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**TMS LITE SDN. BHD.** (Co. No. 671971V)  
*LED ILLUMINATION SOLUTION PARTNER*



**MODEL**

**ANG-1000-CH1-XX-A1**

**ANG-2000-CH2-XX-A1**

**ANG-4000-CH4-XX-A1**

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**USER MANUAL**

Rev 1.1

31<sup>st</sup> JAN 2011

## Contents

Introduction.....	1
Features List.....	1
Applications .....	1
Hardware.....	2
Packing List.....	2
Front Panel.....	2
Power ON.....	3
Constant .....	3
Current DIP Switch Settings .....	3
ANG-1000-CH1-XX-A1 SPECIFICATIONS .....	4
<i>Configuration</i> .....	4
<i>Controller Dimension Layout</i> .....	5
ANG-2000-CH2-XX-A1 SPECIFICATIONS .....	7
<i>Configuration</i> .....	7
<i>Controller Dimension Layout</i> .....	8
ANG-4000-CH4-XX-A1 SPECIFICATIONS .....	10
<i>Configuration</i> .....	10
<i>Controller Dimension Layout</i> .....	11
Cable Selection.....	13
Lighting Connector.....	14
Power Cord .....	15

## Revision Notes

Rev	Date/Author	Comment
1.0	KW NG	First Release
1.1	KW NG	Added 4 Channel

## Introduction

### ***Features List***

- Simple 1 channel, 2 channels and 4 channels LED light source for analog control.
- VR Intensity control
- Power Input is 100-240VAC
- Lighting Output Voltage 5V DC or 12V DC or 24V DC
- Each channel Independent Current control
- Default current output is 200mA (maximum output current 1A)

### ***Applications***

- Simple Manually Light Control (VR Adjustable)
- General purpose light intensity control

## Hardware

### *Packing List*

Please make sure that the following parts are in the 3 packing list:

1. **ANG-1000-CH1-(5V, 12V and 24V)-A1 lighting controller unit**
  - Power Cord 110VAC or Power Cord 240VAC
  - LED Lightings (Optional)
  - Ext. Lighting Cable (Optional)
2. **ANG-2000-CH2-(5V, 12V and 24V)-A1 lighting controller unit**
  - Power Cord 110VAC or Power Cord 240VAC
  - LED Lightings (Optional)
  - Ext. Lighting Cable (Optional)
3. **ANG-4000-CH4-(5V, 12V and 24V)-A1 lighting controller unit**
  - Power Cord 110VAC & Power Cord 240VAC
  - LED Lightings (Optional)
  - Ext. Lighting Cable (Optional)

### *Front Panel*



The front panel consists of VR KNOB (Control LED Intensity range from 0~10) and a Blue color Push Button Switch (ON/OFF Power)  
(Left = 1CH, Central = 2CH and Right = 4CH)

## Power ON

The default current setting for the controller is 200mA. If other current settings are desired, please make sure LED Lighting Current can support before power on the unit.

Connect the lighting connectors to the lighting connection terminals.

Connect a power cord cable 110VAC or 240VAC to the controller chassis plug for supply a voltage to controller. The POWER LED inside the Green Button will be ON when user have switch "ON" the Push Button.

## Operating Modes

- Constant (Analog VR intensity control)

### Constant

The unit has constant mode intensity from 0 to 10 (Analog).

Independent VR controls the lightings intensity of each channel.

The Lightings intensity is set by manually adjust the position of VR Knob (label 0-10) on the casing.

When VR Knob position at '0', it sets the lightings intensity at minimum.

When VR Knob position at '10', it sets the lightings intensity at maximum.

## Current DIP Switch Settings

The DIP Switches sets the maximum output current to the Lighting Output for over current protection for each respective channel.

Factory default for each channel is 200mA.

**Caution:** Make sure the selected maximum current output is suitable for the lightings to prevent damage to both the lightings and the TMS Lite ANG lighting controller board.

Switch				Output Current (mA)
1 (50mA)	2 (150mA)	3 (350mA)	4 (450mA)	
OFF	OFF	OFF	OFF	INVALID
ON	OFF	OFF	OFF	50
OFF	ON	OFF	OFF	150
OFF	OFF	ON	OFF	350
OFF	OFF	OFF	ON	450
ON	ON	ON	OFF	550
ON	ON	OFF	ON	650
OFF	OFF	ON	ON	800
ON	ON	ON	ON	1000

Table1

## ANG-1000-CH1-XX-A1 SPECIFICATIONS

### CONTROL:

VR	Manual Control (Adjustable)
----	-----------------------------

### General:

Dimension	154 mm x 91 mm X 48 mm
Power Input	100 VAC & 240 VAC
Board Max Power Consumption	500mA @ 12V
Board Voltage	5VDC – 12VDC – 24 VDC

### Channels:

1 Channels	Channel Control	Independent
	Output Mode	Constant
	Output Current	200mA (Default), 50mA, 150mA, 350mA, 450mA to 1A
	Lighting Output Voltage	5VDC – 12VDC – 24 VDC

