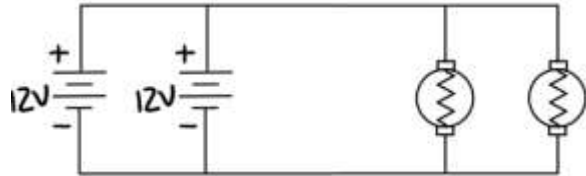


Voltage Sources in Parallel Circuits

Identify an important consideration regarding placement of multiple voltage sources in parallel.

Explain how this circuit consisting of two 12V batteries in parallel, each limited to a maximum of 2A, can safely power two electrical loads that draw 1.5A each.



Explain how additional batteries in parallel affect the quantity of stored energy in a system.

Given a parallel arrangement of two 12V batteries, each containing of 480Wh of energy, determine how long this bank could power a 36W load. Determine the depth of discharge if the battery bank powered a 36W load for 24.

Define autonomy.

Given a parallel arrangement of four 12V batteries, each containing of 480Wh of energy determine the depth of discharge if the battery bank powered a 36W load for 24. Determine the current drawn from each battery.

Identify the problems associated with the parallel connection of voltage sources of different magnitudes.

Identify the function of a diode. Draw the schematic symbol for a diode. Identify why diodes are employed in parallel configurations of batteries.

Explain how series strings of voltage sources in parallel with identical strings affect voltage, current and energy in the system.

Describe how solar panels are configured in an array.

Describe how the Tektronix CPS250 Triple Output Power Supply operates in parallel mode.