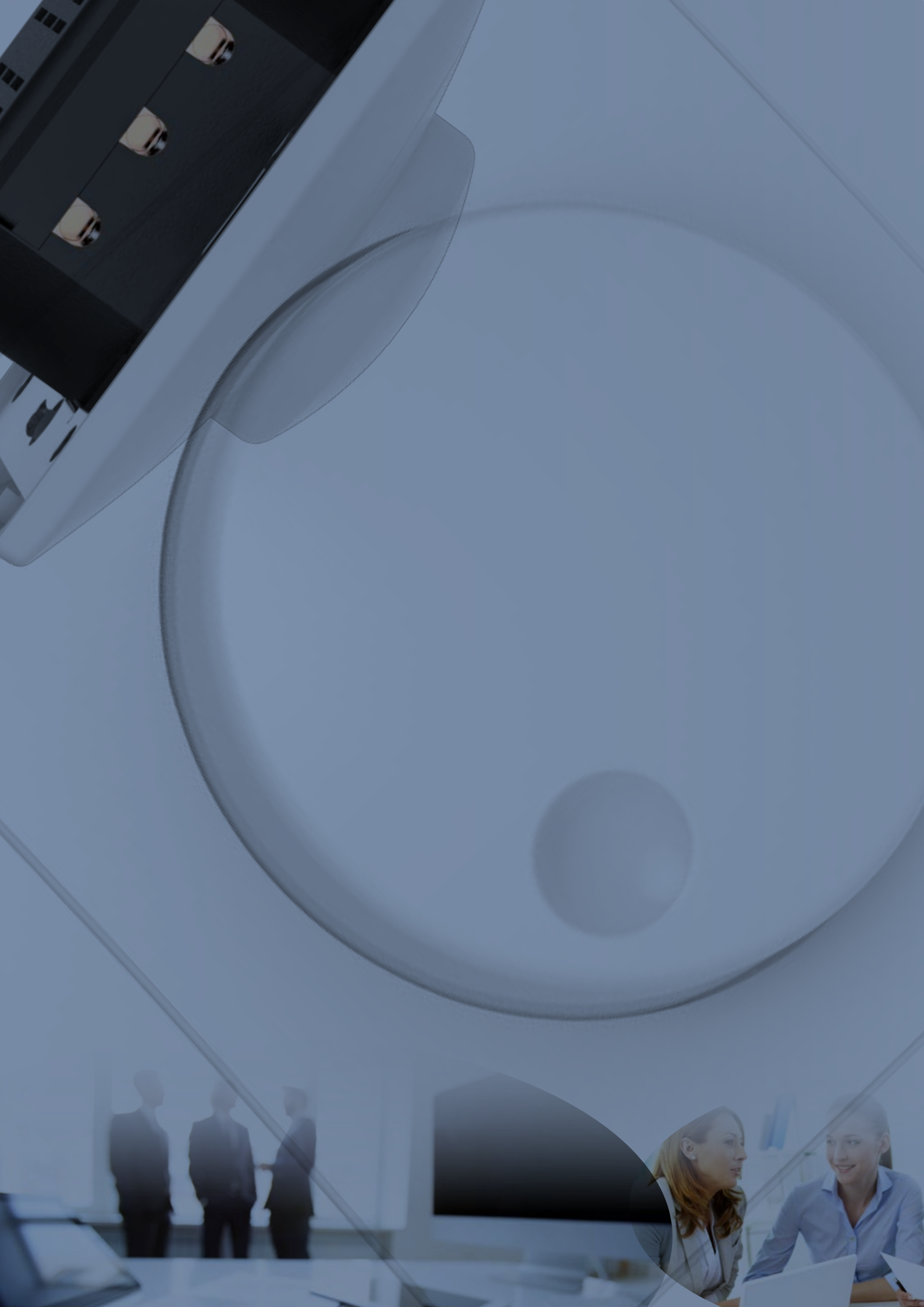




L I G H T I N G & E N E R G Y M A N A G E M E N T S Y S T E M S





MASTER Electric & Electronic (A. Tsitsikas & Co) was founded in 1992 aiming at designing and manufacturing products and systems of automation with the main recipients being electrical installations for residence and industry. The company facilities are located at the Industrial Area of Thessaloniki-Sindos, 25 km away from the center of the city.

The scientific training, expert staff, modern equipment, meticulous quality control and direct technical support established the company in the Greek market very soon.

After research on market requirements, the company decided to build new innovative products using digital technology.

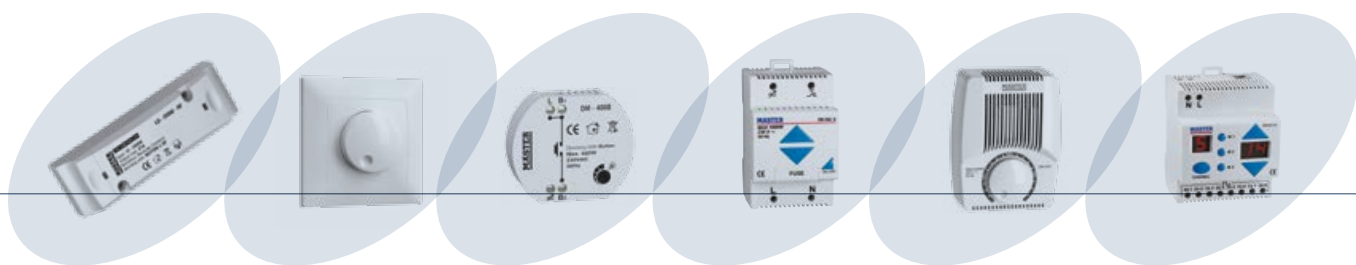
These moves made the company able to make new partnerships with large corporations.

During the year 2011 the company was oriented in researching and developing applications of innovative technologies such as management, control and dimming of fluorescent lighting systems, CFL lighting systems and LED lamps in order

to save energy at homes and businesses where that goal was completed successfully.







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LED CONTROLLERS

NEW!

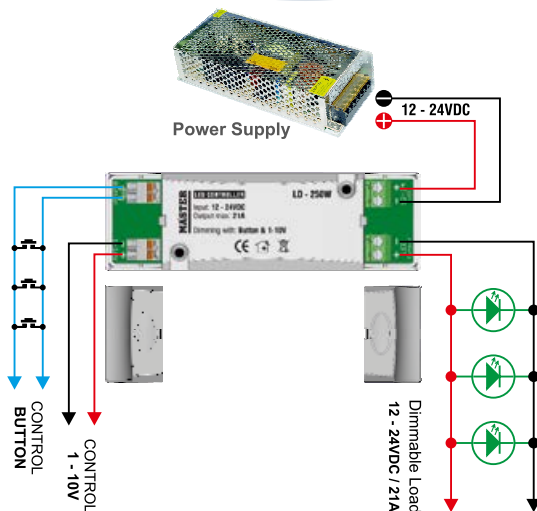
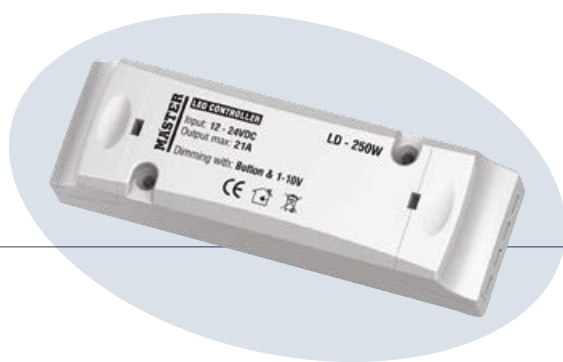


Led controllers are qualified products covering the needs of controlling the lighting intensity in domestic and professional spaces with LED bulbs, Led stripes and RGB projectors.

They are safe and reliable products because they were designed with special integrated circuits and plastic parts for adverse operating conditions.

The plurality of controlling options that LED Controllers provide, (BUTTON , 1-10V, DMX-512, PWM, RF) combined with high controlling power and easy electrical installation makes them unique.