### Functions:

Constant	Lighting Intensity	VR Adjustable
	Intensity Range	0 ~ 10 steps

## Configuration

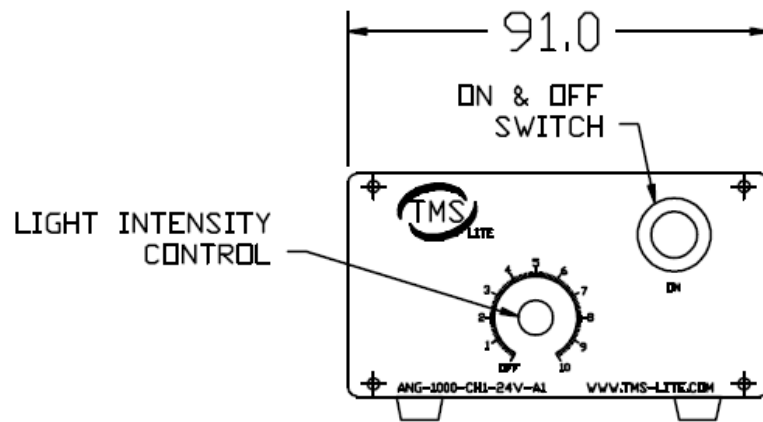
### Connections:

For ANG-1000-CH1-5V, 12V and 24V - A1 to operate properly, the unit terminals must be connected correctly. The terminals voltage polarity must be followed accordingly to prevent damage to the unit.

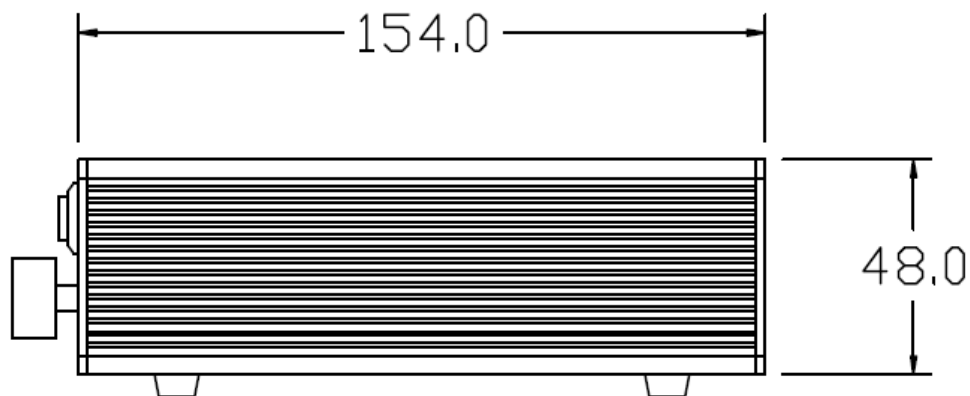
- **Power Input Terminals**  
Connect the Power Cord Cable 110 or 240 VAC to chassis plug controller.
- **Lightings Output Terminals Channel (CH1)**  
These lighting connector are to be connected to 5V-Lightings for a 5V DC power supply Analog Controller (ANG-1000-CH1-5V-A1).  
These lighting connector are to be connected to 12V-Lightings for a 12V DC power supply Analog Controller (ANG-1000-CH1-12V-A1).  
These lighting connector are to be connected to 24V-Lightings for a 24V DC power supply Analog Controller (ANG-1000-CH1-24V-A1).

