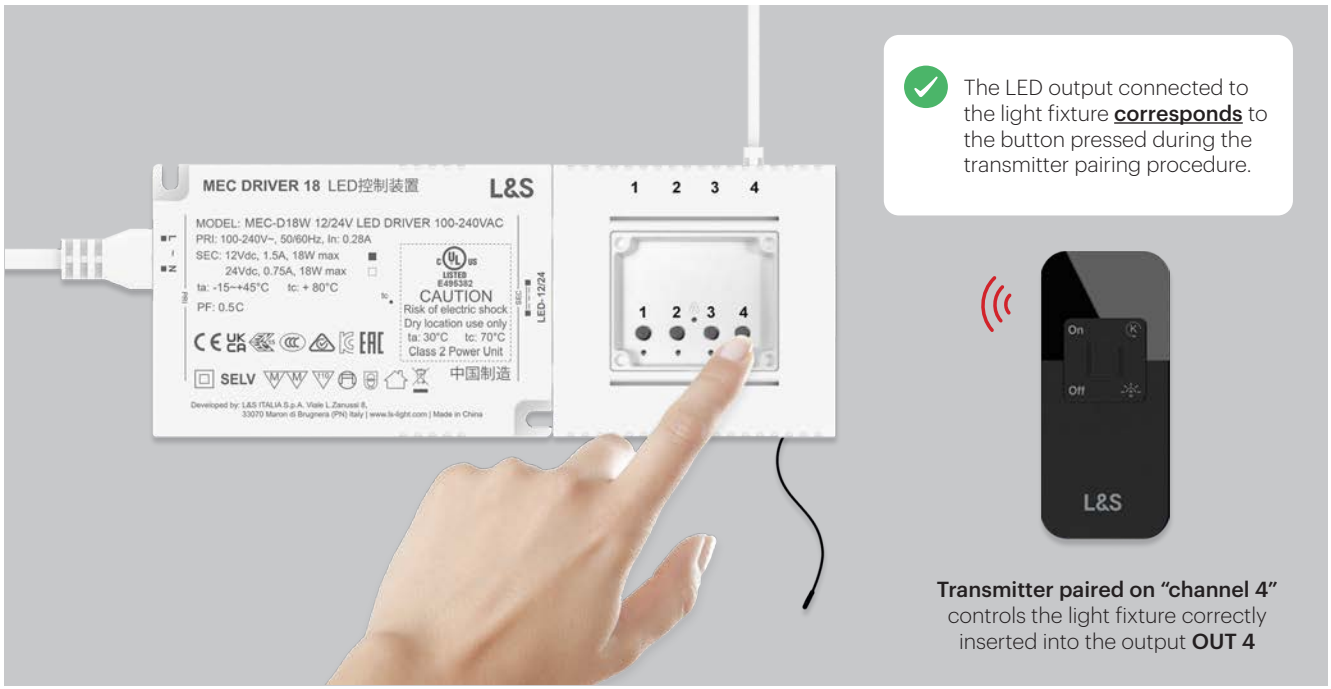


6.9 - Pairing a transmitter with 4-channel Receiver Modules

A 4-channel radio frequency Receiver Module (**§ 5.8**) (Smart 4/BlueSmart) has 4 programming buttons that must be pressed during the transmitter pairing: **each button corresponds to a specific numbered LED output** on the Receiver Module (Button 1 = Output 1 / Button 2 = Output 2, etc)



