

RGB laser array

Use Manual



Introduction

Thank you for purchasing our product.

To ensure proper operation, please read this manual carefully before using the product.

After reading it, keep it in a safe place for future reference.

General Information

- * The following chapters explain important information about lasers in general, basic laser safety and some tips about how to use this device correctly. Please spend some time reading these information as some of them are critical for safe and efficient operation of this laser display system.



Caution

! This laser entertainment system is rated as a Class IV laser product and manufactured in accordance to EN 60825-1:2007. Avoid eye or skin exposure to direct or scattered radiation. Wear protective goggles of suitable optical density if necessary.

! If the laser is operated in a situation where health or property injury may occur the operation must be stopped immediately.

! The manufacturer and its distributors cannot be held responsible for any damages caused by improper use or misuse of this laser system. The owner/user is fully responsible for using this product in accordance to laser safety regulations of the country or state where the system is being used.

Please note that some other optical devices such as cameras, camcorders, video projector etc. can be damaged if exposed to excessive laser radiation.

Handling precautions

This laser system is a precision device that contains some sensitive opto-electronics components. DO NOT drop it or subject it to physical shock.

This laser system is not waterproof or dust-proof. Make sure to use an appropriate cover or enclosure if it is used in the rain, snow or similar severe environment conditions.

Do not leave the laser system in excessive heat such as in a car whilst in direct sunlight. High temperatures could cause some serious damage to the system.

The laser system contains precision electronic circuitry. Never attempt to disassemble the laser yourself.

If the laser is suddenly brought in from the cold into a warm room, condensation may form on the laser and internal parts. If condensation forms on the laser body, do not use the laser as this may damage the laser system. If there is condensation, wait until it has evaporated before using it.

What is a laser and how does it work?

What is a LASER?

The laser is a bunch of energy waves (streams of photons called radiation) with the same amplitude and phase that are flowing in the same direction; meaning they are coherent – they stick together and form a laser beam.

The width of a single wave is measured in nano-meters and defines the colour and visibility of the laser beam. The visible spectrum of the human eye is roughly between 400nm and 700nm, going from violet to a dark red colour. A human eye is most sensitive to a green light of around 555nm, meaning that a 1W of green laser will always appear more visible than 1W of any other colour laser. 1W of quality laser light is very powerful and although it doesn't sound like much it can burn eye retinas, skin and clothes or even start a fire!

What makes the laser visible?

Mainly it is the particles of dust in the air that the laser beam hits on its path. That's why we "laserists" use haze or smoke machines to make lasers more visible. Too much of the haze or smoke will kill it, but the right amount will make all the difference between no show and a great show. When outdoors, lasers mainly reflect off dust and mist in the air but due to unpredictable wind conditions we can never make sure the hazers or smoke machines will be effective enough. And that's why we use high power lasers for outdoor shows – to substitute for the lack of dust, haze and smoke.

How far does it go?

Depending on the power output of the system and weather conditions, the laser can be visible for miles –that is why we need to be cautious about aircrafts when performing outdoor shows. And if you get a system that is powerful enough then yes, it can reach the Moon.

Colors

Standard full colour analogue lasers use three primary colours: Red, Green and Blue. By mixing those together you can pretty much get any secondary colour:

Red + Blue = Magenta

Red + Green = Yellow

Green + Blue = Cyan

Red + Green + Blue = White

Of course the number and precision of the colours is determined by the modulation, stability and linearity of the system. If the system is not stable enough, it will produce different colours every time it is used, making it virtually impossible to match the colours of two systems at any one time. This is very often the case with systems from far east manufacturers and with re-branded lasers that are being presented as European makes.

Laser Safety First!

! Before proceeding any further, please read the following safety page very carefully. It could help you avoid dangerous and hazardous situations which could lead to serious injury or property damage.

! Any laser system classified as a Class 4 laser must be used with caution. If you are not an experienced laser operator we would strongly recommend that you attend a laser display safety course as soon as possible, and ideally before this laser system is used in public areas. There are various places in Europe where you can attend quality training and even a one day course will give you a good amount of valuable information to safely start with.