## Controller Dimension Layout

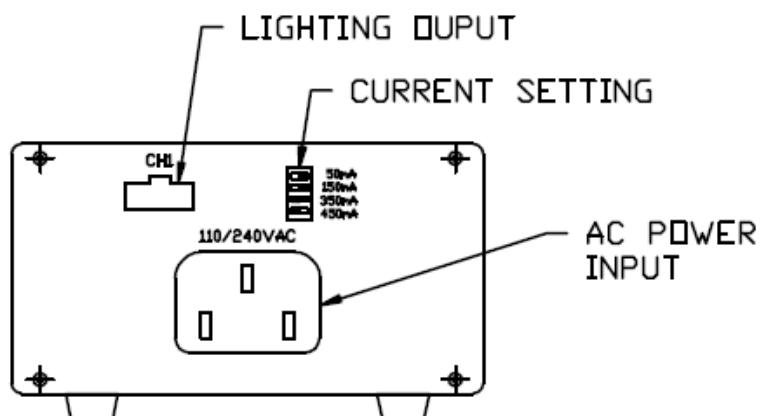
### Front View



### Side View



### Rear View



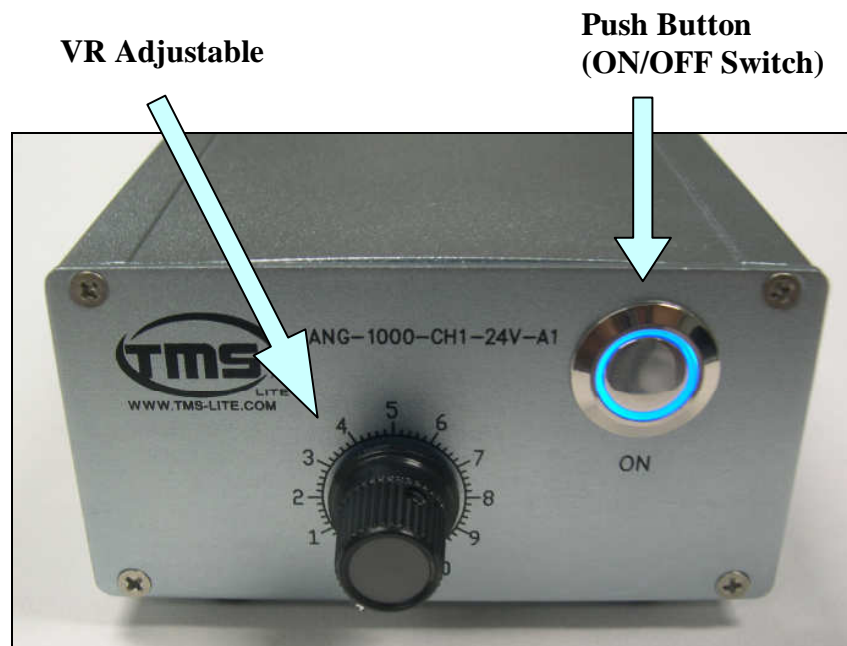
**Actual Label:**

Figure 1 (Front View)

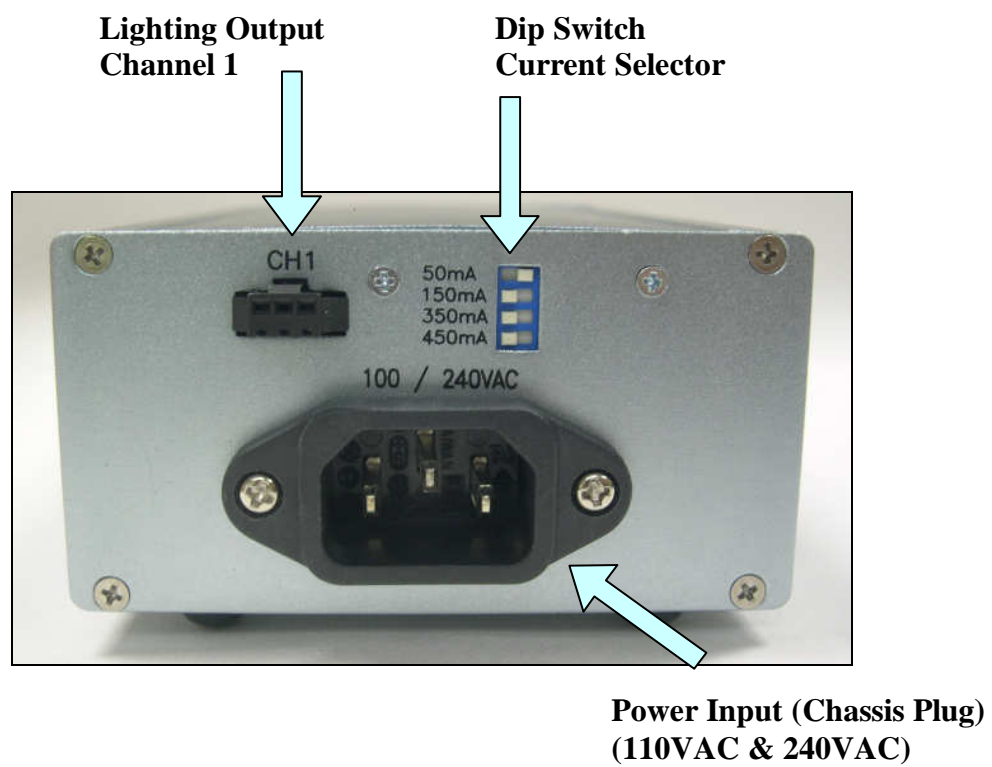


Figure 1.1 (Rear View)



## ANG-2000-CH2-XX-A1 SPECIFICATIONS

### CONTROL:

VR	Manual Control (Adjustable)
----	-----------------------------

### General:

Dimension	154 mm x 91 mm X 48 mm
Power Input	100 VAC & 240 VAC
Board Max Power Consumption	500mA @ 12V
Board Voltage	5VDC – 12VDC – 24 VDC

### Channels:

2 Channels	Channel Control	Independent
	Output Mode	Constant
	Output Current	200mA (Default), 50mA, 150mA, 350mA, 450mA to 1A
	Lighting Output Voltage	5V - 12V - 24V

