USER GUIDE
DRU230STR

Universal dimmer for 230Vac strip LED controlled by PUSH-BUTTON

www.leflighting.it

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

The DRU230STR is a dimmer specially designed for use in combination with 230V LED strips via the new Evolution Edge 'EV' mode, which makes the light output more uniform, solving the typical flicker of 230V LED strips. However, the DRU230STR can also operate in 'Trailing Edge' mode to control other types of load besides LED strips, making its use universal. It is powered by connecting phase and neutral, and is controlled by normally open pushbuttons, also with indicator lights, connected to the phase or neutral.

General Characteristics

Self-extinguishing plastic housing PBT V-0
Resin-bonded with polyurethane resin
Electric class protection II
Protection degree IP44
4-wire system

DRU230STR

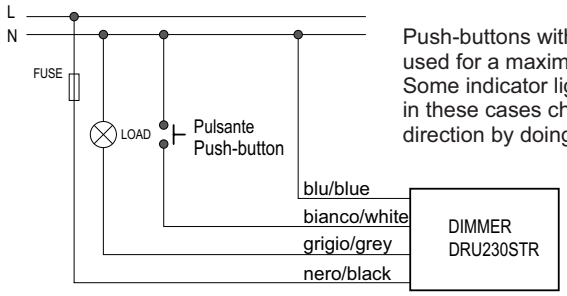
DIM PUSH 230Vac	OUT EV TE	STRIP LED 230Vac

Descending Phase Cutting dimming (at the end of the phase) TE Trailing Edge — **Phase Cutting dimming EV Evolution Edge**

CODICE CODE	**Modalità spia LED** LED indicator mode	**Taglio di Fase** Phase Cut	**RESISTIVO** RESISTIVE **Lampade ad incandescenza o alogene** Incandescent or halogen lamps 230Vac	**INDUTTIVO** INDUCTIVE **Trasformatore lamellare** Laminated 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 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)**
DRU230STR	**Luce fissa** | Fixed light	**EV**	-	-	-	-	-	-	-	5-150W	50
	Luce lamp. | Flashing light	**TE**	10-150W	-	10-120W	10-120W	10-120W	5-120W	5-120W	-	

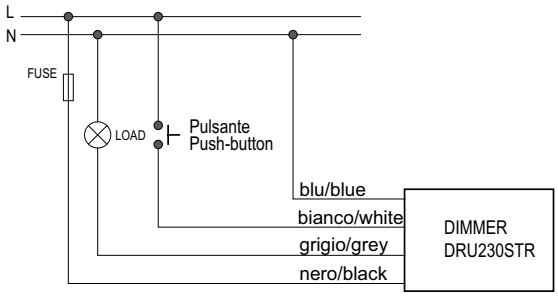
Note: Above 35°C ambient, downgrade the maximum load by 20% with each additional 5°C increase

Connection of the Push-button on the NEUTRAL



Push-buttons with indicator lights can be used for a maximum total of 3mA.
Some indicator lights are unidirectional: in these cases check the correct mounting direction by doing a test.

Connection of the Push-button on the LINE



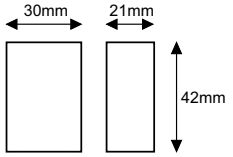
Technical Features

Input voltage range 230Vac
Input frequency 50Hz
Single channel dimmer with Phase-Cut output with modes:
- EV Evolution Edge
- TE Trailing Edge
Dimming control
- push-button (PUSH 230Vac)
Manageable power (see table)
Calibration of the minimum brightness via push-button
«LEVEL MEMORY» function (settable)
«STATUS MEMORY» function (settable)
Factory setting: EV Evolution Edge
Overload protection (OLP)
Protection against overtemperature (OTP)
Overvolatge protection (OVP)
Operating ambient temperature Ta -5°C ÷ +35°C
Self-consumption <1W

PROTECTIONS:
- **Overload and short-circuit protection:** If the load considerably exceeds the maximum permissible power or if a short circuit is detected, the dimmer is protected against switching on.
- **Overtemperature protection:** if an excessive temperature is detected internally, the dimmer will automatically switch off.

It is recommended to protect the system by inserting a 2A/250V fast FUSE.

WARNINGS:
- Use only dimmable loads.
- Do not connect fluorescent lamps (CFLs or tubes), electromechanical transformers or electric motors of any kind.
- The housing must allow sufficient ventilation for the dimmer, so do not install near other heat sources.
- The device does not provide galvanic input-output separation.
- Excessively long connecting cables may interfere with the operation of the device or produce residual luminescence.



