LED STRIPS MANUAL

kobi ®

1. **LED STRIPS types – KOBI brand.**
2. **Basic rules of LED strips connecting.**
3. **Driver selection.**
4. **Controllers for LED strips.**
5. **Frequent questions.**

1. LED strips types – KOBI brand

There are following LED strips in **KOBI** brand:

- RGB – it's a strip giving a combination of three basic colors. The name came from basic colors in English „Red", „Green", „Blue";
- Red;
- Blue;
- Yellow;
- Green;
- White.

White strips are divided into:

WARM WHITE	NEUTRAL WHITE	COOL WHITE
warm white - 3000K	neutral white - 4000	cool white - 6000K

Due to warranty period, LED strips can be divided into:

- standard version with 2 years warranty;
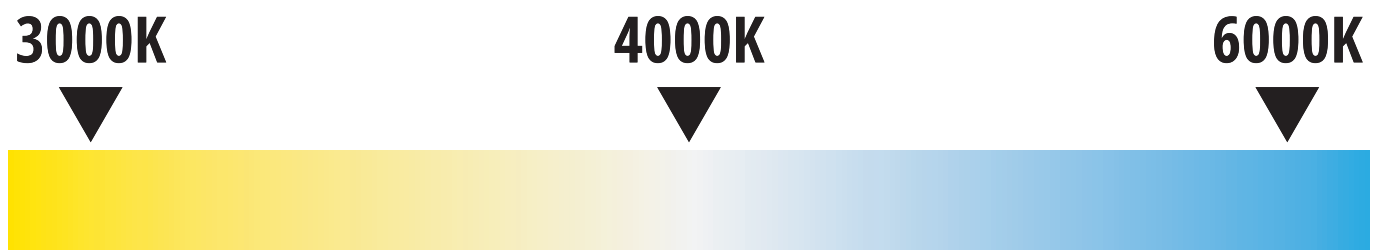- PREMIUM version with 5 years warranty.

Name reading:

①	②	③	④	⑤	⑥
LED TRAMO	300	2835	IP20	3000K	5m

1. **LED TRAMO** – product name.
2. **300** – number of LED diodes on 5 meters.
3. **2835** – type of diodes, name of diode is a reference to its size 2,8mm x 3,5mm.
4. **IP20** – hermecity class.
5. **3000K** – color temperature of a strip / color that strip gives.
6. **5m** – strip length on a roll.

Color temperature:

LED strip color temperature affects perception of colors in illuminated space and creates a mood.

3000K   **4000K**   **6000K**
▼   ▼   ▼

3000K — Warm color that can be applied in spaces of relax like bedrooms or living rooms. This color is a simulation of sunset colors due to which is considered as light giving comfort and relaxation.

4000K — Neutral color is the most universal color temperature which is not as dominant as the other two. Can be applied in kitchen, living room, social spaces etc.

6000K — Cool color is a simulation of blue sky color. As it is in nature, both the sky and LED strip in that color temperature are designed to simulate brain to increased effort. Usually it is the color temperature of higher luminous efficiency and blue shade which is perfect for accenting objects.

Hermeticity class:

IP20 — It is a LED strip without protective equipment which can be applied in places not exposed to moisture or dust. It has higher lighting efficiency than IP65 due to no extra barriers for light source emitted from diode.

IP65 — It's a strip with extra protection – heat shrink tube – that enables application of a product outside or in places exposed to moisture or dust.

Number of diodes affects the energy demand of a strip and amount of light that is emmited from strip.