LED Controller	Mosfet Digital Dimmer
FUNCTION	Soft Start
OPERATION VOLTAGE	12 - 24VDC
CONTROL POWER	LD-250W, LD-250W-RF, LD-250W-DMX, LD-250W-BST: 250 Watt with 12VDC input and 500 Watt with 24VDC input. LD-RGB, LD-RGB-DMX, LD-RGB-BST: 3x100 Watt with 12VDC input and 3x200 Watt with 24VDC input.
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
FUSE	Electronic Protection 15A (against short-circuit, overheating and overvoltage)
CONTROL LOAD	<ul style="list-style-type: none"> • LED Bulbs • LED Stripes • RGB Projectors

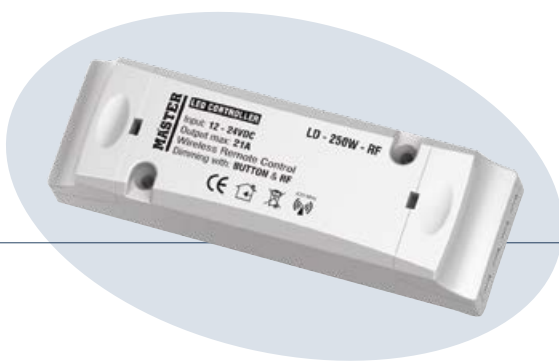


LD - 250 W

LED CONTROLLER (BUTTON & 1-10V) (1 Channel)

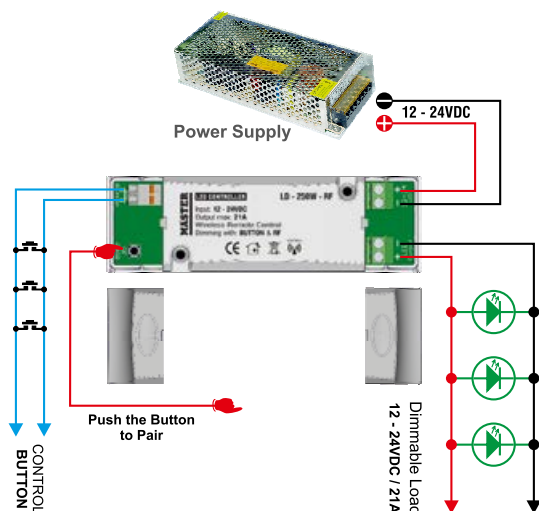
- Control from one or more parallel connected button to adjust lighting intensity (ON / OFF by briefly pressing the button and stretch the lighting - Dimming with a long press).
- Control through other systems and lighting regulators having communication protocol 1-10V.
- Input: 12 - 24VDC power supply
- Output: 12 - 24VDC / 21A to the electrical load.
- Capability of remote control through Button or Input 1-10V
- Soft Start mode to protect lamps
- Indicator of Operation (LED)
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.

* Function 12V / 250W, Operation 24V / 500W



LD-250W-RF

LED CONTROLLER (BUTTON & RF) (1 Channel)



- Wired operation with one or more parallel buttons for adjusting the lighting intensity (ON / OFF by briefly pressing the button and stretch the lighting - Dimming with a long press).
- Wireless operation with a wireless three buttons remote control (RF-CTRL). (ON / OFF button with momentary pressure and UP / DOWN buttons to increase or decrease dimming of light respectively).
- Input: 12 - 24VDC power supply.
- Output: 12 - 24VDC / 21A to the electrical load.
- Wired way of controlling through button.
- Wireless way of controlling through remote control.
- Auto transition from wired to wireless control.
- Soft Start mode to protect lamps.
- Indicator of Operation (LED).
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.

Pairing with the Remote Control RF-CTRL:

Step 1: Briefly pressing the button that is located on the board

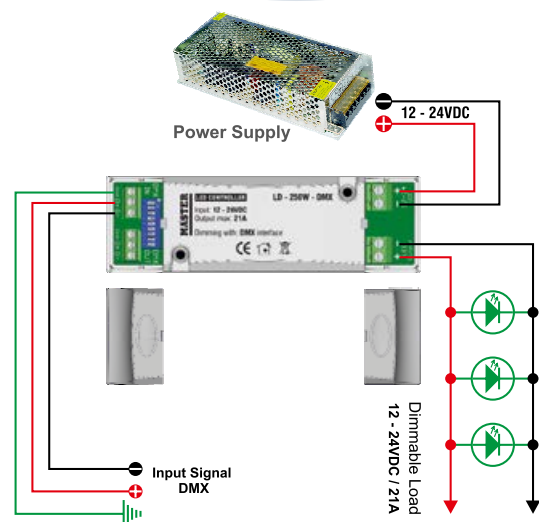
Step 2: Press any button of the remote control

** Function 12V / 250W , Operation 24V / 500W*



LD-250W-DMX

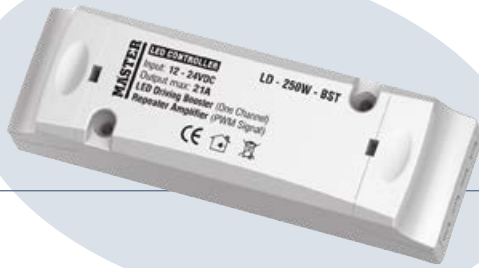
LED CONTROLLER DMX-512 (1 Channel)



- Capability of controlling through DMX-512 communication protocol.
- Signal input (DMX-512) for controlling and adjusting the lighting intensity from other digital systems and professional consoles that have digital DMX-512 communication protocol.
- Signal output (DMX-512) for signaling in addition to a parallel connected device with DMX-512 communication protocol.
- Input 12 - 24VDC power supply.
- Output 12 - 24VDC / 21A to the electrical load.
- Soft Start mode to protect lamps.
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.

** Function 12V / 250W, Operation 24V / 500W*

LED CONTROLLERS

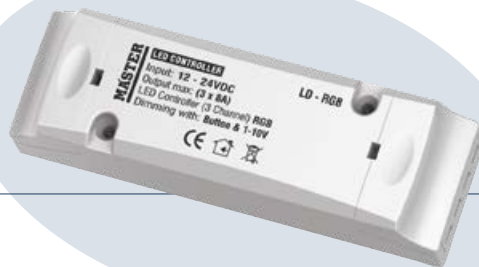
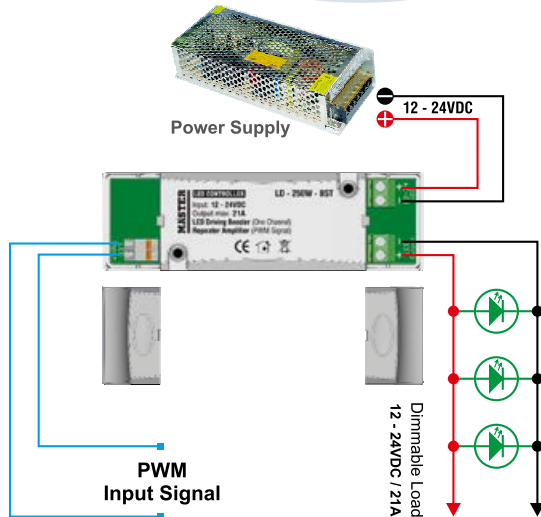


LD - 250W - BST

BOOSTER AMPLIFIER (1 Channel)

- Capability of controlling through PWM signal.
- Signal input (PWM) for controlling and adjusting lighting intensity from other digital systems and lighting regulator (LED CONTROLLERS) having PWM communication protocol.
- Input 12 - 24VDC power supply.
- Output 12 - 24VDC / 21A to the electrical load.
- Soft Start mode to protect lamps.
- Indicator of Operation (LED).
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.

** Function 12V / 250W, Operation 24V / 500W*



LD - RGB

LED CONTROLLER (BUTTON & 1-10V) (3 Channel)

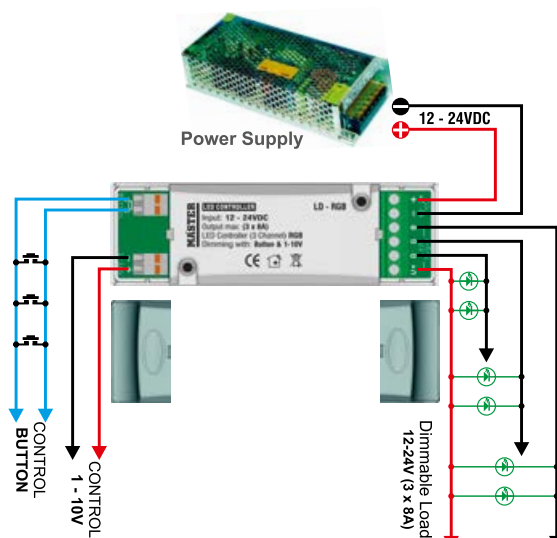
- Control with one or more parallel buttons for adjusting the lighting intensity.
- Control through other systems and lighting regulators having communication protocol 1-10V.
- Input: 12 - 24VDC power supply.
- Output: 12 - 24VDC / 21A to the electrical load.
- Capability of remote control through Button or Input 1-10V (auto transition)
- Soft - Start mode to protect lamps.
- Indicator of Operation (LED).
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.

Button Control:

ON / OFF: Briefly pressing the button.

DIMMING: Long pressing the button.

Lighting Colour Selection: Briefly pressing the button twice the LD-RGB starts rolling all the possible combinations. Briefly pressing the button once again we are choosing the desirable combination of R-G-B and the Controller resets in dimming operation.

