



# XS Switch Dim

## Momentary Switch Dimming Module



### Model Selection Key

XS-DIM-1X-R/H

R: Dimming Program R (Residential)  
H: Dimming Program H (Hospitality)

B: An input DC Voltage of 8-30VDC  
H: An input DC Voltage of 15-48VDC

Single channel output

Series Name

## XS Switch Dim High Power Momentary switch dimming module

XS-Dim momentary switch dimming module seamlessly integrates with any standard momentary switch, to provide dimming control through a simple dry contact closure, enabling smooth, flicker-free dimming of LED lighting. Using this module with an external, low cost momentary switch, enables direct replacement of traditional fade/dimming controls. With its high 1024 dimming resolution, along with its small package size, the XS-DIM provides an exceptional low cost and compact dimming solution, which can be installed within most of our GRE Alpha's Easy-install LED drivers, or any standard J-box or switch box.

### Features

- PWM Dimming with no shift in LED colour temperature
- Works with any momentary switch/dry contact closure
- Safe, Class 2, DC side low voltage control
- Two dimming program options
- Up to 1024 dimming levels provides smooth dimming linearity
- 97% Efficiency
- IP65
- FCC Title 47 FCR 15 Class B Compliant, without requiring additional input filters and capacitors
- High level AC Bias Voltage not needed for switch dim interface

### Applications

- Fade Dimming Controls
- Architectural Lighting
- Effect & Contour Lighting
- Office General Illumination
- Strip Lighting
- Residential Lighting
- Entertainment Lighting
- Hotel

| Model      |            | Input Voltage Range (Vdc) | Output Voltage Range * | Max. Output Current (A) ** | Max Output Power (W) | Power Efficiency (Typ) |
|------------|------------|---------------------------|------------------------|----------------------------|----------------------|------------------------|
| XS-DIM1B-R | XS-DIM1B-H | 8 - 30V                   | Vin - 0.2V~0.5V        | 5                          | 120                  | 97%                    |
| XS-DIM1H-R | XS-DIM1H-H | 15 - 48V                  |                        | 3                          | 150                  | 97%                    |

\* - XS-DIM dimming module requires an external CV LED driver, connected to the DC input, and should not exceed the above input voltage range.

\* UL marking: for products manufactured in Vietnam only, effective October 2020.

## Input Specification

|                                |                                                                     |                      |                                                  |
|--------------------------------|---------------------------------------------------------------------|----------------------|--------------------------------------------------|
| Voltage Range                  | Please refer model table                                            | Input Current        | 5.1A max(1B) / 3.1A max(1H)                      |
| SW Dim Interface Control Level | Open = 10V, Close = 0V                                              | Under voltage Logout | Auto Recovery upon input voltage over Vin (min)  |
| Short Circuit Protection       | Hiccup-Mode, Auto-Recovery upon removal of short circuit condition. | Over Voltage         | Auto Recovery upon input voltage under Vin (max) |
| Over Temperature Protection    | Auto recovery upon operating temperature <105°C                     |                      |                                                  |

## Output Specification

|                  |           |                |                                                                        |
|------------------|-----------|----------------|------------------------------------------------------------------------|
| Output Frequency | 250Hz PWM | Output Current | XS-DIM1B: 5A max. at full load **<br>XS-DIM1H: 3A max. at full load ** |
| Power Efficiency | 97% Typ   | Dimming Ratio  | 1:1000                                                                 |

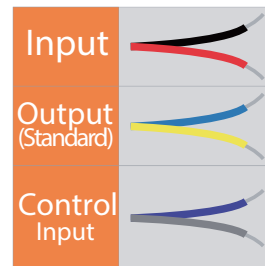
\*\* - XS-DIM dimming module max. output current is dependent on LED driver output current, which should not exceed the Class 2 maximum of 5A(XS-DIM1B) or 3A(XS-DIM 1H).

## Environmental Specification

|                          |              |                   |
|--------------------------|--------------|-------------------|
| Ambient Temperature      | Storage Temp | Relative Humidity |
| -20°C - 60°C (Full Load) | -40°C - 85°C | 5% - 95 %         |

## Mechanical Specification

|                       |                                                                                                                            |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------|
| Power Unit Dimensions | 56mm (L) x 37mm (W) x 14.5mm(H)                                                                                            |
| Case Design/Material  | Plastic Casing                                                                                                             |
| Wire Length           | 6 inches 152.4mm                                                                                                           |
| Wire Size             | a. 18AWG standard, 300V, 105degC (DC input and DIm Putput wires)<br>b. 22AWG standard, 300V, 105degC (1-10V control wires) |



