

USER GUIDE PUSH-230V-EV

Universal dimmer with PUSH BUTTON control



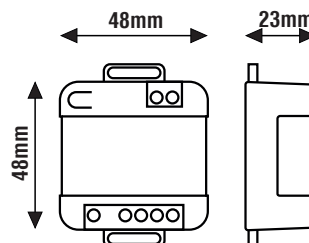
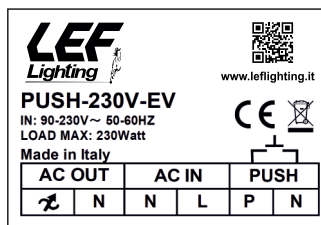
New EV specific dimming technology (Evolution Edge) for 230Vac LED strips



www.leflichting.it

General Characteristics

Plastic case with connection
Electric class protection II
Protection degree IP20
4/5/6 wires system



Reference Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-11
EN 61547

Descending Phase Cutting dimming (at the end of the phase) TE Trailing Edge

Phase Cutting dimming EV Evolution Edge

CODICE CODE	Taglio di Fase Phase Cut	RESISTIVO RESISTIVE Lampade ad incandescenza o alogene Incandescent or halogen lamps 230Vac	INDUTTIVO INDUCTIVE Trasformatore lamellare e toroidale Laminated and toroidal transformer 230/12Vac	Alimentatore elettronico con lampade ad incandescenza o alogene Electronic driver with incandescent or halogen lamps 230/12Vac	Alimentatore elettronico con lampade LED dimmerabili Electronic driver with dimmable LED lamps 230/12Vac	Alimentatore elettronico dimmerabile con uscita in CC/CV per LED Dimmable electronic driver with CC/CV output for LED	Lampade fluorescenti compatte dimmerabili CFL Dimmable compact fluorescent lamps CFL 230Vac	Lampade LED dimmerabili Dimmable LED lamps 230Vac	Moduli LED dimmerabili Dimmable LED modules Seoul ACRICH 230Vac	Strip LED dimmerabili Dimmable Strip LED 230Vac	Peso Weight (g)
PUSH-230V-EV	EV	-	-	-	-	-	-	-	-	230W	30
	TE	230W	-	115W	115W	115W	-	115W	230W	-	

When using the product with 110Vac input voltage, the power must be reduced by 50%.

- Do not connect inductive loads
- Do not connect to UPS with output other than Pure Sine Wave.

IMPORTANT: Lamps controllable by a single dimmer must all be the same.

All controlled loads must be declared DIMMERABLE by the manufacturer.

DIM PUSH 230Vac	OUT EV TE	STRIP LED 230Vac
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Technical Features

Input voltage range 110-240Vac
Input frequency 50±60Hz

Single channel dimmer with
Phase-cut output (EV and TE)
Dimming control through:

- push-button (PUSH 230Vac)

Electronic silent step relay

Control thorough:

- push-button (PUSH 230Vac)

Manageable power (see table)

«LEVEL MEMORY» function (non-excludable)

«STATUS MEMORY» function (settable)

Calibration (via procedure with external button) of:

- Minimum brightness level

- Fade ON

- Fade OFF

- Dimming curve (logarithmic or linear)

Factory setting: EV Evolution Edge

Open circuit Protection (OCP)

Overload protection (OLP)

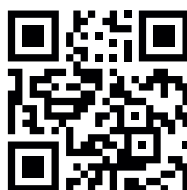
Protection against overtemperature (OTP)

Overvoltage protection (OVP)

Operating ambient temperature

Ta -20°C ÷ +50°C

To consult the complete instructions
on the website www.leflichting.it
scan the following QR CODE:



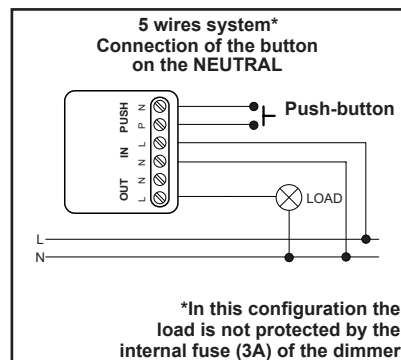
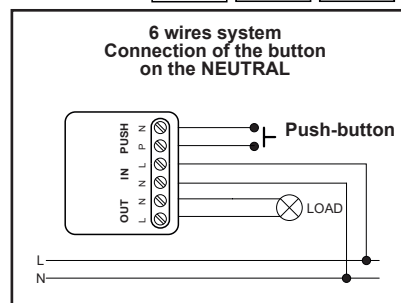
PUSH-230V-EV

ATTENTION:

The installation of the product must be
followed by qualified personnel.

