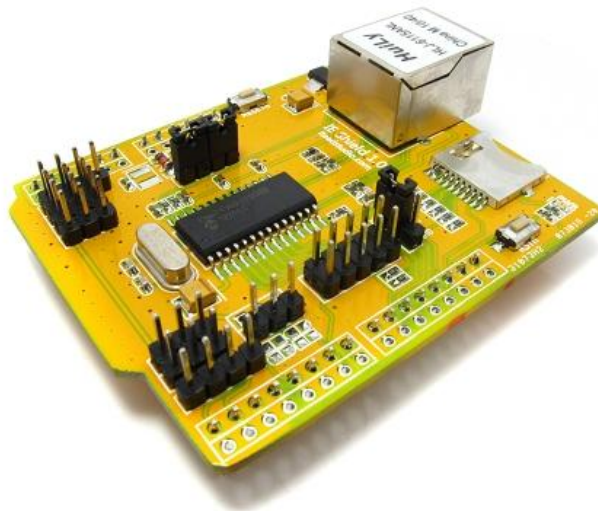


IE Shield V1.0

-Multifunction Ethernet shield with POE

Overview



Features

- IEEE 802.3 compatible
- Supports POE*
- Integrated MAC and 10BASE-T PHY
- Receiver and collision squelch circuit
- Supports one 10BASE-T port with automatic polarity detection and correction
- Supports Full and Half-Duplex modes
- Programmable automatic retransmit on collision
- Programmable padding and CRC generation
- Programmable automatic rejection of erroneous packets
- Two programmable LED outputs for LINK, TX, RX, collision and full/half-duplex status
- Supports Micro-SD card with SPI operation
- Many analog/digital and communication interfaces breakout include AD/DA/PWM/UART/IIC/GPIO

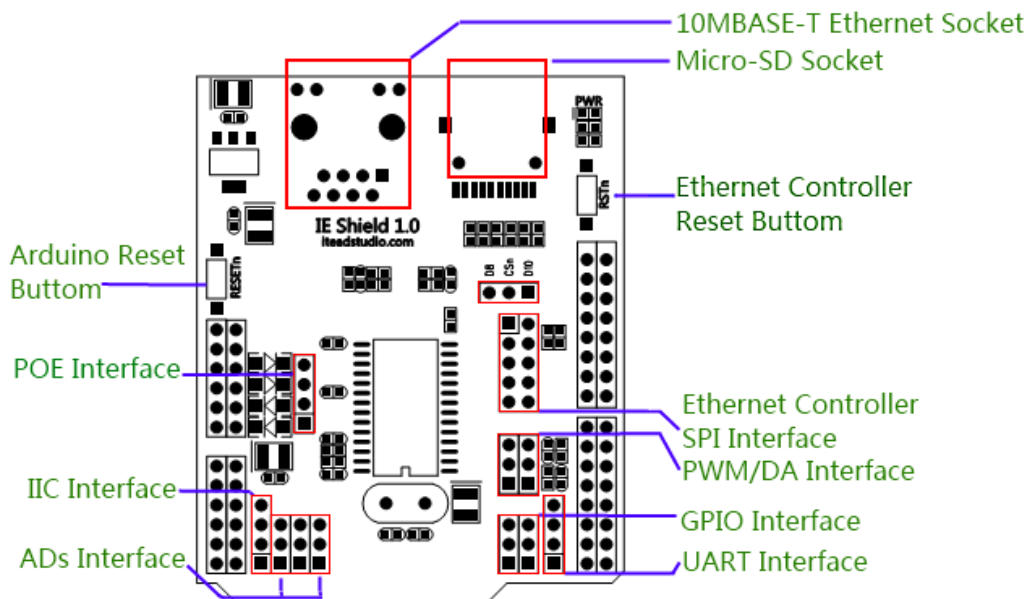
Specifications

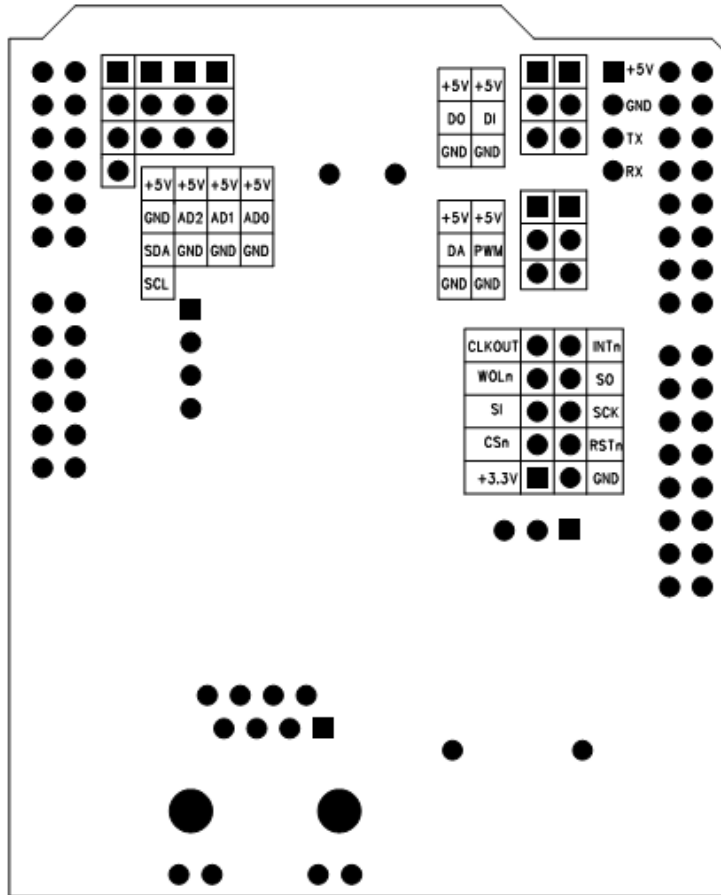
PCB size	55.8mm X 68.8mm X 1.6mm
Indicators	PWR State,
Power supply	5V DC, POE 12V
Communication Protocol	Ethernet, UART, IIC, SPI
RoSH	Yes

