Daffodil International University

Dhaka, Bangladesh

Thesis Report

On

Study on Industrial Machine Controlling System

at

South East Textile (PVT) Ltd.

This Thesis has been submitted to the Department of Electrical and Electronic Engineering in Partial fulfillment of the requirement for the Degree of Bachelor of Science in Electrical and Electronic Engineering.

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APPROVAL LETTER

This thesis report titled " Study On Industrial Machine Controlling System ", submitted by Nazmul Hossain ID: 172-33-525, of the Department of Electrical & Electronic Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of requirements for the degree of science phase of electrical and electronic engineering and confirmed as its style and material. The presentation has been held on 2020.

Board of Examiners:

DECLARATION

We declare that this internship report is based on the received results. The work materials found by other researchers are referred by reference. This internship report is submitted to Daffodil International University for achieving B.Sc. degree of Electrical and electronic engineering. This internship report has not been fully submitted for any degree prior to the degree.

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ACKNOWLEDGEMENT

I will be completed forever to the Daffodil International University, Bangladesh We are very grateful to Allah Almighty, who has provided us such an opportunity to gain expertise in South East Textile (PVT) Limited. I would really like to explicit my cordial gratitude to my Internship manual, Md. Mahbub-ud-Jaman Department of Electrical & Electronic Engineering. Daffodil International University for his honest efforts to make this challenge a success one. It turned into his guidance and relentless motivation at some point of the course of uncertainties and doubts that has helped me immensely to head in advance with this project. I would like to specific my heartfelt thankfulness Md. Mahbub-ud-Jaman Lecturer of the Department, Electrical Engineering for his guidance and aid. I am additionally grateful to the faculties of Electrical Engineering Department for presenting their helpful arms in the course of the direction of our undertaking. It turned out to be a great experience to do an internship right here. We have learned a lot of things in practice that we have learned theoretically before. We thank Almighty for enabling us to complete this internship report in a timely manner. Words are just a few of the many humble obligations to our loving parents for their prayers and perseverance that clearly have the power to allow this process to be accomplished.

ABSTRACT

Early detection of irregularities in electrical machines is important because of the diversity of their use in different fields. An accurate fault detection scheme helps to stop the spread of failure or limit its growth to a serious degree and consequently hinders because of the scheduled downtime which is production and financial income. Among the various types of failures that can occur in electrical machines, the rotor-ri to fault is about 20%. Most of the industries use pneumatic valves. Successful detection of any electrical failure. Signal processing techniques for eliminating fault properties. Aim to present this paper. Stimulation and rotor fault of the broken rotor bar when there was a lifting of the properties using waveform analysis appeared in the current signal. In this case, a brief explanation of rotor failure, various methods of condition monitoring for the purpose of rotor fault identification is addressed. Then, analyze the motor current signature.

This system includes motor, load cell, photo sensor, proximity sensor, protection relay, magnetic contactor, limit switch, push lamp switch, normally open switch, normally closed switch, solenoid coil, circuit breaker, plc, input, HMI Used Emergency Stop Switch, SSR, Thermocouples, Rotary Encoder, Servo Motor, Servo Amplifier, Inverter, and Fuse Used

CHAPTER 1

Introduction

1.1   Background of the Study:

Electrical machines have been widely used in many industrial processes and have been playing a non-convertible role in various miscellaneous industries. Despite their reliability and visibility, electronic machines are still at risk of failure due to exposure to a variety of harsh environments and conditions, existence or production defects. If these errors, failures and gradual degradation can cause motor disruption the left is not detected and their results unplanned downtime is very costly. Early detection of irregularities in electrical machines with proper fault diagnosis schemes will help prevent high cost failures to reduce maintenance costs and prevent deadlines but stop the transmission of the error or limit its growth to a serious degree resulting in loss and consequent loss. Income

Electrical machine is a general term for machines using electromagnetic forces such as electric motors, electric generators and others. They are electrical energy converters, electric motors convert electrical mechanical energy while electric generators convert mechanical energy into electricity. Running parts in a machine can be rotating or linear. A third category that is often included in addition to motors and generators is transformers, although they have no moving parts but are power changers, changing the voltage level of the alternating current.

Electric machines, in the form of generators, produce virtually all electrical energy on earth, and take on almost everyone in the form of electric motors.

New discoveries in the electrical and electronics industries, rapid expansion of products and markets, have made it difficult for workers in this field to maintain the required skill limits to manage their activities. Consultancy field engineers,

Specialists in new field, are to study and recommend work courses. The educational background required for these functions tends to be maximal in basic and applied research. Most large laboratories require a doctorate in science or engineering to fulfill a leadership role. Master's degrees are required for most positions in design, product development and production and quality control supervision. In the high-tech industries of modern electronics in general, it is necessary to evaluate the competitive factors related to sales engineering to guide the marketing strategy with an engineering background not less than undergraduate level.

Electronic machines began in the mid-19th century and have been a ubiquitous component of infrastructure ever since. The development of more efficient machine technology for any global conversation, green energy, or alternative energy strategy

1.2 Objective of the Study

The main objective of the study is to access the academic knowledge in every part of my internship and to know the Industrial machine controlling system.

The main Objectives of the study are:

01   Star Delta Starter with Controlling
02   DOL Starter to Start
03   Relay Controlling
04   How to Work Inverter, Advance Inverter.
05   VFD
06   How to Work Solenoid Coil

07   Control Motor Speed Using Inverter
08   Operation HMI
09   Operation PLC.
10   Input Output Module

1.3 Limitations

The section of this chapter deals with the limitations of the study that are as below:

1. I cannot acquire all the information of the South East Textile (PVT) Limited. Because of the company internal rule.
2. I have any permission to get photos of all equipment.

CHAPTER 2

Company Profile

2.1 Introduction

The company name is "South East Textile (PVT) Limited" and it is one of the biggest industrial hubs of the country. South East Textile (PVT) Limited, is also one of the major key sister concern of Interstoff with a large knit composite setup which has monthly capacity of 1,600,000 pieces.

The culture of combined team efforts throughout our competent management and industrial engineering units resulted consistently moves South East's capability forward and facilitated international experts.

2.2 Vision and Mission

Vision: South East Textile (PVT) Ltd strives to be a global leader in the textile and apparel industry by offering quality garment manufacturing, innovative products and outstanding services. We create a socially responsible organization that complies with international standards.