If the product is used for purposes
other than the original ones or if it is
connected incorrectly,

LEF Lighting S.R.L. will not accept
any responsibility for damages caused.



PRODUCT TO BE DISPOSED
DIFFERENTLY FROM URBAN WASTE
AEE identification
nr.IT1804000010321



MADE IN ITALY

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Wiring diagrams

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PUSH-BUTTON interface operation:

Single Click (quick pressure (<1sec))

- Turns on or off the output (ON/OFF)

Double Click (quick pressure (<1sec))

- Sets the maximum brightness (output=100%)

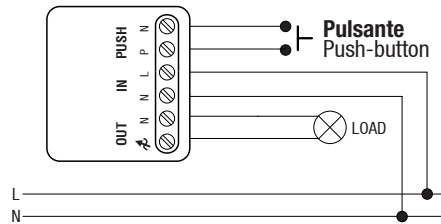
Long Press (long press (>1sec))

-If the dimmer is in OFF state, sets the output to the minimum value.

-If the dimmer is in ON state, the long press allows the output dimming (increase/decrease).

6 WIRE SYSTEM

Connecting the button on the NEUTRAL



The dimmer must be connected according to the diagram shown in FIG.1.

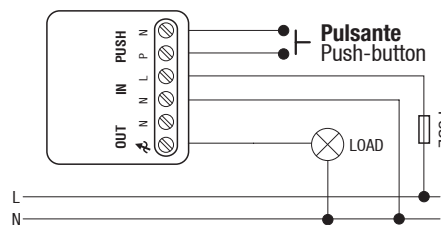
Specifically:

- connect the power supply to terminals (AC IN) L (PHASE) and N (NEUTRAL)
- connect the load between the output terminals (AC OUT) and N (NEUTRAL)
- connect a normally open (NO) button between the (PUSH) terminals N (NEUTRAL) and the P (PUSH) terminal.

FIG.1

5 WIRE SYSTEM

Connecting the button on the NEUTRAL



The dimmer must be connected according to the diagram shown in FIG.2.

Specifically:

- connect the power supply to terminals (AC IN) L (PHASE) and N (NEUTRAL)
- Connect the load between the output terminal (AC OUT) and N (NEUTRAL) of the system
- Connect a normally open (NO) button between the terminals (PUSH) N NEUTRAL and the P (PUSH) terminal.

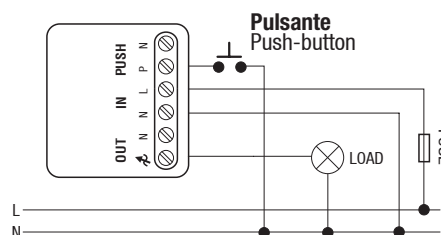
NOTE: IN THIS CONFIGURATION THE LOAD IS NOT PROTECTED BY THE DIMMER'S INTERNAL FUSE.

IT IS RECOMMENDED TO PROTECT THE DEVICE WITH 3A/250V QUICK FUSE.

FIG.2

4 WIRE SYSTEM

Connecting the button on the NEUTRAL



The dimmer must be connected according to the diagram shown in FIG.3.

Specifically:

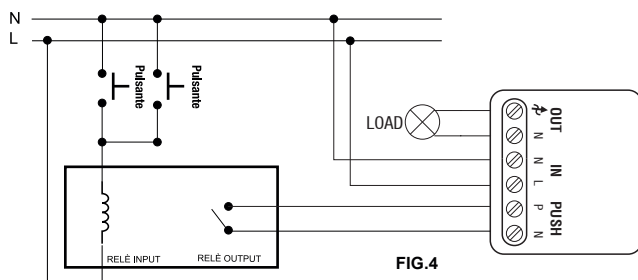
- connect the power supply to terminals (AC IN) L (PHASE) and N (NEUTRAL)
- Connect the load between the output terminal (AC OUT) and N (NEUTRAL) of the system
- Connect a normally open (NO) button between the P (PUSH) terminal and N (NEUTRAL) of the system.

NOTE: IN THIS CONFIGURATION THE LOAD IS NOT PROTECTED BY THE DIMMER'S INTERNAL FUSE.

IT IS RECOMMENDED TO PROTECT THE DEVICE WITH 3A/250V QUICK FUSE.

