

Concept Question 10-8: According to Eq. (10.27), the total instantaneous power supplied by a balanced three-phase source to a balanced three-phase load does not change with time. Why is such an attribute significant?

Whereas the power extracted by each load impedance individually varies sinusoidally with time at an angular frequency of 2ω , the total power extracted by the three loads in combination does not oscillate at all. Consequently, the power generated by a balanced three-phase source is very steady, as is the power delivered to a balanced three-phase load, such as a three-phase motor.