22 PAP

PRODUCT TO BE DISPOSED DIFFERENTLY FROM URBAN WASTE
AEE identification nr.IT18040000010321

MADE IN ITALY

IP20 | ta MAX 35°C | 150 WATT | AC 230V

Reference standards
EN 60669-1
EN 60669-2-1

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Operation

On/off: briefly press a button connected to the dimmer.
Dimming: press and hold a button connected to the dimmer with the light on, until it is reached of the desired light intensity.
To reverse the direction of regulation, release the button and press again.
Switching on and off takes place with the **Soft Start and Soft Stop** function, for better visual comfort and a less load and dimmer stress.
A double short press of the button during switch-on allows the light to be locked at a value below the maximum value, when the memory function is not active.

Default parameters:
- STATE MEMORY OFF
- LEVEL MEMORY OFF
- Minimum level 10%
- Logarithmic curve
- Evolution-Edge (EV)

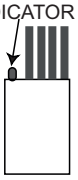
OPERATION MODE SETTING

You can choose between two dimming technologies:

- Evolution Edge (EV)
- Trailing Edge (TE) mode

The DRU230STR is set to 'EV' mode by default.
To change mode you have to:
- Press and hold the push-button with the light off (device standby);
  the mode indicator will light up indicating the active mode.
- Every 7 seconds, it switches alternately from one mode to the other (see table).
  When the desired mode is activated, release the button and the indicator light will turn off.

MODE INDICATOR



EV mode	**FIXED LED indicator light**
TE mode	**FLASHING LED indicator light**

Memory functions

As a factory setting, the dimmer will be found with all memories deactivated:
- At the first power up the light will be off (0%).
- The first time the button is pressed, the light will always turn on at 100%.
- Following a black-out the light will be 0%.

Two types of memory can be activated:
LEVEL MEMORY: it is the memorization of the brightness level after the button has been switched off.
Each time it is turned on, the previous level will be restored.
STATUS MEMORY: this is the storage of the dimmer status after a blackout.
After each power failure the previous state will be restored.
The memory of this device is permanent, i.e. it is not lost in the event of a power failure.

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.

"LEVEL MEMORY" AND "STATUS MEMORY" ACTIVATION

1) Disconnect the mains voltage.
2) Press and hold the button.
3) Insert the mains voltage.
4) Continue to hold the button and wait 3 seconds.
5) The load emit two flashes.
The "LEVEL MEMORY" has been set, release the button if you don't want to activate the **"STATUS MEMORY"**.
6) To activate the **"STATUS MEMORY"** as well, continue to hold down the button and wait 3 seconds.
7) The load will flash three times.

"LEVEL MEMORY" AND "STATUS MEMORY" DEACTIVATION (RESET to the factory settings)

1) Disconnect the mains voltage.
2) Press and hold the button.
3) Insert the mains voltage.
4) Continue to hold the button and wait 3 seconds.
5) The load will flash once.
The **"LEVEL MEMORY"** and the **"STATUS MEMORY"** have been deactivated (factory setting).

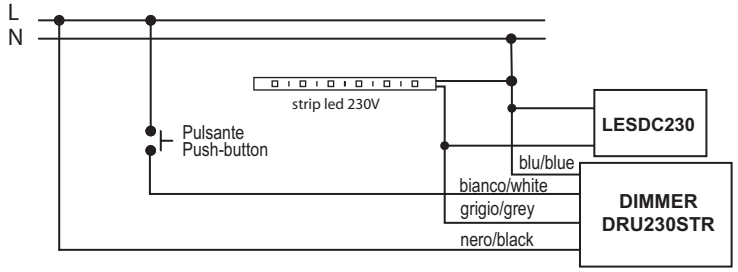
2 Flashes		**"LEVEL MEMORY"** activation
2+3 Flashes	+	**"LEVEL MEMORY"** + **"STATE MEMORY"** activation
1 Flash		FACTORY SETTINGS **RESET**

MINIMUM BRIGHTNESS ADJUSTMENT PROCEDURE

1) Turn on the light by pressing the button.
2) Press and hold the button to decrease brightness, down to the current minimum.
3) Wait for approximately 5 seconds (in which the lamp will not vary brightness) and continue to hold down the button until the brightness starts to rise and fall slowly (minimum adjustment phase)
4) During this last phase, release the button when the brightness has reached the desired value (storage of the new minimum level).
N.B. Minimum dimming range: 5-35%.

IN CASE OF RESIDUAL BRIGHTNESS

In the event that residual brightness is present when switching off, it is possible to connect the residual current suppressor code **LESDC230** to solve the problem (see diagram).



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