Unless you are very competent with the use of lasers and about the laser safety, make sure you follow these basic laser safety rules:

- 1: Never look directly into a laser beam.
- 2: Never look directly into laser aperture if the laser system is switched on.
- 3: Be aware that lasers can burn the eye retina, skin or cause fires if not used correctly.
- 4: Never perform Audience Scanning – that's when laser beams and effects hit an audience directly. Always project with the laser above audience head level – at least 3m above floor level.
- 5: When performing outdoors, avoid pointing the laser at aircrafts, buses, trains, etc.
- 6: Never leave the laser system unattended when it's switched on.
- 7: Always check for reflective surfaces within the laser range – these can be very dangerous (i.e. mirror behind the bar in a club could bounce the beam into bar attendant's eye).
- 8: Never hesitate to use the Emergency STOP if you think there's a fault within the laser system or a potential danger to a person/object caused by the laser performance.

Rear View

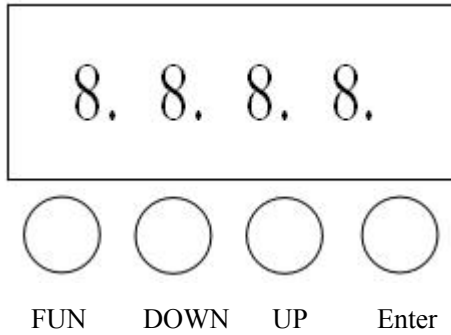


- 1: DMX IN, Power IN
- 2: Power switch, Fuse
- 3: LCD display
- 4: DMX OUT, Power OUT

Product technical parameters

- 1.Voltage:AC90~240V 50~60HZ±10%
- 2.Power consumption:180W
- 3.Laser source: diode.
- 4.Laser power /wavelength:
 - 8 x 500mW Red(638nm)
 - 8 x 500mW Green (520nm)
 - 8 x 800mW Blue (450nm)
- 5.Beam size: 15mm at aperture
- 6.Divergence: <1.5mrad-full angle
- 6.Colors:RGB full color
- 7.External Modulation:Analog
- 8.DMX Channel:24/27CH
- 9.Control signal:DMX-512 international standard signal
- 10.Control mode: DMX-512I
- 11.Cooling system:fan
- 12.Operation environment :Indoor
- 13.Operation temperature:-10°C~40°C
- 14.Net Weight :15kg
- 15.Dimension Size : 88(L)x 16(w) x 14(H) cm

