

ENC28J60 ETHERNET MODULE



Description:

The ENC28J60 Ethernet Module is a low-cost ethernet module that offers ethernet connectivity over SPI. This module is different from the ENC28J60 Ethernet Shield only in its form factor and the fact that there is no SD card slot. This module can be interfaced with any microcontroller over SPI. We will see how to use this module with Arduino.

Its been use with the arduino for sometime and there are a number of libraries available to work with the module.

You can download the following zip file and extract its contents to the libraries folder of your arduino installation.

There are 2 folders in this library - etherShield and ETHER_28j60. The etherShield is a base library and the ETHER_28j60 is a wrapper around this based library that simplifies the functionalities of the etherShield library for the beginner. You can program your Ethernet Shield directly using the etherShield Library however, this library requires you have a finer understanding of networking and how it works. We suggest you stick to the ETHER_28J60.

The ENC28J60 Ethernet Module utilizes the new Microchip ENC28J60 Stand-Alone Ethernet Controller IC featuring a host of features to handle most of the network protocol requirements. The board connects directly to most microcontrollers with a standard SPI interface with a transfer speed of up to 20MHz.

Module Overview:

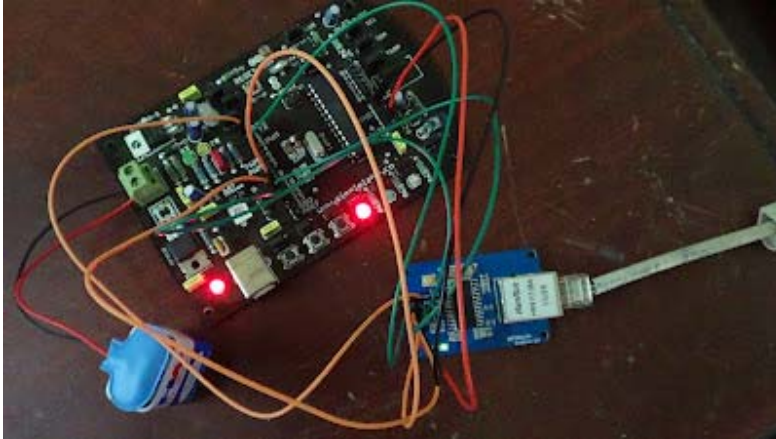
There are 10 Pins on the Module that bring out SPI interface and additional functionalities of the ENC28J60 IC. The Module is to be powered from 3.3Volts supply.

A Simple Test Program:

Once you install the libraries, you can try the 'HelloWorld' program from ETHER_28j60 library. Upload the program, disconnect the board (make it standalone powered externally!), open your browser and type in the ip address of the board. (<http://192.168.1.15>).. Voila! now your arduino is on the network!

Controlling the InduinoX:

The 'HelloWorld' is a simple program now to try the 'WebRemote' example. This will let you control the 6th pin on the InduinoX. You can modify this to achieve your web control needs.



Connections Overview:

Connect the pins of the module to pins of your Arduino as in the table

MODULE	InduinoX / Arduino UNO (ATMEGA328)	Arduino MEGA
VCC	3.3V Pin	3.3V Pin
GND	GND	GND
CS	SS - PIN 10	SS - PIN 53
SI	MOSI - PIN 11	MOSI - PIN 51
SCK	SCK - PIN 13	SCK - PIN 52
WOL	PIN 5	PIN 5
SO	MISO - PIN 12	MISO - PIN 50
INT	Interrupt 0 - PIN 2	Interrupt 0 - PIN 2

Specifications:

- ENC28J60 Ethernet chips, SOP28 package
- SPI Interface
- 1x10 connector, can be easily mounted with the MCU
- Built-in isolation transformer RJ45 connectors HR911105A
- Power LED
- Single Supply: +3.3 V
- 25Mhz Crystal
- PCB size: 55x36 mm

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