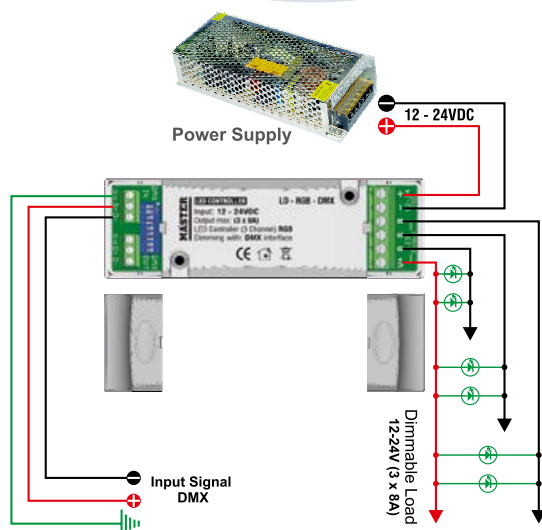




LD - RGB - DMX

LED CONTROLLER DMX-512 (3 Channel) RGB

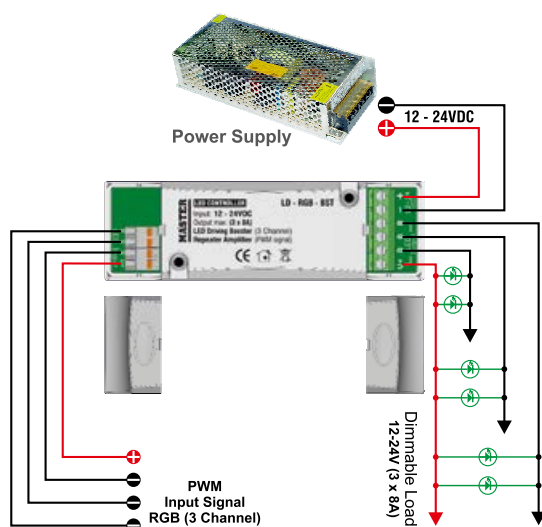
- Capability of controlling through DMX-512 communication protocol.
- Signal input (DMX-512) for controlling and adjusting the lighting intensity from other digital systems and professional consoles that have digital DMX-512 communication protocol.
- Signal output (DMX-512) for signaling in addition to a parallel connected device with DMX-512 communication protocol.
- Input 12 - 24VDC power supply.
- Output 12 - 24VDC / 3 x 8A to the electrical load.
- Soft Start mode to protect lamps.
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.



LD - RGB - BST

BOOSTER AMPLIFIER (3 Channel)

- Capability of controlling through PWM signal.
- Signal input (PWM) for controlling and adjusting the lighting intensity from other digital systems and lighting regulators (LED CONTROLLERS) having PWM communication protocol.
- Input 12 - 24VDC power supply.
- Output 12 - 24VDC / 3 x 8A to the electrical load.
- Soft Start mode to protect lamps.
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.



WALL-MOUNTING DIMMER

DM - 400 L DIGITAL-LED 400W [REMOTE CONTROL]



Dimmer DM - 400L (Lighting Controller) is an innovative product of digital technology Leading Edge & Trailing Edge, specially created to fully cover the needs for regulation of lighting intensity and for energy saving, in the use of lamps (dimmable LED), economy lamps (dimmable CFL) and previous generation light bulbs (Resistive - Halogen).

It is a totally safe, reliable, and aesthetically shaped product made of Special integrated circuits of cutting-edge technology and of resistant plastic parts for difficult conditions of operation and usage.

Handling:

- A rotary potentiometer for modulation of lighting, which incorporates a button (ON/OFF) for turning the lighting on and off.
- Input for wired remote control from one or more parallel buttons for adjusting the lighting intensity (ON/OFF by briefly pressing the button and stretch the lighting - Dimming with a long press).

Function Selection: Leading Edge to Trailing Edge and conversely is accomplished by long pressing on the built-in potentiometer for more than six (6) seconds.

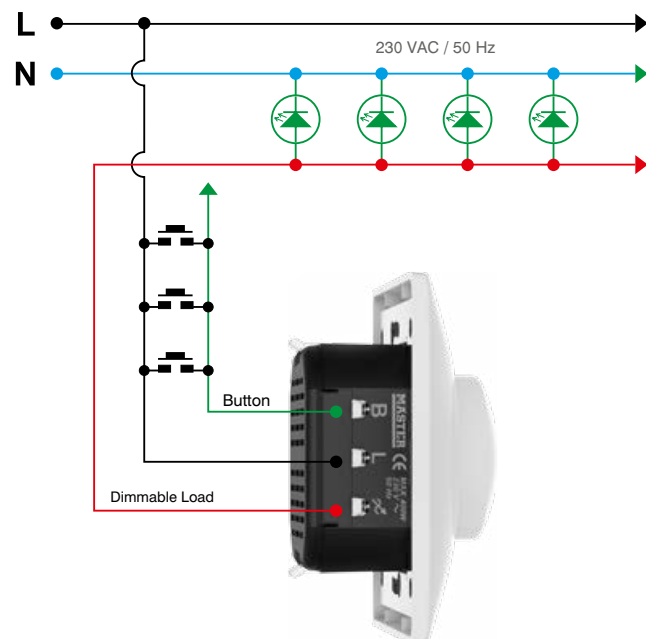
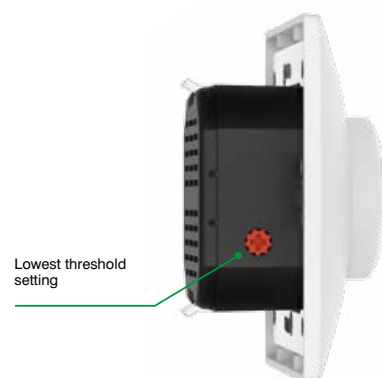
Lowest threshold setting: DM-400L enables the user to preconfigure the minimum point of brightness for Dimmable Led lamps, if required. This process is achieved by adjusting a potentiometer (trimmer) located on the product.

Advantages of DM-400L:

- Specially designed for LED.
- Unlimited number of lamps (Dimmable - Led) up to 400Watt.
- Selection of function (Leading - Trailing Edge) depending on the connected load.
- Soft Start mode to protect lamps.
- Capacity to set a lowest threshold of brightness for lamps.
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.
- Remote control with buttons from one or more points (activation - deactivation and brightness adjustment).



DIMMER	Digital-Led
FUNCTION	Soft Start
OPERATING VOLTAGE	180-230V AC
POWER LINE FREQUENCY	50Hz
OUTPUT POWER	400Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Electrical switch box
NUMBER OF BULBS	Unlimited (until 400 Watt)
SELECT FUCTION	Leading Edge - Trailing Edge
FUSE	Electronic protection against short-circuit, overheating and overvoltage
CONTROL LOAD	<ul style="list-style-type: none"> • LED lamps (dimmable) • CFL lamps (dimmable) • Halogen lamps • Resistive • Magnetic transformers • Electronic transformers • Electric single-phase motors >Universal >Asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations etc).
CONTROL	<ul style="list-style-type: none"> • Rotary Potentiometer (Local) • Button (Remotely)



WALL-MOUNTING DIMMER

DM - 400 N DIGITAL-LED 400W [WITH NEUTRAL LINE]



Dimmer DM-400N (Lighting Controller) is an innovative product of digital technology Leading Edge & Trailing Edge, specially created to fully cover the needs for regulation of lighting intensity and for energy saving, in the use of alternative types of lamps such as EDISON(Filament LED), (dimmable LED), economy lamps (dimmable CFL) and previous generation light bulbs (Resistive - Halogen). It is a totally safe, reliable, and aesthetically shaped product made of Special integrated circuits of cutting-edge technology and of resistant plastic parts for difficult conditions of operation and usage.

Handling: Dimmer DM-400N is controlled by a rotary potentiometer for modulation of lighting, which incorporates a button (ON / OFF) for turning the lighting on and off.

Function Selection: Leading Edge to Trailing Edge and conversely is accomplished by long pressing on the built-in potentiometer for more than six (6) seconds.

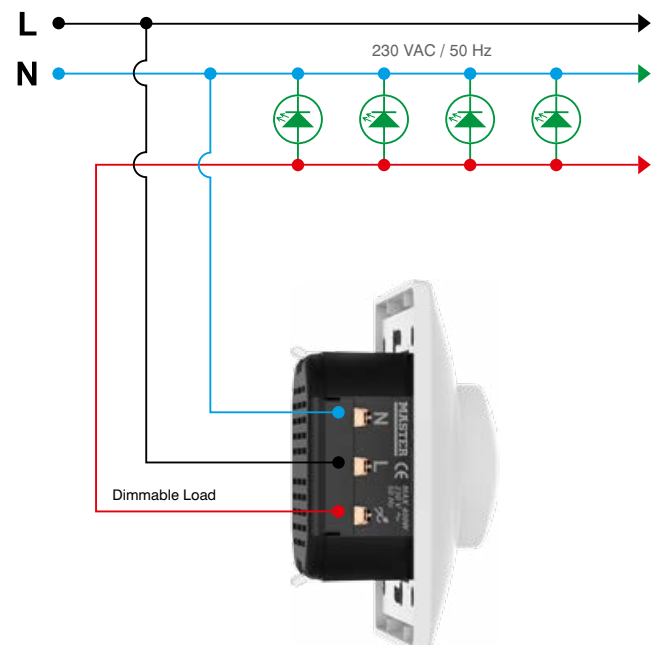
Lowest threshold setting: DM-400N enables the user to preconfigure the minimum point of brightness for Dimmable Led lamps, if required. This process is achieved by adjusting a potentiometer (trimmer) located on the product.

Advantages of DM-400N:

- Specially designed for alternative types of lamps such as EDISON-Filament LED & Classic Dimmable LED.
- Complete stability in lighting (Flickering) with the use of neutral.
- Unlimited number of lamps (Filament & Dimmable Led) up to 400 Watt.
- Selection of function (Leading Edge - Trailing Edge) depending on the connected load.
- Soft Start mode to protect lamps.
- Capacity to set a lowest threshold of brightness for lamps.
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.



