

## 6-in-1, Single Channel 240W Constant Voltage Dimming Module

The GRE Alpha 6-in-1 dimmer provides full range 0-100%, smooth, high resolution dimming performance for constant voltage LED dimming applications. Flexible and easy-to install, this unit comes with a multi-colored LED indicator and integrated strain relief and terminal cover. Dimming transfer characteristics can be set (linear or logarithmic) for a wide variety of dimming applications. Each unit also comes with built-in thermal shutdown with auto restart and overload protection.

# XDL-6DV1-48V5A-E

## 6-in-1 Dimming LED Module



SELV

## LED Controls supported

- Switch Dim
- DALI
- 0-10VDC
- Wide range DC input : 8-48V
- 1-10V
- Variable Resistor (Potentiometer)
- PWM

## Applications

- Linear LED Lighting
- Constant Voltage Lighting Applications
- Lighting Controls
- Smart Lighting

| Model            | Input Voltage Range (Vdc) | Output Voltage Range * | Max. Output Current (A) ** | Max Output Power (W) | Power Efficiency (Typ) |
|------------------|---------------------------|------------------------|----------------------------|----------------------|------------------------|
| XDL-6DV1-48V5A-E | 8 - 48V                   | Vin-0.2~0.5V           | 5                          | 240                  | 97%                    |

\*- XDL-6DV1-48V5A-E dimming module requires an external CV LED driver with voltage ripple <10% of rated output voltage, connected to the DC input, and should not exceed the above input voltage range. It is recommended to use with GRE Alpha's XLD/SLD/GLV type LED drivers.

## Input Specification

|                               |          |                              |  |
|-------------------------------|----------|------------------------------|--|
| Voltage Range                 | 8-48Vdc  | Dimmable Input Voltage Range | 5 A max  |
| Over Voltage Protection       | @Vin=50V | Dimming Range                | 0-100%(Linear or Logarithmic curve selectable) |
| Recommended input wire length | Max 3m   |                              |  |

## Output Specification

|                         |                    |                                    |   |
|-------------------------|--------------------|------------------------------------|---|
| Output Voltage          | Vin - 0.2~0.5V     | Output Current                     | 5A max  |
| Power Efficiency        | ≥97%@ 100% Dimming | Max. Output Power                  | 240W(48V,5A)  |
| Over Current Protection | 110% Iout(Max)     | Over Temperature Protection        | Power MOSFET @ 105°C                                      |
| PWM Frequency           | 750Hz              | Recommended LED output wire length | up to 30m*  |
| Standby Power           | 200mW(Max)         | Other Protection Modes             | Thermal shutdown with auto restart<br>overload protection |

\* --Depends on LED specification

## Environmental Specification

|                               |            |               |                          |              |
|-------------------------------|------------|---------------|--------------------------|--------------|
| MTBF                          | Cooling    | Max Case Temp | Operating Temp           | Storage Temp |
| 55,000 Hours @ 25°C full load | Convection | 60°C          | -25°C - 40°C @ Full load | -25°C - 85°C |

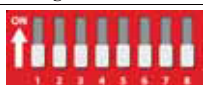





## Compliance/Safety




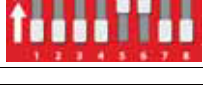


|                   |  |
|-------------------|--|
| Safety Standards: | EU Standard: CE & CB, included EMC & EMI- EN55015, IEC61558-1, SELV, IEC 61347-2-13<br>Dimming Standard: IEC62386-101, 102 and 207 |
| Weatherability:   | IP 20  |

## Mechanical Specification

|                       |  |
|-----------------------|--|
| Power Unit Dimensions | 153mm (L) x 23.5mm (W) x 24.5mm (H)                  |
| Case Design/Material  | Plastic Casing                                       |
| Connector Type        | WAGO terminal block connectors                       |
| Connectors            | Vin+, Vin-, DALI/PWM x 2, -Grey, +Purple, LED+, LED- |
| Wire Size             | 24-16 AWG(0.25-1mm <sup>2</sup> )                    |