Mission: Our mission is drive strong synergy with our partners throughout the world who share our commitment to safe and healthy workplaces, to deliver high quality products and services. We realize customer's expectations and improve on them continuously.

2.3 Company Information:

The company basic information is given below:

01	Location	Gorai,Mirzapur,Tangail
02	Address(Corporate Office)	House #43,Road #35/A, Gulshan-2,Dhaka-1212
03	Nearest port of loading	Chittagong
04	Distance to port	302 Kilometer
05	Tel NO.	0682252119
06	Email	pradip@icl.bdrmg.com
07	Legal status	Private Company
08	Year of Foundation	2010
09	Manufacture	100% knit Composite Factory

2.4 The function under Division

The following department attached with division which as follows:

1. Finance & Accounting department
2. HR, Admin & Compliance department
3. Merchandizing department
4. Marketing & Product development department
5. TSD department
6. Commercial
7. Procurement
8. Warehouse department
9. R & D of fabric
10. Civil department

2.5 Safety Precaution:

In order to avoid the hazards on the plant, company train their employees for the Safe handling

And operation of materials and units installed on plant. So for this company follow following

Steps:

01. Give Knowledge

02. Give Training

03. Trouble Shooting

04. Smoking is strongly prohibited on all areas of the plant.

05. Leakages may occur and so serious damage can occur

2.6 Different Safety Signs:

Safety signs are used to manage positive movements as well as to indicate anxious opportunities. They are very helpful for concern because they provide clear guidelines since they should face almost the same danger in the website they have created. Some of the unique security features are,

- Man safety
- Machine Safety
- Material Safety

2.6.1 Machine Safety:

In safety the primary component is guy safety. Man, safety is one of the important things between the regulations of protection. Man, protection method the way to

safe guy in operating region (plant). Mask, safe- shield, gloves and many others are supplied for protection.

2.6.2 Machine Safety:

Machine safety is also crucial. The problem shoot, renovation of temperature is the important one. No use of cell near to gadget because safety of tripping and matching of frequency.

2.6.3 Material safety:

The protection of fabric is also vital. The aspect like send is safe in keeping with its manner of protection. Other things like PTA, MEG are keeping in keeping with its situation.

2.7 Power Distribution:

Power distribution circuit boards can be almost as important as grounding and most of the comments above apply equally to ground or power signals. After all, the power signals on your board can be considered as ground signals with different DC voltages. They still need less resistance in both DC and AC.

The feeder lines are fed into the panels placed there which are each brightly connected to the VCB breakers as well as the bus coupler. From there these lines are fed to the substation where the voltage drops from 11KVA to 400V. The strains from the transformer are fed into the LVD room in the form of bus wires. The bus wires are fed to the panels in the LVD room where the power factor control for safety purposes and the panels with ACB breakers are connected in the form of a ring main system. From there, energy is supplied step by step as needed.

CHAPTER-3

3.1 Practical Works sample Picture:

Fig: 3.1- SCR Compressors

 SCR compressors are a type of gas generator, such as an air compressor that uses a rotary-type positive-displacement mechanism. Abbreviations are the most commonly used replacement of piston compressors where large amounts of high pressure air are required, either to handle large industrial application chillers, or high power wind tools such as jackhammers and effect wrenches. The mesh rotors force the gas with the compressor, and the gas exits at the end of the screws. The working area is the inter-lobe volume between the male and female rotors.

Fig: 3.2- Boiler Machine

Fire-tube boilers developed as the third of four major historical types of boilers: low-pressure tank or "straw fork" boilers, liquid boilers with one or two large flue, many small-tube fire-tube boilers, and high-pressure water. Tube Boilers their advantage over liquid boilers with single flue many small tubes provide multiple heat surface areas for the same overall boiler volume. A tank of water entered by ordinary construction tubes that carries hot flue gases from the fire. The tank is cylindrical for the most part as the most powerful practical size for a compressed container and this cylindrical tank can be horizontal or vertical.

Fig: 3.3- Dyeing Machine

Dyeing machine is the application of dyes to textile materials such as fiber. It is necessary to provide sufficient movement for the wine to dye uniformly at each point of the textile material. The machine must be made of this type of metal which will be in prolonged boiling, acid, alkali solution and other chemicals. The heating system must maintain the same temperature throughout the die alcohol. All moving parts and electric motors should be protected from corrosion by steam and atmospheric action. Some automatic temperature and pressure control devices should be integrated with the machine.

Fig: 3.4- Diesel Generator

A diesel generator is the connection of a diesel engine with an electric generator that produces electrical power. This is a specific case of engine generator. The ignition engine of a diesel compressor is usually designed to run on diesel fuel but some types are adapted to other liquid fuels or natural gas. Diesel generating sets are used in places where there is no connection to the power grid, or as an emergency power supply if the grid fails, as well as for more complex applications such as pick-lopping, grid support and export to the power grid. Diesel fuel is named after the diesel engine, not vice versa; Diesel engines are compression-ignition engines and can handle a wide variety of fuels depending on the configuration and location. Where a grid connection is found, gas is often used, as the gas grid will be under pressure during almost all power cuts. It is introduced by introducing gas with the incoming air and using a small amount of diesel fuel for ignition. Can be converted to 100% diesel fuel operation instantly.

Fig: 3.5- Gas Generator

Jenbacher gas engines are renewed for strong performance in tough fuel conditions. The Ne XT and XT3 engine controllers are a very comprehensive and powerful engine management system. The controller's alert and alarm conditions are displayed and managed on the local HMI, if available, remotely via the Dia.ne WIN web application.

Alarm conditions often result in the generator being shut down and locked out for subsequent activity until the alarm is physically cleared and recognized by the operator. By default, remote recognition of alarms is not allowed on the Dia.ne controller. Therefore, to bring the generator back into operation, the operator needs to be present locally on the control panel.

The technological processes of most industrial enterprises in different sectors of the economy are characterized by the simultaneous consumption of electrical and thermal energy. As a rule, electrical external power is supplied by the grid, while heat is produced using natural gas in our own boiler house. An alternative, more efficient power supply technology is needed to significantly reduce energy costs and, accordingly, reduce production costs.