DIMMER	Digital-Led
FUNCTION	Soft Start
OPERATING VOLTAGE	180 - 230V AC
POWER LINE FREQUENCY	50Hz
OUTPUT POWER	400Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Electrical switch box
NUMBER OF BULBS	Unlimited (until 400 Watt)
SELECT FUCTION	Leading Edge - Trailing Edge
FUSE	Electronic protection against short-circuit, overheating and overvoltage
CONTROL LOAD	<ul style="list-style-type: none"> • LED lamps (dimmable) • EDISON - Filament LED • CFL lamps (dimmable) • Halogen lamps • Resistive • Magnetic transformers • Electronic transformers • Electric single-phase motors: <ul style="list-style-type: none"> >Universal >Asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations etc).
CONTROL	<ul style="list-style-type: none"> • Rotary Potentiometer (Local)



WALL-MOUNTING DIMMER

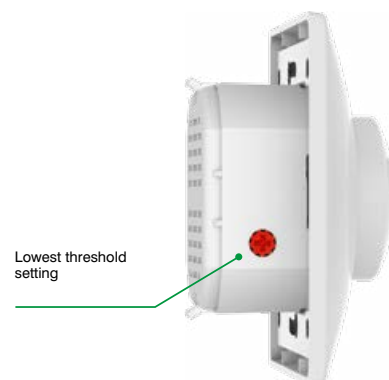
DM-1000W M U L T I 1 0 0 0 W [A L L E R E T O U R]



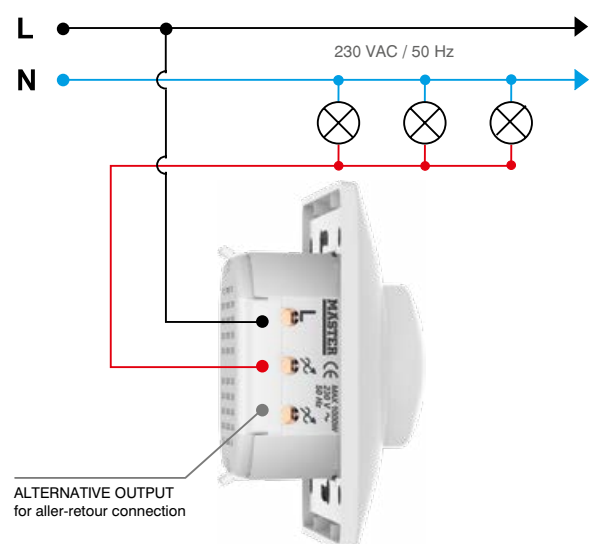
DM-1000W wall mounting dimmer was designed to cover the needs on lighting and ventilation control on domestic and partly professional spaces. It is an absolutely safe, reliable and good looking product manufactured with special integrated circuits and good quality, resistant plastic parts for cases of function and use under adverse conditions, equipped with one of the best anti-parasitic systems.

Control: **DM-1000W** wall mounting dimmer is equipped with a rotary potentiometer (for lighting intensity increase/decrease) with embedded button (ON - OFF) for its function to activate and deactivate.

Lower level setting: **DM-1000W** has the ability to adjust the minimum level of output power so that it can be used to control electric single phase motors, in which it is essential to prevent the dimmer from delivering less power than it is necessary to turn the motor on. This specific procedure is succeeded by adjusting a potentiometer which is found on the product's side.



DIMMER	Multi - Aller retour
FUNCTION	Soft Start
OPERATING VOLTAGE	180 - 230V AC
POWER LINE FREQUENCY	50Hz
OUTPUT POWER	1000Watt
ENVIRONMENT TEMPERATURE	-20°C έως +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Electrical switch box
CONTROL LOAD	<ul style="list-style-type: none"> • Halogen lamps • Resistive • Magnetic transformers • Electronic transformers • Electric single-phase motors >Universal >Asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations etc).



FLUSH-MOUNTING DIMMER

DM - 400 B DIGITAL-LED 400W [CONTROL WITH BUTTON]



Dimmer DM-400B (Lighting Controller) is an innovative product of digital technology Leading Edge & Trailing Edge, specially created to fully cover the needs for regulation of lighting intensity and for energy saving, in the use of lamps (dimmable LED), economy lamps (dimmable CFL) and previous generation light bulbs (Resistive - Halogen).

It is a totally safe, reliable, and aesthetically shaped product made of special integrated circuits of cutting-edge technology and of resistant plastic parts for difficult conditions of operation and usage.

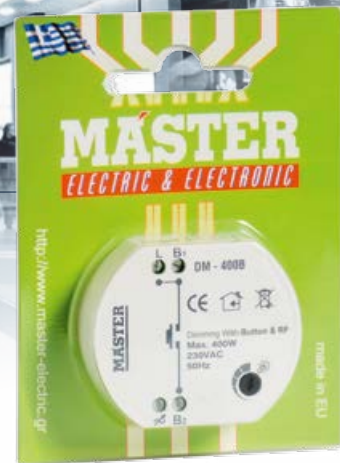
Handling: Input for wired remote control from one or more parallel buttons for adjusting the lighting intensity (ON / OFF by briefly pressing the button and stretch the lighting - Dimming with a long press).

Function Selection: Leading Edge to Trailing Edge and conversely is accomplished by long pressing the button for more than fifteen (15) seconds.

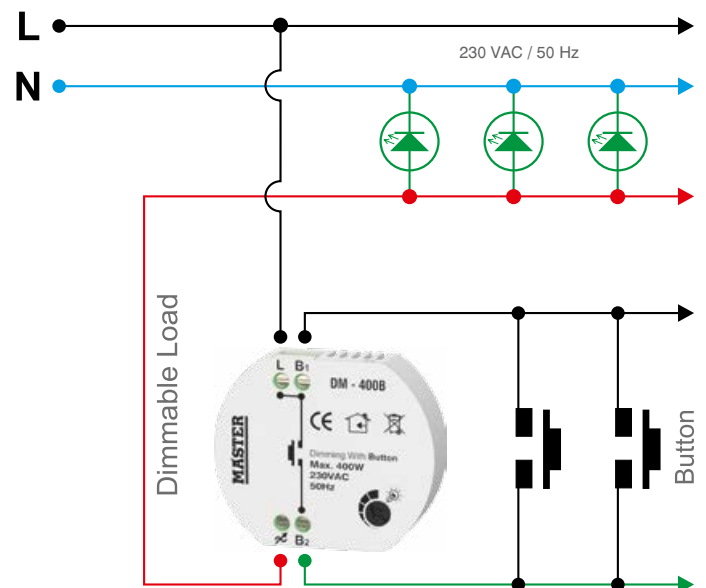
Lowest threshold setting: DM-400B enables the user to preconfigure the minimum point of brightness for Dimmable Led lamps, if required. This process is achieved by adjusting a potentiometer (trimmer) located on the product.

Advantages of DM-400B:

- Specially designed for LED.
- Unlimited number of lamps (Dimmable Led) up to 400 Watt.
- Selection of function (Leading Edge - Trailing Edge) depending on the connected load.
- Soft Start mode to protect lamps.
- Capacity to set a lowest threshold of brightness for lamps.
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.
- Remote control with buttons from one or more points (activation - deactivation and brightness adjustment).



DIMMER	Digital-Led
FUNCTION	Soft Start
OPERATING VOLTAGE	180 - 230V AC
POWER LINE FREQUENCY	50Hz
OUTPUT POWER	400Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Electrical switch box
NUMBER OF BULBS	Unlimited (until 400 Watt)
SELECT FUCTION	Leading Edge - Trailing Edge
FUSE	Electronic protection against short-circuit, overheating and overvoltage
CONTROL LOAD	<ul style="list-style-type: none"> • LED lamps (dimmable) • CFL lamps (dimmable) • Halogen lamps • Resistive • Magnetic transformers • Electronic transformers • Electric single-phase motors >Universal >Asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations etc).



FLUSH-MOUNTING DIMMER

DM - 400B - RF DIGITAL-LED 400W [CONTROL WITH BUTTON & RF]



RF - CTRL

Remote Control



Dimmer DM-400B-RF (Lighting Controller) is an innovative product of digital technology Leading Edge & Trailing Edge, specially created to fully cover the needs for regulation of lighting intensity and for energy saving, in the use of lamps (dimmable LED), economy lamps (dimmable CFL) and previous generation light bulbs (Resistive - Halogen).

It is a totally safe, reliable, and aesthetically shaped product made of special integrated circuits of cutting-edge technology and of resistant plastic parts for difficult conditions of operation and usage.

Handling:

- **Wired mode:** Connect one or more parallel buttons for adjusting the lighting intensity (ON / OFF by briefly pressing the button and stretch the lighting -Dimming with a long press).
- **Wireless mode:** light adjustment through remote control RF-CTRL.

RF-Pairing:

Step 1: Briefly pressing the button five (5) times to enter the pairing operation

Step 2: Pressing one of the three buttons of the remote control RF-CTRL.

Function Selection: Leading Edge to Trailing Edge and conversely is accomplished by long pressing the button for more than fifteen (15) seconds.