## DIP Switch Settings – Operation Mode

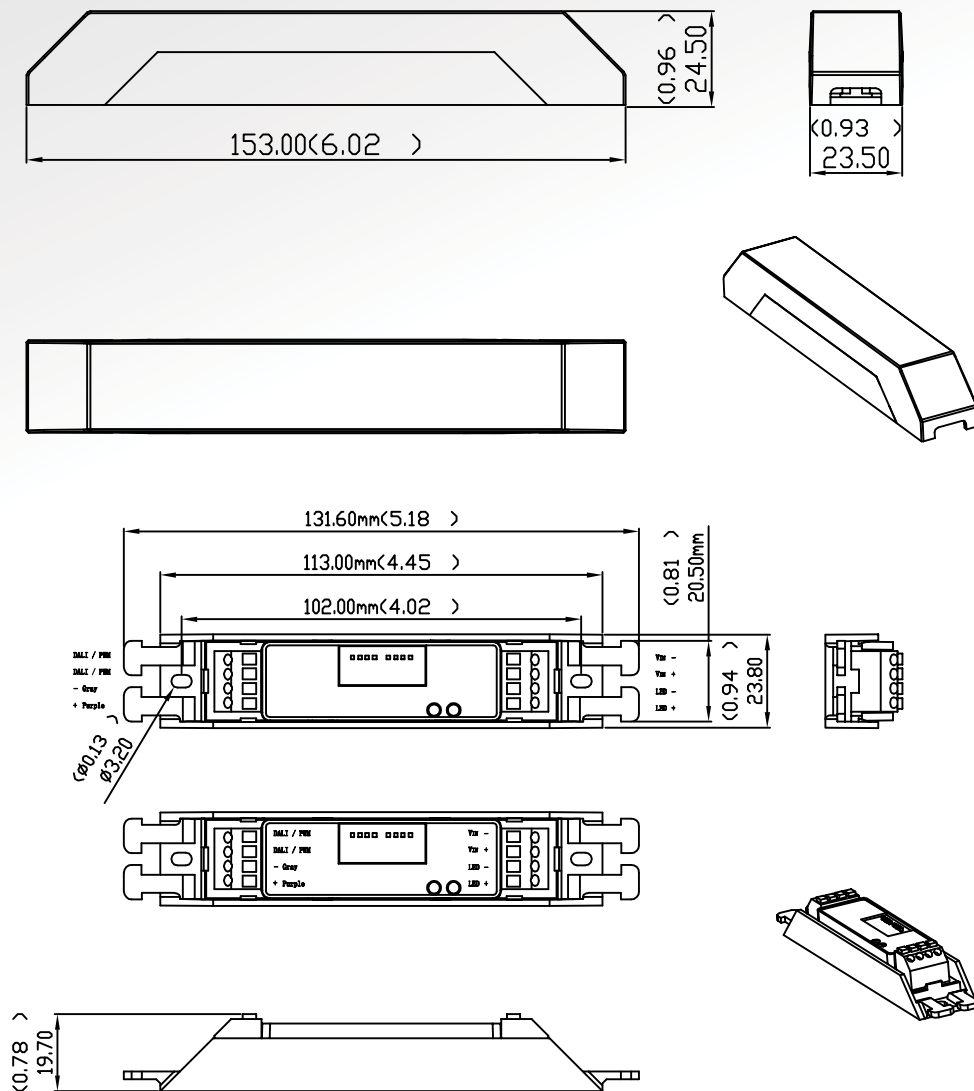
| Mode   | Setting   | Option   |
|--------|---|--|
| Switch |  | <ul style="list-style-type: none"> <li>Four timing durations selectable</li> <li>Linear or logarithmic dimming selectable</li> </ul> |
| 0-10V  |  | <ul style="list-style-type: none"> <li>N/A</li> </ul>  |
| 1-10V  |  | <ul style="list-style-type: none"> <li>N/A</li> </ul>  |
| VR     |  | <ul style="list-style-type: none"> <li>N/A</li> </ul>  |
| DALI   |  | <ul style="list-style-type: none"> <li>Linear or logarithmic dimming selectable</li> </ul>   |
| PWM    |  | <ul style="list-style-type: none"> <li>N/A</li> </ul>  |

| Switch Timing Options  | Description                 |
|--|-----------------------------|
|  | Dimming duration: 4 seconds |
|  | Dimming duration: 5 seconds |
|  | Dimming duration: 7 seconds |
|  | Dimming duration: 9 seconds |
| Dimming Curve Option   | Description                 |
|   | Linear                      |
|   | Logarithmic                 |

## LED Status

| LED Status     | Mode | Description               |
|----------------|------|---------------------------|
| Green ON       | All  | Normal / Ready            |
| Green flashing | DALI | Communication in progress |
| Red ON         | All  | OCV / OVP/ OTP/ UVP       |
| Red flashing   | All  | Incorrect DIP             |