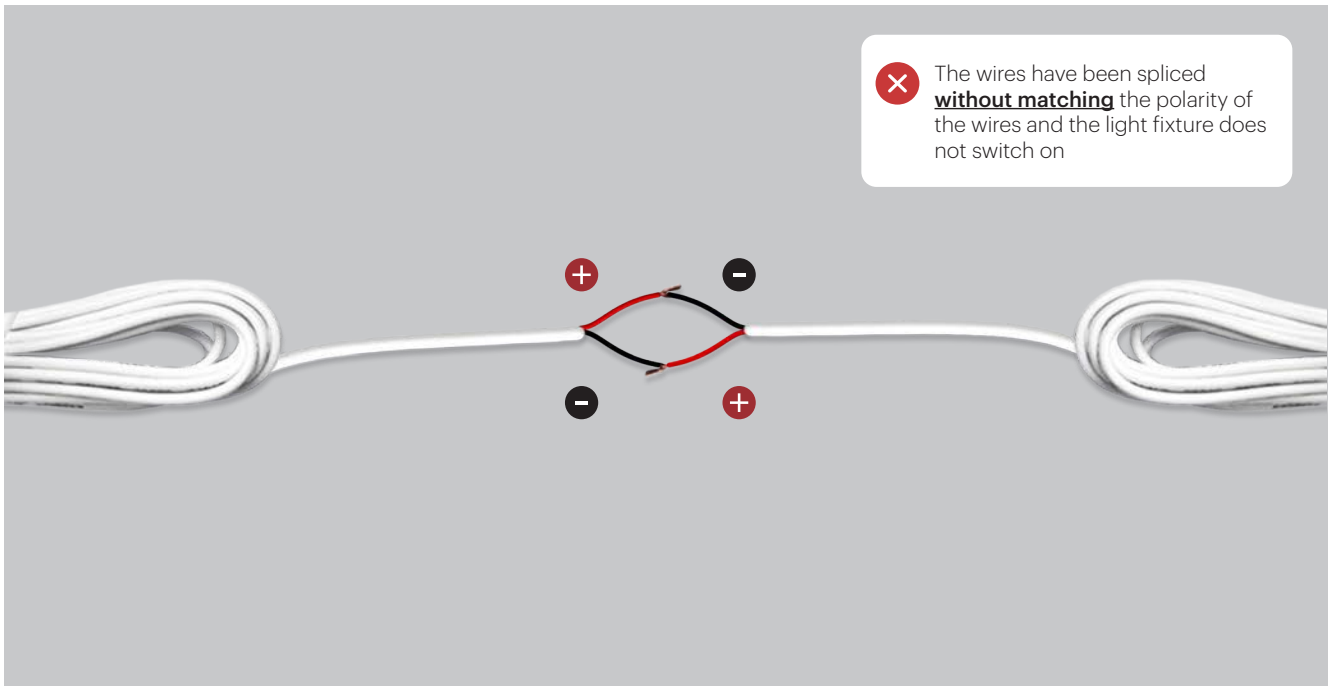
During the transmitter pairing, make sure that **the right button has been pressed**, corresponding to the LED output connected to the light fixture to be controlled through the transmitter.



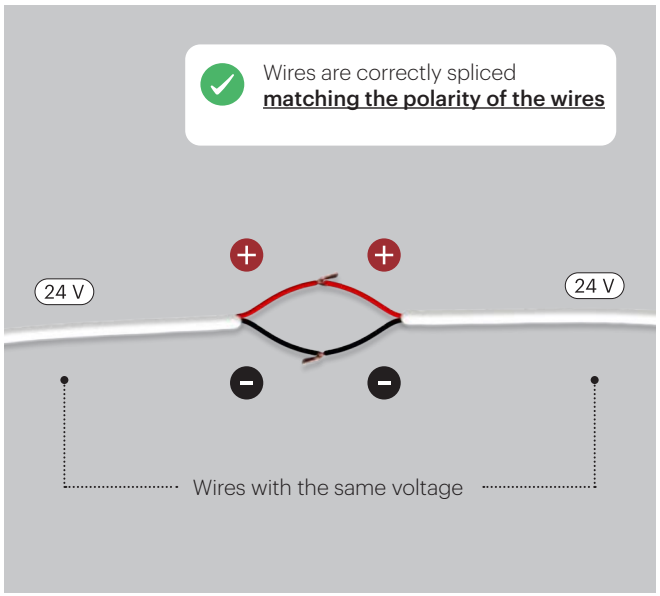
6. Common mistakes

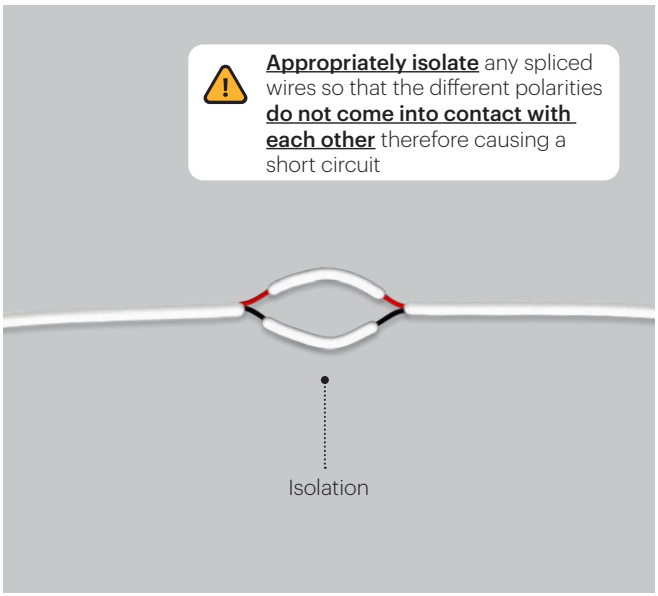
6.10 - Matching the polarity of spliced wires

If, due to assembly requirements, you need **to manually splice** low 12 V or 24 V DC voltage power cords on light fixtures, pay careful attention that **the polarity is always matched** for the cords: red wire (+ pole) / black wire (− pole)



Also make sure that you follow the power supply voltage (**do not splice** a 12 V wire with a 24 V wire) and that you **appropriately isolate any spliced wires** so you do not cause any short circuits. **L&S does not recommend manual wire splicing**, especially if this procedure is carried out by unqualified technical staff. In this case, it is best to use appropriate L&S extensions complete with connectors.





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