GMR INSTITUTE OF TECHNOLOGY

An Autonomous Institute Affiliated to JNTU-GV, VIJAYANAGARAM

GMR NAGAR, RAJAM - 532 127

SRIKAKULAM DIST., ANDHRA PRADESH, INDIA

SIMULATION OF OVERCURRENT RELAY

A Augmented Experiment submitted in partial fulfilment of the requirement of the course

Experiment Done Using MATLAB

Submitted by :-Batch1 on 07/03/23

- A.Gunasree 20341A0202
- A.Taruni 20341A0203
- A.Pratyusha 20341A0204
- A.Anil kumar 20341A0205
- A.Alekya 20341A0206
- B.Ashish 20341A0207
- B.Venkata Lakshmi 20341A0208

Under the esteemed guidance of

Dr. Rajesh Kumar Patnaik Associate Professor,

Dr. P. Praveen Kumar Asst.Professor

Department of Electrical and Electronics Engineering

GMR Institute of Technology

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An Autonomous institute affiliated to J.N.T. University,

Kakinada NAAC" A" Graded,

NBA Accredited,

ISO 9001:2008 Certified institution G.M.R. Nagar,

Rajam-532127, Srikakulam, A.P

Faculty In-Charge *Head of the Department*

CERTIFICATE

This is to certify that the mini project entitled is **"SIMULATION OF OVERCURRENT RELAY"** being submitted by :

- A.Gunasree 20341A0202
- A.Taruni 20341A0203
- A.Pratyusha 20341A0204
- A.Anil kumar 20341A0205
- A.Alekya 20341A0206
- B.Ashish 20341A0207
- B.Venkata Lakshmi 20341A0208

has been carried out as a bonafied work in practical fulfilment of the requirements for the completion of the course **"Experiment Done Using MATLAB"** in Semester- VI of our Third year B.Tech.

Signature of course instructor
Dr. Rajesh Kumar Patnaik
Associate. Professor,
Department of Electrical and Electronics Eng.

Signature of head of department
Dr . P. Ramana
Professor and Head of The Department,
Department of Electrical and Electronics Eng.

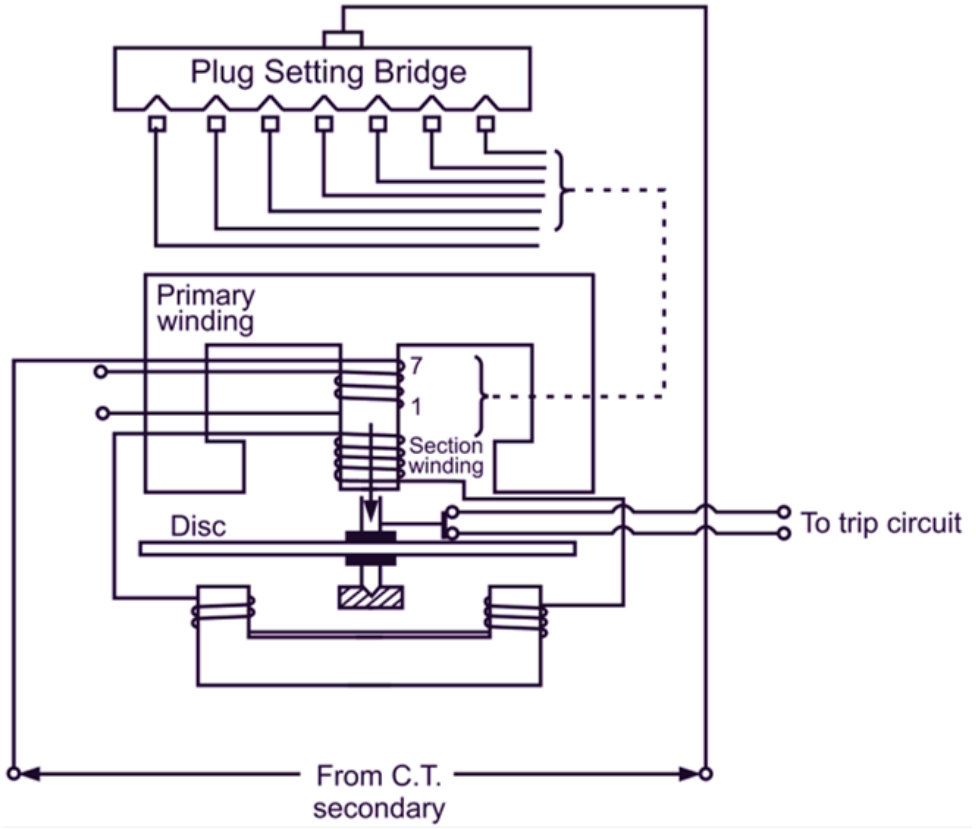
AUGMENTED EXPERIMENT

SIMULATION OF OVERCURRENT RELAY

AIM: Simulation of over current relay using matlab/Simulink

TOOLS REQUIRED: Matlab or Simulink software.

