PRESSURE AND TEMPERATURE ALERT SYSTEM USING GSM TECHNOLOGY

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Abstract:

This paper describes the design of a efficient microcontroller based pressure and temperature alert system using GSM technique.
An industrial accident is a serious event that involves hazardous materials and that can have consequences for the surrounding population and environment. We are addressing these issues by mounting an user friendly device which alerts us about the pressure and others specifications around us in form of info messages to your selected device.
Industrial disasters are the unsafe conditions or work related causes are also termed as Technical causes of accidents. These causes are associated with defective plant, equipment, tool, materials, & Inadequate safety devices so we are coming up with a device that will be helpful to overcome these situations
Not only for industrial use but also we can use this device at different scenarios like house hold applications
India's handling of industrial disasters suffers from systemic apathy. To respond to the currently unfolding Visakhapatnam Gas Leak effectively and sensitively, it must reflect on and learn from its inadequate handling of the Bhopal Gas Tragedy.
On this situations our device can overcome those disasters by attaching to its respective gas pipelines and heavily contained gas tankers etc..
We had used GSM technology which provides users with high quality signal and speech channels, giving them access to high quality digital communication at very affordable rates. GSM network operators can provide their customers with cheaper calling and text messing options.

Highlights:

- Compact in size.
- Used GSM Technology for sending SMS.
- Can be used in both industries as well as households.

Working Design

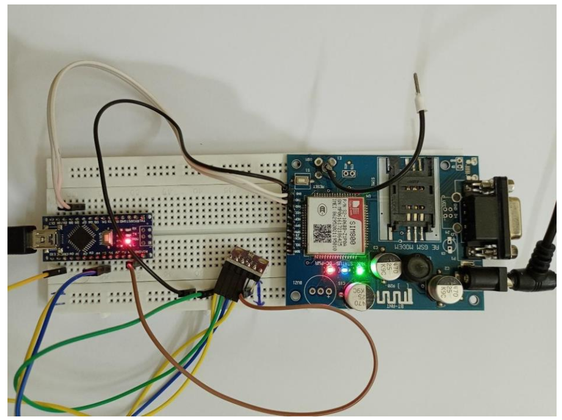

Fig 1.1

WORKING MECHANISM

The working of the pressure and temperature alert system using gsm technology can be explained in step wise format
In terms of Arduino nano & code implementation are as follows
So the written and implemented code describes the total format of system from the sensing to sending the formatted messages to the user
Whenever the temperature or pressure exceeds the range the bmp 280 sensor reacts and alerts the nano module so in the simulated code we can give the number of the receiver to send the messages using gsm module

The working module dialogue can be viewed in our respective code simulation Whenever the system was ready it starts monitoring the temperature and pressure of its range this bmp 280 test results shows the temperature pressure & altitude when the range exceeded it sends the SMS to the receiver end
GSM module working stage starts from the point it receives the indication from nano microcontroller we used GSM for safe end to end messages transfer to receiver.

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FLOW CHART

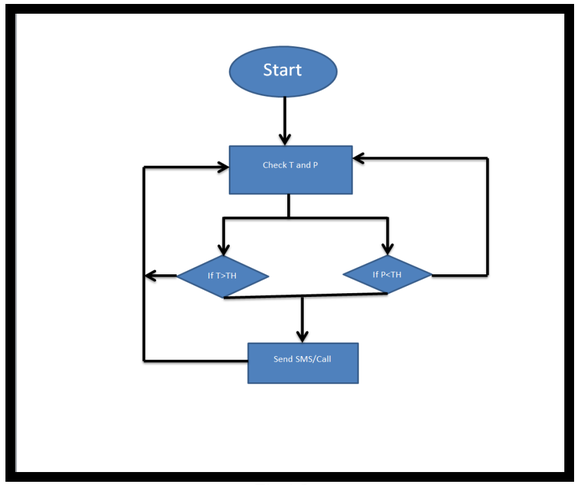
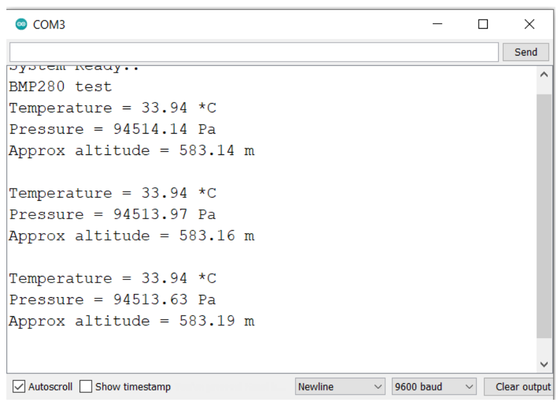
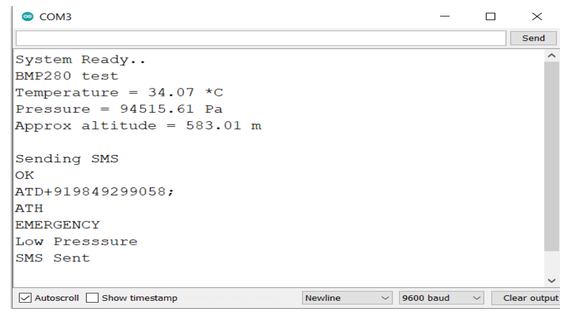
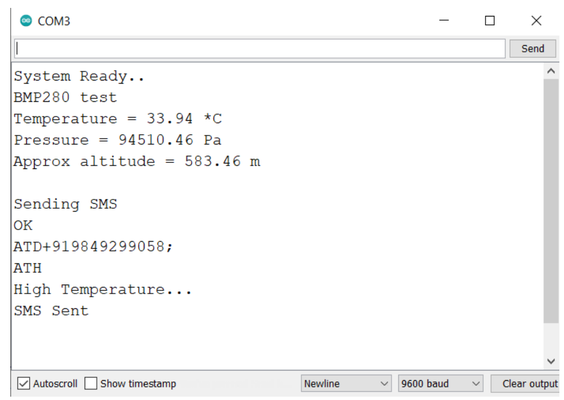


Fig 1.2

Results







Conclusion

The proposed idea will assist the user in terms of temperature and pressure areas and the device is smaller in size can be placed anywhere based on the user choice. The usage of this device can be termed in different examples like heavy weighted oil filled tankers and the industries which are working on the basis of air filled containers such as harmful gases our device will notify whenever the air filled containers varies the pressure and temperature so the reaction of the people will advanced and safety measures can be increased rapidly. So finally this device can further improvised to control the temperature and Not only by monitoring and sending temperature by SMS but also can be controlled and make the system to off. The system can be controlled and monitored via SMS from anywhere that covered by GSM service.