### Functions:

Constant	Lighting Intensity	VR Adjustable
	Intensity Range	0 ~ 10 steps

## Configuration

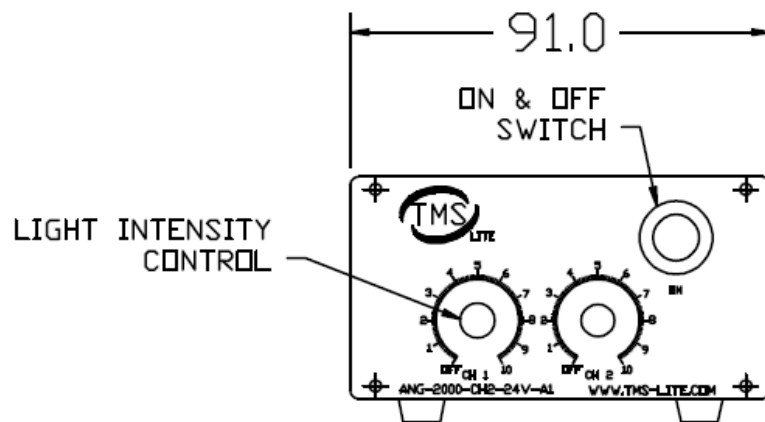
### Connections:

For ANG-2000-CH2-5V, 12V and 24V – A1 to operate properly, the unit terminals must be connected correctly. The terminals voltage polarity must be followed accordingly to prevent damage to the unit.

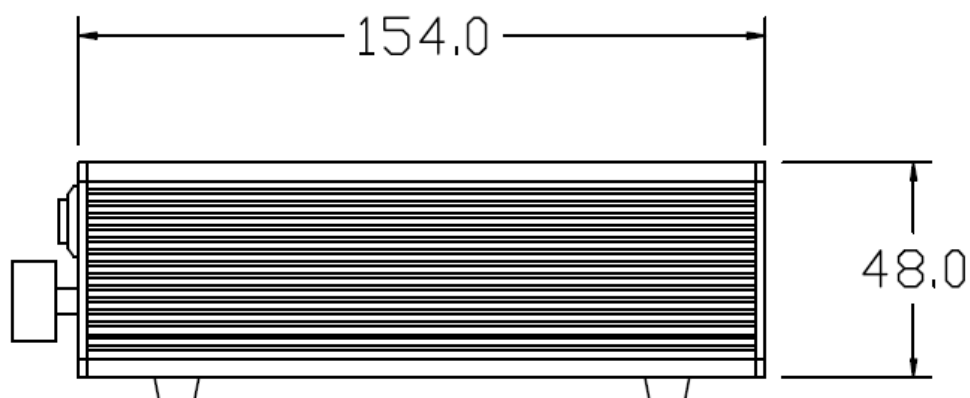
- **Power Input Terminals**  
Connect the Power Cord Cable 110 or 240V AC to chassis plug controller.
- **Lightings Output Terminals Channel (CH1 & CH2)**  
These lighting connector are to be connected to 5V-Lightings for a 5V DC power supply Analog Controller (ANG-2000-CH2-5V-A1).  
These lighting connector are to be connected to 12V-Lightings for a 12V DC power supply Analog Controller (ANG-2000-CH2-12V-A1).  
These lighting connector are to be connected to 24V-Lightings for a 24V DC power supply Analog Controller (ANG-2000-CH2-24V-A1).

