

# RANCANG BANGUN SISTEM AUTOMATIC TRANSFER SWITCH (ATS) DAN AUTOMATIC MAINS FAILURE (AMF) PLN DAN GENSET BERBASIS MODUL DEEP SEA ELECTRONICS 4520 MKII

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## ABSTRAK

Pada tugas akhir ini dilakukan rancangan bangun sistem Automatic Transfer Switch (ATS) dan Automatic Mains Failure (AMF) PLN dan generator set berbasis modul Deep Sea Electronics 4520 MKII. Modul Deep Sea Electronics 4520 MKII adalah peralatan elektromekanikal yang dapat dikendalikan dan difungsikan untuk memindahkan posisi sumber tenaga listrik, dari jaringan utama (PLN) ke sumber tenaga listrik cadangan (genset) ketika pasokan listrik dari jaringan utama terputus. Sistem terdiri rangkaian daya, rangkaian kontrol modul DSE 4520, rangkaian interlock PLN dan genset, rangkaian kontrol non essential load, modul DSE 4520 MKII, pilot lamp, relay, kontaktor, selector switch, emergency stop dan Current Transformer (CT). Dari hasil pengujian diperoleh adanya selisih hasil pembacaan tegangan, frekuensi, arus dan cos phi antara modul DSE 4520 MKII dibandingkan dengan multimeter dan clamp meter. Selisih tegangan sebesar 0,88Vac, frekuensi 0,016Hz, arus 0,00A dan cos phi 0,06. Non essential load tidak aktif saat genset mensuplai beban, ATS dan AMF akan memutar tenaga dari bus sistem ke beban ketika tegangan berada pada keadaan normal yaitu 220 volt, dan memutar frekuensi dari bus sistem ke beban ketika frekuensi genset pada keadaan normal yaitu 50 Hz. Proses down time yang dibutuhkan genset untuk mensuplai beban setelah starting adalah 11 detik.

*Keywords* : ATS, AMF, DSE 4520 MKII, Genset, Down time.

## ABSTRACT

In this final project, the design of Automatic Transfer Switch (ATS) and Automatic Mains Failure (AMF) PLN and the generator set based on the Deep Sea Electronics 4520 MKII module. The Deep Sea Electronics 4520 MKII module is electromechanical equipment that can be controlled and enabled to move the position of power source, from the main network (PLN) to the backup power source (generator) when the power supply from the main network is lost. System consists of power circuit, DSE 4520 module control circuit, PLN interlock circuit and generator set, non essential load control circuit, DSE 4520 MKII module, pilot lamp, relay, contactor, selector switch, emergency stop and Current Transformer (CT). From the test results obtained the difference in the results of voltage readings, frequency, current and cos phi between DSE module 4520 MKII compared with multimeter and clamp meter. Difference of voltage equal to 0.88Vac, frequency 0.016Hz, current 0.00A and cos phi 0.06. Non essential load is inactive when the generator supplies the load, ATS and AMF will supply the voltage from the system bus to the load when the voltage is in the normal state of 220 volts, and feed the frequency from the system bus to the load when the frequency of the generator in the normal state is 50 Hz. Down time process required genset to supply the load after the starting is 11 seconds.

*Keywords*: ATS, AMF, DSE 4520 MKII, Genset, Down time.

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web surveillance of the chiller if a safety function is activated an output via a dry contact is provided inputs are available to partially or completely stop the operation of the chiller an analog input 4 20 ma or 0 10 v allows for the adjustment of the chilled water temperature setpoint remote control via serial link it is possible to

*chillers trane* - Feb 28 2022

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web chillers model cgwr and ccar 20 to 75 tons 60 hz water cooled and compressor chillers installation operation and maintenance april 2020 cg svx038d en trane believes that responsible refrigerant practices are important to the environment our customers and the air conditioning industry

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**products chillers trane hong kong** - Sep 06 2022

web the extensive trane chiller product line was developed based on decades of knowledge and industry leadership and includes centrifugal helical rotary and scroll compressor chillers ranging in capacities from 20 to 4 000 tons trane chillers are relied upon for both comfort and process applications in every corner of the world trane products

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web sintesis chillers are among our most environmentally conscious and sustainable air cooled units they are the first air cooled chillers from trane to offer customers the choice of either r 134a or r 513a a next generation low global warming potential gwp refrigerant this gives customers the option to choose when to transition to a

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web trane s air cooled chiller lineup gives you the flexibility to choose from a wide range of capacities and features from outstanding efficiency to amazing acoustics to occupant comfort and well being you can have it all in varying degrees get the results you need

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web the cgam chiller use trane proprietary strategies to respond to normal extreme or adverse conditions the sophisticated algorithms intelligently maximize uptime while protecting equipment from damage the chiller manages time of day scheduling for small office buildings or schools without a building automation system

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or related to the use and or interpretation of this publication it is strongly recommended to sign a maintenance contract with an authorized service center to ensure an efficient and trouble free