

Portable Room Air Cooler System with Temperature and Humidity Monitoring.

About This Project:

This machine uses a Peltier Module as a cooling mechanism and some cooling fans for blowing air. This is just like the everyday air conditioner that we use. The only moving parts here are the PC fans. Air conditioning involves dehumidification and cooling of air. The process starts with dehumidification. Air at ambient conditions enters the dehumidifier where the humidity is extracted and collected in a tank. The air after passing through the dehumidifier is heated up which requires cooling. The heated air then is passed through cross flow heat exchanger. Water is stored in a sump equipped with a thermoelectric module to maintain the coolant temperature. Water is circulated through the heat exchanger where it absorbs heat from the air and flows back into the tank. Thus after rejecting heat to the water air is cooled and passed into the room.

Block Diagram:

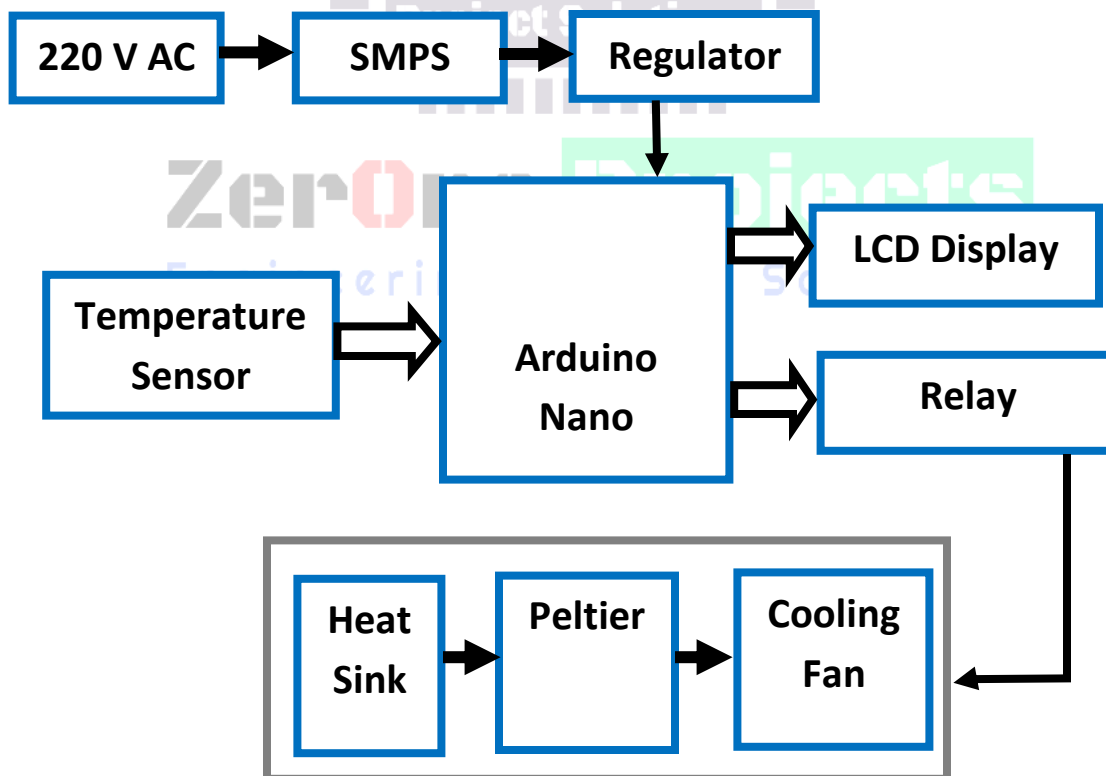


Figure: Portable Room Air Cooler System with Temperature, Humidity Monitoring.

Required Instrument:

- Arduino Nano.
- SMPS.
- Peltier.
- Water Heat Sink.
- Battery.
- Temperature Sensor.
- Relay.
- LCD Display.
- Cooling FAN.

Advantages:

- Relatively low investment required.
- Tool and maintenance costs are low.
- Environmentally Friendly
- High Reliability

Applications:

Relatively low investment required.

- This System Can be used as like Portable Room air cooler system.
- This System can be widely used in any industrial machine cooling system.

N.B: *Any modification of this project can be done as per your requirement. We will make the project according to your needs. Contact us with your any innovative engineering projects idea. We will help you to implement your project.*

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