NAME: ROTIMI ESINEP ARAMIDE
MATRIC NO: 15/ENG04/053
COURSE CODE: EEE 556

Operation of digital relays

Digital relays are relays in which micro processors and microcontrollers are used in the replacement of analogue circuits used in static relays to implement relay functions. It measures digitally the current, voltage and other signals associated with the equipment under protection.

It does this using an Analogue to digital converter which converts all measured analogue quantities to digital and uses a microprocessor to implement the protection algorithm. The ~~uses~~ microprocessor uses any type of counting technique or the Discrete fourier transform (DFT) to implement the algorithm.

Components of the digital relay

The digital relay consist of:

1. Analogue input subsystem

2 Digital input subsystem
3 Digital output substem
4 A processor along with RAM
5 main ~~set~~ memory
6 Power supply.

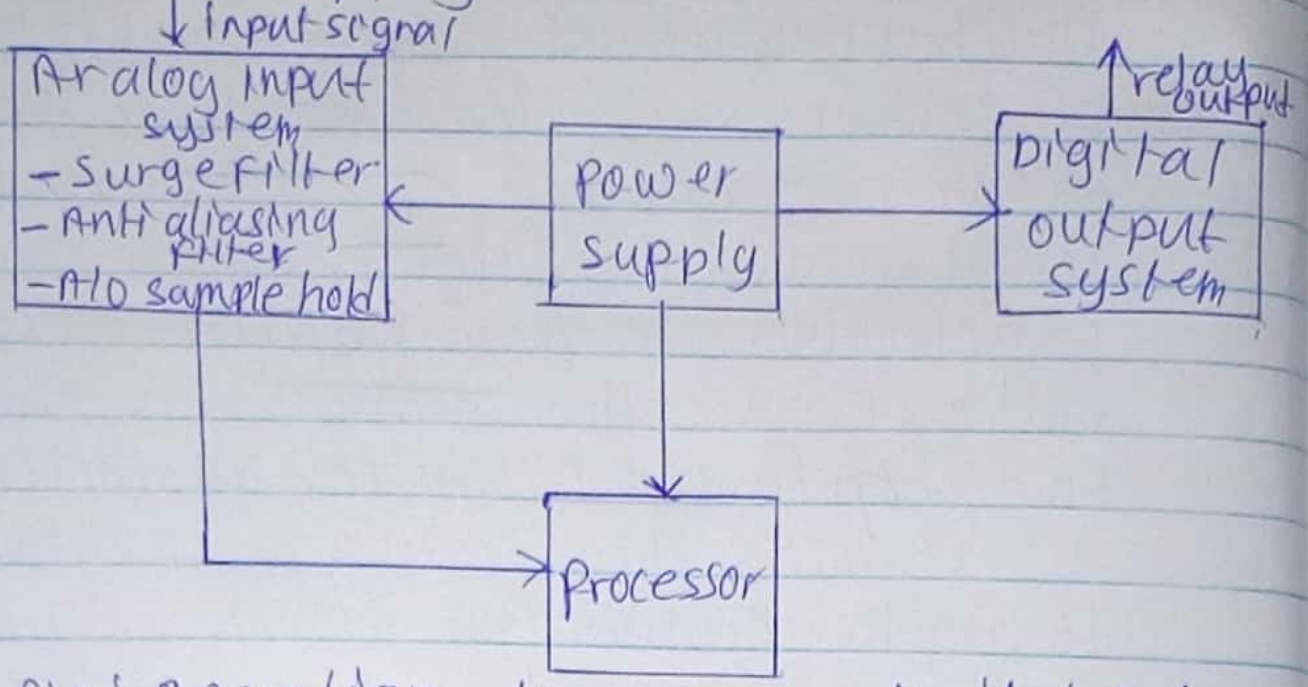

fig: operation diagram of digital relay

<u>Operation of the digital relay</u>

The following steps shows how the digital relay operates:

1 Conversion of analogue signal to digital
2 Processing of digital form.
3 Boolean decision to trip or not to trip.