

#### **SolarTech Power Solutions**

# Home configuration with two outdoor power supplies







#### **Overview**

What does it mean to connect DC power supplies in series?

Connecting DC power supplies in series involves linking the positive terminal of the first power supply to the negative terminal of the second power supply. This setup combines the output voltages of both supplies while keeping the current constant throughout the circuit.

Do I need a series connection to connect two power supplies?

Connecting two power supplies is not an everyday requirement. This is usually done under certain circumstances, such as: Voltage Matching: Some projects may need a specific voltage that's not readily available from a single power supply. Series connections allow you to reach the desired voltage level.

How do I connect two DC power supplies in series?

Otherwise, here's an overview of the process: You'll obviously need the two DC power supplies you intend to connect in series, but you may need a few other tools and materials as well: Ensure that both power supplies are compatible for series connection. They should have similar voltage and current specifications to prevent imbalances.

How to connect two power supplies?

Connect the two power supplies through redundancy module (OR Diodes) as in figure 3. Under normal operating conditions, only the primary power supply will be supplying power to the load. In the event of preferred power supply failure, the standby (redundant) power supply will start supplying load current.

How do I choose a power supply for my project?

Compatibility: Ensure that the power supplies are identical or similar in specifications to prevent imbalances. Using different models can lead to uneven voltage distribution and potential damage. Current Needs: Since the



current capacity does not increase with series connection, ensure the combined setup meets the current demands of your project.

How do you connect a power supply?

There are two primary methods: series and parallel connections. Series Connection: When you connect power supplies in series, you're essentially chaining them together. The voltage of each supply adds up, while the current remains constant. It's like stacking batteries in a TV remote—increasing the voltage without changing the overall power.



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