## Mechanical Diagram



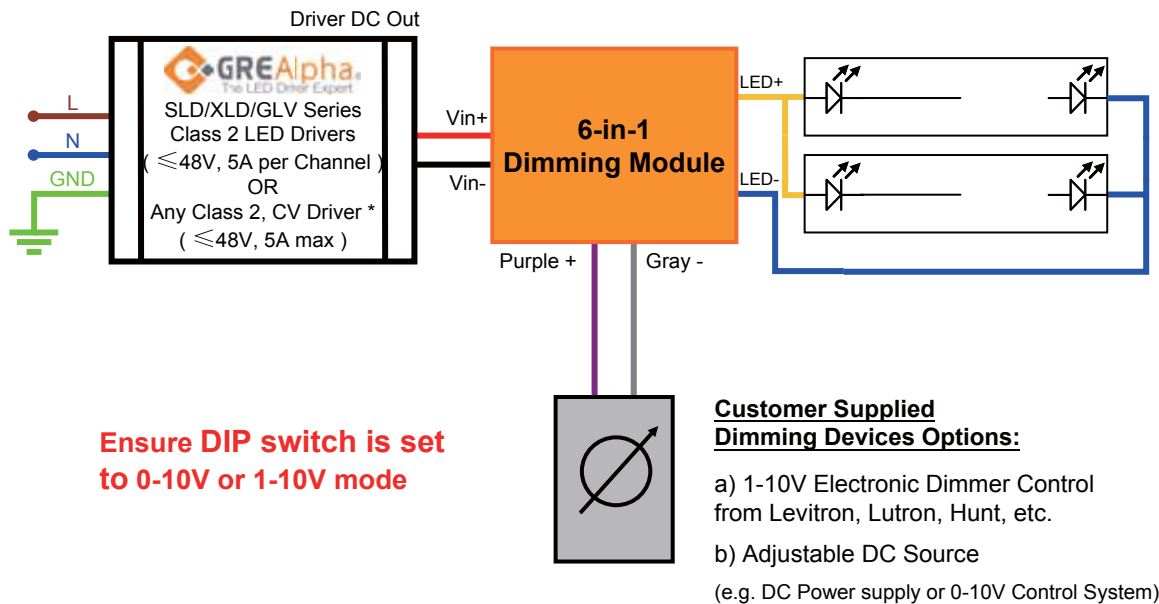
### Packing Information:

0.05kg/pcs; 100pcs/ carton;

7.0kg/carton; L330xW315xH190 (mm)

## Wiring Diagrams

DIP switch is set to 0-10V OR 1-10V mode



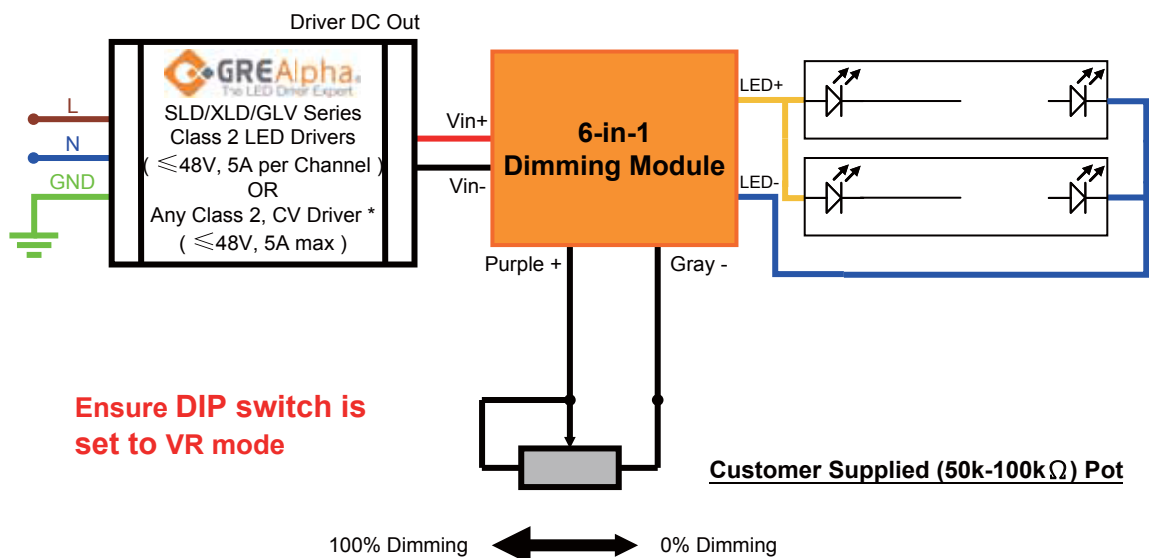
\*\* Note alternate simple on-off operation:

- Connecting the Purple and Grey output together will provide 0% brightness.
- Leave Purple and Grey output open will provide 100% brightness.