FIG.3

CONNECTION DIAGRAM PUSH-230V-EV WITH MONOSTABLE RELAY



In the event that malfunctions are found regarding false positives or negatives on the BUTTON (due to very long cables or disturbances on the system), it is recommended to install a monostable relay connected locally to the dimmer (FIG. 4).

For correct operation it is important to keep the connection cable between the BUTTON and the DIMMER as short as possible.

FIG.4

ATTENTION: Distance of the dimmer from the lamp max. 10 metres.

For greater distances or alternative connection types, please contact LEF LIGHTING Technical office.

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Operating parameter settings

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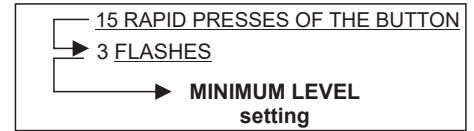


ATTENTION:

In the event that the default parameters are not suitable for use, you can intervene by adjusting the following parameters:

1. Parameter Setup Menu - MINIMUM LEVEL, FADE ON, FADE OFF, DIMMING CURVE

- Access with powered dimmer by **15 presses** in quick succession within 10 seconds.
- Access is confirmed by **3 flashes** (duration 2 sec).
- **Switching between parameters with prolonged pressure.**
- **Change parameter value with fast pressure.**



- First menu parameter: MINIMUM LEVEL (8 values)

Each **quick press** changes the level.

There are different minimum levels for the two types of Phase Cut.

For the **Trailing Edge (TE)**, linear we have:

2%, 5%, 10%, 15%, 20%, 30%, 50%, 100% (factory setting 10%)

For **Evolution Edge (EV)**:

1%, 1,3%, 2,5%, 10%, 20%, 50%, 100% (factory setting 2.5%)

Press and hold to switch to the second parameter.

Default settings:

- Start On
- Minimum level 2.5%
- Fade ON 1 Sec
- Fade OFF 1 Sec
- Logarithmic curve
- Evolution-Edge (EV)
- Memory after black-out ON

- Second menu parameter: FADE ON (0, 1, 2, 3, 6 seconds)

Each **quick press** changes the FADE ON time and power-on simulation (in simulation FADE OFF to 0).

The FADE ON time is valid for switching from 0 to 100%, intermediate levels will have proportional time (e.g. FADE time setting 6 seconds: 50% to 100% = 3 sec).

The FADE will always act from minimum to set level. The dimmer even in FADE ON or OFF will not switch to levels lower than the set minimum level. **Long press** to switch to the third parameter.

- Third menu parameter: FADE OFF (0, 1, 2, 3, 6 seconds)

Each **quick press** changes FADE OFF time and simulation off (in simulation FADE ON to 0).

The FADE OFF time is valid for switching from 100 to 0%, intermediate levels will have proportional time (e.g. FADE time setting 6 seconds: 50% to 100% = 3 sec). The FADE will always act from minimum to set level. The dimmer even in FADE ON or OFF will not switch to levels lower than the set minimum level.

Long press to switch to the fourth parameter.

- Fourth menu parameter: CURVE CHANGE (logarithmic - linear)

Each **quick press** changes the curve and simulates it. Factory setting: Logarithmic curve

