

# PowerStar

## Horticultural Lighting Contactor



# Introduction

Most growers choose to use High Intensity Discharge lighting in their Growrooms. HID lighting is the most effective possible form of lighting for horticultural use, Sodium & Metal Halide lights are most commonly used and are of the HID Variety. HID lamps require large amounts of current to flow when they are first turned on, the amount of power required to start the lamp can be up to twice the normal running power and will increase as the lamp gets older.

Most growers use a 24 Hour timer to set the day length in their grow rooms. However most 24 Hour timers are not designed to allow high current switching and normally fail very quickly when used with HID lighting loads, due to this high power relays are normally used to switch the power to the lighting system so the timer is only used for control.

The large startup current is caused by a number of factors.

Firstly there is a very large initial inrush current drawn by the ballast unit, this is only present for a fraction of a second.

Secondly a situation known as Lamp Rectification, rectification occurs when the two ends of the lamp heat up at different rates causing a DC current to flow in the lamp this DC current causes saturation of the ballast core which reduces the impedance of the ballast causing more current to flow through the lamp, this situation only lasts for a few seconds whilst the lamp is warming up and stops once lamp operating temperature is reached.

**This situation will always occur but tends to get worse as the lamp gets older, for this reason it is best to over rate contactor systems by about 30 % to allow for lamp degradation.**

## Load Recommendations

Due to the reasons stated above it can be seen that starting currents are considerably higher than running currents typically as shown in the table below.

Lamp	Start up current in amps	Running current in amps
250w Son-T +	2.3A	1.5A
400w Son-T +	3.6A	2.3A
600w Son-T +	4.5A	3.2A
1000w Son-T +	7.0A	5.0A

## Setup and Use

The Ecotechnics PowerStar Contactors have been specifically designed to allow the timed switching of horticultural lighting and appliances. In use the PowerStar Contactor is very simple and should provide years of trouble free use

1. **Locate CONTACTOR in a suitable position in your growroom**
2. **Plug lights and appliances into 4-way power outlet.**
3. **Set TIMER in normal way.**
4. **Insert TIMER PLUG into a 24Hr TIMER.**
5. **Plug TIMER and POWER IN PLUG into power points and switch on.**

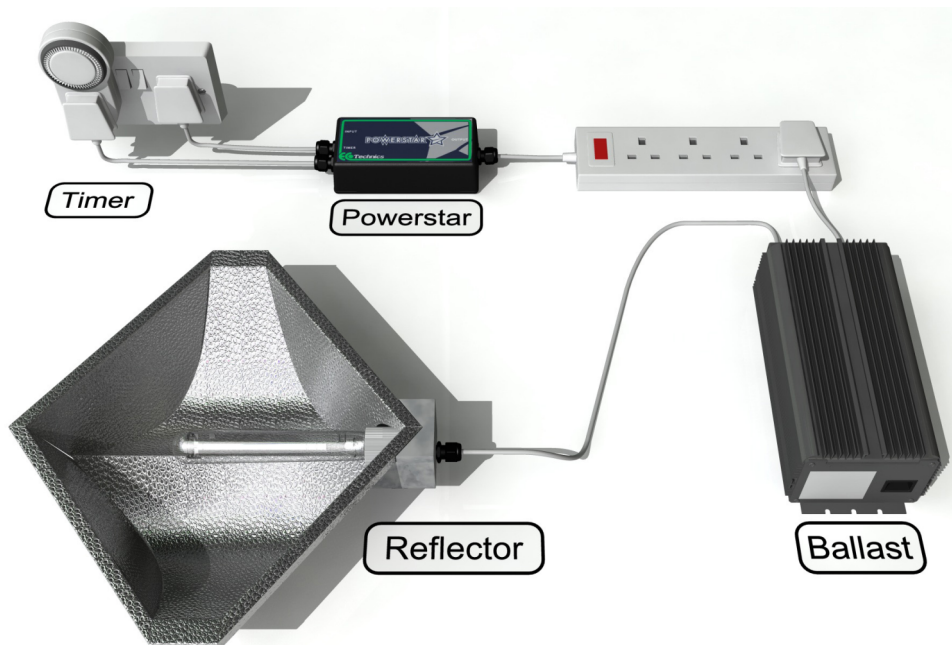
## Set Up

The lights and appliances plugged into your contactor will now be controlled by the timer. Digital or Analogue timers can be used and will last their full service life.

### **Recommended Maximum Loads For PowerStar Contactors**

	1 way 1Kw PowerStar contactor	2 way 2Kw PowerStar contactor	3 way 3Kw PowerStar contactor	4 way 3Kw PowerStar contactor
250w Son-T +	1	2	3	4
400w Son-T +	1	2	3	4
600w Son-T +	1	2	3	4
1000w Son-T +	1	2	3	3

### **Connection Diagram**



## Safety Advice

### ---- ALWAYS OBSERVE THE FOLLOWING ----

- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- Do not excessively twist or bend the power cord, or place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!
- In households with small children, an adult should provide supervision which is essential for the safe operation of any electrical appliances in the home. All cords and cables should be placed so they are out of the reach of children.
- Try to prevent cords and cables from becoming entangled.
- Before moving the unit, disconnect the power cable from the mains supply and any cords coming from external devices.
- Never handle an AC adaptor or electrical plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.
- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet.
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices.
- Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.
- Protect the unit from strong impact.(Do not drop it!)
- Before using the unit in a foreign country, consult with your retailer or an authorized distributor.
- Whenever you suspect the possibility of lightning in your area, disconnect the unit from the power outlet.
- Do not attempt to repair the unit, or replace parts within it. Refer all servicing to your retailer or an authorized distributor.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.

## **SAFETY CONSIDERATIONS**

- Always make sure the unit is unplugged before attempting to connect the fan and/or heater to the unit.
- Always check that all cables are correctly and securely connected and that the cover is securely screwed on before plugging the unit in and turning the power on.
- Always Remember that Electricity and Water is an Extremely Dangerous Combination. Electricity can be fatal especially in the presence of water.
- It is strongly recommended that any electrical equipment used in the growing environment is mounted above ground level, on a shelf or if possible wall mounted so that in the event of water spillage or flooding the two remain separate.

**POWER CONSUMPTION      15 WATTS MAX**  
**SUPPLY VOLTAGE        230-240V AC**

## ***ECOTECHNICS PRODUCT GUARANTEE***

Thank you for choosing an Ecotechnics product for use in your growroom. As leading manufacturers of horticultural equipment and accessories we are committed to providing a range of innovative products to enhance your garden. Our commitment to quality is second to none, however if you do experience any problem all our products are covered with a full 1 year parts & labor guarantee and should be returned to the retailer along with the original purchase receipt.

Ecotechnics UK Ltd is not liable for labor costs involved in the installation or removal of the product, lost profits, incidental or consequential loss, injury to property or persons or any other consequential loss however caused.

**Shop / Dealer**

**Purchase Date**

<b>D</b>	<b>D</b>	<b>M</b>	<b>M</b>	<b>Y</b>	<b>Y</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Serial Number**

**P**

**S**

•

•