150 - it's the amount applied for gentle illumination.
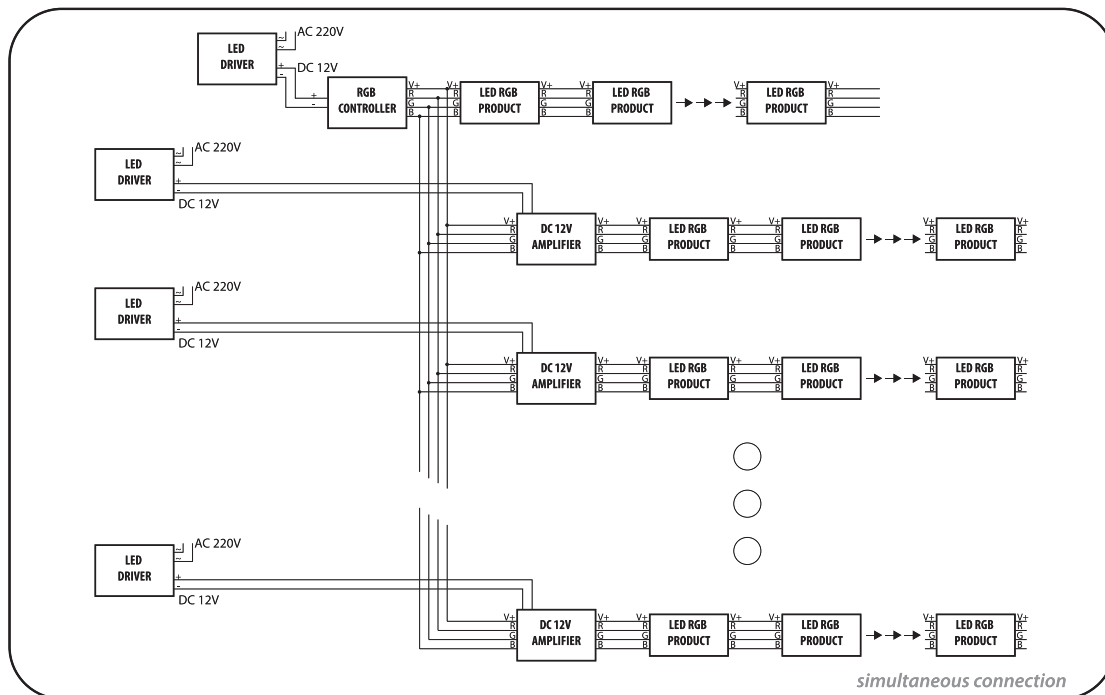**300** - amount adjusted to indirect illumination of spaces or to accent lighting.
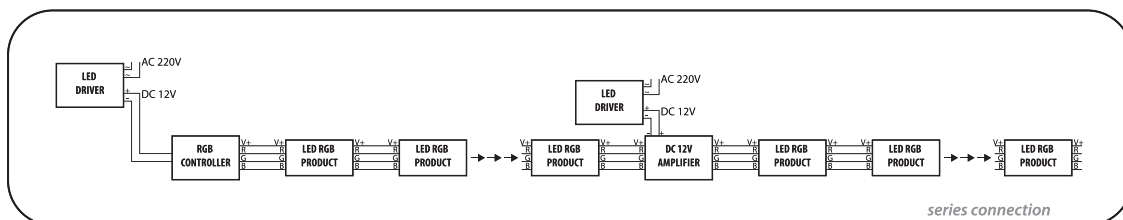
2. Basic rules of LED strips connecting

Proper connection
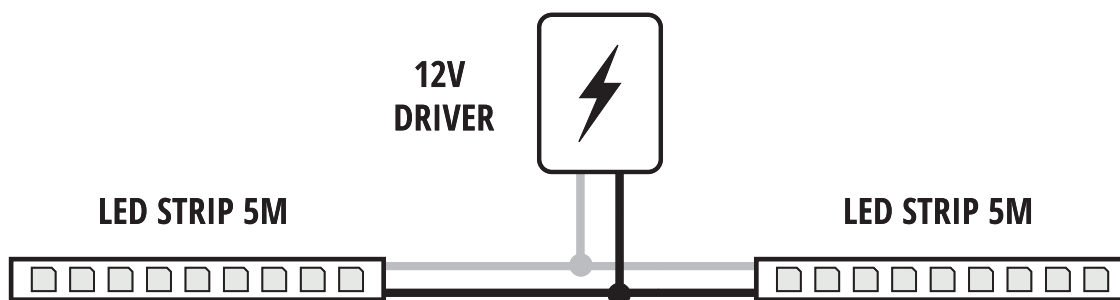We present two basic ways of connecting the strips based on RGB strip.

