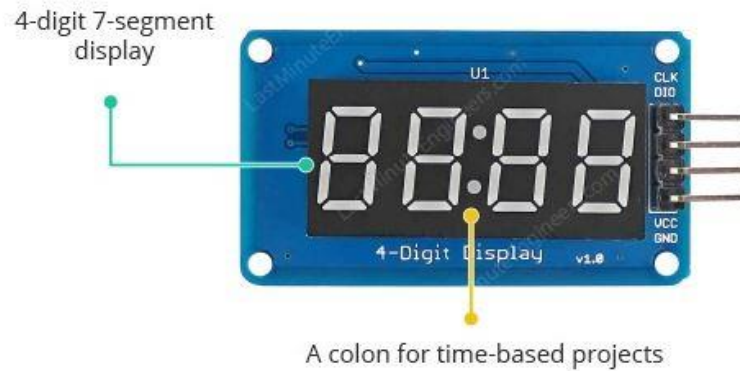


Interfacing TM1637 4-Digit 7-Segment Display with Arduino



If you want to design a clock, timer or counter in your next project, you will need a 4-digit seven-segment display. But a bare 4-digit 7-segment display usually requires 12 connection pins. That's quite a lot and leaves no room for other modules and sensors.

After all, wouldn't it be awesome if you could control a 4-digit seven-segment display without tons of wiring? That's where the TM1637 module comes in. The TM1637 module reduces pin connections to just four. Two pins are used for power connections and the other two pins are for controlling segments.

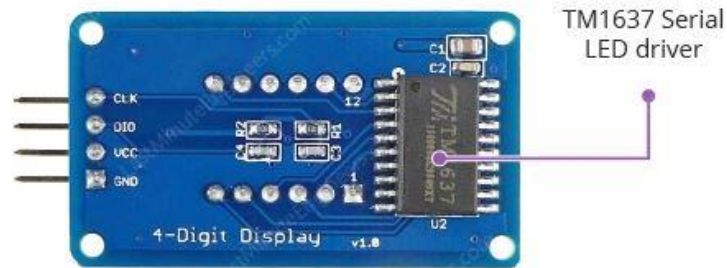


The TM1637 module includes four 0.36 segment 7-segment displays to display sensor data or temperature. In addition to the four 7-segments, the module has a 'colon' at the center which makes it very easy to create clock or time-based projects.

The TM1637 module operates on a supply voltage of 3.3 to 5 volts and communicates via a two-wire bus, so it only requires two data pins plus VCC and ground. The bus is specific to this device, but there are libraries available for Arduino that hide the complexities and make it easier to communicate with the display.

TM1637 Module Hardware Overview

At the heart of the module is an inexpensive serial LED driver from Titan MicroElectronics – TM1637.



The TM1637 supports many functions – including ON/OFF and brightness control of the LEDs as well as accessing each of the segments. It also allows you to adjust the brightness of the LEDs at software level.

And another good thing is that once the display is updated by the microcontroller, the TM1637 then takes care of all the work of refreshing the display. Thereby removing the overhead from the microcontroller, which can be off doing other important things.