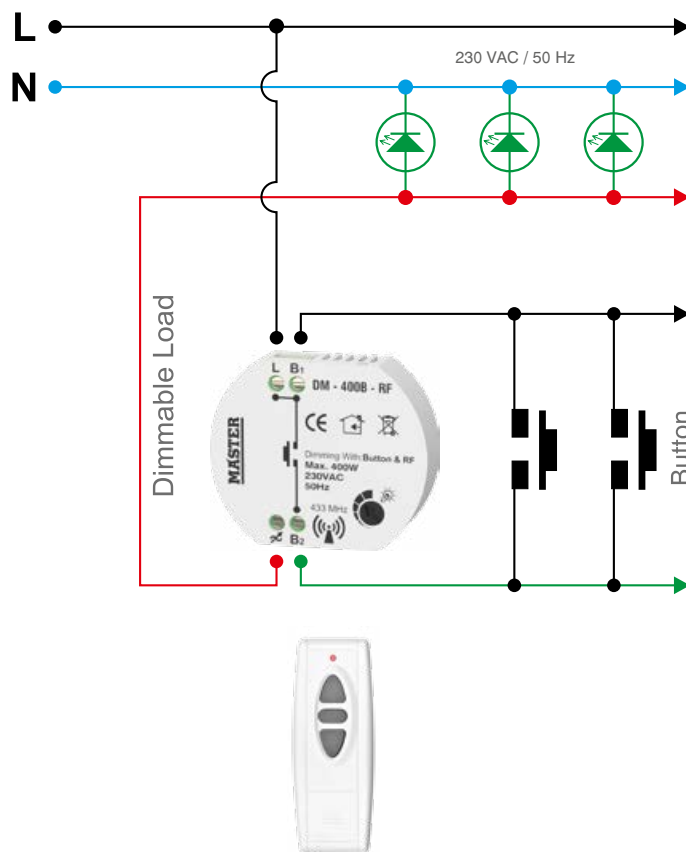
Lowest threshold setting: DM-400B-RF enables the user to preconfigure the minimum point of brightness for Dimmable Led lamps, if required. This process is achieved by adjusting a potentiometer (trimmer) located on the product.

Advantages of DM-400B-RF:

- Specially designed for LED.
- Unlimited number of lamps (Dimmable Led) up to 400 Watt.
- Selection of function (Leading Edge - Trailing Edge) depending on the connected load.
- Soft Start mode to protect lamps.
- Capacity to set a lowest threshold of brightness for lamps.
- Electronic protection against short-circuit, overheating and overvoltage with automatic reset to operational mode.
- Remote control with buttons from one or more points (activation - deactivation and brightness adjustment) or through the controller on wireless mode.



DIMMER	Digital-Led
FUNCTION	Soft Start
OPERATING VOLTAGE	180-230V AC
POWER LINE FREQUENCY	50Hz
OUTPUT POWER	400Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Electrical switch box
NUMBER OF BULBS	Unlimited (until 400 Watt)
SELECT FUCTION	Leading Edge - Trailing Edge
FUSE	Electronic protection against short-circuit, overheating and overvoltage
CONTROL LOAD	<ul style="list-style-type: none"> • LED lamps (dimmable) • CFL lamps (dimmable) • Halogen lamps • Resistive • Magnetic transformers • Electronic transformers • Electric single-phase motors >Universal >Asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations etc).



RAIL-MOUNTING DIMMER

DM-500/b DIGITAL-LED 500W [REMOTE CONTROL]



The **DM-500/b** rail mounting digital dimmer (light adjuster) is an innovative product of the digital technology 'Leading edge & Trailing edge', especially designed to fulfill the needs of professional spaces in the important field of lighting adjustment and energy savings. Its perfect linearity in lighting adjustment with alternative types of lamps such as **EDISON-Filament LED, Dimmable LED, Dimmable CFL** and previous technology lamps (**RESISTIVE & HALOGEN**) makes this product unique. The product can be remotely controlled through one or several distant buttons.

Handling: The **DM-500/b** rail mounting digital dimmer has 3 buttons for control and a remote control input.

Button 1: It is used to activate and de-activate the electric load.

Button 2 and 3: They are used to adjust the lighting intensity and therefore the consumption of the load at the desired point for the operator, from 1% to 100%.

Input: For wired remote control from one or more parallel buttons for adjusting the lighting intensity (ON/OFF by briefly pressing the button and stretch the lighting - dimming with a long press).

Select Function: Switching from **Leading Edge** to **Trailing Edge** and backwards is achieved by simultaneously holding down the buttons **No 1 - No 2 - No 3** for **6 sec.**

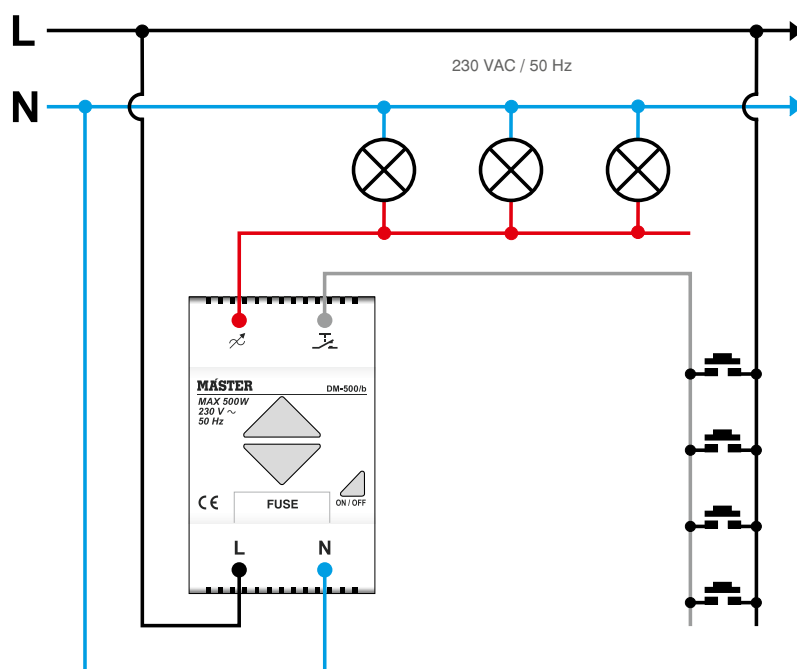
Adjustment of minimum power limit: The **DM-500/b** provides the capacity to also control loads from single-phase electric motors. Therefore, it is necessary to control the lower engine speed of the electric motor in order to avoid its overheating and thus its destruction:

Step 1: Keep the button No 1 (ON/OFF) pressed.

Step 2: While the button No 1 is pressed, adjust the engine speed of the electric motor with buttons No 2 & No 3 (UP/DOWN) at the lowest allowed threshold.

Step 3: Release button No 1 (ON/OFF) and the adjustment is complete. To readjust the lowest threshold the same process must be repeated.

NOTE: Setting the lowest threshold as well as the remaining settings of the **DM-500/b** rail mounting digital dimmer is fully safe because storing them to a memory (EEPROM) takes place digitally, so there is no concern in case of power failure, irrespective of the duration.



DIMMER	IGBT - Digital
OPERATING VOLTAGE	180 - 230V AC
OPERATING FREQUENCY	50Hz
MAXIMUM OUTPUT POWER	500 Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
FUSE	2,5 A / 230VAC (for short-circuit protection)
MOUNTING	Din-rail mounting 35 x 7.5 mm (DIN 45277)
NUMBER OF BULBS	Unlimited (until 500 Watt)
SELECT FUCTION	Leading Edge - Trailing Edge
CONTROL LOAD	<ul style="list-style-type: none"> • Edison – Filament LED • LED lamps (dimmable) • CFL lamps (dimmable) • Halogen lamps • RESISTIVE

RAIL-MOUNTING DIMMER

DM - DGL / b DIGITAL-LED 1000W MULTI [REMOTE CONTROL]



The **DM-DGL/b** rail mounting digital dimmer is an innovative product of the digital technology, especially designed to fulfill the needs of professional spaces in the important field of lighting adjustment and energy savings. Its perfect linearity in lighting adjustment with alternative types of lamps such as **Dimmable LED, Dimmable CFL** and previous technology lamps (**RESISTIVE & HALOGEN**) makes this product unique. The product can be remotely controlled through one or several distant buttons.

Handling: The **DM-DGL/b** rail mounting digital dimmer has 3 buttons for control and a remote control input.

- Button 1:** It is used to activate and de-activate the electric load.
- Button 2 and 3:** They are used to adjust the lighting intensity and therefore the consumption of the load at the desired point for the operator, from 1% to 100%.
- Input:** for wired remote control from one or more parallel buttons for adjusting the lighting intensity (ON / OFF by briefly pressing the button and stretch the lighting - dimming with a long press).