## Controller Dimension Layout

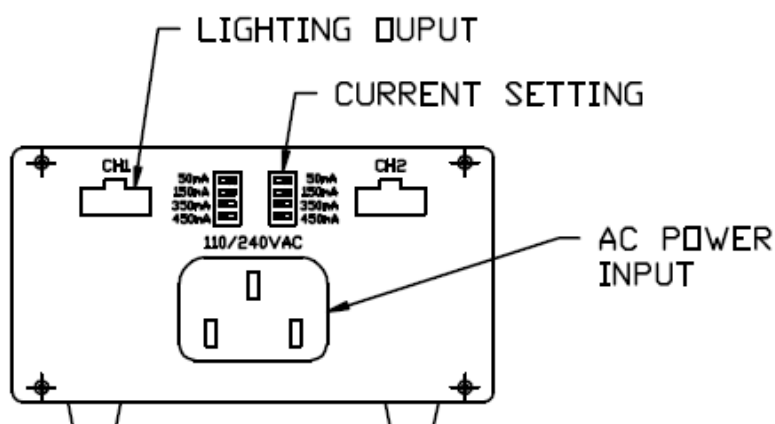
### Front View



### Side View



### Rear View



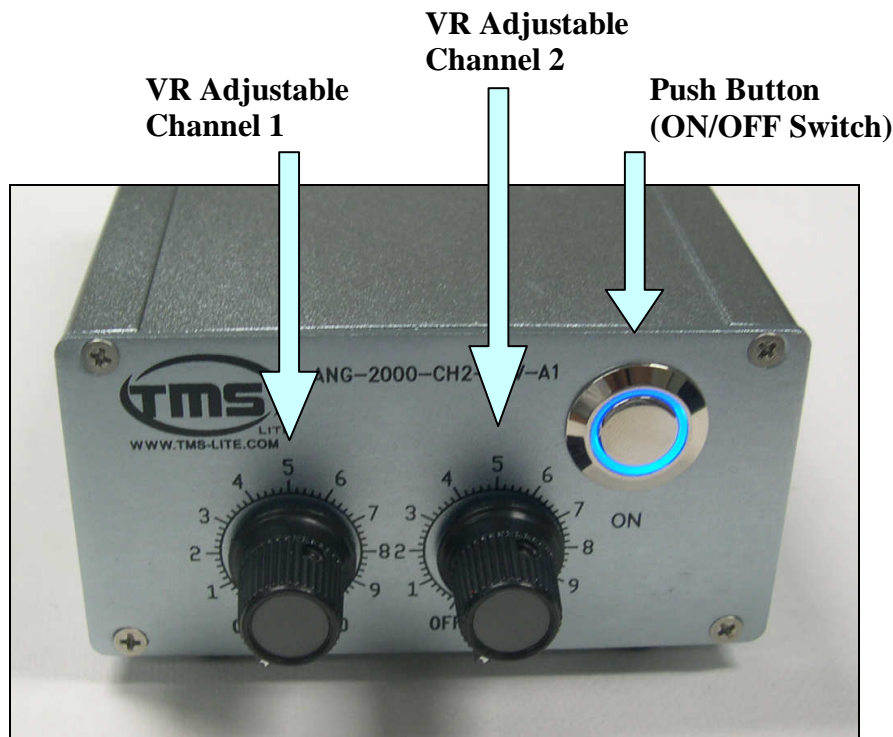
**Actual Label:**

Figure 2 (Front View)

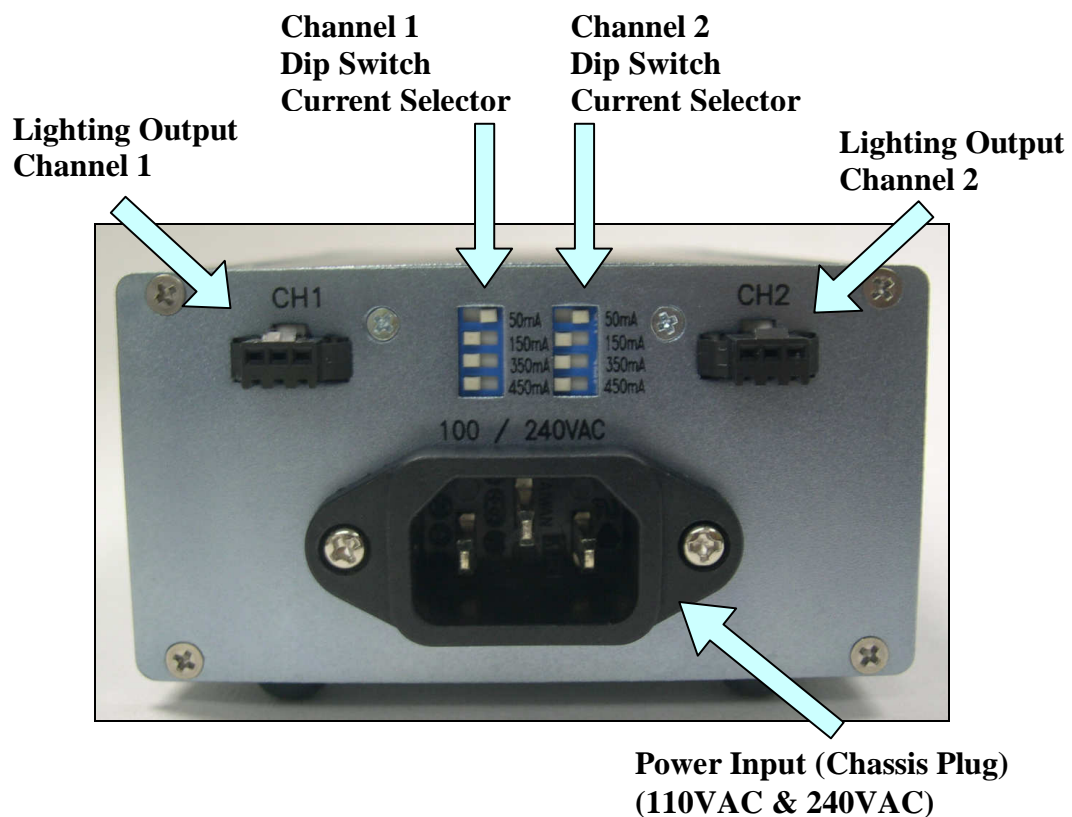


Figure 2.1 (Rear View)

## ANG-4000-CH4-XX-A1 SPECIFICATIONS

### CONTROL:

VR	Manual Control (Adjustable)
----	-----------------------------

### General:

Dimension	154 mm x 91 mm X 96 mm
Power Input	100 VAC & 240 VAC
Board Max Power Consumption	500mA @ 12V
Board Voltage	5VDC – 12VDC – 24 VDC

### Channels:

4 Channels	Channel Control	Independent
	Output Mode	Constant
	Output Current	200mA (Default), 50mA, 150mA, 350mA, 450mA to 1A
	Lighting Output Voltage	5VDC – 12VDC – 24 VDC