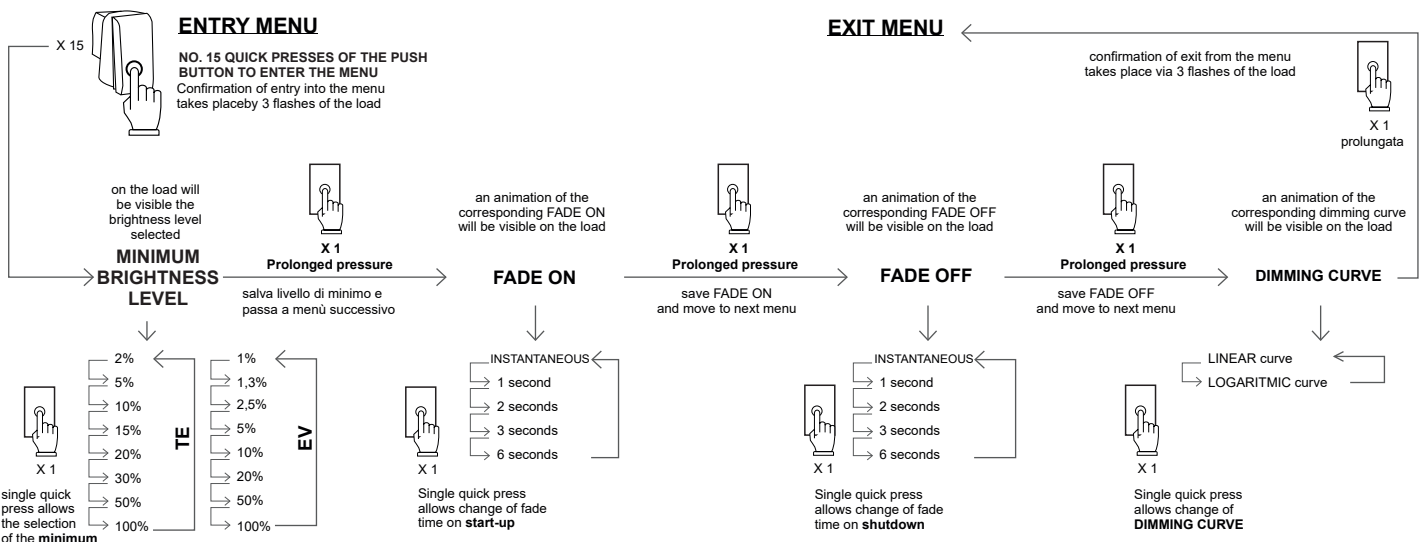
- Exiting the menu

After setting the fourth parameter make a **long press**.

The dimmer confirms the output with **3 flashes** of 2 seconds each.

The dimmer switches to 0% brightness.

Make two quick presses to set the brightness to 100%..



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Operating parameter settings

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2. Edit menu TYPE OF DIMMING

- Access with powered dimmer by **20 presses** in quick succession within 15 seconds.
- Access is confirmed by **5 flashes** (duration 2 sec).
- **Switching between parameters with long press.**
- **Change parameter value with fast pressure.**



- First menu parameter TYPE OF DIMMING (2 MODES):

Each **quick press** changes the type of phase cut.

Two types of phase cut can be set:

- **Phase Cut: Trailing Edge (TE)** – 1 flash each 5 seconds
- **Phase Cut: Evolution Edge (EV)** – 3 flashes each 5 seconds (factory setting)

- Exit from the menu

After choosing the type of Phase Cut, **press and hold**.

The dimmer confirms with 5 flashes of 2 seconds each.

The dimmer switches to 0% brightness. Make two quick presses to set the brightness to 100%.

Default settings:

- Start On
- Minimum level 2.5%
- Fade ON 1 Sec
- Fade OFF 1 Sec
- Logarithmic curve
- **Evolution-Edge (EV)**
- **Memory after black-out ON**

3. Edit menu MEMORY after black-out:

- Access with powered dimmer by **25 presses** in quick succession within **20 seconds**.
- Access is confirmed by 7 flashes (duration 2 sec).
- **Switching between parameters with long press.**
- **Change parameter value with fast pressure.**



- First menu parameter: Power-on status storage after black-out (3 modes):

Three different output states can be set in the event of power failure after a blackout:

- **Restore output status before black-out** – the load flash 1 time every 5 seconds.
- **Start OFF:** – the load flash 3 times every 5 seconds.
- **Start ON:** – the load flash 5 times every 5 seconds.

- Exit from the menu

After setting the parameter, make a long press (>800msec).

The dimmer confirms with 7 flashes of 2 seconds each.

The dimmer switches to 0% brightness.

Make two quick presses to set the brightness to 100%.

4. Transformation to RELAY MODE:

- From dimmer mode, with the dimmer switched off, press and hold the button and give power.
- Continue to hold the button for 20 seconds.
- For the full 20 seconds the dimmer will have load off, at the end of 20 seconds the dimmer will switch on the load until release the button.
- This signal confirms the switch to relay mode.

In this mode the dimmer turns into a silent impulse relay.

Everything is disabled except switching the load on and off on fast pressure. All menus are disabled.

Quick presses or double clicks or prolonged presses are always interpreted as a change of output status.

To return to DIMMER mode:

- Disconnect the power supply and restore it with the control button pressed.
- 5 seconds after resetting the power supply with the button pressed, the dimmer will switch on the load.
- After 20 seconds, with the button pressed, the load will switch off to signal a change of dimmer mode.

Reset to FACTORY PARAMETERS

In the event of prolonged pressure of 40 seconds with the dimmer switched on, a reset to the default parameters takes place.