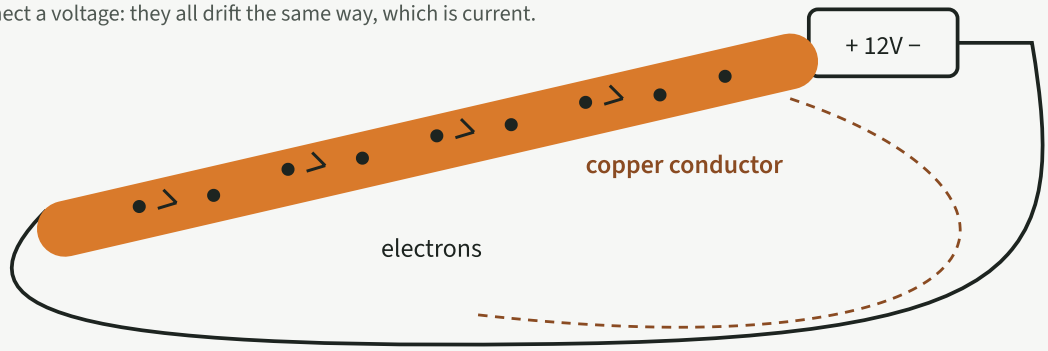
CURRENT

WHICH WAY DOES CURRENT REALLY FLOW?

Current is the **flow of electrons** through a conductor. It is measured in **amperes (amps), A**. The symbol in formulas is `I`, from the old word "intensity". You'll see I everywhere, for example I_n for a device's rating, `Ib` for design current, and `IΔn` on RCDs and RCBOs.

No voltage: free electrons wander at random.
Connect a voltage: they all drift the same way, which is current.



With no voltage, the electrons in copper just sit there vibrating. Connect a 12 V battery and they're all pushed the same way round the loop, like F1 cars off the start line. A circuit must be a complete loop for current to flow.

Conventional current	Drawn flowing **positive → negative**. This is the direction everyone assumes on drawings.
Electron flow	What the electrons actually do: **negative → positive**.
DC	Electrons flow in **one direction only**. Batteries are always DC.
AC	Electrons flow **backwards and forwards**. UK mains is AC.

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