Intelligent Monitoring System for Production Management in Powerloom

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ABSTRACT: Automation is the process to decrease the man power and the idea of an automation is to provide a test run (that appears or feels close to the real thing) test in a microcontroller based system to be deeply set within/surrounded by and part of weaving machine for Watchingand controlling the Production operation. Power stand near and threaten automation replace manual methods as an industrial automationuses. The proposed system aimed to calculate the production unit and running time of machine binary digits and send an information to the manger. (Off to the side)(Connecting point/way of interacting with something) Controller (PIC) microcontroller, pin needle, Liquid Crystal Display (LCD), relays, sensors, switches and GSM are used for system programming in C language and Proteus electronics test run (that appears or feels close to the real thing) test run (that appears or feels close to the real thing) (surrounding conditions).

KEYWORDS: Embedded Systems, Microcontroller, Test run (that appears or feels close to the real thing), industrial automation, fabric structure, Switches, Relays etc.

1. INTRODUCTION

The layers of warp yarn, and each pick of weft beaten up into the cloth after each (one after the other) passage of the shuttle across the fabric-making machine. Is cloth still to be woven this way during the next hundred years and after, or will some other method replace the history of weaving shows that man's clever genius has been working continuously on the problem of producing a woven fabric, and there are definite cycles during which certain ideas are reawakened and brought to the front and seen as something completely new. There are not enough weavers in the industry, and the in-take of new recruits is not enough. Wages in the fabric industry have changed a great deal since the war and this has increased the wages of the weaving (related to surgery). Manufacturers are getting a very much better price for the cloth which they produce, and although we are supposed to be approaching a (prices are low and there are a lot of things for sale), these prices will probably hold for some time. The chief results of these three reasons for increased interest are that it becomes very important for one (related to surgery) to pay attention to take care of more machines in order to maintain volume of output it is very important on account of higher wages that each worker agent should produce more fabric, and lastly, because cloth is selling at a better price, the manufacturer is in a better position to pay more for new machinery.
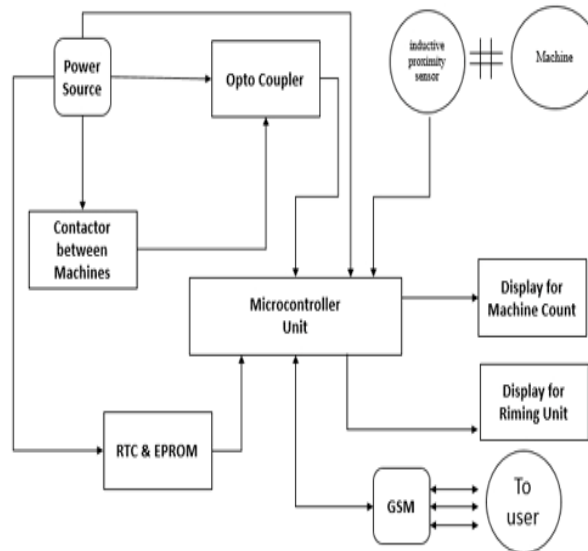
1.1 Block Diagram:

FIGURE1.1 BLOCK DIAGRAM

The above diagram gives asummary of the working of intelligent monitoring system for production. In new method, instead of using the PIC16F877A microcontroller had to be used because it contains the greatest possible number of pins up to 40 pins. In the new method, there are four process are included in it, the three process are,

- To Check whether the rotation is available in the motor or not.
- To calculate the number of units and run time of machine.
- To display the production of stand near and threaten because of the above three process, there will not cause loss for the production of the fabric-making machine.
- To send the details to manger.

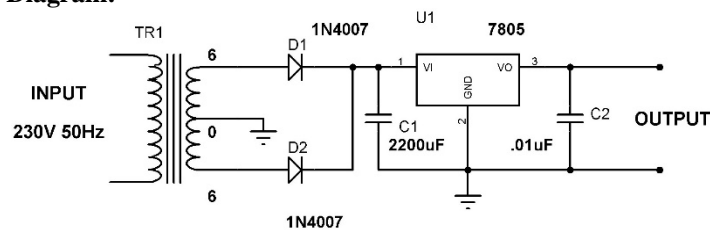## 1.2 Power supply Circuit Diagram:

FIGURE1.2 POWER SUPPLY CIRCUIT DIADRAM

FIG 1.2 represent a power supply circuit. Here both the 5v and 12v supply will be used. By means of LM7805, the 5v supply can be created. Both the voltages are to be act as an input. The 15v transformer has been used. Because of this to convert the 15v to 12v, the rectifier had been used. From the power supply, the input is given to the PIC 16F877A IC. For glow the LCD, less than 5v has to be received in it. To run the GSM, the 12v has to be received.
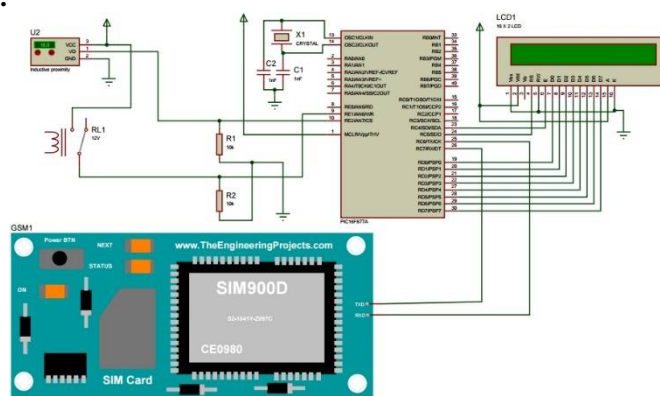
1.3 CIRCUIT DIAGRAM:

FIGURE1.3 *Circuit diagram*

The above circuit diagram shows that the inductive proximity sensor which is to sense the revolution per minute (rpm) of the motor. The signal from sensor is fed to PIC and relay unit. 8-bit data of PIC is connected to the 8-bit LCD display. The output will be displayed in digital unit. When the motor turn off, a signal pass to the relay, which trip the circuit and fed signal to the PIC controller. And then message will be send through GSM module
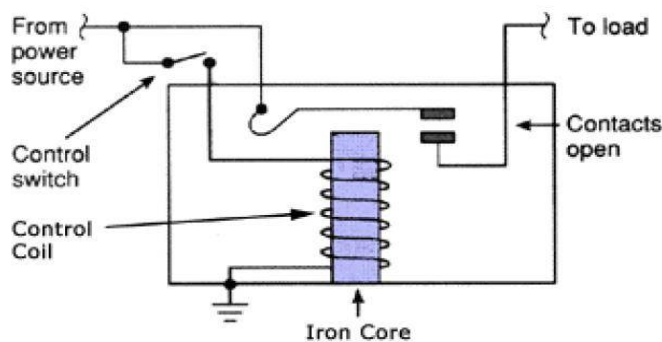
1.4 RELAY SPDT:

FIGURE1.4 SPDT RELAY

We know that most of the high end industrial use devices have relays for their effective working. Relays are simple switches which are operated both electrically and mechanically. Relays consist of an electromagnet and also a set of contacts. The switching machine is carried out with the help of the electromagnet. There are also other operating rules for its working. But they differ according to their uses. Most of the devices have the use of relays. The main operation of a relay comes in places where only a low-power signal can be used to control a circuit. It is also used in places where only one signal can be used to control a lot of circuits. The use of relays started during the invention of telephones. They played an important role in switching calls in telephone exchanges. They were also used in long distance telegraphy. They were used to switch the signal coming from one source to another destination. After the invention of computers they were also used to perform Boolean and other logical operations. The high end uses of relays require high power to be driven by electric motors and so on. Such relays are called contactors.

1.5 OPTICAL PROXIMITY SENSOR:

FIGURE 1.5 OPTICAL SENSOR

An optical sensor converts light rays into electronic signals. It measures the physical amount of light and then translates it into a form that is readable by an (device that makes music). An optical sensor is generally part of a larger system that (combines different things together so they work as one unit) a source of light, a measuring device and the optical sensor. This is often connected to an electrical trigger. The trigger reacts to a change in the signal within the light sensor. An optical sensor can measure the changes from one or (more than two, but not a lot of) light (lines of light). When a change happens, the light sensor operates as a photoelectric trigger and therefore either increases or decreases the electrical output. An optical switch enables signals in optical fibers or optical circuits to be switched (in a picky way where only certain things are selected) from one circuit to another. An optical switch can operate by mechanical means or by electro-optic effects, magneto-optic effects as well as by other methods.

1.6 PIC 16F877A:
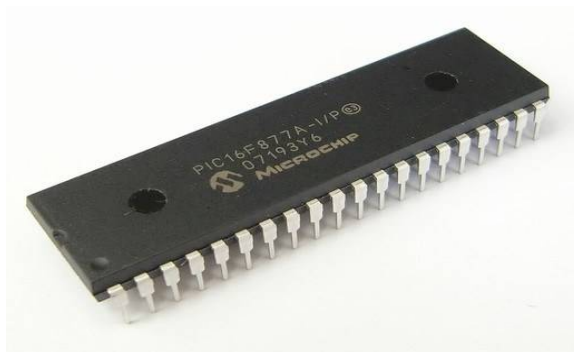
FIGURE 1.6 PIC 16F877A

The PIC microcontroller PIC16f877A is one of the most famous microcontrollers in the industry. This controller is very convenient to use, the coding or programming of this controller is also easier. One of the main advantages is that it can be write-erase as many times as possible because it use FLASH memory technology. It has a total number of 40 pins and there are 32 pins for input and output. PIC16F877A is used in many pic microcontroller projects. PIC16F877A also have many use in digital electronics circuits. This Microcontroller is commonly used in wide areas.

1.7 LCD DISPLAY:

A liquid crystal display is a special thin flat panel that can let light go through it, or can block the light. (Unlike an LED it does not produce its own light). The panel is made up of (more than two, but not a lot of) blocks, and each block can be in any shape. Each block is filled with liquid crystals that can be made clear or solid, by changing the electric current to that block. Liquid crystal displays are often shortened LCDs.

1.8 GSM MODULE:

FIGURE1.8GSM MODULE

GSM is a mobile communication modem; it is stands for worldwide system for mobile communication (GSM). The idea of GSM was developed at Bell Laboratories in 1970. It is widely used mobile communication system in the world. GSM is an open and digital cellular technology used for transmitting mobile voice and data services operates at the 850MHz, 900MHz, 1800MHz and 1900MHz frequency bands.

II. CONCLUSION AND FUTURE WORK

- The Machine gets run the rpm is calculated and running units and time are shown in display for how many machines, send sms to manager.
- In future work will be IOT based powerstand near and threaten monitoring.

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