\* 0-100% flicker-free performance not guaranteed when used with non-GRE Alpha CV Drivers

**0/1-10V**

DIP switch is set to VR mode



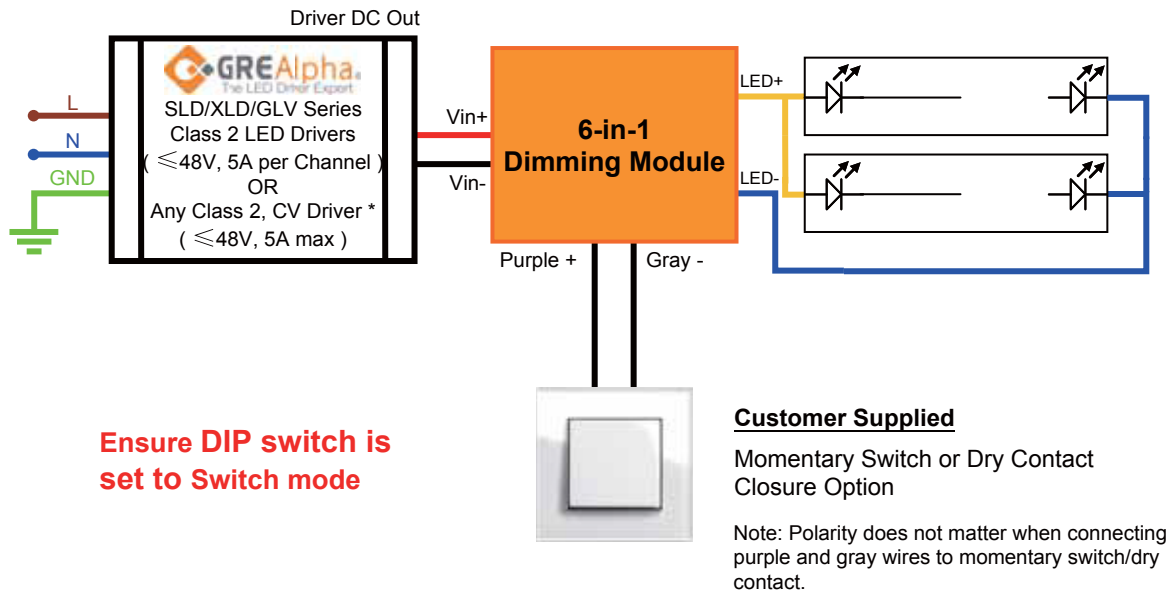
\*\* Note alternate simple on-off operation:

- Connecting the Purple and Grey output together will provide 0% brightness.
- Leave Purple and Grey output open will provide 100% brightness.

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**VR**

DIP switch is set to Switch mode



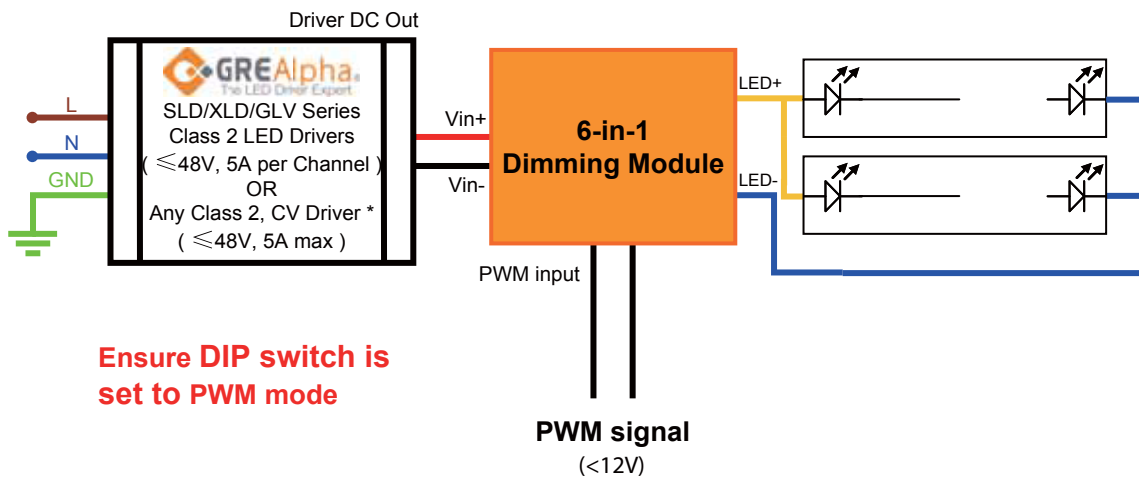
\*\* Note alternate simple on-off operation:

- Connecting the Purple and Grey output together will provide 0% brightness.
- Leave Purple and Grey output open will provide 100% brightness.