CIRCUIT DIAGRAM:



INTRODUCTION.

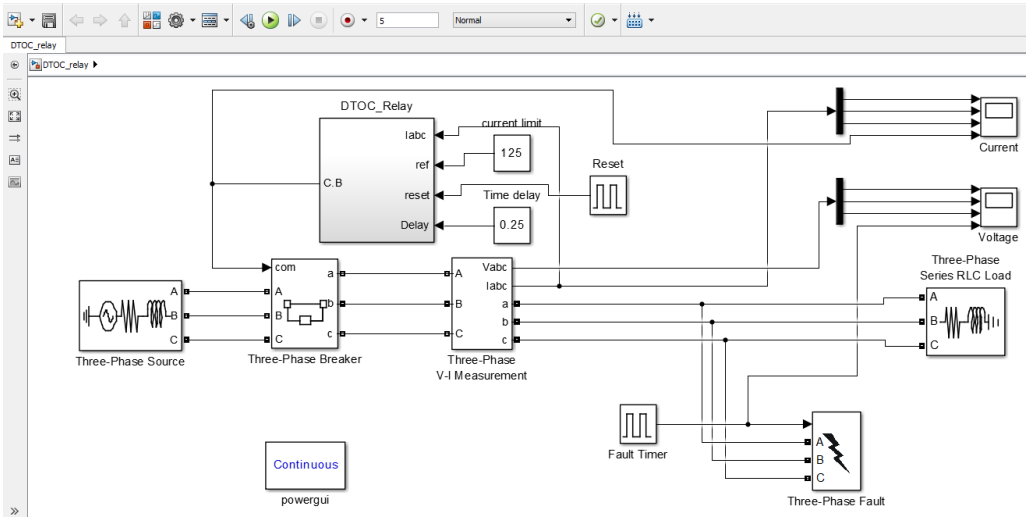
An overcurrent monitoring relay, as its name directly implies, is a device that monitor's the current flowing through a conductor or device, and reacts if the current exceeds a predetermined threshold. Overcurrent relays are used in many different applications and systems in order to help protect against electrical faults.

The electrical faults include short circuits and overloading. Overcurrent relays can provide protection against all of these faults by detecting when the current exceeds a safe level and then either automatically disconnect the circuit or sending a signal to another device that will take action to protect the circuit.

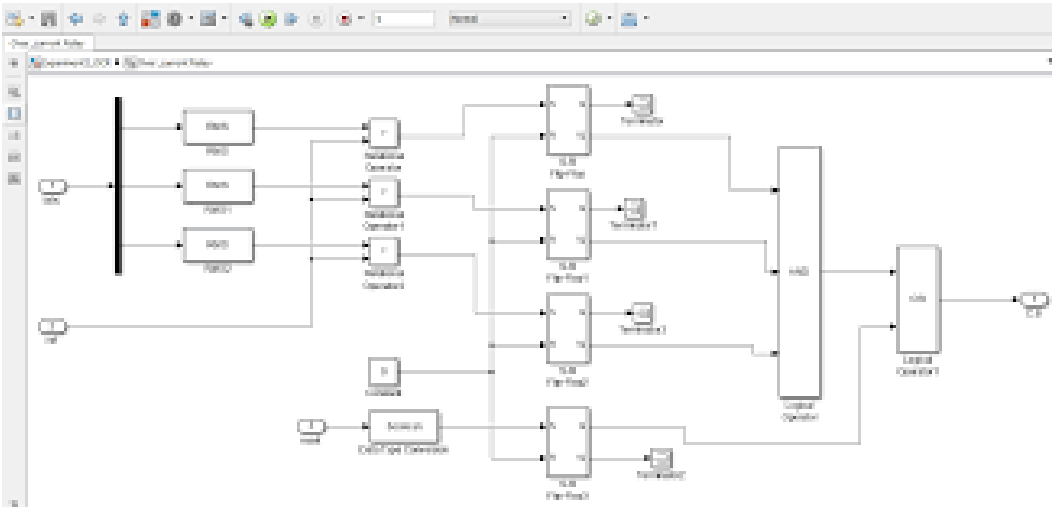
Ideally, this type of current relay consists of two main components: a sensing device and a control device. The sensing device is used to detect the current flowing through the circuit, while the control element determines the tripping current, usually based on user settings.

