

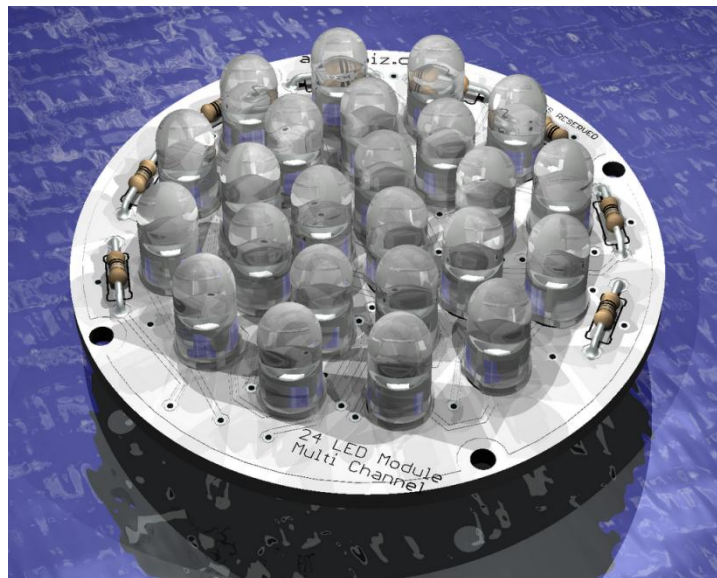


Printed Circuit Board for 24 LED Module

(8 Individual Channels with optional resistors positions)

Data Sheet and Operating Guide

Version 1.0





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(8 Individual Channels with optional resistors positions)

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1.1 General Description : -

- This Multi Channel 24 LED Module is capable for blending different color LEDs on a 5cm diameter circular board. Color of LED ranged from Ultra Violet to Infra Red.
- Single color modules can also be built on this board
- 24 LEDs are divided into 8 groups with individual resistor positions and power input pads. By selecting suitable resistor or power supply DC voltages, users can enjoy a larger design freedom for their light projects.
- Advanced users may apply PWM technology for more light effects like dimming, flashing, scrolling

1.2 Features : -

- Suitable for 3mm or/and 5mm through hole LEDs (mount on top) or 1206 SMD LEDs, mount on bottom.
- LEDs arranged in 8 groups with individual VCC/PWM input. Group numbers are printed on board (from 1 to 8)
- 8 groups of LEDs are arranged in 3 rings on board.
- Position for resistors (R1 to R8) available for each group to select colors under static voltage supply, resistors can be soldering on top or bottom of board
- Individual groups can be merged by shorting VCC pads (1 to 8)

1.3 Applications : -

- Single color module as light source
- Multi color modules with individual resistors for a single voltage supply
- Night Vision light source with IR LEDs or a White or Infra Red module
- Stage light with different light effects with external drivers
- Auxiliary plant light, Red for flowering, Blue for leave
- Auxiliary brake and indication light
- Any other color blendings from Ultra Violet to Infra Red



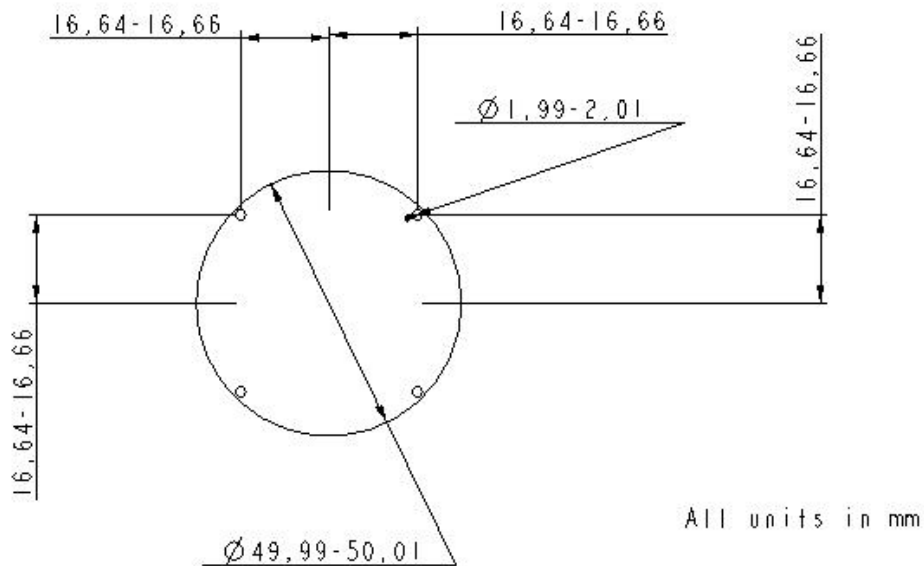
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2.1 Circuit Board Data : -