The highest efficiency in energy resource production is currently demonstrated by gas-piston cogeneration units. For example, the electrical efficiency for modern plants produced by jenbacher is up to 48.7% and the overall efficiency reaches 90% considering the issue of heat extraction. This allows for a significant reduction in the energy consumption of electricity and heat generation. Thermal energy is used by industrial plants in the form of steam or hot water. Jenebacher co-generators are capable of producing this heat transfer fluid both simultaneously or individually.

CHAPTER-4

Automation: 4.1

Automation or commercial automation uses computer systems to control productivity between product production and offer delivery, regulators use control systems to control commercial equipment and strategies. It emphasizes flexibility and conversion to production methods. Thus manufacturers enable production from production system A to production B without any difficulty in completely rebuilding existing system / product lines. Automation is now regularly applied at a fascinating pace within the production process, where automation can increase significantly. The output is increasingly consistent. Replacement of people in tasks performed in a risky environment.
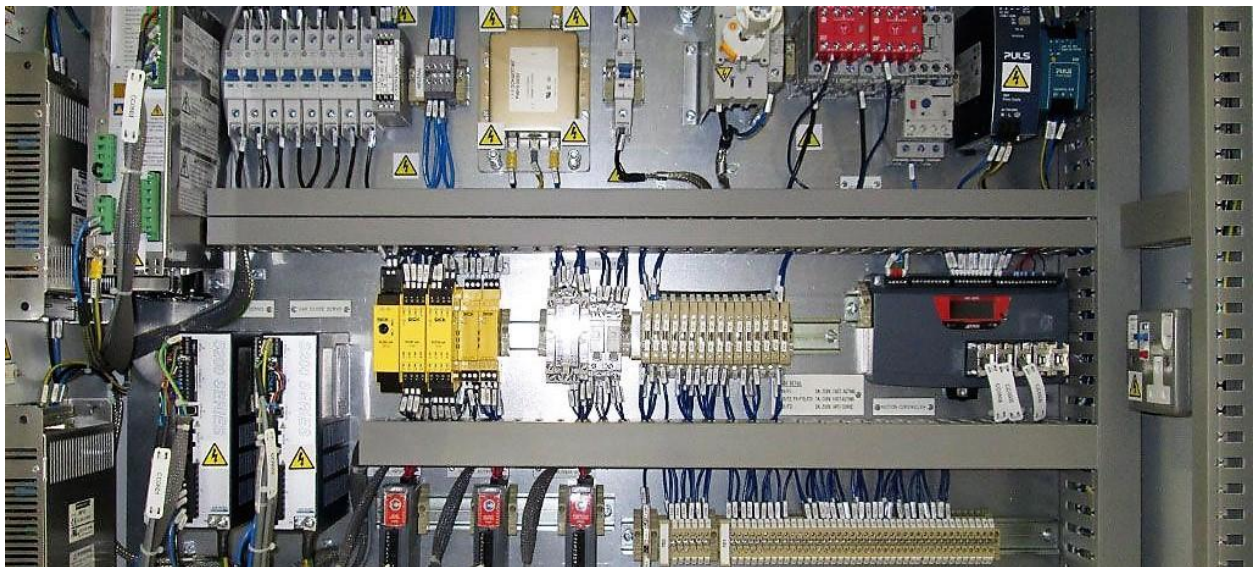
4.2.1 Component of Industrial Automation:

The name of component of automation:

01. **Magnetic Contactor**
02. **HMI**
03. **Relay**
04. **Push lamp Switch**
05. **Controlling Cable**
06. **Proximity Sensor**
07. **Magnetic Sensor**
08. **Capacitive Sensor**
09. **Level Sensor**
10. **Thermocouple**
11. **Inverter**
12. **Pressure Sensor**
13. **Servo Motor**
14. **Servo Drive**
15. **MCCB**
16. **MCB**
17. **Heater**
18. **Power Supply**
19. **Solenoid Coil**
20. **Programmable Logic Controller (PLC)**
21. **Induction Motor**
22. **Steeper Motor**
23. **Motion Sensor**
24. **Temperature Controller**
25. **Fuse**

Magnetic Contactor:

Magnetic contact is a type of switch. 3 phases is used in high voltage operation. Magnetic communicators have invented electric relays in electric motors. These are removable from the motor so that any operator matches that motor; Isolate or keep it without the opportunity to stay modern even after passing through the device. A contact is a special type of relay that is used to turn an electrical circuit on or off. These are most commonly used in electronic motors and lighting applications.
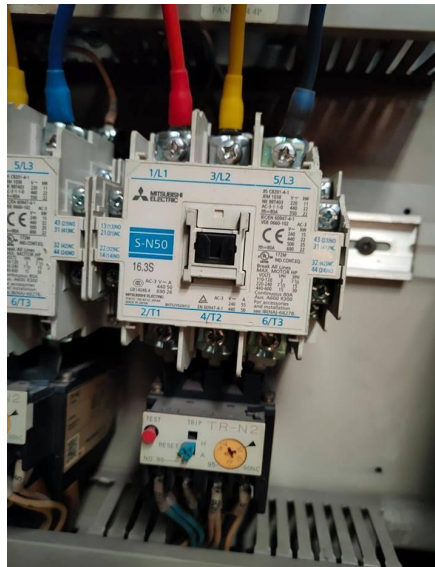

Fig: 4.2 c–Magnetic Contactor

Human Machine Interface (HMI):

HMI is the interface of machine and human. This is called HMIO. An HMI is a software application that gives an operator or customer information about the country in almost any way and can only receive and execute operator control orders. Typically, statistics are displayed in an image format.
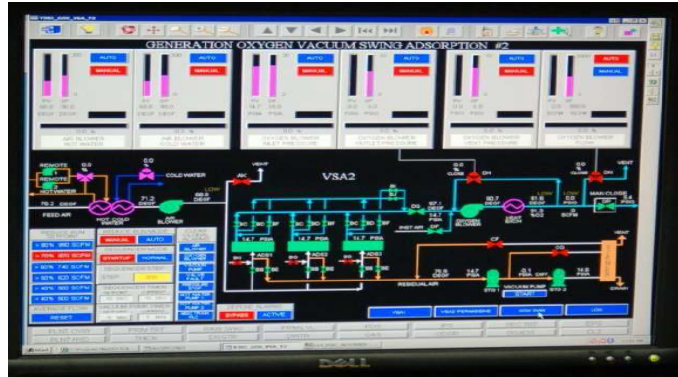
Fig: 4.3-Human Machine Interface (HMI)