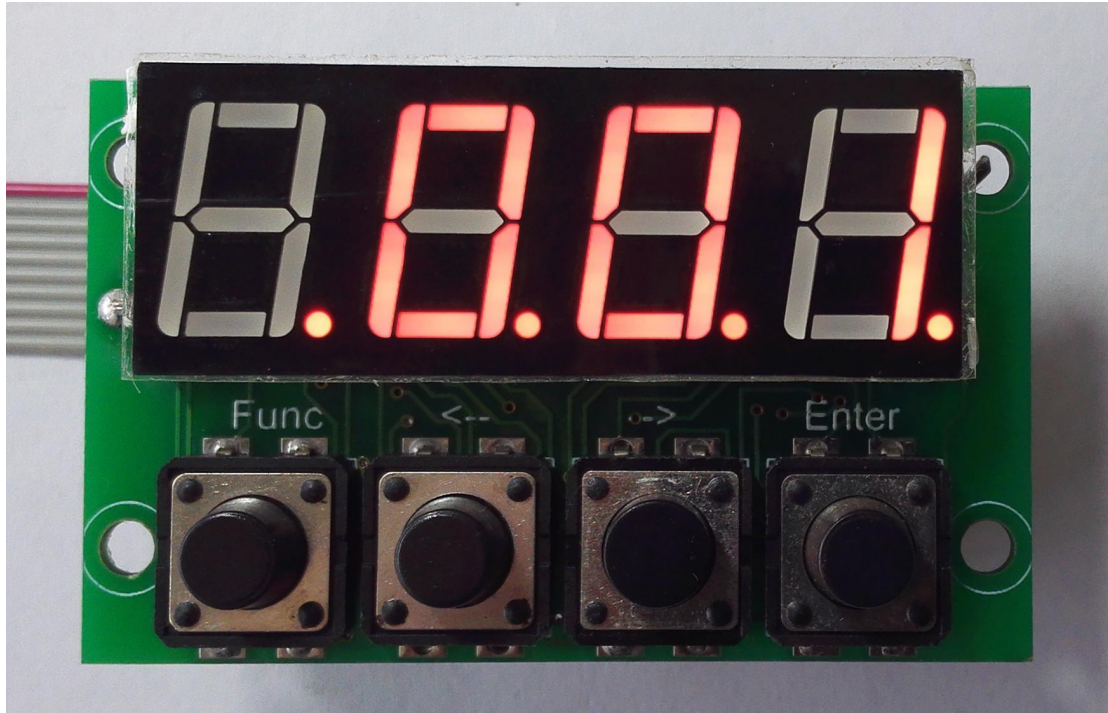
LCD Display and DMX Channel



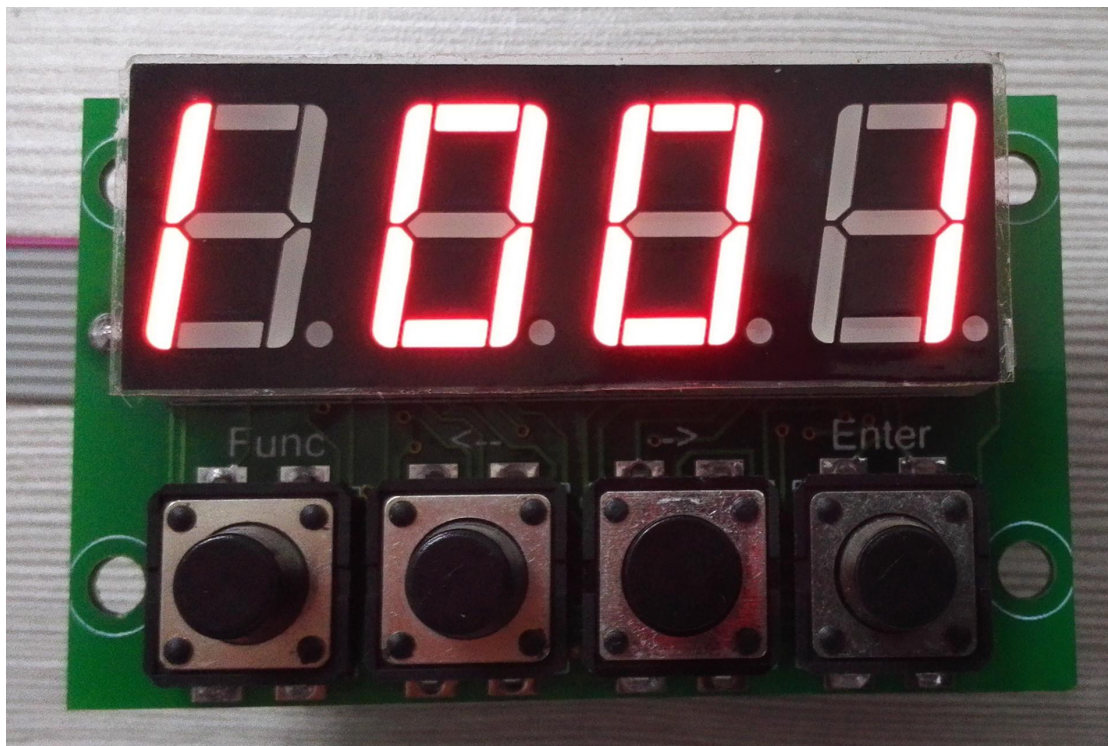
1: Control mode:

