

INTISARI

Generator sinkron memerlukan adanya sistem proteksi khususnya dalam proses energi listrik yang diperoleh dari proses induksi elektromagnetik yang terjadi pada kumparan stator dan rotornya. Pada kumparan stator diperlukan sistem proteksi berupa *relay*, salah satu *relay* proteksi pada kumparan stator ialah *Differential Relay* Tipe CBR2D-BT1. *Differential Relay* Tipe CBR2D-BT1 merupakan proteksi yang digunakan pada generator khususnya terhadap kerusakan internal kumparan stator. Apabila terjadi gangguan di dalam kumparan stator seperti hubung singkat, maka timbul selisih antara arus pada sisi primer dan arus pada sisi sekunder dan selisih arus inilah yang akan mengoperasikan *relay*.

Besar arus selisih (I_d) direpresentasikan oleh besar arus gangguan yang terjadi, arus gangguan menyebabkan arus diferensial (arus selisih I_d) antara I_1 dan I_2 . Berdasarkan pengujian arus selisih (I_d) *Differential Relay* Tipe CBR2D-BT1 yang dibandingkan dengan data *commissioning*, terdapat perubahan pada I_1 , I_2 , dan I_d , namun dalam perubahan tersebut masih dalam batas normal. Dalam perubahan tersebut maka dapat digambarkan ke dalam kurva karakteristik arus kerja *Differential Relay*.

Kata Kunci : *Differential Relay*, Pengujian, Kurva Karakteristik Arus Kerja.

ABSTRACT

Synchronous generators require any protection system, especially in the electrical energy obtained from the electromagnetic induction process that occurs in the stator and rotor coils. In the stator coil is required in the form of relay protection systems, one relay protection in the stator coil is Differential Relay Type CBR2D-BT1. Differential Relay Type CBR2D-BT1 is a protection used in the generator, especially against internal damage to the stator coil. In the event of disruption in the stator coils such as short circuit, then the resulting difference between the current on the primary side and secondary side and the current in the current difference is what will operate the relay.

Big difference current (I_d) are represented by large fault currents occur, the fault current causes differential currents (current difference I_d) between I_1 and I_2 . Based on the difference between current testing (I_d) Differential Relay Type CBR2D-BT1 mode compared to the commissioning of data, there is a change in I_1 , I_2 , and I_d , but the changes are still within normal limits. In such changes, it can be drawn into the work flow characteristic curve Differential Relay.

Keywords : *Differential Relay, Testing, Work Flow Characteristic Curve.*