Relay:

 The relay is an electromagnetic switch that operates with the help of a great small electric powered modern day use that can turn the day off of a one mile huge electric powered cut-out. The coronary heart of the reel is an electromagnet (a coil of cord that becomes a temporary magnet when energy flows through it). You can think of a relay as a kind of electrically driven lever: move it with a small current time and switch it to each other's systems ("leverage") using a larger current. Why is it useful? As the call suggests, many sensors are a very attractive part of digital equipment and provide only small electrical currents. But on a regular basis we need to get a larger part of the system that uses their larger currents. The need relays move the distance, making the larger ones fit for smaller currents. In this way the relay can paint each painting as a switch (turning things on and off) or as an amplifier (converting small currents to larger ones).
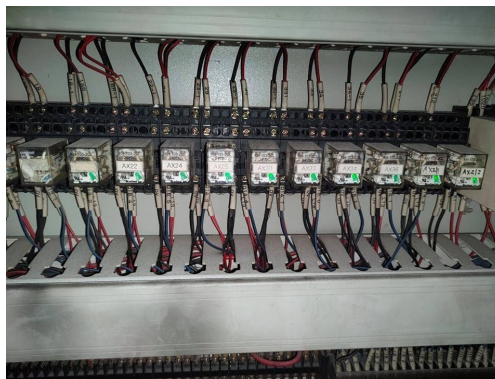
Push Lamp Switch:

A push button transfer is a type of transfer that turns any normal or electronically operated process or air switch process on or off. Depending on the model they may work with the non-static or latching motion feature.

Fig: 4.5- Push Lamp Switch

Controlling Cable:

Control cables are multi-conductor cables used in automation and materials packages. Control cables can automatically measure and correct the transmission. The control cables are rated regularly wool. The control wires are usually lined with a foil guard, braid shell or a mixture of the two.

Proximity Sensor:

Proximity sensor is a kind of input material. It is a sensor capable of stumbling in the presence of nearby items without any physical contact. A proximity sensor often emits an electromagnetic chain or beam of electromagnetic radiation (infrared, for example) and detects signs of field change or reversal.

Fig: 4.7- Proximity Sensor

Magnetic Sensor:

The definition of a magnetic sensor is a sensor that is used to observe changes in magnetic fields, such as electricity, path, and current, as well as disturbances. These sensors are divided into entities.

Fig: 4.8- Magnetic Sensor

Capacitive Sensor:

A capacitive sensor is a proximity sensor that detects proximity by items through their effects in the electrical field created by the sensor. Capacitive sensors have some similarities with radar in their ability to detect conductive substances when viewed through insulators in combination with wood or plastic.

Fig: 4.9-Capacitive Sensor

Level Sensor:

Level sensors detect concentrations of liquids and other liquids and liquids, including slurries, granules, and powders that appear on the floor at higher loose levels. Substances that move with the flow appear largely due to gravity in their packing containers (or other physical constraints) as horizontal when most bulk solids pile up in the direction of reaching a peak. The substance to be measured may be the interior of a field or in its medicinal form (e.g., a river or lake). Phase measurements can be two consecutive or factor values. Uninterrupted stage sensors measure size within a unique variety and determine the exact amount of matter in a positive space, even factor-degree sensors effectively indicate whether the substance is above or below the sensitive factor, usually following subsequent ranges that are too high or too low.

Fig: 4.10- Level Sensor

Thermocouple:

A thermoelectric device for measuring temperature, which consists of various metal wires related to the dots, has a voltage between two percent of the temperature difference.

Fig:4.11- Thermocouple

Inverter:

An inverter convert (DC) to alternating present day (AC). The input voltage, output voltage and frequency, and usual energy coping with depend upon the design of the precise tool or circuit.

Fig: 4.12- Inverter

Electronic signal inverter, an electronic device or circuitry that converts direct current (DC) to alternating current (AC). The resulting AC frequency depends on the particular device employed. Inverters work against "converters" that were large electronic devices that originally converted AC to DC.

Input voltage, output voltage and frequency and overall power handling depends on the design of the specific device or circuitry. The inverter produces no power; Power is supplied by DC source.

A power inverter can be fully electronic or a combination of mechanical effects and electronic circuitry. Static inverters do not use moving parts in the conversion process.
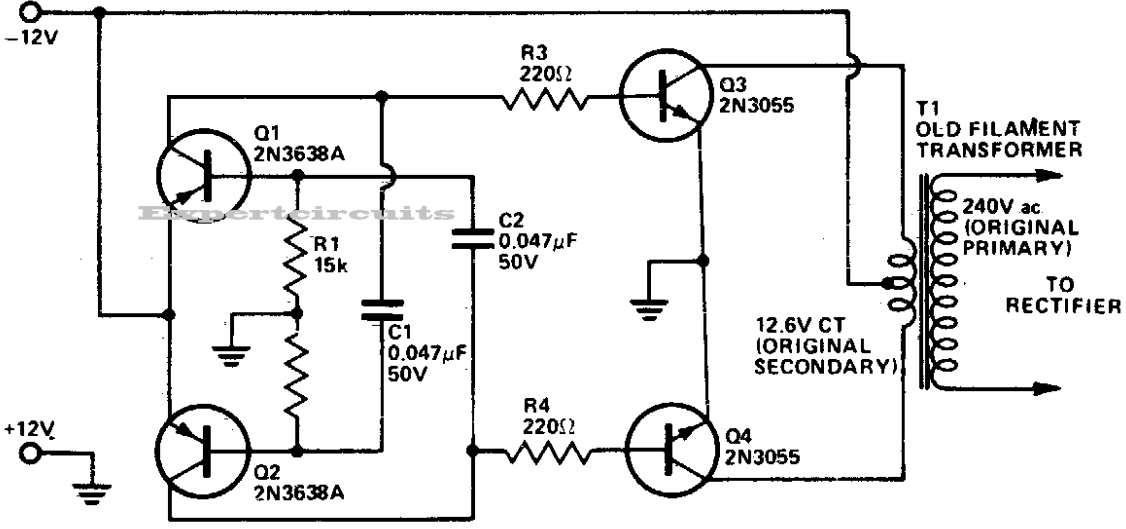
Fig: 4.13- Block Diagram Inverter