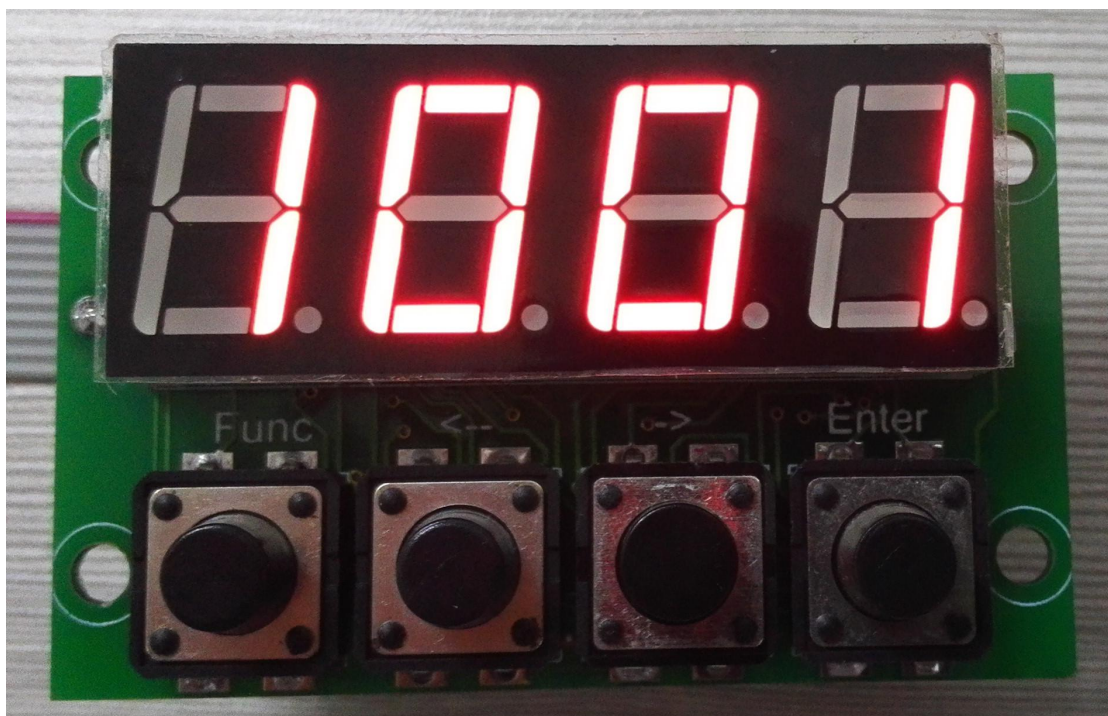
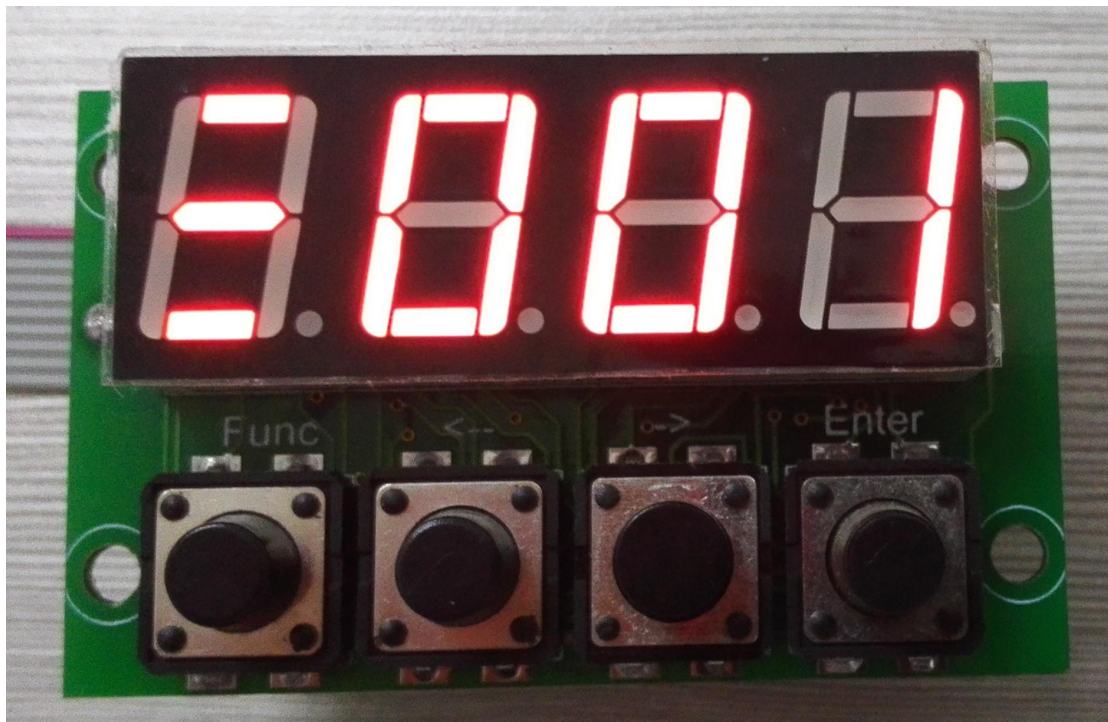
- first LED tube show DMX512 signal, when without signal, then it flashing
- first LED tube show DMX512 signal, when with signal, then show picture from left to right
- second to fourth LED show address of DMX512.
- the point means value of voltage when without DMX signal. When show the point, then output max voltage, when do not show the point, then output min voltage.





