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Link to the product: https://stair-lighting.com/rgb-led-driver-rainbow-effect-p-282.html

RGB LED driver - rainbow effect

Price	**30.79 Euro**
Availability	**On order**
Shipping time	**5 days**
Number	**282**
Manufacturer	**RESTAN**

Product description

Driver Description Controller is the heart of the processor ATtiny2313. The system has PIN HEADER connected to the inputs / outputs. Supply voltage system should be in the range from +7 V to +15 V. The driver is protected against incorrect polarity connection (diode protection). The system was designed specifically to control the RGB LEDs. It has three channels of PWM. At the output channels are used with open collector transistors in an integrated circuit ULN2803 (darlington). Load each channel is up to 0.5 A.

Used in the PWM control circuit is known for many years and is increasingly being used in many fields of electronics and electrical engineering. The main advantages are its: simplicity of control and efficiency. By the performance is meant here a very high efficiency of this type of control. Secreted into the receiver power is controlled by the transistor. Power dissipated in the transistor is very small compared to the power consumed by the receiver. This means that we are dealing with a high efficiency system, which is his incredible strength. This is because the transistor losses occur only when it is blocked, saturation, and during the transition from one state to another.

The driver I designed with a view to controlling the LEDs. For each channel can connect up to 500 leds (assuming that by a 20mA LED current flows, and depending on the operating voltage of LEDs). For example, LEDs for power supply voltage of 12V can be connected to approximately 200 standard leds per channel. For the driver, in addition to the standard RGB LEDs (and placed in series with the output resistor) can be connected to specialized tape strip RGB 12V, at a common anode (common plus). Such a tape or strip has 4 exit (R, G, B, and 12 V).

SAMPLE APPLICATION:

RGB color mixing control room illumination, objects, etc. disco relaxation effects with the use of color and other

Entire Manual control is carried out by Pulse button. Pulse has a resolution of 24 jumps on a full rotation (360 °). However, the choice of using a single jumper to be imposed on sześciopinowe PIN HEADER. Four programs were designed illumination. Some of them also have a timer function.

PROGRAM 1 - activated by placing a jumper on pins Z1 (see photo above) In this program we can set the color of the emitted light, with 300 shades available (static mode). To this end, we're shooting pulse output to the left or right. Emitted color will be able to observe as long as you can not change it, or do not choose another program. PROGRAM 2 - activated by placing a jumper on pins Z2 colors change automatically - cyclic (dynamic mode) and you can speed up - turning the pulse output to the right or slow down - turning the pulse output to the left sweep of colors (see movie).
PROGRAM 3 - activated by placing a jumper on pins Z3 This program includes the two previous ones, we make the choice by pressing the pulse generator. The rest of the features as above.
PROGRAM 4 - to activate it, do not use jumpers most extensive program - combines the functionality of 1 and 2 There is also a timer function (timer). In this program you can extract four features that change regularly using the recycling button.

Summary
1) small size
2) compact design
3) very easy and convenient control with Pulse button
4) static work (solid color) and dynamic (rainbow colors change automatically)
5) feature a manual switch
6) timer function (from 5 min to 1250 min, in increments of approximately 5 minutes)
7) in the static work of over 300 colors of the rainbow, in a dynamic much much more
8) the current programs and settings stored in nonvolatile EEPROM (all stored even after power failure)
9) very simple installation. Pulse has a thread, so you can easily mount it in the enclosure or the front panel. One hole with a

diameter of about 8mm allows the assembly of the entire controller
10) easily change the appearance. The controller can be hidden for example in housing, etc. for the panel extends only to the core of recycling. By changing the knob is easy to change the visual effect
11) a good price / performance ratio