Fuse:

A fuse is an electrical protection device that overrates to provide current protection to an electrical circuit. Fuses have been used as necessary safety devices since the first days of electrical engineering. Today there are thousands of different fuse designs that have specific current and voltage ratings, braking capacity and response time depending on the application.
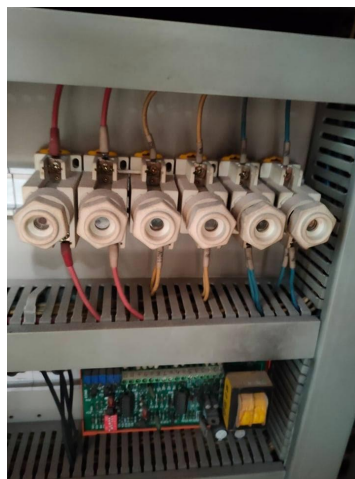
4.3: Introduction to Programmable Logic Controller (PLC)

Programmable Logic Controller (PLC) is an industrial PC control gadget that continuously monitors the countries of the input device and makes choices based on a custom application to manage the countries of the output device. It is designed for multiple input and output formats, increased temperature range, resistance to electrical noise and resistance to vibration and impact. Almost any manufacturing process can significantly beautify the use of this type of management system; the biggest advantage of using PLC is the possibility of changing and copying the operation or method during the collection and communication of the required statistics.

Fig: 4.15 PLC

4.4 History of PLC:

The first programmable logic controllers were designed and developed by Modicum as a relay replacement for GM and Landis. The number one purpose for designing this type of device was to get rid of the large fees of car manufacturers in the original United States who were concerned about replacing the manipulative structures of complex relay-based systems.

These controllers eliminate the need for each new configuration of the logic, including re-additions and additional hardware. The first PLC, Model 084, was invented in 1969 with the help of Dick Morley.

The first industrial success was added to PLC, 184, 1973, and was transformed into design with the help of Michelle Greenberg. Communication capabilities began to be demonstrated around 1973. This was the first such machine to be turned into Modicum's Mudbugs. The PLC should now talk to other PLCs and they may be a little away from the actual machine they are controlling.

4.5 What is inside a PLC?

PLC, being a fully microprocessor based device, has a similar internal structure to many embedded controllers and computer systems.

These include CPU, memory and I / O equipment. These components are essential to the PLC controller. Additionally, there is a connection for the PLC's programming and monitoring unit or for establishing the PLC's connection in another area.
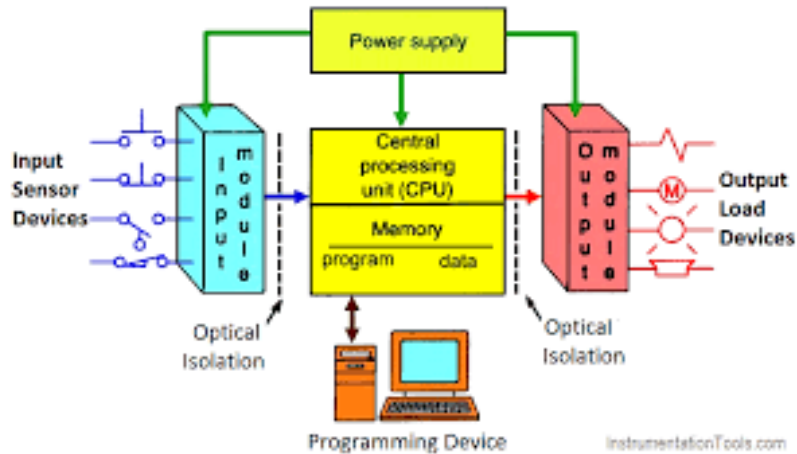
Fig: 4.16- Major Component of PLC

CPU is the idea of PLC device. These include microprocessors, integrated circuits in memory, and circuits needed to maintain and retrieve data from memory.plc or programming terminals. The function of the processor is to display the popularity of the screen or the country of the input gadget, to test and remedy the best judgment of a person's utility, and to drive the output devices in or outside the United States. RAM or random-access memory is an unstable memory that can lose its statistics if electricity is removed; so some processor devices are equipped with battery backup. Typically CMOS (complementary metal oxide semiconductor) type RAM is used. Rom is a memory less form. In this way it buys its figures even when no power is available. This size of memorable data can be most effective It is placed for internal use and operation of processor units EEPROME or electronically readable program read-only memory is usually an upload to the memorable module which is used to back up the initial software in the processor's CMOS RAM. In many cases, the processor can be programmed to load EEPROM'S software into RAM, if RAM is lost or damaged.
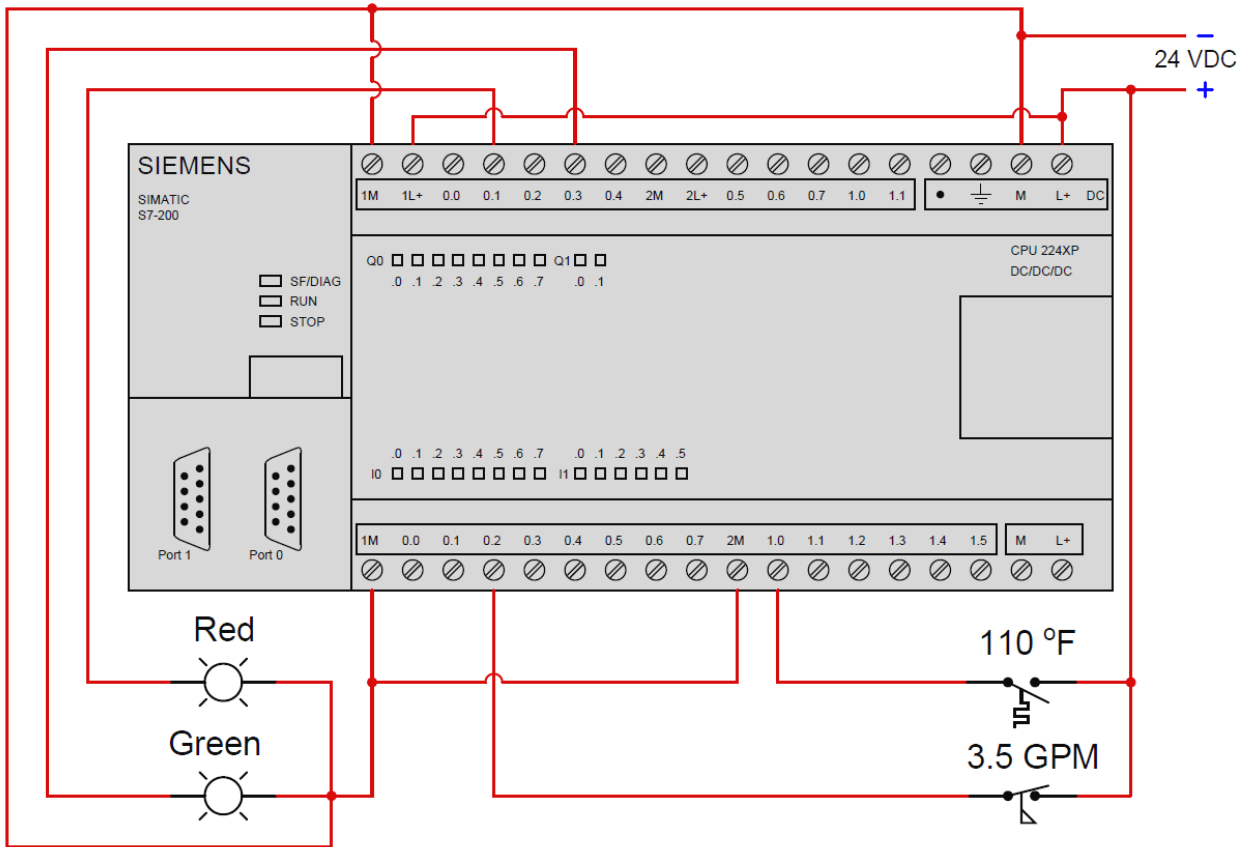
Fig: 4.17- Block Diagram of PLC

