PoE Regulator 802.3af v2.0
### www.freetronics.com/poereg
Getting Started: Power-over-Ethernet
Regulator Module 802.3af

The **Power-over-Ethernet Regulator 802.3af** is an add-on module for various Freetronics boards that support Ethernet connectivity, including:

- Ethernet Shield: **www.freetronics.com/es**
- EtherTen: **www.freetronics.com/et**
- EtherMega: **www.freetronics.com/em**
- EtherDue: **www.freetronics.com/ed**
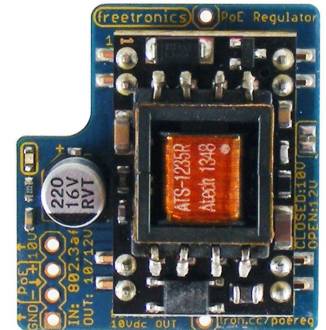
The module allows those boards to accept the typical 48V input supplied via the Ethernet cable as a "Powered Device" (PD) on a Power-over-Ethernet network.

The module implements the signalling protocol necessary to communicate with commercial PoE switches and injectors to tell them that there is a device on the network that is ready to accept power.
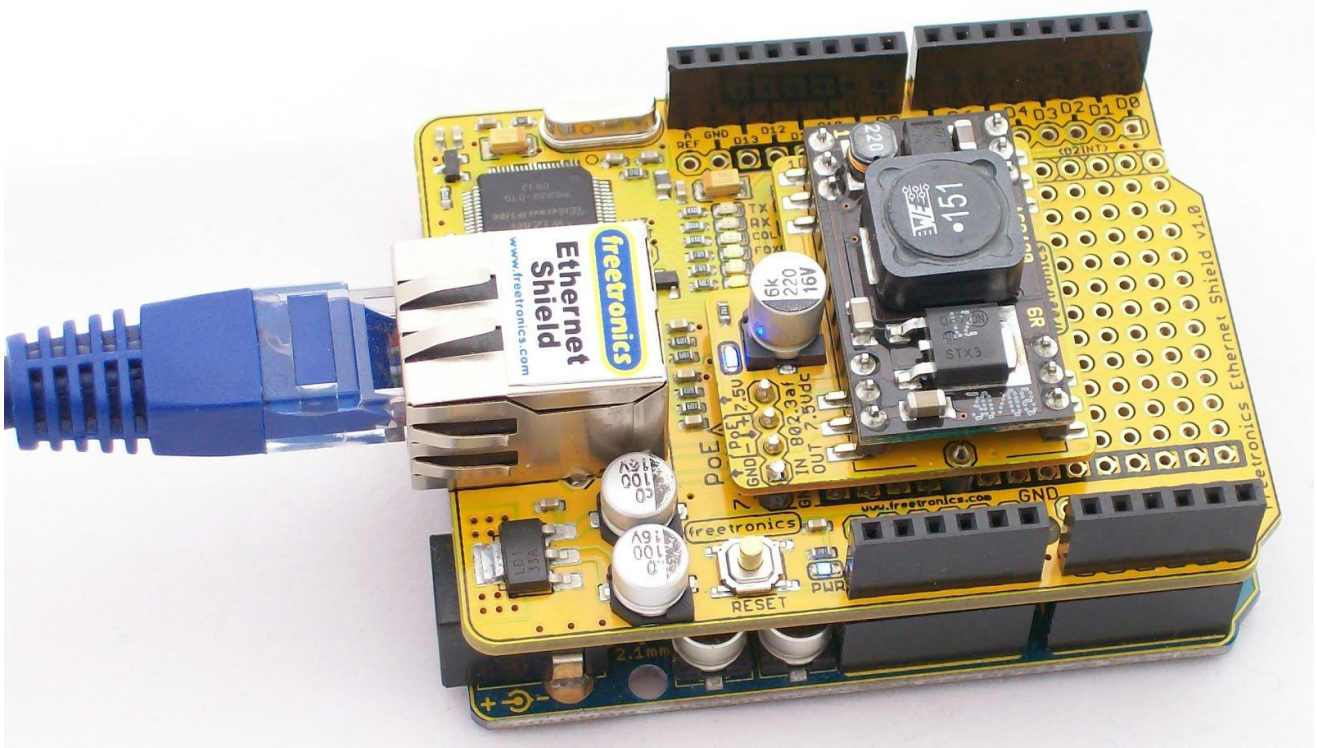
Further background information on Power-over-Ethernet schemes can be found at **www.freetronics.com/poe**.
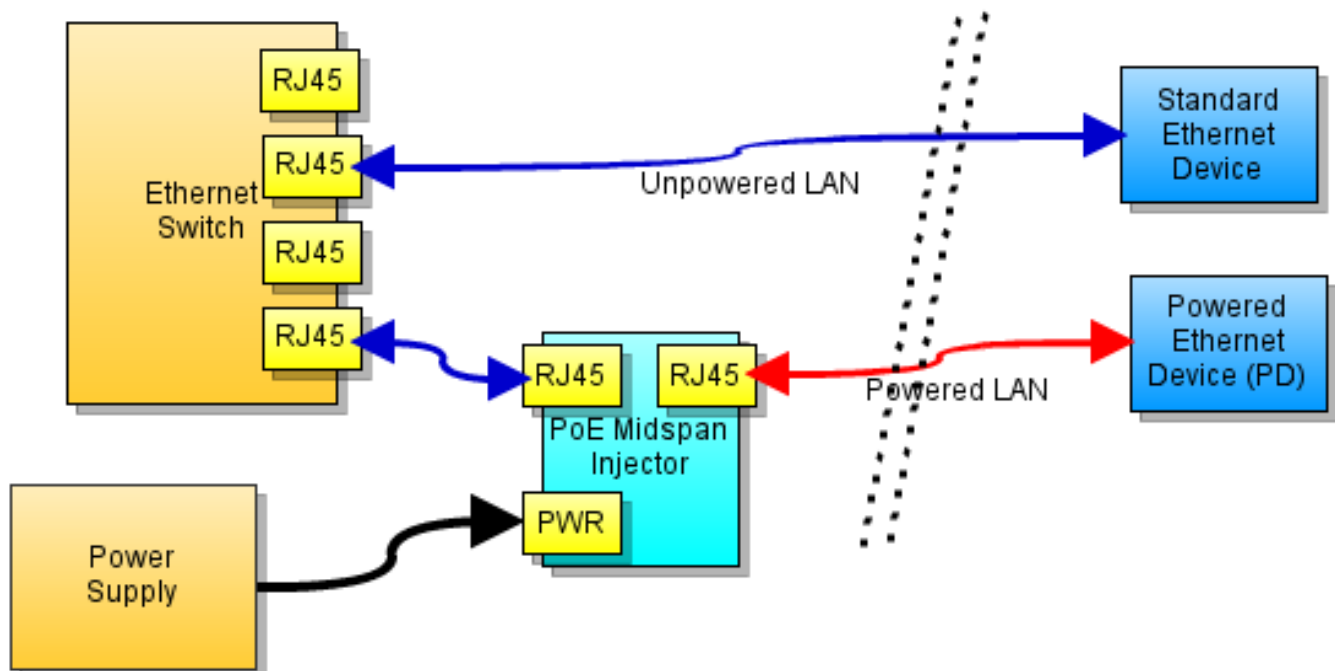
Specifications