Simultaneously:

simultaneous connection

In series:

series connection

Proper length of LED strip

Recommended maximum length of LED strip without using the amplifier is 5m. It is a maximum distance recommended due to possible voltage drops which can cause impairment of performance of LED strip. In order to increase the given length it is recommended to use the amplifier or to lead the strip in a way not to exceed 5m, for example:

12V DRIVER

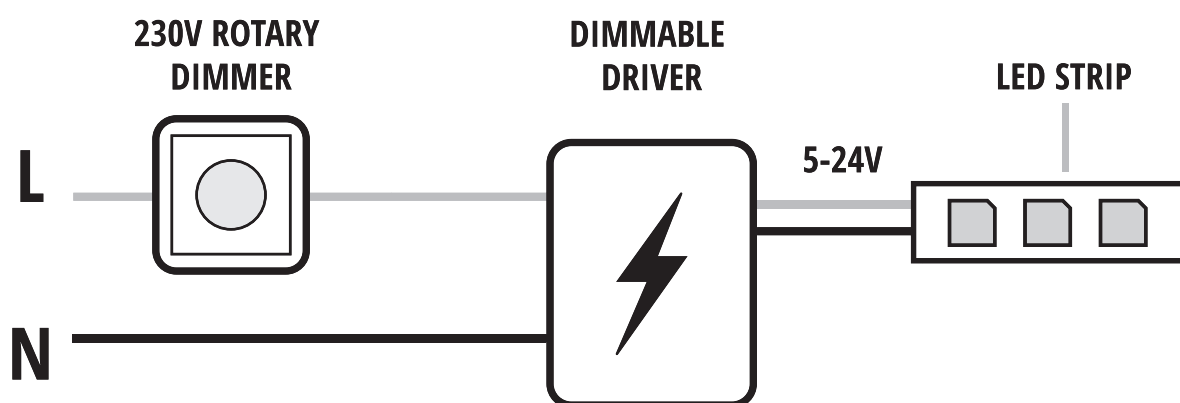**LED STRIP 5M**   **LED STRIP 5M**

Cutting the strip

Cuts on a strip should be performed in spots adjusted to it. There are visible copper connections or soldered copper connections (each one metre of strip).
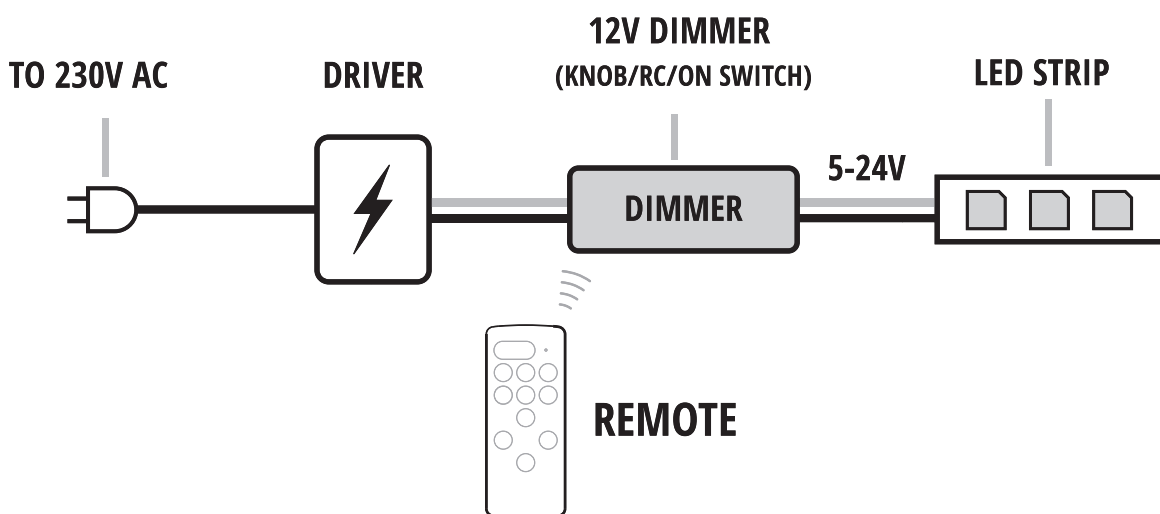
Dimming

Before the installation it should be considered whether dimmer/controller is needed for voltage regulation and therfore luminous flux of LED strip.