4.6 INPUT OUTPUT MODULE:

Input Module:

The input modules interface directly to the device which includes switches and temperature sensors. The input modules convert a style of 120VAC, 24VDC or four -20 mA integrated electrical indicators that the controller can recognize. Since all electrical systems have inherent noise, electrical isolation is provided between the input and the processor.

For this reason the most commonly used material is the opt coupler. Input signals from sector gadgets are usually 4 to 20 mA or 0-10 V
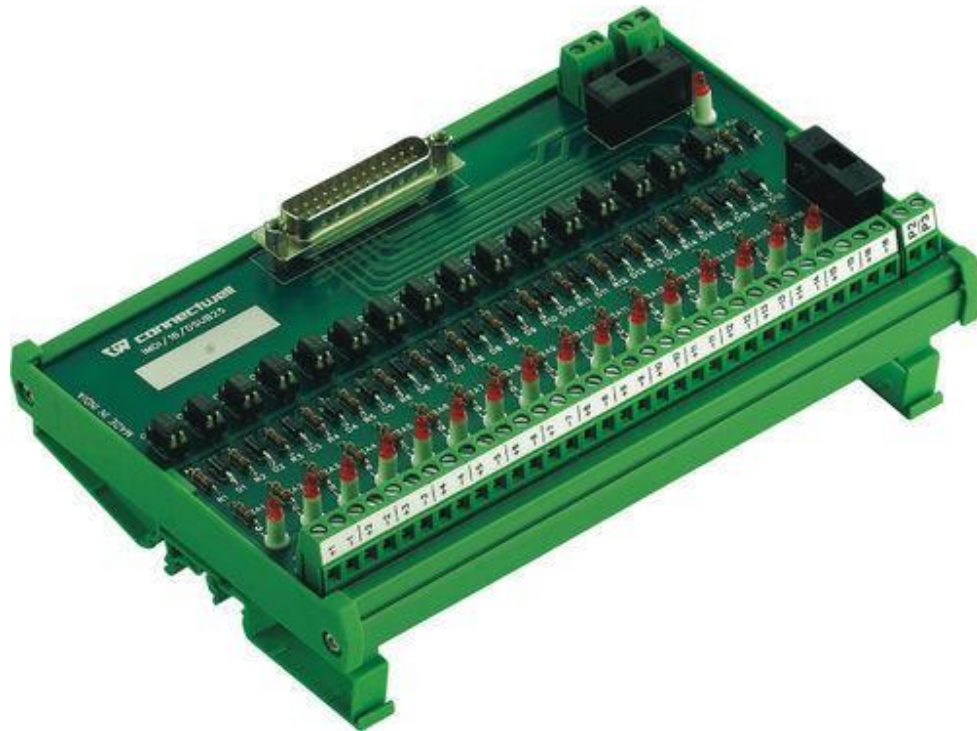

Fig: 4.18- Input Module

OUTPUT MODULE:

The output module interface Right now the output modules on gadgets such as motor starters and light fixtures take virtual indicators from PLC and convert it into electrical signs and symptoms, including 24VC and four mA that devices can understand. The D2A conversion completes their modules. Silicon controlled rectifiers (SCRs), trials, or dry touch relays are commonly used for this purpose. Normally the output signal is zero -10V or four -20mA.

Fig: 4.19- Output Module

4.7: Operation of PLC

PLC always scans the program and executes one command after another to turn on or off different outputs Open then it includes program scan and decides that the results should be higher according to the logic of the program. It then updates the values to the output desk, maximizing the desired result. The PLC tests its own running system on its factor and if the whole thing is good enough it goes back to the scanning inputs again.

PLC SCAN CYCLE

Whenever a program is run on a PLC, before changing any output status, the processor scans the input table and the entire software, pushing the states of the output device ward upwards in line with the general knowledge of this system. These values then make the tool up to date on the output desk.

