

HYDRAULIC CONTROLLER COMPATIBILITY GUIDE

Reference guide for matching battery voltage, controller mode, and solar panel voltage

12V SYSTEM CONFIGURATION				
Battery Voltage	Controller Mode	Solar Panel	System Outcome	Component Impact
12V	12V	12V	✓ Optimal Performance — works as intended	All components operate normally
12V	24V	12V	■ Low Voltage Warning	Controller attempts to overcharge the battery
12V	12V	24V	■ Inefficient Charging	~50% of available solar wattage is wasted
12V	24V	24V	X CRITICAL — Overcharge Risk	Controller WILL overcharge the battery

24V SYSTEM CONFIGURATION				
Battery Voltage	Controller Mode	Solar Panel	System Outcome	Component Impact
24V	24V	24V	✓ Optimal Performance — works as intended	All components operate normally
24V	12V	24V	■ Over-Voltage Warning	Battery will NOT charge
24V	24V	12V	■ Insufficient Solar Input	System will not charge; may gradually drain battery
24V	12V	12V	X Over-Voltage Warning — Solar Rejected	Solar panel will NOT charge the battery

STATUS KEY			
✓ Optimal	■ Warning	■ Caution	X Critical

■ Note: In all mismatched configurations above, no physical damage was sustained by the solenoid or valves. Mismatches affect charging behavior only.