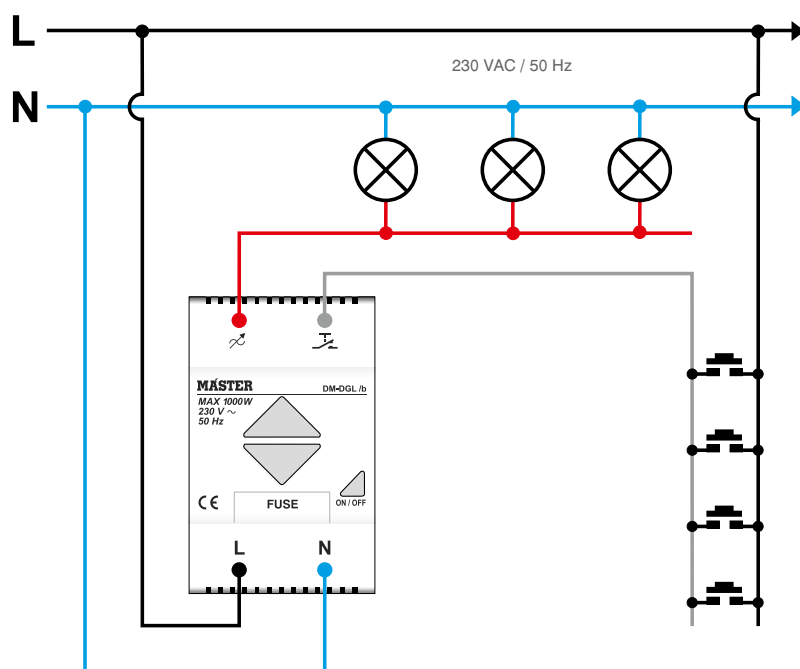
Adjustment of minimum power limit: The **DM-DGL/b** provides the capacity to also control loads from single-phase electric motors. Therefore, it is necessary to control the lower engine speed of the electric motor in order to avoid its overheating and thus its destruction:

Step 1: Keep the button No 1 (ON / OFF) pressed.

Step 2: While the button No 1 is pressed, adjust the engine speed of the electric motor with buttons No 2 & No 3 (UP / DOWN) at the lowest allowed threshold.

Step 3: Release button No 1 (ON / OFF) and the adjustment is complete. To readjust the lowest threshold the same process must be repeated.

NOTE: Setting the lowest threshold as well as the remaining settings of the **DM-DGL/b** rail mounting digital dimmer is fully safe because storing them to a memory (EEPROM) takes place digitally, so there is no concern in case of power failure, irrespective of the duration.



DIMMER	Electronic - digital
OPERATING VOLTAGE	180-230V AC
OPERATING FREQUENCY	50Hz
MAXIMUM OUTPUT POWER	1000 Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Din-rail mounting 35 x 7.5mm (DIN 45277)
FUSE	6 A / 230V AC (for short-circuit protection)
CONTROL LOAD	<ul style="list-style-type: none"> • Resistive & Halogen • Inductive Transformers • Electronic Transformers • LED • Electric Single - Phase Motors: <ul style="list-style-type: none"> >Universal >Asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations e.t.c.)

SURFACE-MOUNTING DIMMER

DM-2500W MULTI-LED 2500W



Dimmer DM-2500 was designed to cover the needs of professional spaces on basic sections of lighting and ventilation. It is an absolutely safe to use and reliable product as it is constructed with special integrated circuits and tough plastic so it can function under adverse conditions.

Control: Dimmer DM-2500 is controlled by a rotary potentiometer which controls the current and the power consumption to the desired level from 1% to 100%. There is also an embedded switch in the potentiometer (press switch) to activate and deactivate the device.

Lower level setting: As it is mentioned at the technical characteristics topic, DM-2500 has the ability to adjust the minimum level of output power so that it can be used to control electric single phase motors, in which it is essential to prevent the dimmer from delivering less power than it is necessary to turn the motor on. This specific procedure is succeeded by adjusting a potentiometer which is found inside the product.

1st Step: Set the main potentiometer at lowest setting.

2nd Step: Meanwhile, remove the mask of the device (DM-2500) and then set the potentiometer which is inside the dimmer (ADJ) to the lowest allowed desired limit.

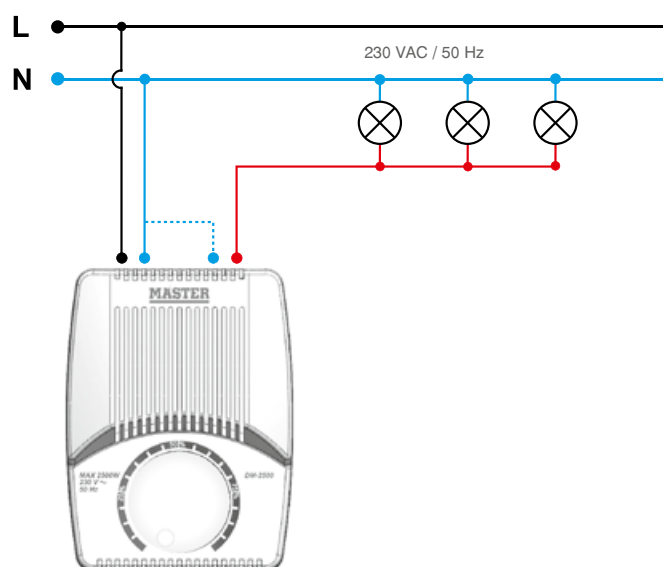
NOTE: a) Highest setting of lowest limit is 50%.

b) After the procedure's completion (lowest limit setting) dimmer forbids us to reduce the power of electric load more than the pre-setting. However it allows us to increase it up to 100%.





DIMMER	Electronic - digital
FUNCTION	Soft Start
OPERATING VOLTAGE	180-230V AC
OPERATING FREQUENCY	50Hz
MAXIMUM OUTPUT POWER	2500Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
INSTALL	Surface Mount
FUSE	15 A / 230VAC (for short-circuit protection)
CONTROL LOAD:	<ul style="list-style-type: none"> • RESISTIVE & HALOGEN • INDUCTIVE TRANSFORMERS • ELECTRONIC TRANSFORMERS • LED • ELECTRIC SINGLE - PHASE MOTORS: <ul style="list-style-type: none"> >Universal >Asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations).



SURFACE-MOUNTING DIMMER

DM-PRO 1-10V DIMMER PROFESSIONAL 1-10V



Dimmer DM-PRO 1-10V was designed to cover the needs of professional spaces on basic sections of lighting. The modern design combined with the advantages of technology 1-10V, which is widening in the field of professional lighting, makes it unique. It is an absolutely safe to use and reliable product as it is constructed with special integrated circuits and tough plastic so it can function under adverse conditions.

Handling: DM-Pro 1-10V is controlled by a rotary potentiometer which controls the current and the power consumption to the desired level from 1% to 100%. There is also an embedded switch in the potentiometer (press switch) to activate and deactivate the device.

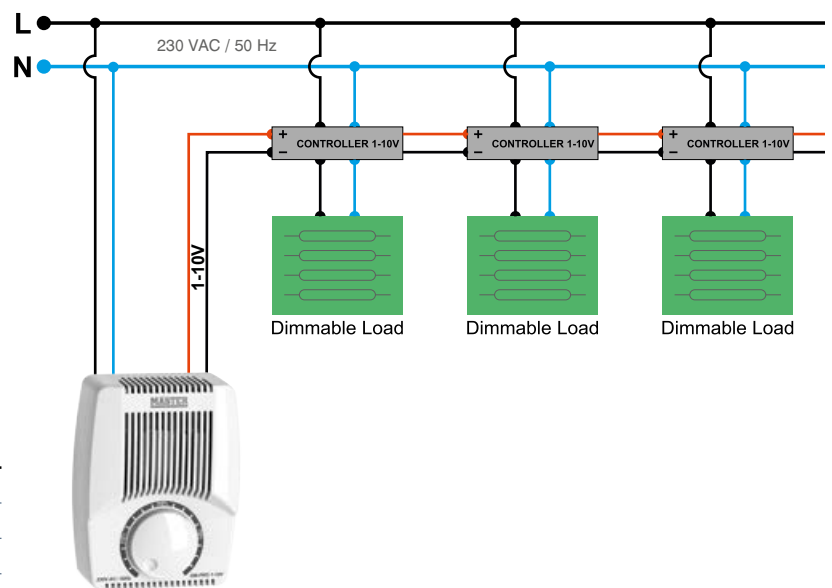
Lower level setting: DM-PRO 1-10V gives us the ability to pre-configure the minimum lamp brightness point if required. This process is accomplished by adjusting a potentiometer (trimmer) located inside the device.

Step 1: Set the main potentiometer at lowest setting.

Step 2: Meanwhile, remove the mask of the device (DM-PRO 1-10V) and then set the potentiometer which is inside the dimmer (ADJ) to the lowest allowed desired limit.

NOTE: a) Highest setting of lowest limit is 50%.

b) After the procedure's completion (lowest limit setting) dimmer forbids us to reduce the power of electric load more than the pre-setting, however it allows us to increase it up to 100%.



DIMMER	Electronic 1-10V
FUNCTION	Soft Start
OPERATING VOLTAGE	180-230V AC
OPERATING FREQUENCY	50Hz
MAXIMUM OUTPUT POWER	2500Watt
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
INSTALL	Surface Mount
FUSE	15 A / 230VAC (for short-circuit protection)
CONTROL LOAD:	<ul style="list-style-type: none"> • Drivers • Controllers • Electronic ballast with communication protocol 1-10V

8 CHANNEL MULTIDIMMER

After a long market research in the field of dimmers and because of the continuous increase of professional spaces demands, MASTER Electric & Electronic made a coordinated effort to design and manufacture an innovative, reliable and intelligent digital system.

Utilizing the latest technology, the company designed the unique control system of lighting and ventilation **MULTIDIMMER 8 Channel**.

The system was designed to fulfill the needs of professional stores in the basic areas of lighting and ventilation by providing smart solutions for management, indication, reliable and easy installation of electrical loads. The basic advantage of the system is the significant reduction of power consumption in a building.