## Program Description:

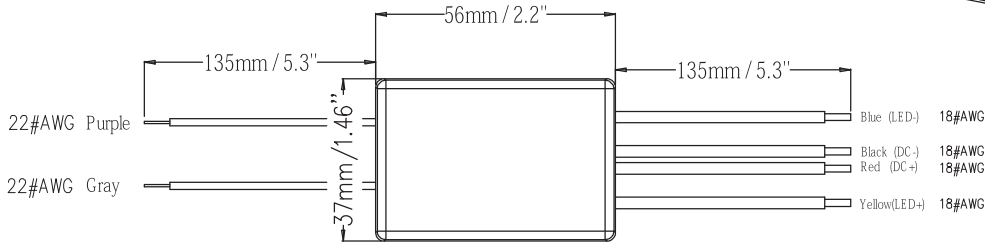
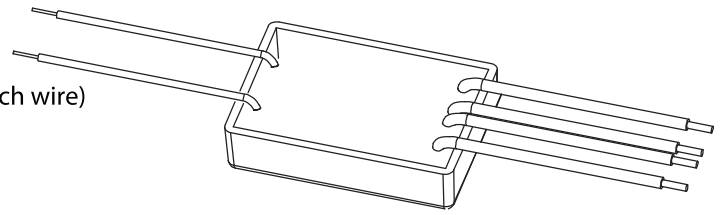
|                      |                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimming Program (R): | <p>Turns to previously adjusted brightness every time the switch is turned on.<br/>Dims smoothly down after pressing the switch for a prolonged time.<br/>Pros: Good for applications where light is frequently used (personal Home) and that the user can turn to the previous lighting level every time.<br/>Cons: Need to press for a prolonged period of time to adjust lighting level to maximum</p> |
| Dimming Program (H): | <p>Turns to full brightness every time the switch is turned on.<br/>Dims smoothly down after pressing the switch for a prolonged time.<br/>Pros: Good for applications where users need to use the light at maximum brightness.<br/>Instant feedback on the maximum brightness of the LED light.<br/>Cons: Cannot memorize previous brightness level</p>                                                  |

## Mechanical Diagram

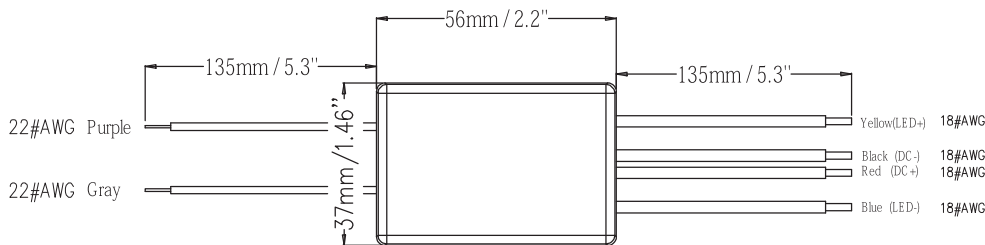
Power Unit Dimensions: 56mm(L)\*37mm(W)\*14.5mm(H)

Wire Size: a. 18AWG standard, 300V, 105 degC (DC input and Dim Output wires)

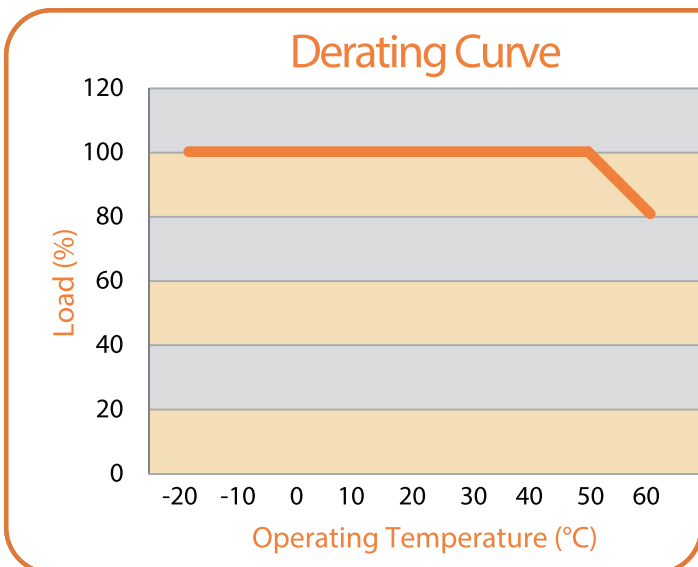
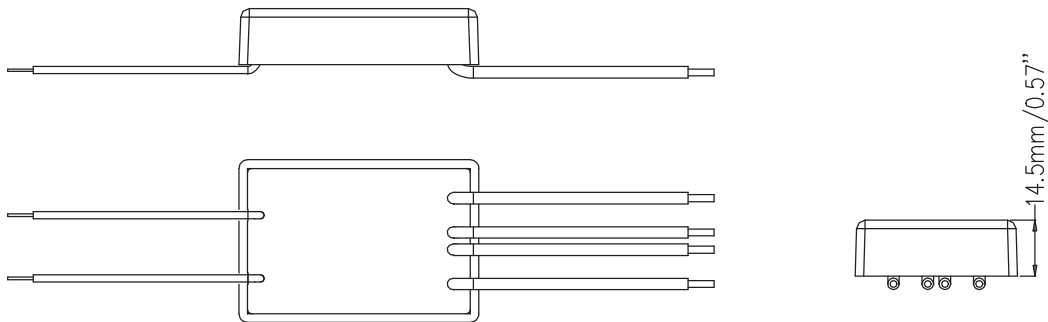
b. 22AWG standard, 300V, 105 degC (momentary switch wire)