Ways of LED strips dimming:

1. Driver ⟼ Dimmable driver ⟼ LED strip

230V ROTARY DIMMER **DIMMABLE DRIVER** **LED STRIP**

L

5-24V

N

2. Driver ⟼ 12V dimmer (knob / RC / on switch) ⟼ LED strip

TO 230V AC **DRIVER** **12V DIMMER (KNOB/RC/ON SWITCH)** **LED STRIP**

5-24V

DIMMER

REMOTE

3. Driver selection

Strips in **KOBI'S** offer are strips of constant voltage 12V.

While selection of driver power it is needed to designate the power which will be connected to this driver and then add 10-15% of power stock so the driver wouldn't work on maximum declared parameters.

Example:
If you want to power 10m of strip in a room: **LED TRAMO 300 2835 IP65 6000K PREMIUM** which will be applied in suspended ceiling.

1. Please check power of strip / on metre – 7,2W/m – 10x 7,2W = 72W

2. With 10% power stock, the driver proper for this length is 80W.

After designating the power it is needed to choose driver type. **KOBI'S** offer includes following 12V drivers:

Driver	Available powers	Photo	Application
Wall plug drivers	17W, 18W,20W,30W		Driver with C type plug for getting power directly by electric socket of small power.
Desktop drivers	24W,42W,60W,72W, 90W,120W		Driver in function similar to plug type but adjusted to higher powers.
Montage drivers	25W,35W,60W,100W,150W, 200W,250W,300W		Driver with higher power range which can be applied to higher quantites of LED strips.
Installation drivers IP67 80W-200W	80W,100W,120W, 150W,200W		Drivers in function similar to module drivers but with higher hermeticity (IP67) for application outside or in places exposed to humidity.
Installation drivers IP67 20W-60W	20W,30W,50W,60W		Driver with function the same as above one but the size of this one allows applying it in smaller hole.
Module driver and installation driver IP67	6W,10W		These drivers are dedicated for junction boxes installation. Installation driver has IP67 clas.

