Power

→ time rate at which work is done, scalar quantity

Avg Power = $P_{AV} = \frac{\Delta W}{\Delta t}$

Instantaneous Power = $P = \lim_{\Delta t \to 0} \frac{\Delta W}{\Delta t} = \frac{dW}{dt}$

SI unit Watt (W), $1\,W = 1\,J\,s^{-1}$

$1\,kW = 10^3\,W$

$1\,MW = 10^6\,W$

another unit of power is the horsepower (hp) $1\,hp = 746\,W$

kilowatt-hour (kW·h) commercial unit of electrical energy

total work done in one hour when power is 1 kW

$1\,kW \cdot h = 10^3\,\frac{J}{s} \cdot 3600\,s = 3.6 \times 10^6\,J$