XS-DIM1H-R / H



XS-DIM1B-R / H

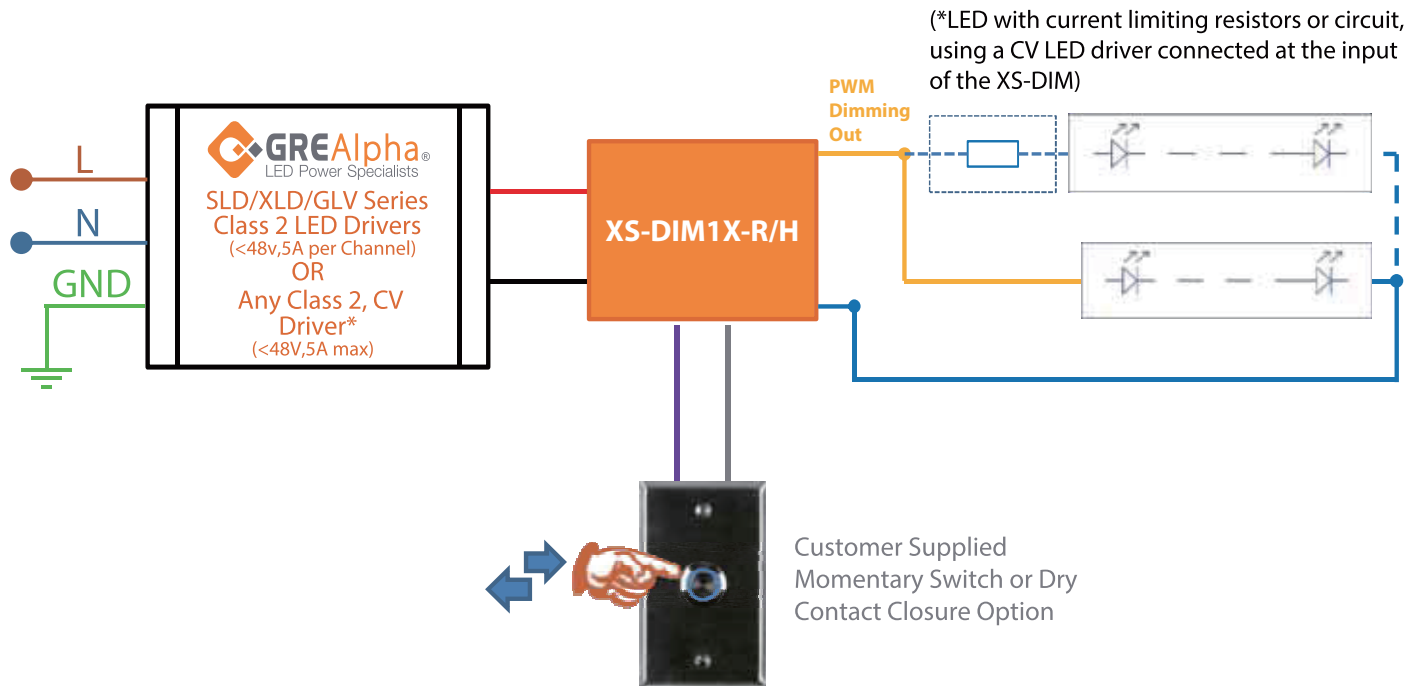


| Input Wire |                     |
|------------|---------------------|
| Red        | DC + Input          |
| Black      | DC - Input          |
| Purple     | to momentary switch |
| Gray       | to momentary switch |

| Output Wire |              |
|-------------|--------------|
| Yellow      | Dim Output + |
| Blue        | Dim Output - |

Packing Information:  
0.063kg/pc; 60pcs/carton;  
4.02kg/carton; L245\*W230\*H180(mm)

# XS-DIM1X-R/H Configuration Arrays Using Momentary Switch or Dry contact Closure Option



Note: Polarity does not matter when connecting purple and gray wires to momentary switch/dry contact.

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

- Connecting the Purple and Gray wires together will provide 0-100% dimming.
- \* 0-100% flicker-free performance not guaranteed when used with non-GRE Alpha CV Drivers

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 dimming system selection for its dimming modules and there are no warranties of performance or compatibility implied. Please test for dimming compatibility before use.

Information furnished is believed to be accurate and reliable. However, GRE Alpha assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of GRE Alpha. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied.

The GRE Alpha logo is a registered trademark of GRE Alpha Electronics Ltd.  
All other names are the property of their respective owners