Perfect for applying in solution described above will be montage driver 100W. It is needed to remember about rules of LED strips powering.
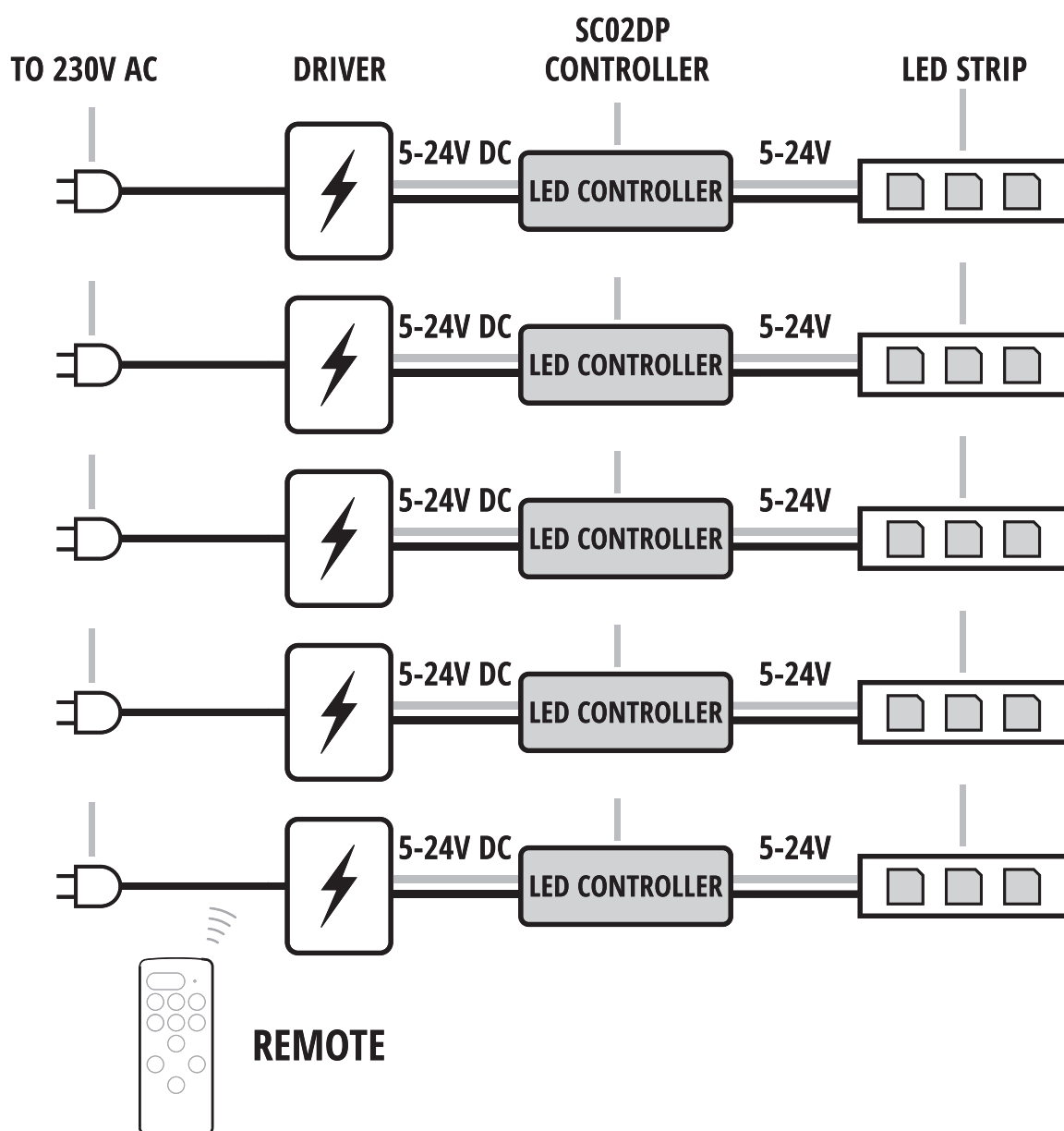
4. LED strip controller

Controller for LED strips in case of RGB strip is mandatory because without it proper usage of a strip will not be possible.

In case of single color LED strips it is an extra possibility allowing extra functions:

- On/off by remote control.

- Dynamic and static working modes.

- Dimmable LED strips.

One remote can operate with up to 5 controllers so there is a possibility of making LED strips groups controlled by one device. Although, in order to have this function it is needed to purchase 5 sets – controller with remote – and set one remote to every driver according to paring controller device manual.

TO 230V AC   DRIVER   SC02DP CONTROLLER   LED STRIP

5-24V DC   LED CONTROLLER   5-24V

5-24V DC   LED CONTROLLER   5-24V

5-24V DC   LED CONTROLLER   5-24V

5-24V DC   LED CONTROLLER   5-24V

5-24V DC   LED CONTROLLER   5-24V

REMOTE

5. Frequent questions

- **Why more than 5m of strip cannot be powered?**

It is connected with voltage drops occuring on too long sections. It will result in overheating the strip and decreasing efficiency of a strip.

- **Why it is needed to add 10% to driver power against strip?**

Driver power stock is needed to gain optimal driver work in order to extend whole system life span.

- **Do I have to add controller to white light strip if it will be operated by switch?**

No, the controller for single color strip is not needed.

- **Can the strip be only installed on profile?**

LED strip must have the best heat dissipation so the LED strip won't overheat and the elements won't have shorter life span. Higher working temperature also affects faster efficiency drop of LED diodes.

- **I have a wall dimmer and I do not want to dim LED strip, what should I do?**

You need to make sure that driver connected to dimmer is a driver dimmable in the same technology. Please contact driver manufacturer in that case.

- **How to select a proper driver for LED strip?**

Please follow point 3 in given manual.

- **Is it possible to buy only the controller without a remote?**

At this moment only sets – remote + controller – are available for sales.