Electrical Characteristics

Specification	Min	Type	Max	Unit
Power Voltage (VCC)	4.5	5	5.5	VDC
Power Voltage (POE)	7	-	20	VDC
Input Voltage VH:	4.5	5	5.5	V
Input Voltage VL:	-0.3	0	0.5	V
Current Consumption	-	100	200	mA

Hardware





Interface	Pin	Description
UART	1	5V supply.
	2	Ground
	3	Tx
	4	Rx
GPI	1	5V supply.
	2	Digital input pin
	3	Ground
GPO	1	5V supply.
	2	Digital output pin
	3	Ground
DA	1	5V supply.
	2	Analog output pin
	3	Ground
PWM	1	5V supply.
	2	PWM output pin
	3	Ground
AD0/1/2	1	5V supply.
	2	Analog input pin
	3	Ground
IIC	1	5V supply.

	2	Ground
	3	Data wire of IIC
	4	Clock wire of IIC
Ethernet module SPI	1	5V supply.
	2	Ground
	3	Chip select pin (Low active)
	4	Chip reset pin (Low active)
	5	Chip data input pin
	6	Chip clock input pin
	7	Weak on Line output pin (Low active)
	8	Chip data output pin
	9	Chip programmable clock output pin
	10	Interrupt output pin (Low active)

SPI_CS_n Configuration

On the board there is a Cs configuration jumper, you can use it to change the connecting of the chip select pin (CS) on ENC28J60 chip.

As figure 1, CS pin on ENC28J60 is connecting to D10 on Arduino. With this setting, you just can use many Ethernet libraries for Arduino directly, but you cannot use the SD card with the Ethernet function at the same time.

To use the Ethernet module and Micro-SD at the same time, put the jumper as Figure 2 show. With this setting, the SPI_CS_n pin of Ethernet module to D8, and the SPI_CS_n pin of SD card to D9 pin.

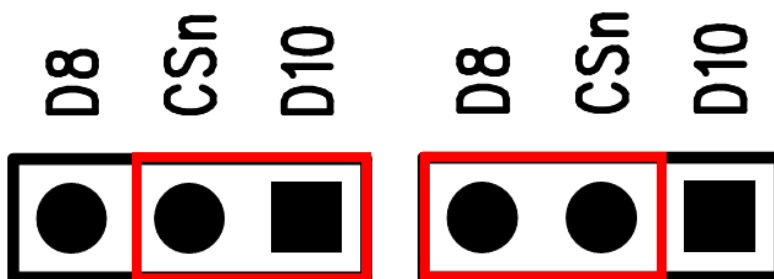


Figure 1

Figure 2

POE Configuration

When using the 7-12V dummy POE supply, put the jumper as show in Figure 3. With this setting, the power supply from Ethernet socket will be connected to Vin of the Arduino under shield. And using the regulate chip on Arduino to supply the 5V power.

When using the 48V POE supply, take off all jumper and plug the POE power regulate module on this interface, the power supply from Ethernet socket will be connected to the POE power regulate module, and the module will output the 12V for Vin.

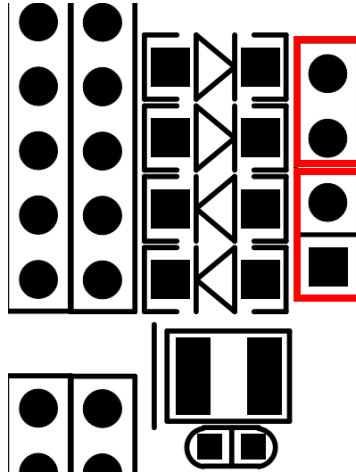


Figure 3

Links and References

- ITeard Studio Site: iteadstudio.com
- Product page:
http://iteadstudio.com/store/index.php?main_page=product_info&cPath=18&products_id=349

Revision History

Rev.	Description	Release date
v1.0	Initial version	2011-4-10