The picture above means : without dmx signal,output max voltage





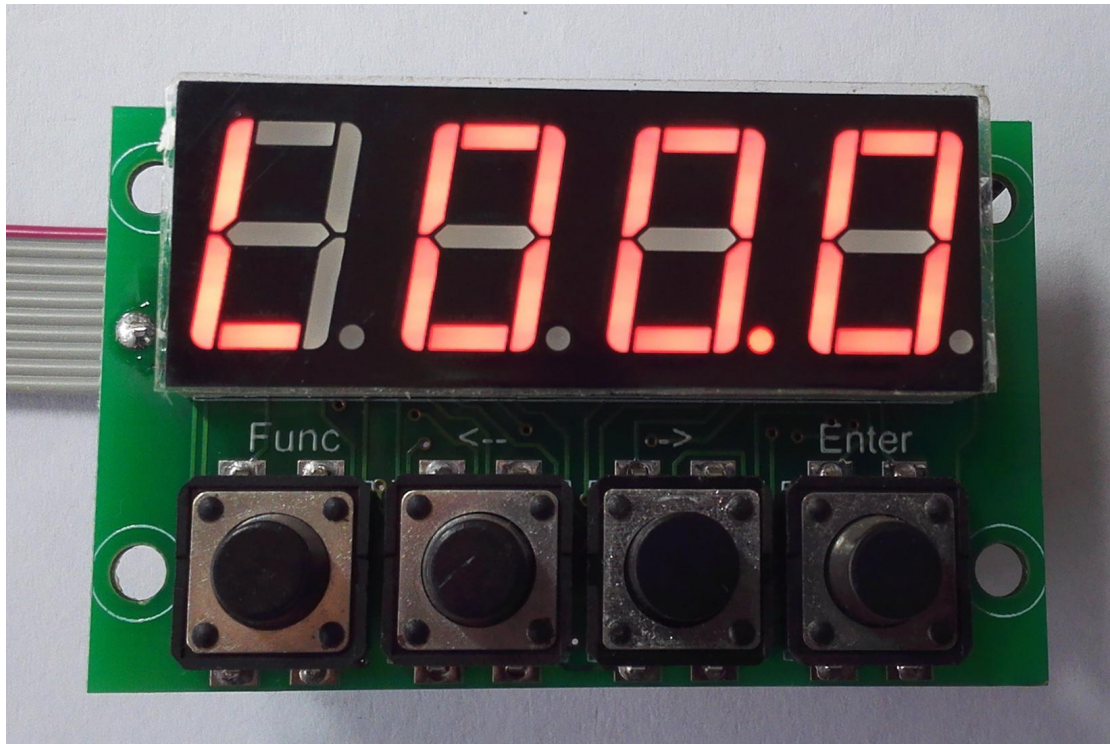
The picture above means: with DMX signal, the picture of LED tube show.

