Power

The rate of transfer of energy

Mechanical power

Work done = force x distance

\[
\text{power} = \frac{\text{work done}}{\text{time taken}}
\]

\[
\text{work done} = 2,000 \times 30 = 60,000 \text{J}
\]

\[
\text{power} = \frac{60,000}{60} = 1,000 = 1 \text{kW}
\]

1 watt (1W) means 1 joule (1J) of energy per second

Electrical power

\[
\text{power} = \text{current} \times \text{voltage}
\]

\[
\text{watts} = \text{amps} \times \text{volts}
\]

- 0.06 A
- 6 V

\[
\text{power} = 0.06 \times 6 = 0.36 \text{W}
\]

The Institution of Engineering and Technology (IET) is working to engineer a better world. We inspire, inform and influence the global engineering community, supporting technology innovation to meet the needs of society.

The Institution of Engineering and Technology is registered as a Charity in England and Wales (No. 211014) and Scotland (No. SC038698). Michael Faraday House, Six Hills Way, Stevenage, Hertfordshire, SG1 2AY, United Kingdom.

theiet.org/education

@IETeducation

f IETeducation

The Institution of Engineering and Technology (IET) is working to engineer a better world. We inspire, inform and influence the global engineering community, supporting technology innovation to meet the needs of society.

The Institution of Engineering and Technology is registered as a Charity in England and Wales (No. 211014) and Scotland (No. SC038698). Michael Faraday House, Six Hills Way, Stevenage, Hertfordshire, SG1 2AY, United Kingdom.

theiet.org/education

@IETeducation

f IETeducation