4.8: Programming for Star\ Stop of Motor by PLC

Often, we have a little green "start" button to turn on a motor, and we want to turn it off with a big red "Stop" button.
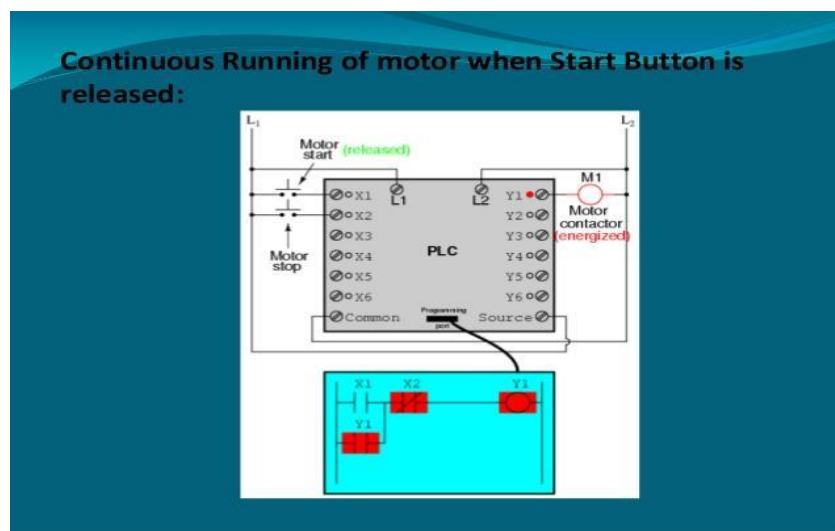
The pushbutton switch attached to the X1 entry acts as a "start" transfer, while the attached switch acts as a "stop" to enter the X2. Another touch in the application called Y1 uses the output coil reputation as a seal-in touch at once, so that the motor contact will continue to be driven after the "start" pushbutton transfer is released. If you see a color block appear on the normally-closed Touch X2 it shows that it is in a closed ("electrically performing") country.

Starting of Motor

If we keep pressing the "Start" button, X1 will encourage us to enter, so touch the "final" TX1 in the application, send "power" to the Y1 "coil," strengthen the Y1 output and apply AC power of 120 volts Will be the original motor communication coil. The parallel Y1 Touch can be even "closer", due to an excited "circuit" latching.

Stop of Motor

To stop the motor we need to press the "Stop" pushbutton for the moment, if you want to strengthen the X2 input and stop the continuity of the "off" communication, the "Y1" coil: when the "Stop" pushbutton is turned on, the input X2 is out The motor will return the "Touch" X2 to its "regular" "off" nation, however, will not restart until the "Start" push button is effective, because the "Seal in" Y1 is lost.

4.9 Programming Languages used to Program a PLC

While Ladder Logic is the most commonly used PLC programming language, but

It is not the only one. Following table lists some of the Languages that are used to

Program a PLC.

01. Ladder Diagram (LD).

02. Functional block Diagram (FBD)

03. Structured Text (ST)

04. Instruction List (IL)

05. Sequential Functional Chart (SFC)
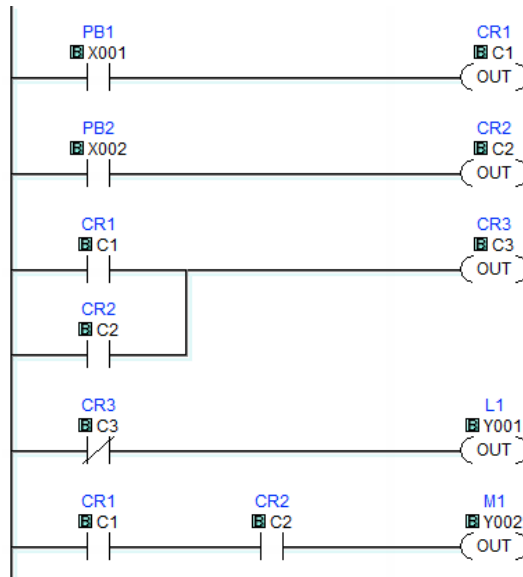
4.10 LADDER DIAGRAM

Fig: 4.20 –Ladder Diagram

It is a graphical programming language, primarily programmed by Simple Introduction that mimics relay opening and finishing. Ladder logic programming has been extended to include capabilities combined with counters, timers, shift registers and math activities. Ladder Good Judgment is a technique for drawing electronic good judgment schematics. It is now a very popular graphical language for programmable logic controllers (PLCs). Initially it was invented to describe the justice made from relays. The call is based on the statement that applications in this language bear a resemblance to stairs, with vertical "rails" and a sequence of horizontal "ranges" between them. Ladder is software of good judgment, also known as ladder diagram; it is much like a scheme for relay circuits. The ladder changed the argument with the help of early adoption of common sense that a wide range of engineers and technicians could be able to understand and use it without additional education because of its resemblance to familiar hardware systems.

Ladder general knowledge is widely used to program PLC, so that no system requires production order management or production operation. Ladder good judgment is simple but useful for re-working critical management structures, or

wine hardware relay circuits. It has also been used in very complex automation systems as programmable general knowledge controllers have become more sophisticated. Ladder logic may be the concept of a generally-primarily language rather than a systematic language. A "ran" in the ladder represents a rule. When applied to relays and various electromechanical devices, the various rules simultaneously and simultaneously "operate". When a programmable common sense controller is applied, the rules are usually acquired sequentially through a loop software program. Executes the fast enough loop, usually in conjunction with 2D at the same time and the effect of the venue is effective execution In this method it is a lot like different rules-based languages like spreadsheets or SQL. However, for the proper use of the programmable controller, it is necessary to know the limitations of the command to execute the range.

4.11 Lamp Glows when at Input Switch is Actuated
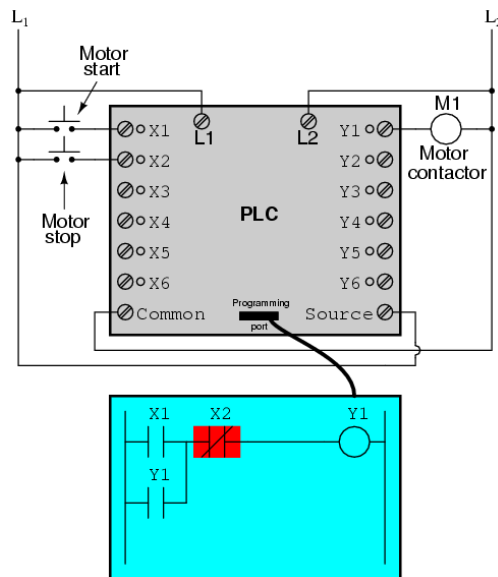
It should be understood that the X1 Touch, the Y1 coil, the connecting wires and the "power" law IN Personal laptop displays are all digital. They no longer exist as actual electronics Driven attachment. These are present as commands in the laptop

software - some software programs only application software - which takes up space to match the real relay schematic diagram. Equally essential to capture is the personal PC used to publish and edit the PLC software. Not always criticized for the persistent activities of the PLC. Once upon a time there was a software program Loading from private laptop to PLC, may be plugged in from private computer PLC, and PLC will monitor programmed instructions.