Operation:

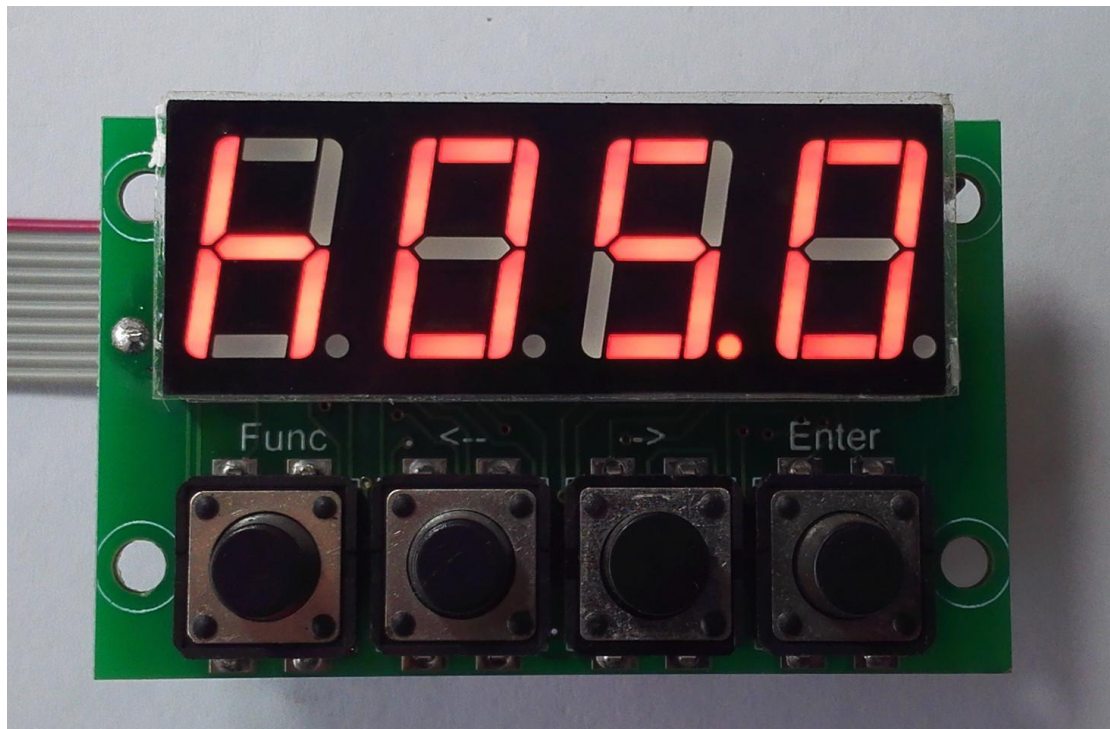
- Push “ Down” and “ UP” to change address DMX, it will save automatic after 5 seconds.
- Push “ Enter” to change output voltage without DMX512. It will save automatic after 5 seconds. It could be shortcut switch to make if output voltage when without DMX512 signal.

2: Setting mode:

