MORNINGSTAR
World's Leading Solar Controllers & Inverters

Technical Documentation

DIAGRAMS: TS Lighting

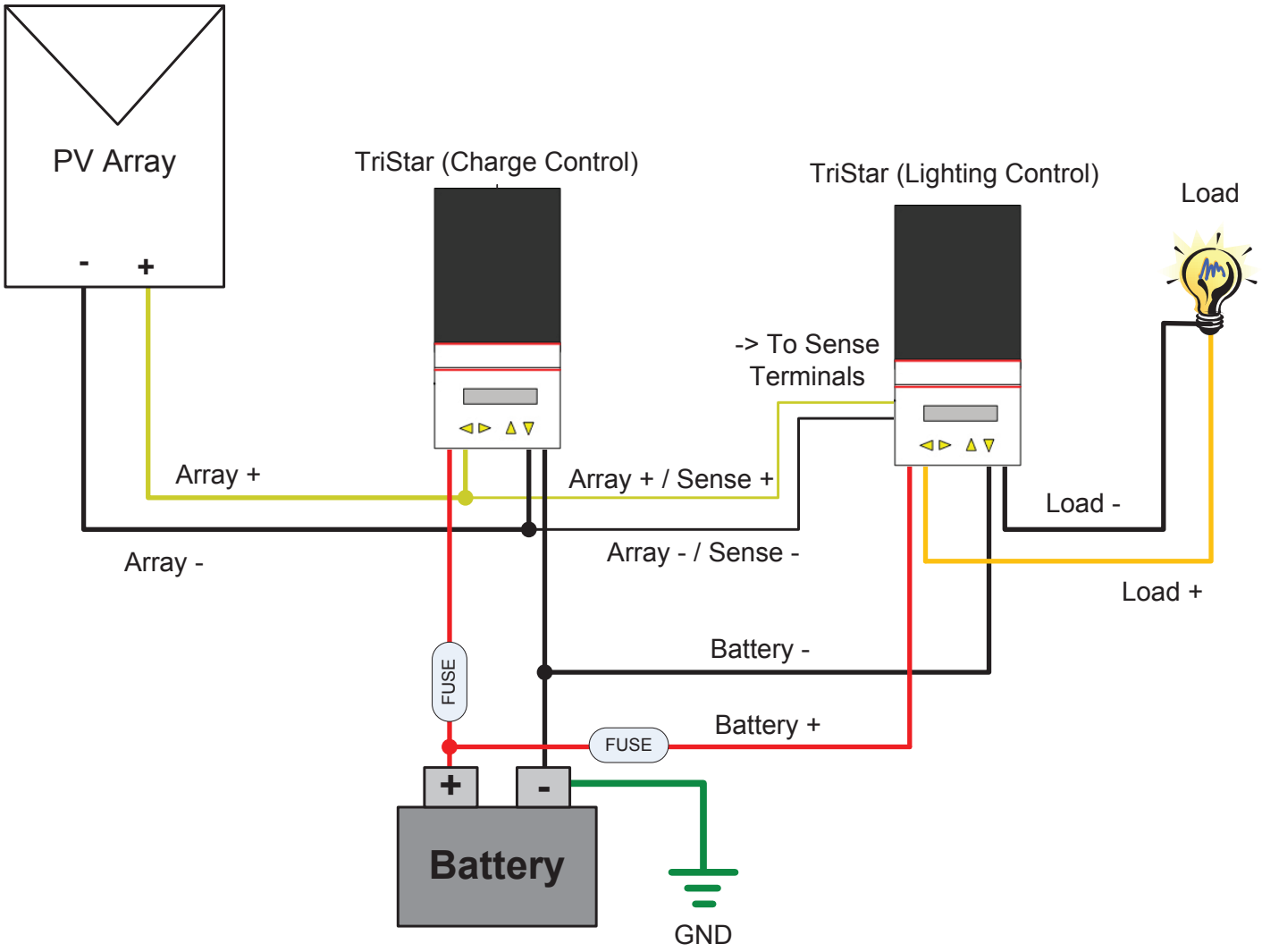
TriStar (PWM) Charging and Lighting

v01

Abstract:

Two diagrams are provided to show how a 2-TriStar system can be configured for solar charging and lighting control. Diagram #1 shows how to configure the system for 12V and 24V nominal battery systems. Diagram #2 shows how to configure for 48V nominal battery systems.