The installation of MULTIDIMMER 8 Channel gives the user the advantage of controlling different sectors of a facility from one or more access points. The use of the system is as simple as possible, so that users may control it without having to learn technical details or complicated procedures. It can control up to 8 different sections of lighting or ventilation using the Central Control Unit (DM-8CHL) and as many Terminal Power Units (DM-CHL) the installation needs. It can also control Terminal Units with output of 0-10V for electronic ballasts, LED controllers, etc.

For each channel we may use up to 4 Terminal Power Units (1kW each per unit), so each channel may control up to 4kW. The Terminal Power Units may be driven by any of the 3 phases, so that power distribution is similar at each phase.

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NOTE: The user can control each channel separately, or control all channels together, or use 3 different lighting scenarios (the user may change each scenario any time he wishes). The control is done by using the Central Control Unit (DM-8CHL) or from the Remote Control Unit (DM-LCD).

If the user wishes to control the system from another access point, he may connect another Remote Control Unit.

DM-8CHL



DM-8CHL	Central control unit (8 channel)
OPERATING VOLTAGE	180 - 230V AC
POWER LINE FREQUENCY	50Hz
POWER CONSUMPTION	10mA
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Din-rail mounting 35 x 7.5 mm (DIN 45277)
NUMBER OF TERMINALS TO CONTROL	Up to 24 terminal units in total, and up to 4 at each channel
CONNECTION TO DM-LCD	Through a 4-wire telephone cable using RJ-11 plugs (up to 100 meters cable length)

DM-CHL

DM-CHL	Terminal Power Units 1kW
OPERATING VOLTAGE	180 - 230V AC
POWER LINE FREQUENCY	50Hz
MAXIMUM OUTPUT POWER	1000Watt / Terminal power unit
CONTROL LOAD	Resistive & Halogen, Inductive transformers, Electronic transformers, Led, Electric single phase motors Universal and asynchronous with torque strongly depended from motor speed (centrifugal pumps, fans, ventilations etc)
UNIVERSAL	
ENVIRONMENT TEMPERATURE	-20°C to +50°C
FUSE	6A/230V AC (for short-circuit protection)
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Din-rail mounting 35 x 7.5 mm (DIN 45277)



DM-CHL / 1-10V



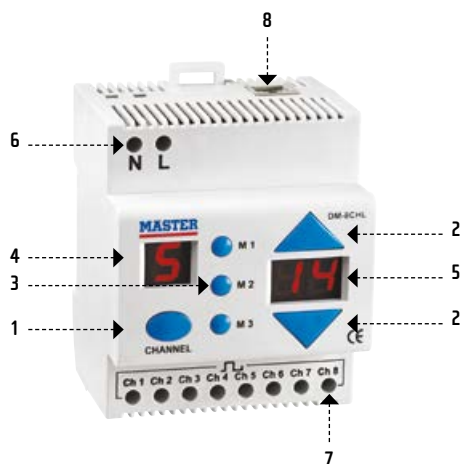
DM-CHL/1-10V	Terminal Units with 1-10V output
OPERATING VOLTAGE	180 - 230V AC
POWER LINE FREQUENCY	50Hz
NUMBER OF DEVICES TO CONTROL	Up to 50 devices
CONTROL LOAD	Devices that use the standard control protocol 1-10V (dimmable electronic ballasts, LED Controllers etc)
ENVIRONMENT TEMPERATURE	-20°C to +50°C
FUSE	6A/230V AC (for short circuit protection)
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Din-rail mounting 35 x 7.5 mm (DIN 45277)

DM-LCD

DM-LCD	Remote Control Unit
DISPLAY	Υγράν κρυστοόληθων (LCD)
POWER CONSUMPTION	10mA
ENVIRONMENT TEMPERATURE	-20°C to +50°C
WIRE SIZE	Ø 0,5mm to Ø 3,5mm
MOUNTING	Wall mount
CONNECTION TO DM-8CHL	Through a 4-wire telephone cable using RJ-11 plug (up to 100 meters cable length).



8 CHANNEL MULTIDIMMER



DM-8CHL

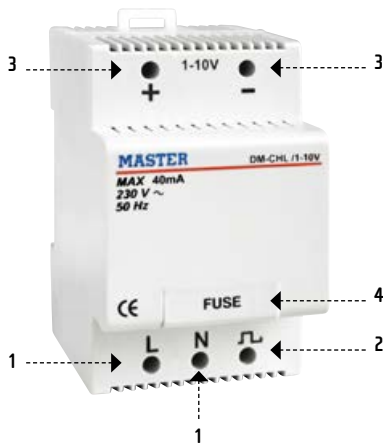
Central control unit (8 channel). DM-8CHL contains:

1	1 button (channel) for the selection of channel we want to regulate (1-8)
2	2 buttons (up, down) for the increment or decrement of power in the selected channel (0% to 99%)
3	3 buttons (memo 1..2..3..) for the generation and selection of 3 different lighting scenarios
4	1 display (channel) indicating the selected channel
5	1 display (power) indicating the power of the selected channel (0% to 99%)
6	2 contacts for supply voltage N (neutral), L (line)
7	8 contacts (1Ch, 2Ch,...,8Ch) for communication with the terminal power units
8	1 input for connection with the remote control unit (DM-LCD)

DM-CHL

Terminal power units 1kW. DM-CHL contains:

1	2 contacts for supply voltage N (neutral), L (line)
2	1 contact () for communicating with central control unit (DM-8CHL)
3	1 power () output for load
4	Fuse with sliding fuse holder for short circuit protection



DM-CHL / 1-10V

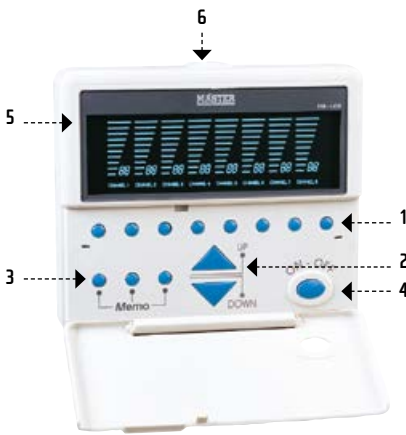
TERMINAL UNIT WITH 1-10V OUTPUT. DM-CHL/1-10V contains:

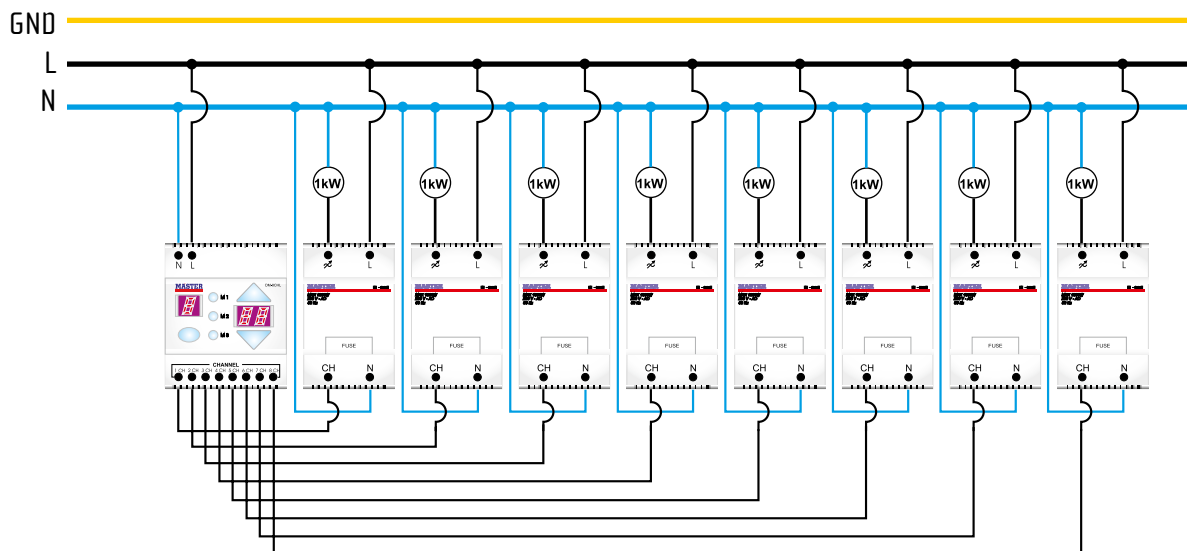
1	2 contacts for supply voltage N (neutral), L (line)
2	1 contact () for communicating with central control unit (DM-8CHL)
3	2 contacts (+ / -) with 1-10V standard output protocol for communication with fluorescent electronic ballasts, LED controllers, etc.
4	Fuse with sliding fuse holder for short circuit protection

