Molex Connector

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Molex (NASDAQ: MOLX) is a manufacturer of electronic components, including electrical and fiber optic interconnection products and systems, switches, integrated products and application tooling.

There are two types of connectors commonly referred to as Molex connectors. Although Molex produces both types, it is not the sole supplier of such connectors. One is the 4-pin power connector used for hard drives and CD-ROM drives in PCs. The other is the 0.1 inch friction lock pin header and housing often used for generic wire to board connections.

A Molex connector, or more properly, "pin and socket", is a type of electrical connector. In such a connector, cylindrical spring-metal pins fit into cylindrical spring-metal sockets. The pins and sockets are held in a rectangular matrix in a nylon shell. The connector typically has 2, 3, 4, 5, 6, 9, 12, or 15 circuits. Pins and sockets can be arranged in any combination in a single connector, and the housing separately has male and female gender.

There are three typical pin sizes: .062" (1/16"), .093" (3/32"), and .084". The .062" pin can carry 5A of current, while the .093" can carry 8.5A. Because the pins have a large contact surface area and fit tightly, these connectors are typically used for power. They are common in automobiles.

In desktop computers, the only type of Molex connector normally seen is the one that delivers power to disk drives and other peripherals. Some call it a peripheral power connector; some call it a drive power connector. Because it is the only Molex connector used in a computer, some people simply use the term "Molex connector" to refer to this particular type of Molex connector. Molex part number 15-24-4048.

Sometimes, especially in older computers, the colors differ. The pins are .200" (5.08mm) apart (center to center). The molex connector housing has chamfered corners on one side to prevent the user from plugging it in incorrectly. The molex connector that provides power (e.g. on a power supply) has female pins and a male housing; the connector that receives power (e.g. on a peripheral) has male pins and a female housing.

Desktop computer Molex connectors are used for numerous electronic devices, including fans, hard disk drives, CD-ROM drives, 5.25" (not 3.5") floppy drives, other storage devices (Zip drive), graphics cards which require more power than can be supplied by the bus, and more. An AT or ATX power supply always has at least one of this type of connector, and usually several.

The molex connector is standard on all PATA disk drives and low-end SCSI disk drives, but newer SATA disk drives use a different connector.

Despite molex connectors widespread adoption, the connector has problems. Molex connector is cumbersome and difficult to remove because it is held in place by friction instead of a latch. Molex connector is specific to this one application, so it is not as widely available as most electronic connectors, and is more expensive.