

# GROW STRONG INDUSTRIES

## GSI-1 DIGITAL LIGHTING CONTROLLER SET UP GUIDE

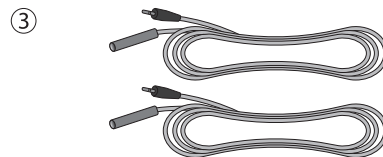
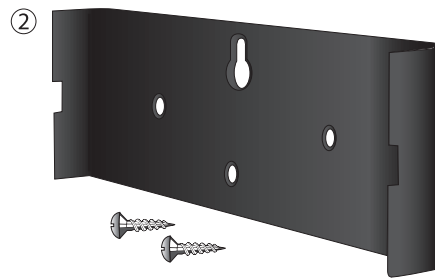
**CONGRATULATIONS ON YOUR NEW GSI-1 LIGHTING CONTROLLER FROM GROW STRONG INDUSTRIES**  
**A single GSI-1 can control two separate zones of up to 256 fixtures each, for a total of up to 512 fixtures!**

This guide will show you how to mount, connect, and operate your new controller.

### OVERVIEW



### GROW STRONG

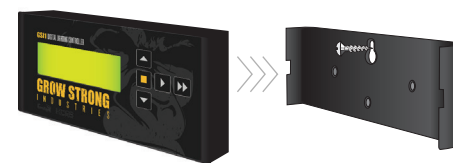


#### YOUR GROW STRONG GSI-1 COMES WITH:

1. GSI-1 Digital Lighting Controller
2. Mounting Plate / Mounting Hardware
3. Temperature Sensor (x2)
4. 6v DC Power Adapter (120v-240v)
5. RJ-14 Data Cable

### MOUNT

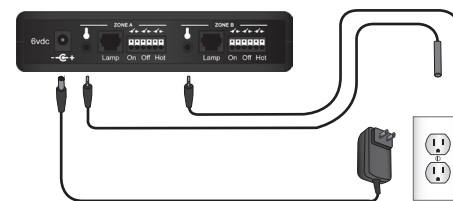
The GSI-1 is designed to be wall mounted using the removable back plate. The top center "keyhole" style hole can be used with a single large screw.



For a more secure alternative, there are three smaller holes in which additional screws can be used to secure it tightly to a wall surface. Once the back plate is secured to the wall surface, the GSI-1 unit can be snapped onto the back plate.

Once the GSI-1 is securely mounted to the wall, plug the included AC adapter into a power outlet and connect the other end to the GSI-1 AC input jack on the bottom panel.

Next, plug the temperature probes into the corresponding jacks on the bottom panel and run your probe cables (across the ceiling if possible) toward the center of the grow space. Ideally, suspend the probes down into the space above the plant canopy if possible. Take care not to stress or damage the probe cables when securing them to walls and ceilings.



### CONNECT

The GSI-1 uses a low voltage digital data stream to control your light fixture(s).

#### KIND LED X<sup>2</sup>

Control intensity, timing, and spectrum of your fixture(s).

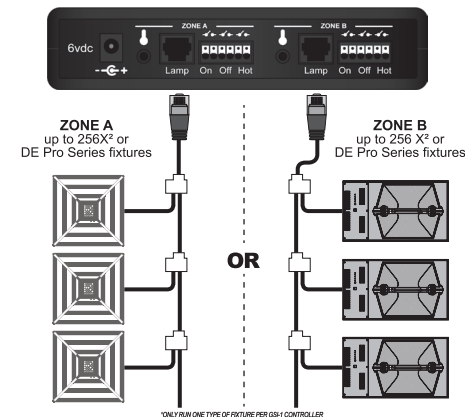
#### Gorilla DE Pro Series

Switch, dim, and boost your light fixture(s), or any lighting ballasts equipped with a Gorilla-style RS-485 data port.

The controller has two temperature sensors (one for each zone) for monitoring your grow environment. During high temperatures, the GSI-1 can automatically dim your fixtures and in cases of extreme heat can power down your fixtures for safety.

