What is the circular piece you see on a computer charger cable (Ferrite bead)

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Ferrite bead

What is the circular piece you see on a computer charger cable (Ferrite bead)

The computer charger cable contains a cylindrical piece close to the head of the laptop charger, or even in some phones and other electronic devices. What is the role of this cylindrical piece? Why is it put in the charger?

Name of the part and its function in the Ferrite bead charger:

This piece is called a Ferrite bead and is known as the iron filter or EMI magnetic interference filter, It is an essential part of the computer charger cable.

Its main role is to protect electrical signals from interference resulting from magnetic interference. Thus, the performance of the charger is improved during the charging process and the transfer of energy correctly, High efficiency.

Ferrite bead magnetic interference filter components:

The magnetic interference filter consists of general elements, which may be:

Ferrite beads: They are rings made of ferrite and other materials such as iron oxide that are placed on the cable.

Capacitors or resistors: Their role is to store electrical energy or impede the passage of electrical current.

EMI filter shape:

It is usually in the form of a circle or a cylindrical ring placed near the USB head or charger head, and its function is to reduce electrical noise, protect the computer from sudden power surges, and complete the charging process correctly.

Explain Ferrite bead



Ferrite bead

Important note:

Not all charging cables may contain a magnetic interference filter, and its function may vary from one cable to another depending on the type of devices.