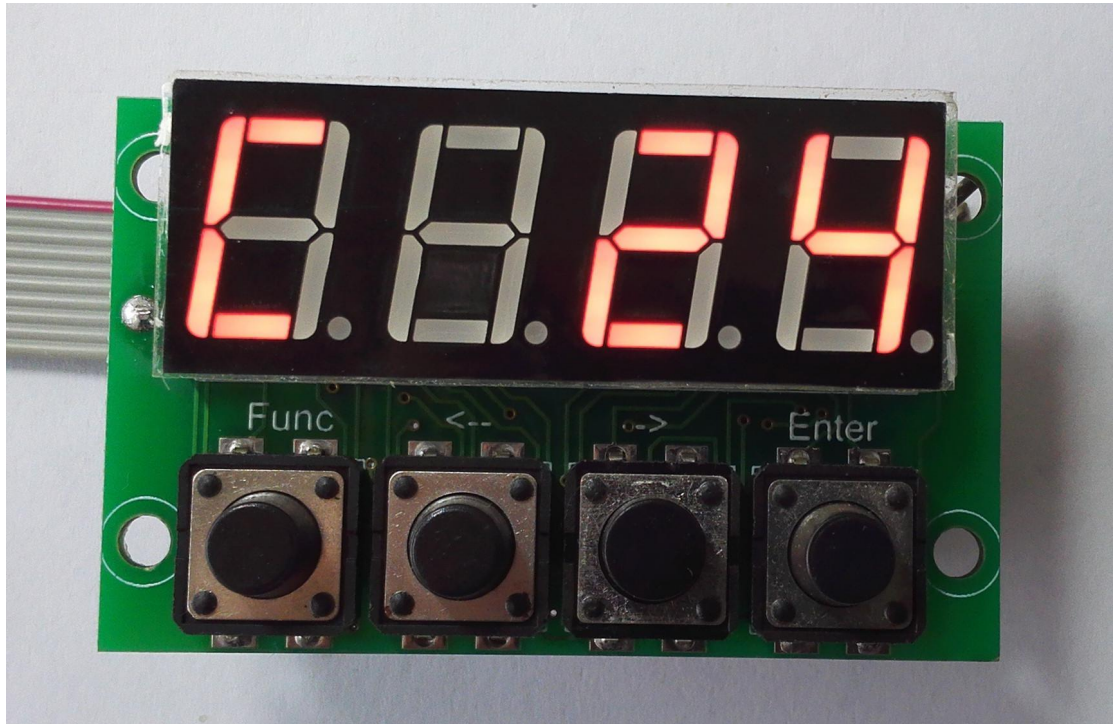
- “vL” : mean min output of voltage (0.0-10v, less than “vH”)
- “vH” : mean max output of voltage (0.0-10v, more than “vL”)
- “C” : mean Channel
- “E” : mean with built-effect or without built-effect.