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### Switch Dim

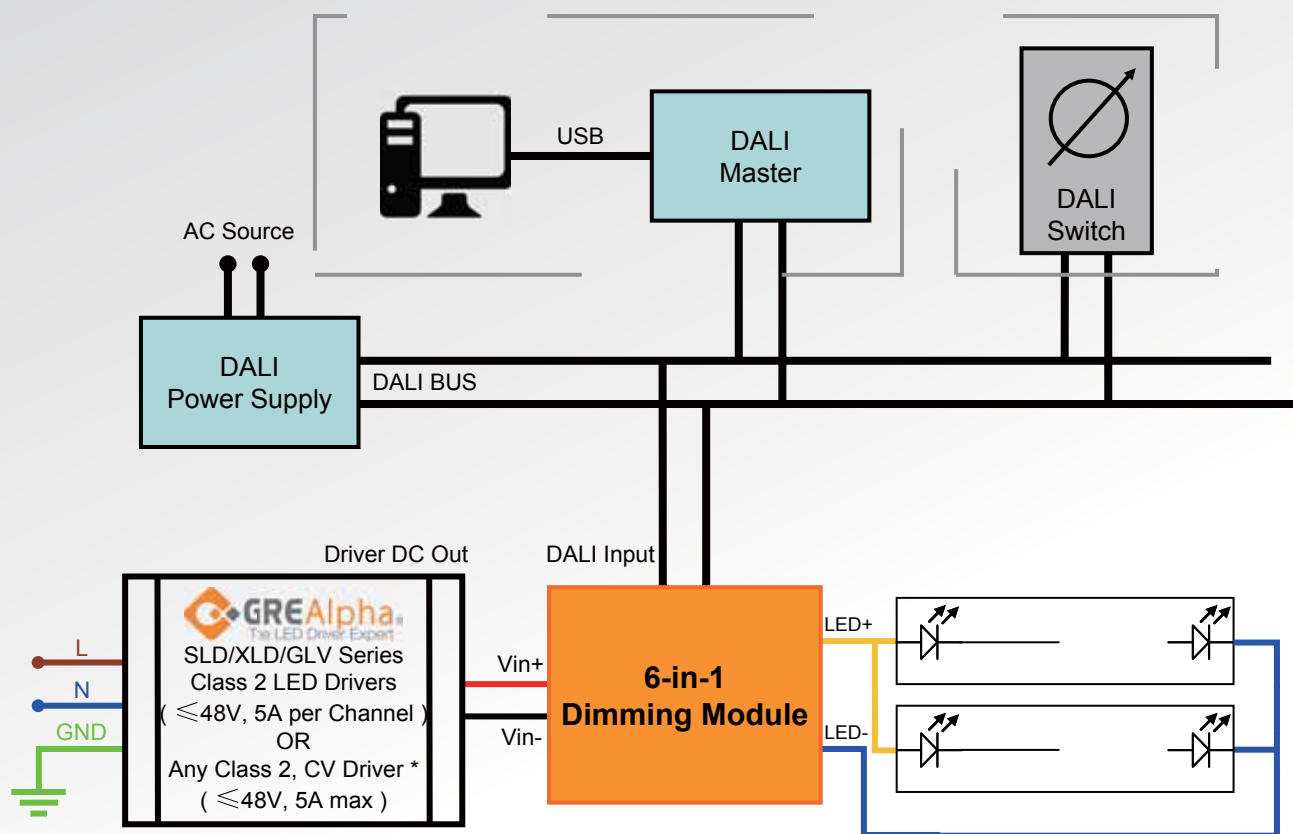
DIP switch is set to PWM mode



\* 0-100% flicker-free performance not guaranteed when used with non-GRE Alpha CV Drivers

### PWM

DIP switch is set to DALI mode



**Ensure DIP switch is set to DALI mode**

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**DALI**

GRE Alpha undertakes extensive testing on its dimming modules to ensure dimming compatibility and performance to our best ability. However due to rapidly evolving technology and the wide number of dimmers available GRE Alpha makes no specific recommendations on dimming system selection for its dimming modules and there are no warranties of performance or compatibility implied. Please test product for dimming compatibility before use.

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