MORNINGSTAR
World's Leading Solar Controllers & Inverters

Technical Documentation

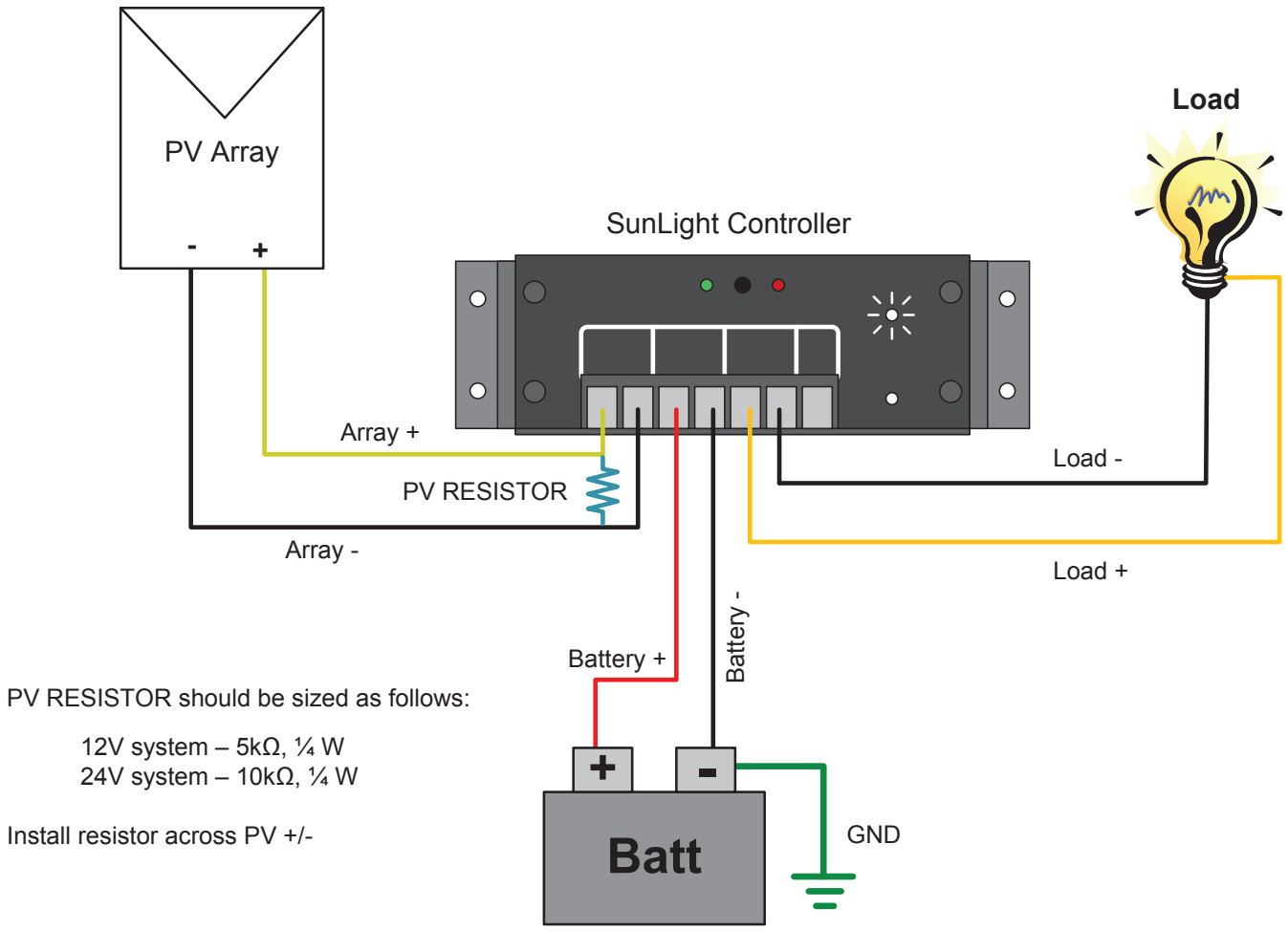
DIAGRAM: SL PV Resistor

Ambient Light Resistor Fix for SunLight Controller

v01

Abstract:

Ambient light present during the nighttime hours near a SunLight controller installation can cause problems with lighting timing functionality. Ambient light from nearby streetlights, headlights, landscape lighting or building lighting can prevent the SunLight controller from correctly detecting night. To fix this issue, a resistor is installed across the PV +/- terminals to pull down the residual PV voltage. A diagram shows the resistor configuration.



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

Notes:

- Undesirable ambient lighting effects on controller light timing can be mitigated using a resistor installed across the PV +/- terminals into the controller. Symptoms can include:
    1. Lights not coming on at night
    2. Lights consistently coming on, but then turning off soon afterward
    3. Oscillations (lights turning on and off every 15-20min throughout the night

- For 12V battery systems, use a 5kΩ, 1/4 W resistor

- For 24V battery systems, use a 10kΩ, 1/4 W resistor

- For detailed installation information, please consult the SunLight product manual.