

Power Line Calculation

If you want to deliver 1,500 Watts at 100 Volts over transmission lines w/ resistance of 5 Ohms. How much power is lost in the lines?

- Current Delivered: $I = P/V = 15$ Amps
- Loss = IV (on line) = $I^2 R = 15 * 15 * 5 = 1,125$ Watts!

If you deliver 1,500 Watts at 10,000 Volts over the same transmission lines. How much power is lost?

- Current Delivered: $I = P/V = .15$ Amps
- Loss = IV (on line) = $I^2 R = 0.125$ Watts

DEMO