Diagram #1 (applicable for 12V & 24V nominal battery systems)

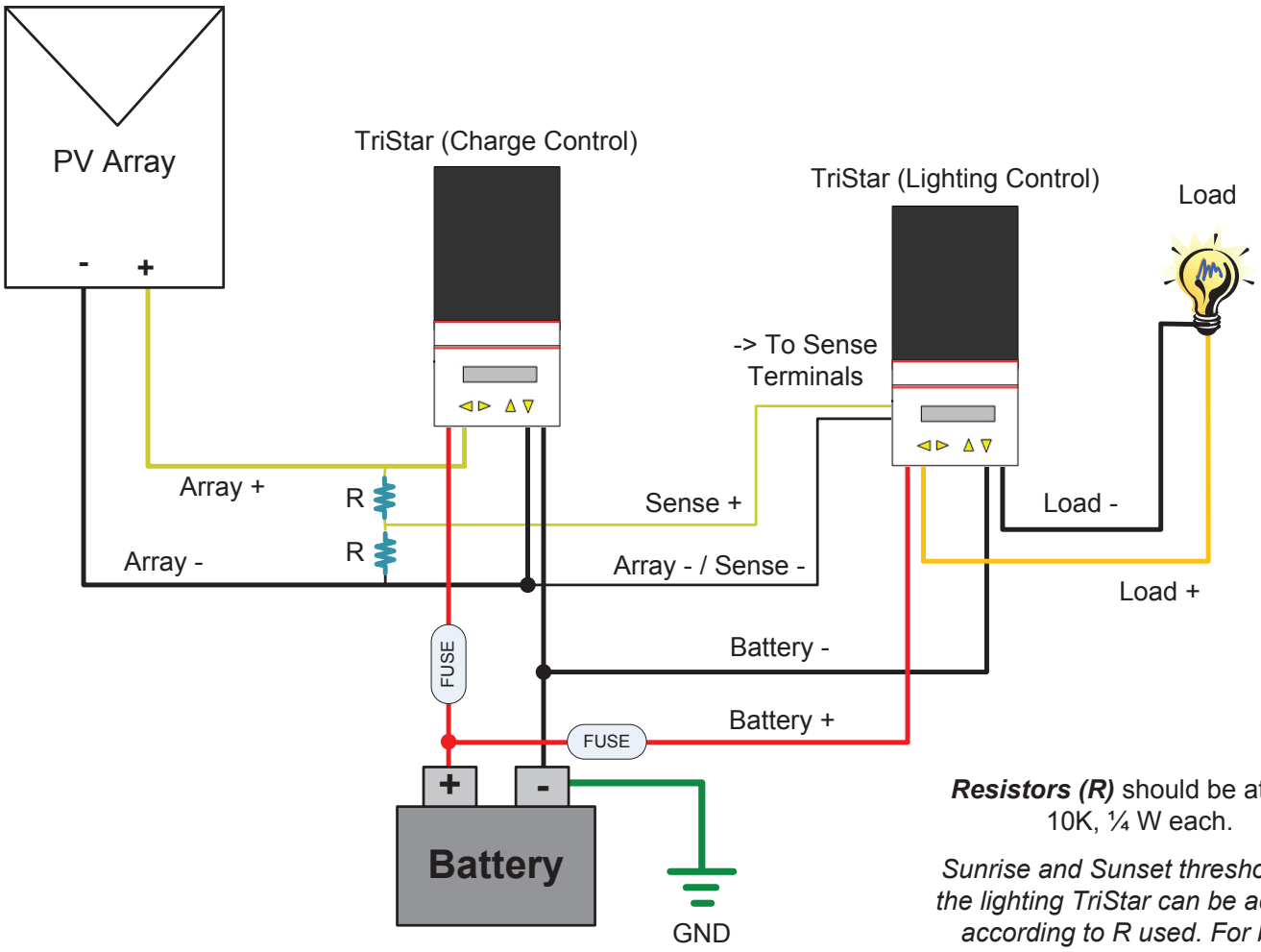


IMPORTANT: This is not intended to be a complete system diagram; fusing, disconnects, and grounding should comply with local electric codes.

Notes:

- One TriStar provides charge control, while a second TriStar provides lighting timing control.
- The TriStar providing lighting control uses the Array Voltage to determine daytime/nighttime. It senses the Array Voltage via its Sense +/- terminal pair.
- The TriStar in Charge Control mode can instead be a TriStar MPPT or other Morningstar charge controller.
- For detailed installation information, please consult the respective product manuals (TriStar).

Diagram #2 (applicable for 48V nominal battery systems)



Resistors (R) should be at least 10K, ¼ W each.

Sunrise and Sunset thresholds for the lighting TriStar can be adjusted according to R used. For basic operation, use equal value R.

IMPORTANT: This is not intended to be a complete system diagram; fusing, disconnects, and grounding should comply with local electric codes.

Notes:

- One TriStar provides charge control, while a second TriStar provides lighting timing control.
- The TriStar providing lighting control uses the Array Voltage to determine daytime/nighttime. It senses the Array Voltage via its Sense +/- terminal pair.
- Because of the high Array Voltage present in 48V systems, a resistive voltage divider is used to reduce this voltage to a level the TriStar can handle on its Sense terminals.
- For detailed installation information, please consult the respective product manuals (TriStar).