Input Voltage	Nominal 48Vdc (max range 36V - 57V)
Output Voltage	10Vdc (default) / 12Vdc
Maximum Output Power	12W

Installation

1. Remove the jumpers from the PoE header on your Arduino compatible board or shield if they are fitted.
2. Place the single-pin headers into the mounting holes on the module, with the pins extending down.
3. Place the **PoE Regulator 802.3af** onto the host board. You can use a piece of cardboard as a temporary spacer to hold the module above any other parts on the board it until it has been soldered in place. On the Ethernet Shield, the single-pin headers fit into the 5V and GND rails.
4. Solder all the header pins to the top of the regulator. Turn over and solder the single-pin headers on the bottom. Trim off any excess length.
5. Connect your host board to your Ethernet network.
6. Connect the network segment to Power Sourcing Equipment such as a PoE switch or midspan injector.

Changing Output Voltage

The PoE Regulator 802.3af has a default output of 10V. You can increase the output voltage to 12V if required, such as for powering external 12V loads via the VIN connection on the Arduino. Use a sharp knife or scalpel to carefully cut the tiny track between the solder pads on the right side of the module to set the output to 12V. If you later wish to return the output to 10V, you can bridge across the pads with a blob of solder.

Support

For assistance see **www.freetronics.com/support** or **forum.freetronics.com**, or email **support@freetronics.com**.

About Freetronics

Freetronics is an Australian company created by Jonathan Oxer and Marc Alexander to provide easy access to hardware, parts, and products related to Arduino projects and the book *Practical Arduino*. Learn more at **www.freetronics.com**. Follow us on Twitter at **twitter.com/freetronics**.