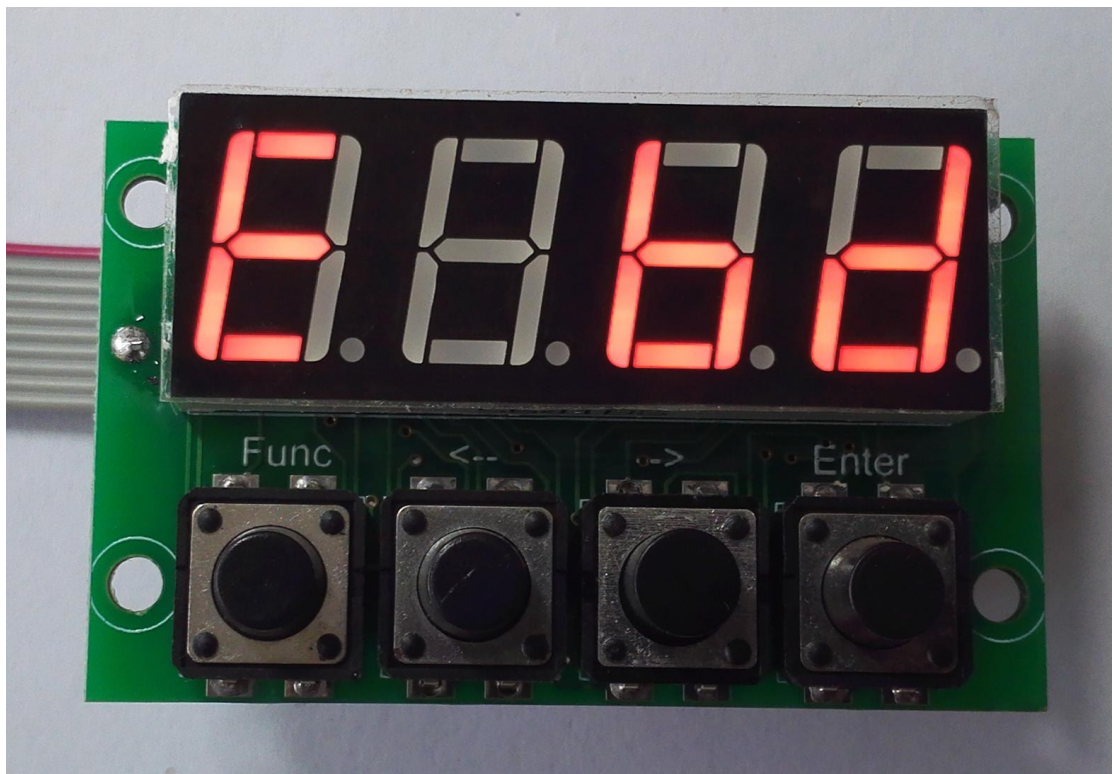
“vL “



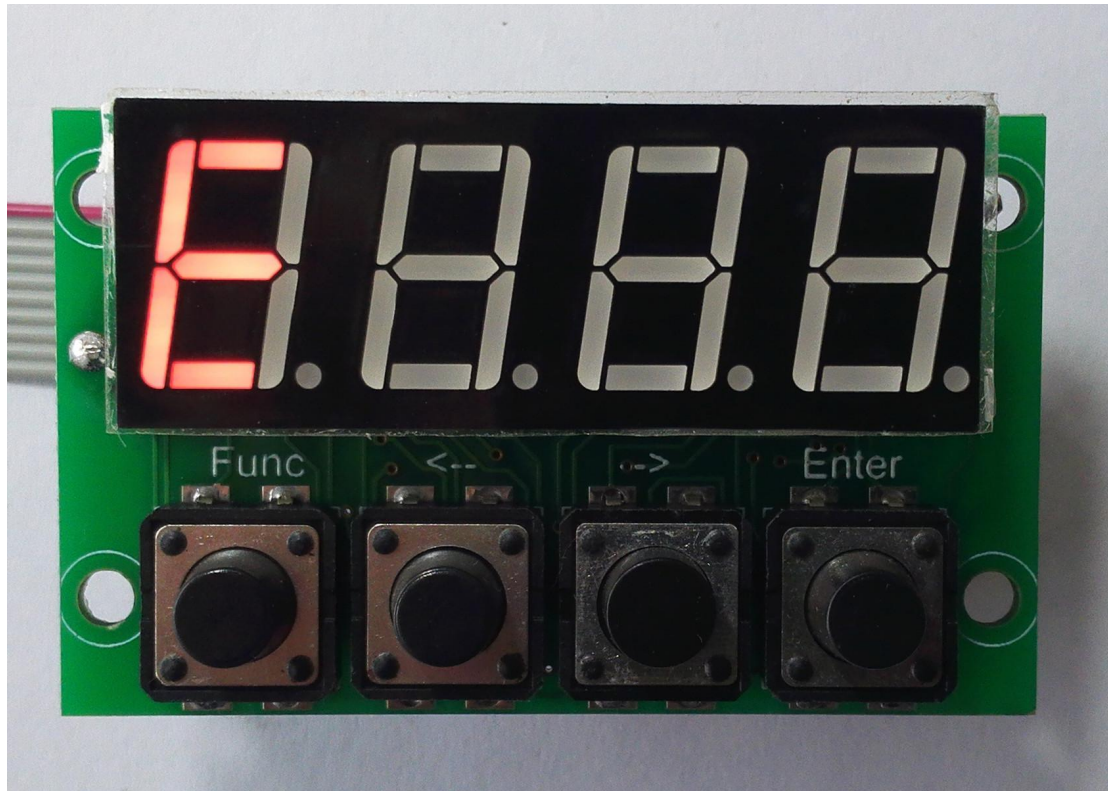
“vH “



“C”



“E” with effect



“ E “ without effect

Operation:

- under control mode, push “ FUN” into setting mode, the min voltage “vL” column
- under setting mode, push “ FUN” into next setting column, after the last column,will exit setting mode and do not save edit result. (just for see and test setting)
- Push” Down” and Up” to change setting value,it works at once.
- Push “ Enter” to save setting value and exit setting mode.