The most effective for you, including personal computer shows in the pictures of In Helps to understand the connection between actual-existence conditions (switch closure and Lamp recognition) and the reputation of this system (digital power and "power" through digital coils).The proper strength and flexibility of a PLC is determined when we want to adjust the behavior Of a rigging machine. Since PLC is a programmable device, we have been able to fix it At the same time, behave by transforming the instructions that provide us reconfigure the electrical components associated with it. For example, suppose we wanted to create Features of this switch and lamp circuit in this inverted fashion: Press the button to create Turn off the light, and turn it on to turn it on.

4.12 PROJECT: Door Simulator logic on PLC Using Ladder Logic

THEORY:

 PLC always works by scanning this device and following the instructions after the option, turns on or off different outputs. To try this PLC first scan all saves their states in input and memory. It then consists of checking out the software and An option comes up that the results should be exactly right in line with this system Judgment. Ladder Logic is a graphical programming language, first smoothly programmed Contacts that simulate hollow and relay final. Ladder logic has been programming Accelerates power adjustments including counters, timers, shift registers and math Operation. Ladder or abnormal experience is a technique for drawing abnormal feelings electrically driven Schematics. It is now a very popular graphical language for programmable logic Controller (PLC). It was invented to

explain, not in the beginning unusual experience made from relays. The name has been fully commented on applications in this language the vertical "rails" and the horizontal "ranges" are similar to the ladder discipline.
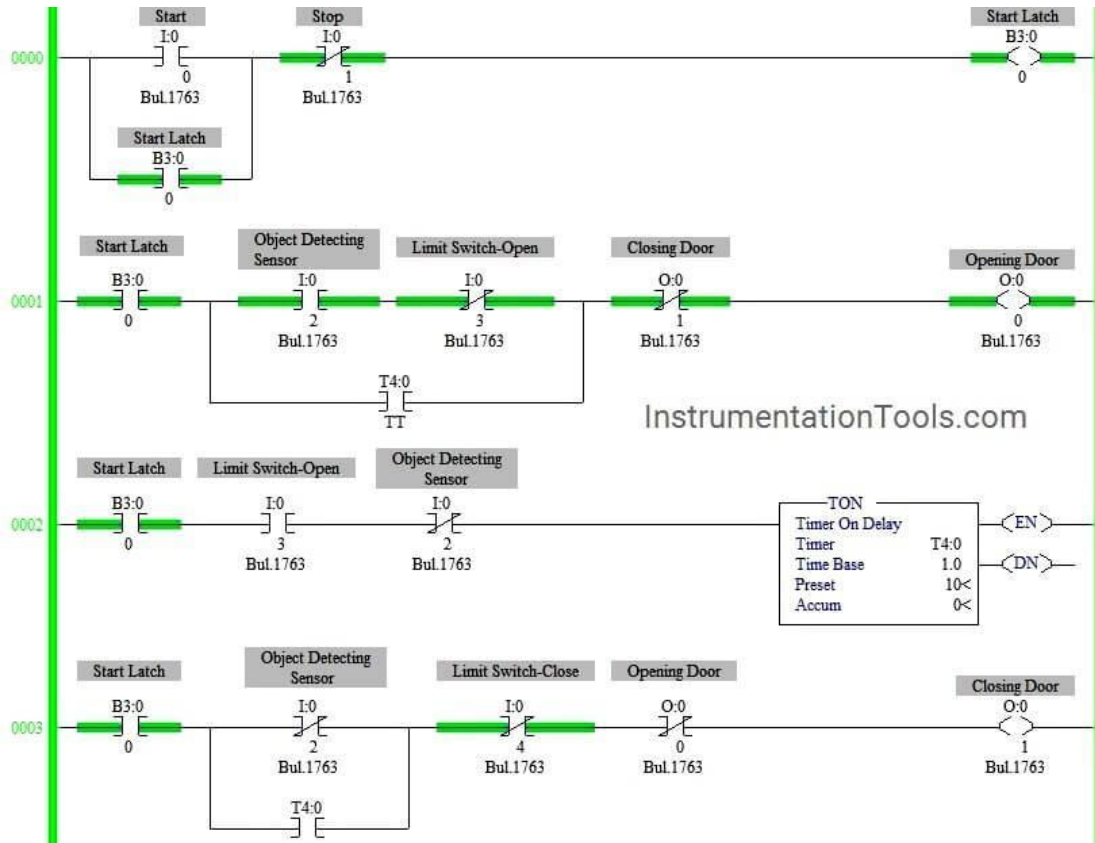
Result:

Ladder logic run successfully. The door simulator worked perfectly PLC Program.

CHAPTER-5

Conclusion

5.1 Conclusion:

The maintenance department of South East Textile (PVT) Limited has many modern industrial types of equipment and experienced graduate engineers. Plant properly with experienced engineers and staff, so that I can gain more experience for my professional life. Southeast is a very good organization as the best ranked world in Bangladesh, so it is a great opportunity for me to work with Southeast Textiles (PVT) Limited.

During my tenure at South East Textiles (PVT) Ltd. I have done practical work of machine control through the Project Implementation and Maintenance Division, several maintenance engineering departments. I am able to specialize in controlling automation during the day, which is very important in my professional life

During my career I have learned and observed operations and other development maintenance work that will help me build my career in any type of machine maintenance in the industry.

5.2 Recommendations:

South East Textile (PVT) Ltd. Manufacturing and production is fully well equipped. All of which have a low number of problems with the machinery is properly monitored, I found my work time.

The equipment and tests found some problems in different parts of the lab and made this problem and problem analysis fundamental. I have tried to make some recommendations.

Many types of sensors like relay controlling, PLC controlling, DOL, Star Delta Starter, Proximity Sensor, Magnetic Sensor, Level Sensor, Photo Sensor Wit Scale etc.

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