

Live wire touches the outer casing of the distribution box

When the live conductor contacts the metal casing, a short circuit is created. The earth wire is intentionally connected directly to the casing, providing an extremely low-resistance ...

To be considered safe, the plug of an appliance must have the correct fuse and either have an earth wire or be double insulated. The latter could be either two layers of insulation around ...

A short circuit happens when a wire becomes loose and touches the wrong part of a circuit, or makes a new circuit. If a live wire touches the inside of a metal case, the metal case may become live.

Here's a clear and exam-board-aligned set of summary revision notes on the dangers of the live wire, fuses, earthing, and fuse calculations, tailored for GCSE/IGCSE Physics students ...

If the hot conductor touches the case, a large short-circuit current ...

Current only flows in the earth wire when a fault occurs and the live wire touches the metal casing of the appliance. Learn about how we can protect ourselves from electric shock.

If a wire makes a connection with the outer metal case, an extra loop is created between live and earth, or between neutral and earth, depending again on which side of the dissipating core the fault happens.

If the hot conductor touches the case, a large short-circuit current will flow, and that should open the circuit breaker in the distribution panel. If it doesn't, then the appliance case may be ...

An appliance with a metal case needs earthing. The earth wire and the fuse together make an appliance safe.

When a user accidentally touches the metal casing, he is protected as the "live" has already been cut off. Current flows from live wire, through the metal casing, to earth via Earth wire which creates a short ...

Even with the neutral wire open, the appliance can still be connected to the live wire. If a fault makes the casing live, it can be at high potential difference and give an electric shock.

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