SIMULATION PROCEDURE:

1. Open Matlab software, create a new Simulink blank project
2. Open library browser and add the required components to the blank page
3. Now connect the components as per the circuit diagram and enter the specific values of the components



4. Also to convert the analogy or the signal form to the digital form using subsystem containing converters and relational operators



5. Connect the scopes to view the fault occurance in the relay due to over current
6. Check the output voltage and current scopes for different fault currents.
7. Log the signals to the data inspector and check the fault currents.

WAVE FORMS:

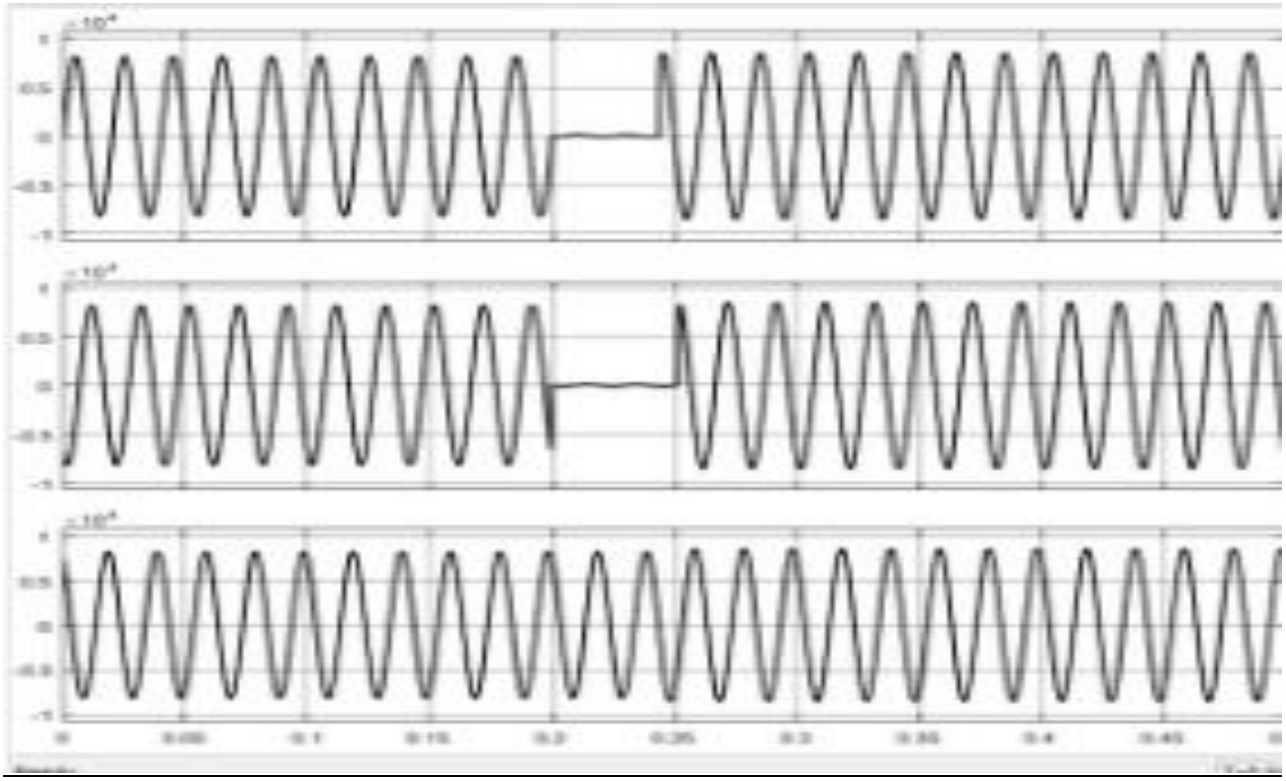


Fig: Three phase fault current in the overcurrent relay

RESULT:

Hence, the overcurrent relay operated when there is the fault in the relay circuit.