### Functions:

Constant	Lighting Intensity	VR Adjustable
	Intensity Range	0 ~ 10 steps

## Configuration

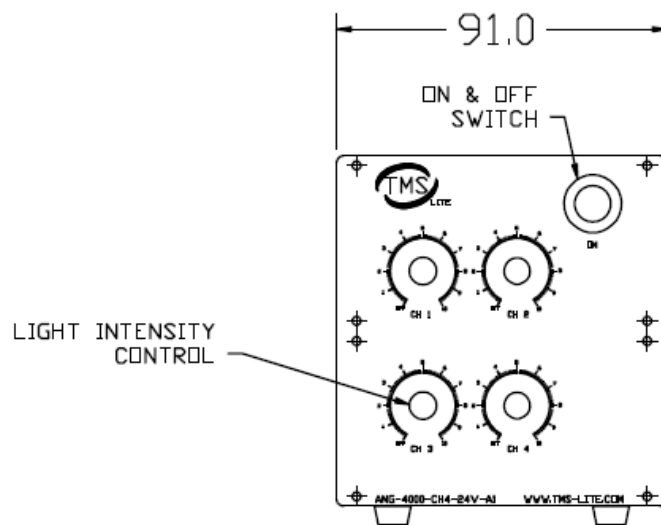
### Connections:

For ANG-4000-CH4-5V, 12V and 24V-A1 to operate properly, the unit terminals must be connected correctly. The terminals voltage polarity must be followed accordingly to prevent damage to the unit.

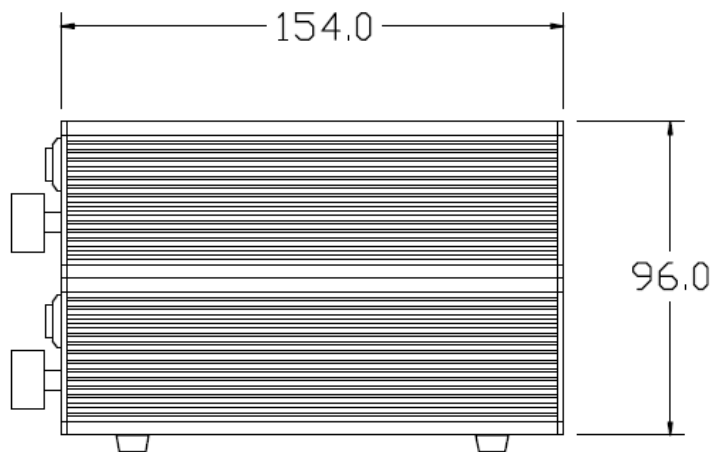
- **Power Input Terminals**  
Connect the Power Cord Cable 110 or 240 VAC to chassis plug controller.
- **Lightings Output Terminals Channel (CH1, CH2, CH3 and CH4)**  
These lighting connector are to be connected to 5V-Lightings for a 5V DC power supply Analog Controller (ANG-4000-CH4-5V-A1).  
These lighting connector are to be connected to 12V-Lightings for a 12V DC power supply Analog Controller (ANG-4000-CH4-12V-A1).  
These lighting connector are to be connected to 24V-Lightings for a 24V DC power supply Analog Controller (ANG-4000-CH4-24V-A1).

