

An electric heater is rated 2kW,220V.If a fuse is to be connected to it ,should it be rated 5A or 15A?

Solution:

let's find the current that consumes heater

$$P = UI \rightarrow I = \frac{P}{U} = \frac{2000W}{220V} = 9.09 \text{ A}$$

let's find the amplitude of the current in the heater

$$I_m = I\sqrt{2} = 9.9\sqrt{2} = 12.855$$

So fuse is to be connected to it , should it be rated 15A

Answer 15A