- Board Shape : Circular
- Board Diameter : 5cm
- Board Thickness : 1.6mm
- Board Material : FR-4
- Board Color : White

2.2 Physical Dimension : -

Multi Channel 24 LED Module Board
Top View





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3.1 Static Supply Voltage and Resistors : -

Resistors for different LEDs and VCC

Static Input Voltages	WBGU	ROY	IR	1W + 2R	2W + 1R
12V	150 ohm	300 ohm	390 ohm	270 ohm	200 ohm
9V	Short	150 ohm	240 ohm	100 ohm	51 ohm
8V	N/A	100 ohm	180 ohm	51 ohm	Short
6V	N/A	Short	75 ohm	N/A	N/A
Others	Please contact us if you need technical support				

Voltage Regulator (7812) is recommended for car batteries, when the engine is on, car battery voltage will be around 13.5 to 14VDC. We're carrying L7812 Voltage Regulator Kits in stock.

Definitions : -

- WBGU stands for White, Blue, Green, Ultra Violet LEDs sharing same forward voltage of 3.0 to 3.3VDC
- ROY stands for Red, Orange, Yellow LEDs sharing same forward voltage of 1.8 to 2.0VDC
- IR stands for Infra Red LEDs with forward voltage of 1.5VDC
- 1W + 2R means combination of 1 LED from WBGU group + 2 LEDs from ROY group
- 2W + 1R means combination of 2 LEDs from WBGU group + 1 LED from ROY group
- Longer pin of LED is anode pin for connection to VCC (+ve), shorter pin is cathode pin and should be connected to GND (-ve)
- Resistors have no polarity



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4.1 Assembly Guides and Hints :-

- First Step – soldering of LEDs
 - Starting from inner ring, solder only 1 pin of LEDs, make sure LED bottom are mating perfectly with surface of board. If LED position isn't perfect, resolder
 - Cut pins
 - Solder all other pins
 - Repeat same procedures to second ring and outer most third ring
- Second Step – soldering of Resistors or short resistors soldering pads
 - Solder suitable resistors or short the resistor pads with cut out pins from LEDs
 - R1 is for Group 1 LEDs, R2 for Group 2 so and so
- Third Step – shorting of power input pads (1 to 8)
 - If merging of groups of LED is required, for example, first ring and second ring to be Red in color, short power pad 1 to 4 (inner ring is composed of Group 1 LEDs, second ring with Group 2, 3 and 4 LEDs)
 - Be careful to handling power supply pads which are relatively close in position, if the pads to be shorted are far away like shorting pad 1, 5, 6 and 7 (inner most ring and outer most ring), use insulated electric wire for shorting
- Final Step – soldering of power input wires
 - This step is closely related to last step
 - Advanced users may want to make light effects with magnified PWM signals, maybe 8 individual wires are soldered onto the pads, this must be handled carefully in order not to short the pads accidentally

Caution : Soldering time of LED should be less than 3 second for each pin, tip temperature around 250 to 300 degree Celsius

Above guides are only recommended, your suggestions and comments are welcomed



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5.1 Copyright :-

- Amplebiz.com reserves full copyright of this product
- We'll take legal action on any unauthorized resell or clone
- We have authorized dealers in some area, please contact us for more details

5.2 List of Authorized Dealer and contact info :-

Location	Organization	Contact Person	Email