

IOT SMART ENERGY METER USING GSM

AIM:

Design and Development of IOT smart Energy meter using GSM.

PURPOSE:

Energy management is very important and its monitoring of energy parameters plays a major role. Power units are primary parameters of power consumption of any load. Based on units, amount will be increased. All regular power meters are static and can't upload data to remote server. Here we want to design and develop smart energy meter that can read and send unit values to remote server. Here project title is IOT smart energy meter using GSM.

DESCRIPTION:

GSM module (SIM800C) and IOT module (ESP8266) connected to Arduino Serial ports. LDR module and Relay connected to Arduino digital pin.

WORKING:

Here Arduino updates energy meter values to mobile and IOT server using GSM and IOT module. Energy meter calculates units of power consumed by load. This load can be controlled by SMS commands through mobile. For every unit, amount will be increased and SMS will be sending. Also these values update to IOT server. Energy meter pulses taken by LDR sensor and it will provide isolation from AC power. All this information displayed on 16x2 LCD display. We can see energy meter values in IOT server from remote location.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
GSM Module	:	SIM800C
IOT Module	:	ESP8266
Energy Meter	:	230V AC single Phase
Relay	:	12v DC
Power Source	:	12v 2 amp Adaptor

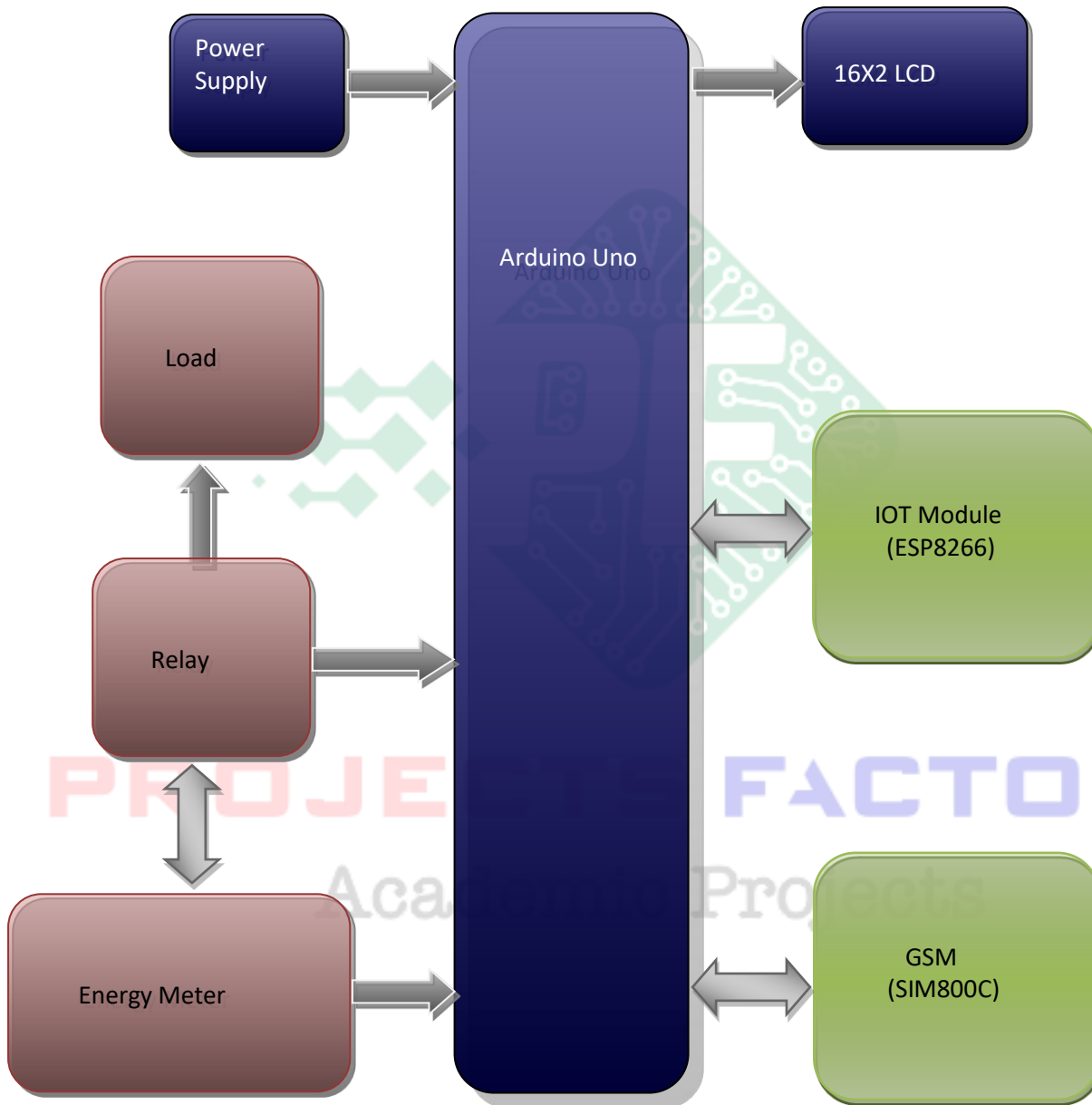
SOFTWARE:

Arduino IDE
Proteus based circuit diagram

APPLICATIONS:

- Energy Monitoring Applications
- Power Systems
- Electrical Applications
- GSM Energy meter
- IOT Energy meter

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered GSM module (SIM800C) and IOT module (ESP8266) interfacing
- Energy meter interface



PROJECTS FACTORY
Academic Projects