

Analisis pengaruh sistem pemasangan pentanahan grounding terhadap kesalahan pengukuran KWH pada KWH meter Prabayar 1 (satu) fase = Analysis of the effect of grounding systems installation for error measurement in prepaid energy meter 1 (single) phase

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Abstrak

[ABSTRAK

KWh meter Prabayar 1 fase merupakan kWh meter elektronik dengan sistem pelanggan harus mendeposit kWh sebelum dapat menggunakan energi listrik. KWh meter Prabayar memiliki tingkat akurasi yang lebih baik dibanding kWh meter elektromekanik dan tersusun atas sensor arus, sensor tegangan, rangkaian pengkondisi sinyal dan mikrokontroler. Sistem penginderaan arus menggunakan sistem double sensing pada fase dan netral. Keluaran dari sensor arus akan dibandingkan dan diambil nilai tertinggi yang digunakan sebagai perhitungan energi listrik. KWh meter Prabayar mampu mengukur hingga harmonisa ke-15 dan dilengkapi anti tempering. Fitur yang dimiliki kWh meter Prabayar ini pada aplikasinya ditemukan permasalahan yaitu kWh meter tetap mengukur pada keadaan MCB off atau tanpa beban. Kejadian tersebut ditemukan pada pelanggan yang memasang sistem pentanahan (grounding) pada instalasi kWh meter dan instalasi bangunan. Dari permasalahan yang timbul tersebut maka perlu dilakukan penelitian pengaruh sistem pentanahan terhadap kesalahan pengukuran pada kWh meter Prabayar.

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ABSTRACT

One phase prepaid energy meter is an electronic energy meter with system customers must deposit kWh before customers can use electrical energy. Prepaid energy meter have an accuracy rate of better than electromechanical energy meters and is composed of the current sensor, voltage sensor, signal conditioning circuit and microcontroller. Current sensing system uses a system of double sensing the phase and neutral. The Output of the current sensor will be compared and taken the highest value is used as the energy calculations. Prepayment energy meter capable of measuring up to the 15th harmonic and equipped with anti tempering. Fitur owned prepayment energy meter is the application found that problems remain energy meter gauge on the condition MCB off or no load. The incident was found at customers who install the grounding system in energy meter installation and installation of the building. The problems arising from it is necessary to study the effect of the grounding system of the measurement errors on prepayment energy met, One phase prepaid energy meter is an electronic energy meter with system customers must deposit kWh before customers can use electrical energy. Prepaid energy meter have an accuracy rate of better than electromechanical energy meters and is composed of the current sensor, voltage sensor, signal conditioning circuit and microcontroller. Current sensing system uses a system of double sensing the phase and neutral. The Output of the current sensor will be compared and taken the highest value is used as the energy calculations. Prepayment energy meter capable of measuring up to the 15th harmonic and equipped with anti tempering. Fitur owned prepayment energy meter is the application found that problems remain energy meter gauge on the condition MCB off or no load. The incident was found at customers who install the grounding system in energy meter installation and installation of the building. The problems arising from it

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