Lighting control wiring is done with common telephone cable (RJ14 plugs) which can be used to easily daisy-chain the fixtures together. Each fixture includes a cable and 2-to-1 adapters for the RS-485 data port.

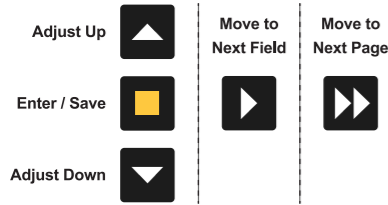
Use the diagram below for an example on how to use your 2-to-1 adapters and cables to set up your lighting zones:



ONLY RUN ONE TYPE OF FIXTURE PER GSI-1 CONTROLLER

# OPERATE

The GSI-1 is designed to be easy to use. To operate the interface use the navigation and action buttons as follows:



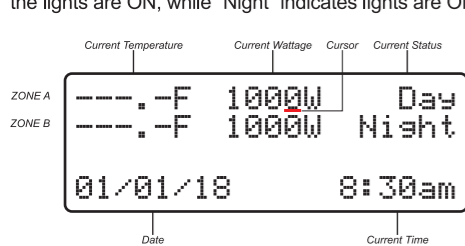
There are four main pages that make up the interface for the GSI-1. Use **▶** to toggle between the pages.

If you make an error while entering information or change your mind, simply move to the next page without saving. The GSI-1 will automatically return to the Home Page, without saving, if no action is taken for 30 seconds.

The flashing cursor indicates your current cursor position.

## HOME PAGE

Upon powering up your controller you will be brought to the Home Page. The home page displays the current temperature reading from each of your two zones, the wattage of the lights in that zone, and the current status of those lights. For status, the term "Day" indicates that the lights are ON, while "Night" indicates lights are OFF.



## ZONE PAGES

The next two pages are dedicated to your lighting zones. You will only need to use two zones if you plan to run two groups of fixtures that have unique timing schedules, otherwise you can run all fixtures in one zone.

On the Zone Pages you can:

- Rename the Zone (*Up to 8 letters*)
- Set Fixture Type (*LED / CMH / MH / HPS*)
- Set Fixture Wattage (*1000 / 750 / 630 / 600 / 400 / 315*)
- Set ON Time
- Set OFF Time
- Set Trigger Temperature for Dim  
*Select the temp. you want your lights to dim to avoid over heating your grow environment.*

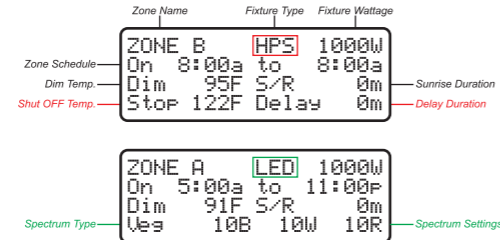
- Set Sunrise Duration (S/R)  
*Select the amount of time your fixtures will take to reach full power once they turn ON*

### HPS / MH / CMH Only

- Set Trigger Temperature for Shutoff  
*Select the temp. you want your lights to shut OFF to avoid potential safety hazards.*
- Set Delay  
*In the event of a power outage, select the amount of time before your fixtures attempt re-ignition*

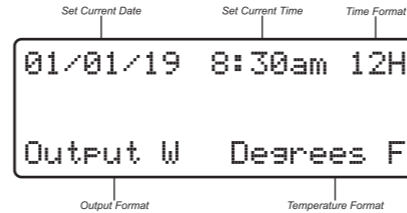
### LED Only

- Set Spectrum Type (*Clone / Veg / Flower / Finish*)
- 3 Channel Light Spectrum  
*Select the intensity of each spectrum 0-10 for the Red, White, and Blue Spectrum of the LED fixture*



## SETUP PAGE

The final page of the interface is the Setup Page. Here you can set the current Date and Time, as well as designate the format for your Output (shown as % or as actual wattage) and Temperature (C or F).