## Controller Dimension Layout

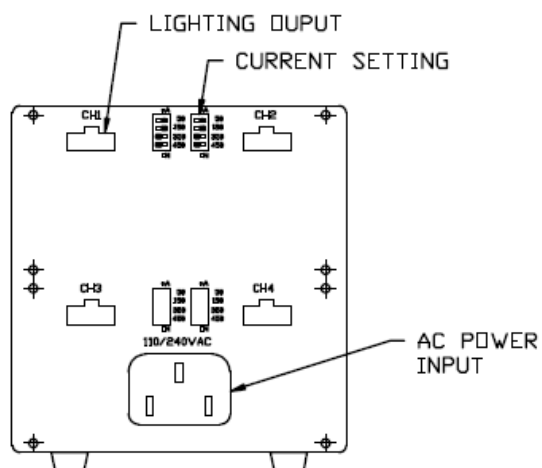
### Front View



### Side View



### Rear View



**Actual Label:**

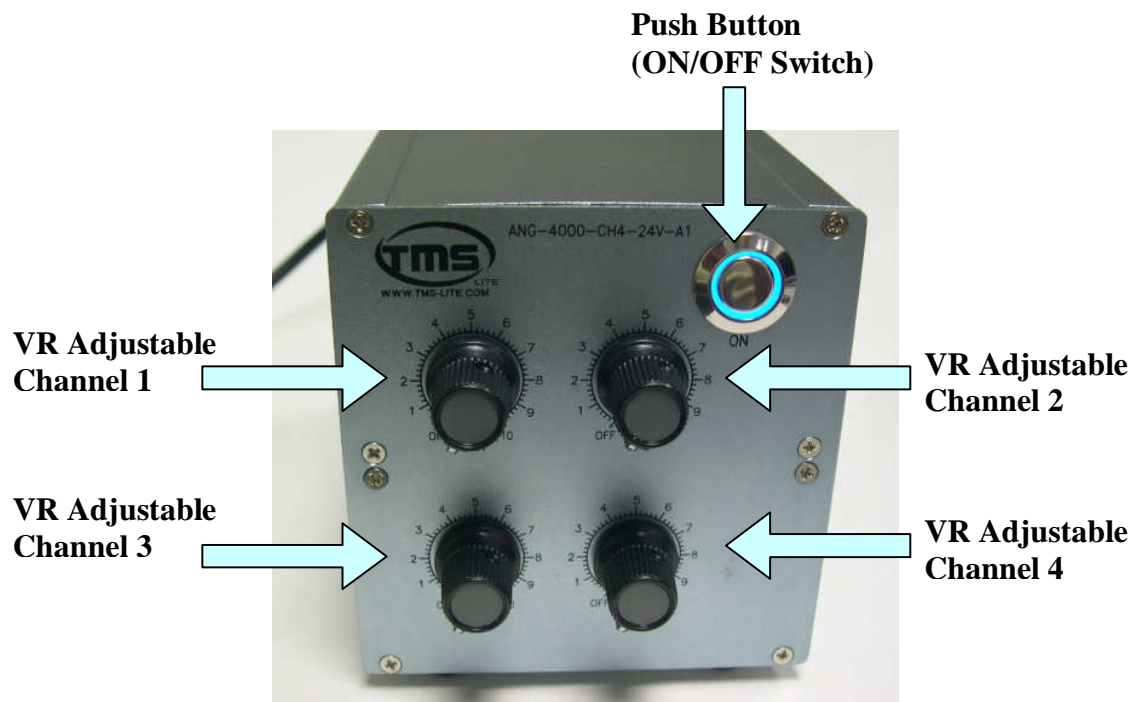


Figure 3 (Front View)

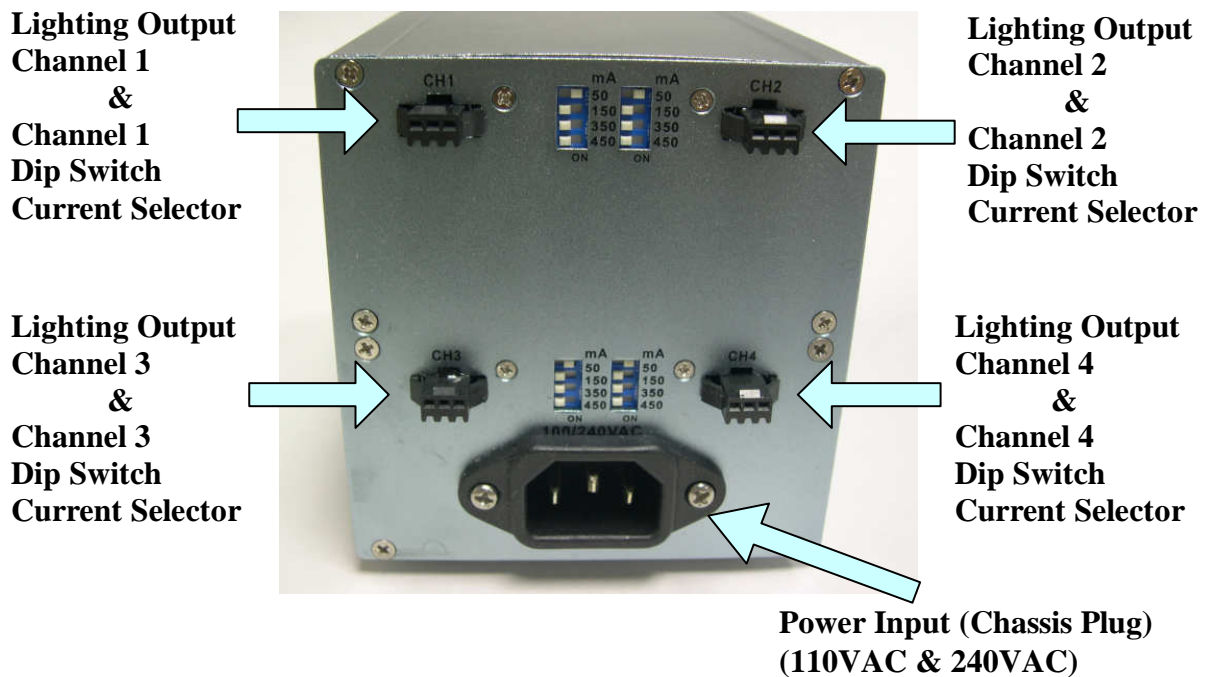
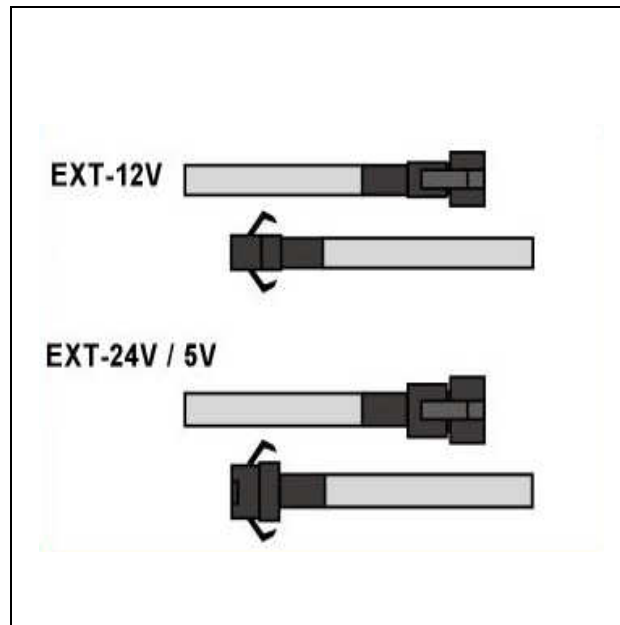


