

Description of I2C

Inter-integrated Circuit - I2C is a high-speed, two-way, serial communication system for connecting with terminals as is the case with SPI and UART. This protocol is slower than SPI, but it uses fewer lines of communication, as it is possible to choose between one of the following four speeds:

Standard - 100 kbps

Fast - 400 Kbps

Double Speed - 1 Mbps

High Speed - 3.33 Mbps

The main feature that distinguishes I2C from UART and SPI is that the I2C bus can support multiple master and slave devices on the same bus as the ability to support multiple devices on one bus allows us to reduce the number of external pins on the controller, which reduces the cost and size of the device. .

All connected devices can operate either in master or slave mode. In addition, these devices can switch between these two modes.

Also, each connected device has a unique identifier or address assigned to it in advance, so the main device can specify the sub device that will call it.