DM-LCD

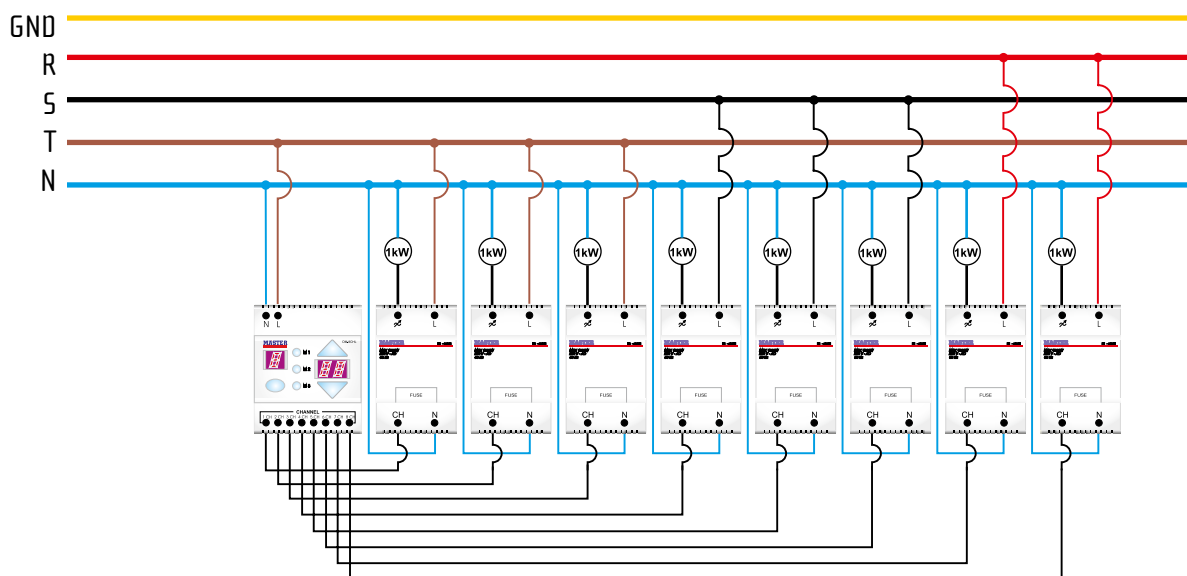
Remote control unit. DM-LCD contains:

1	8 buttons for channel selection
2	2 buttons (up, down) for regulating the level of the selected channel
3	3 buttons (memo 1..2..3..) for the generation and selection of 3 different lighting scenarios
4	1 button (ON/OFF) for activating and deactivating the system
5	Liquid crystal display (LCD) with backlight, graphic and numeral indication of all channels (1 Channel, 2 Channel, ... to 8 Channel)
6	1 input for connection with central control unit (DM-8CHL)

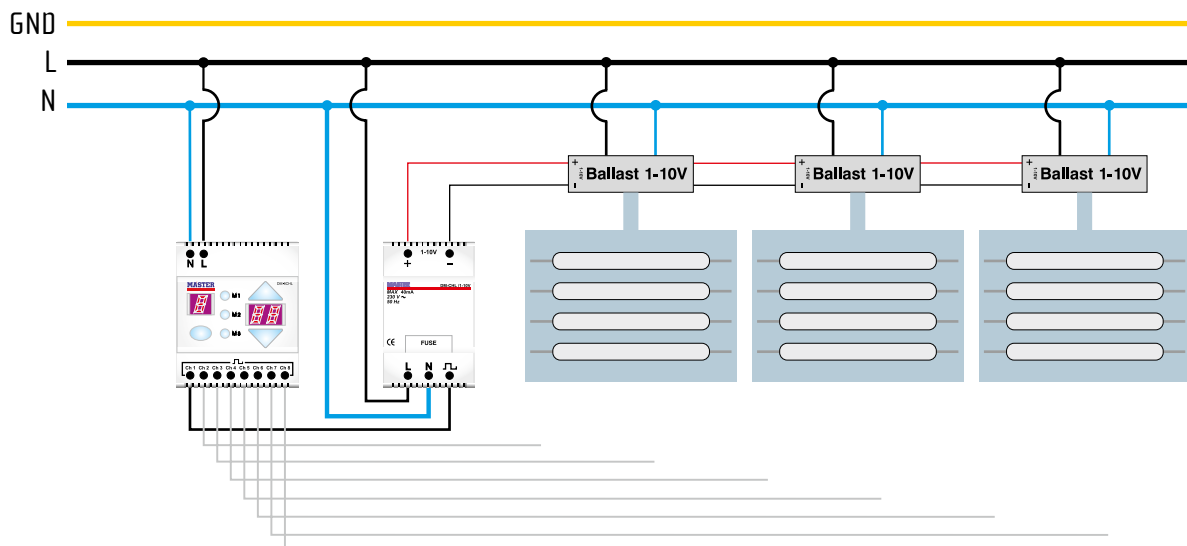




Single-phase installation example



Three-phase installation example



Installation example using dimmable ballasts with 1-10V

STAIRCASE TIMER SWITCH

KL - 4000 STAIRCASE TIMER SWITCH (RAIL)



Timer switch KL-4000 was designed to cover the needs of buildings in the area of time-controlled lighting. It is an electronic and digital rail mounting timer that has a lot of advantages in control and operation.

Installation: KL-4000 gives as the ability to control 2 kinds of electrical connections (3 wire - 4 wire) like it is shown in the drafts of electrical installation.

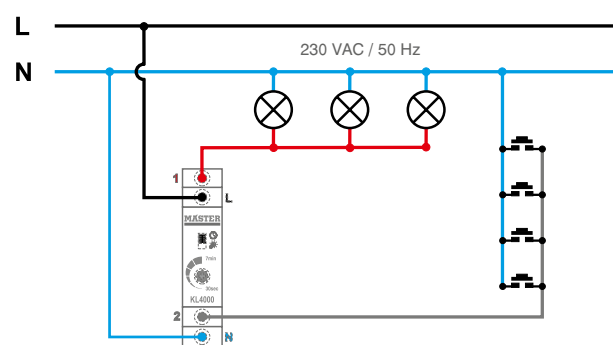
Time control: The device gives as the option to control the time that the control load will be activated after a buttons press. This is achieved by adjusting a rotary control that is located in the front plate of the product. The minimum time we can set is 30 seconds, and the maximum is 7 minutes.

Operation: KL-4000 has a lot of advantages in control which can be achieved by any of the connected buttons.

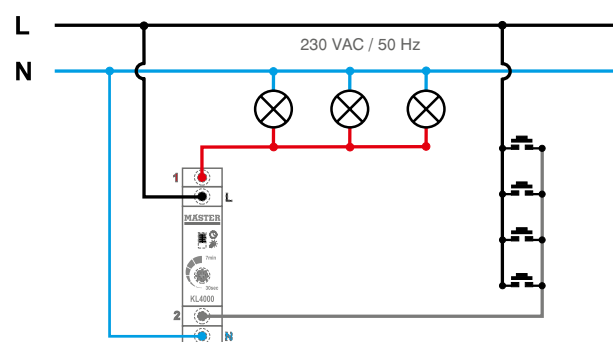
- Activation of the control load by a simple press.
- Renewal of the predefined time with another buttons press..
- Warning (flashing twice the control load) 20 seconds before the time reaches the end.
- 1 hour mode (the control load will be deactivated after 1 hour) by pressing any button over 5 seconds (triple flash warning if it is enabled).
- Unlimited number of simple buttons, and up to 50 buttons with internal lamp.



STAIRCASE TIMER SWITCH	Rail
TIMER	Electronic - digital
OPERATION VOLTAGE	230V AC / 40-60 Hz
CONTROL LOAD	16A 250V AC(2500W) resistive load
ON TIME	From 30 seconds to 7 minutes
ENVIRONMENT TEMPERATURE	-20o C to +50o C
WIRE SIZE	Ø 1 mm to Ø 6 mm
CONTACTS	Internal contacts in an isolated box
INSTALLING POSITION	Any type
SWITCH	2 position switch
MOUNTING	Din-rail mounting 35 x 7.5 mm (DIN EN 50022)
RANDOM CONTACT PROTECTION	According to DIN VDE 0106/100
SPECIAL FUNCTIONS	<ul style="list-style-type: none"> • Renewal of control time • Warning of time ending • Manual control of load (permanently on) by switch • 1 hour mode (with press>5sec) • 3 wire - 4 wire connections (automatic configuration) • Unlimited number of simple buttons (up to 50 with internal lamp)



Draft of Electrical Installation (3 Wire)



Draft of Electrical Installation (4 Wire)

INDICATING LAMPS

ML-100/SL-100 INDICATING LAMP SINGLE (RAIL)



LAMP	LED	NEON
COLOR TYPES:		
Red	ML-R100	SL-R100
Green	ML-G100	SL-G100
Yellow	ML-Y100	-
OPERATING VOLTAGE	230V AC / 40-60 Hz	230V AC / 40-60 Hz
POWER CONSUMPTION	0,5W	0,5W
WIRE SIZE	Ø 0,50mm to Ø 3mm	Ø 0,50mm to Ø 3mm
RANDOM CONTACT PROTECTION	According to DIN VDE 0106/100	According to DIN VDE 0106/100
MOUNTING	Din-rail mounting DIN EN 50022 35x3,5	Din-rail mounting DIN EN 50022 35x3,5

TL-300 INDICATING LAMP TRIPLE (RAIL)



LAMP	LED
COLOR TYPES:	
Red	TL-R300
Green	TL-G300
Blue	TL-B300
Red-Yellow-Green	TC-300
OPERATING VOLTAGE	230V AC / 40-60 Hz
POWER CONSUMPTION	3 x 0,3W
WIRE SIZE	Ø 0,50mm to Ø 3mm
RANDOM CONTACT PROTECTION	According to DIN VDE 0106/100
MOUNTING	Din-rail mounting 35 x 7,5 DIN EN 50022



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