Figure 3.1 (Rear View)

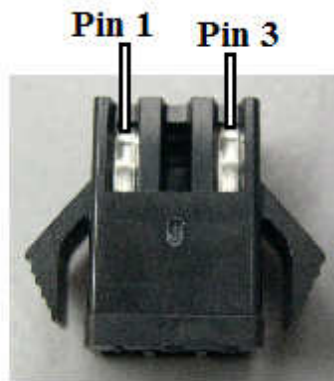
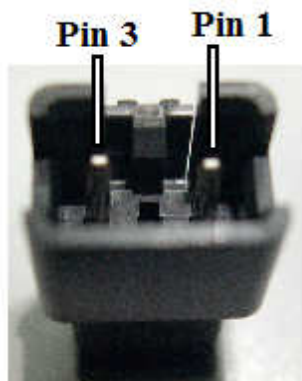
## Cable Selection



MODEL	POWER	LENGTH	APPLICATIONS
<b>EXT-12V</b>	12V	1M 2M 3M 4M 5M	<ul style="list-style-type: none"> <li>Used to connect a 12V lighting to ANG SERIES</li> </ul>
<b>EXT-24V</b>	24V	1M 2M 3M 4M 5M	<ul style="list-style-type: none"> <li>Used to connect a 24V lighting to ANG SERIES</li> </ul>
<b>EXT-5V</b>	5V	1M 2M 3M 4M 5M	<ul style="list-style-type: none"> <li>Used to connect a 5V lighting to ANG SERIES</li> </ul>

## Lighting Connector

### 24V-Lighting Connector



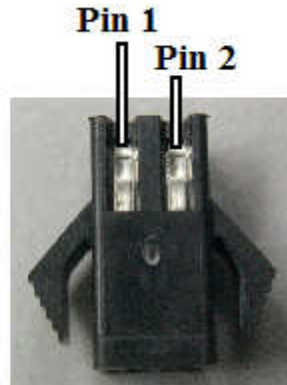
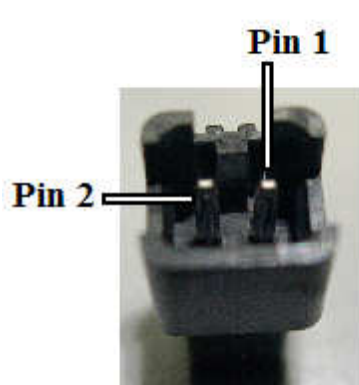
#### 24V Connector

Pin 1 – +ve (red wire)

Pin 3 – -ve (white wire)

Pin 1 -- Red wire (+ve)      Pin 3 -- White wire (-ve)

### 12V-Lighting Connector



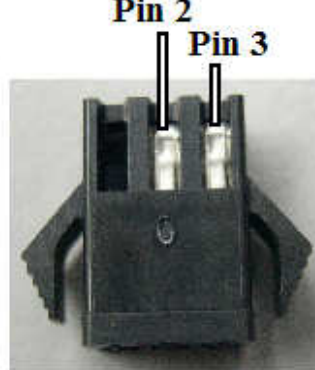
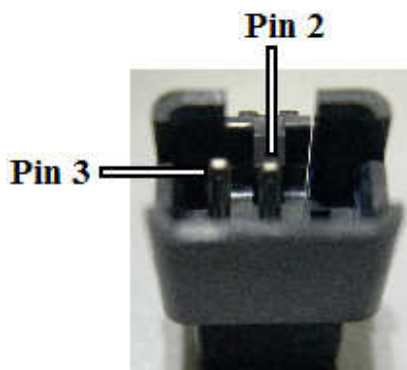
#### 12V Connector

Pin 1 – +ve (red wire)

Pin 2 – -ve (white wire)

Pin 1-- Red wire (+ve)      Pin 2 – White wire (-ve)

### 5V-Lighting Connector



#### 5V Connector

Pin 2 – +ve (red wire)

Pin 3 – -ve (white wire)

Pin 2 – Red wire (+ve)

Pin 3 – White wire (-ve)



## Power Cord

### 240VAC Power Cord



### 110VAC Power Cord





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