## Setup In 5 Minutes...

- 1 Plug in your GSI-1 Lighting Controller. Once the controller has powered on, it will take you to the Home Page.
- 2 Press the Page Button **▶** until you reach the Setup Page.
- 3 Set the current date and time, then select the format for your time. You can choose a standard 12 hour time format, or a military style 24 hour time format.
- 4 Select how you want the output to be shown. This will display the power or "intensity" of you light fixture. You can select wattage (W) or percentage (%).
- 5 Select your temperature format, either Fahrenheit (F) or Celsius (C).
- 6 Press the Page Button **▶** until you reach the Zone A Page.

## Setup In 5 Minutes... (CONT.)

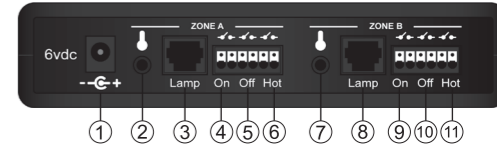
- 7 Rename your Zone (Up to 8 Letters). *(OPTIONAL)*
- 8 Set the fixture type.
- 9 Set the wattage of the fixture.
- 10 Set the desired ON and OFF times for the fixture(s).
- 11 Set the temperature (Dim) at which you would like the fixture(s) to dim to protect from overheating the grow environment.
- 12 Set the amount of time (S/R) that you want the fixture(s) to take to reach full power each time they turn on. *(OPTIONAL)*
- 13 **LED Only**  
Set the stage of growth you are currently in. (Clone, Veg, Flower, Finish)
- 14 Set the intensity of each channel of your spectrum. *(OPTIONAL, as recommended presets for these stages are preloaded)* B (blue), W (white), and R (red) can all be adjusted on a scale of 1-10 *(10 being full intensity)*
- 13 **HPS / MH / CMH Only**  
Set the temperature (Stop) at which you want the fixtures to turn OFF in the event of extreme heat.
- 14 Set the amount of time (Delay) that you want the fixtures to wait before attempting to re-ignite in the even of a power outage. *(OPTIONAL)*

### YOU'RE ALL SET TO GROW STRONG!

To set up a second zone, press the Page Button **▶** until you reach the Zone B Page, then follow steps 7-14 to repeat the process. Each zone can support up to 256 fixtures, for a total of 512 grow lights!

# External Connections

The underside of the Grow Strong GSI-1 has eleven (11) connection ports:



1. Power (6v DC)
2. Zone A temperature sensor
3. Zone A communication port to fixture(s)
4. Zone A low-voltage external equipment trigger for Lights ON
5. Zone A low-voltage external equipment trigger for Lights OFF
6. Zone A low-voltage external equipment trigger for over temperature
7. Zone B temperature sensor
8. Zone B communication port to fixture(s)
9. Zone B low-voltage external equipment trigger for Lights ON
10. Zone B low-voltage external equipment trigger for Lights OFF
11. Zone B low-voltage external equipment trigger for over temperature

*\*External triggers are two wire, dry contact (1/2 amp maximum)*

## GROW STRONG.



### FCC COMPLIANCE STATEMENT

The GSI-1 Lighting Controller has been tested at FCC-certified laboratories in the United States and conforms to FCC's Part 18B Consumer Standard for Industrial, Scientific, and Medical Equipment for both conducted and radiated emissions.

Given that all electronic equipment emits some RF energy, please note that compliance with these standards does not mean a zero level of emission, only very low levels. Per FCC requirement: **| This product may cause interference to radio equipment and should not be installed near Maritime safety communications equipment or other critical navigation or communication equipment between 0.45-30 MHz. | This device complies with Part 18B of the FCC Rules. | Changes or modifications not expressly approved by Grow Strong Industries could void the user's authority to operate the equipment. | Please visit GrowStrongIndustries.com for a complete documentation of the Commercial Lighting Terms of Use.**