

# Case Study of Inverter Air Conditioning Logic during Undercharge Refrigerant.

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**Abstract:** Preventive maintenance or regularly known as routine or schedule maintenance of equipment and assets to keep them running and prevent any costly unplanned downtime from unexpected equipment failure. In preventive maintenance of residential air conditioning, the evaporator, condenser, air filter cleanness, running current and refrigerant charge must be check and recorded to ensure the design cooling capacity can be delivered. Failure to conduct the preventive maintenance will lead to component clogging, high energy consumption and component malfunction.

The main objective of this case study is to study the effect of the air conditioner system while running in undercharge state. In achieving the objectives, some methods that need to be done. First, to find suitable capacity of air conditioning by using rule of thumb method. Next, the installation of wall mounted inverter air conditioning to be done and observation of three parameter which is compressor discharge temperature, expansion valve opening and compressor frequency of inverter system that affected if the unit running in undercharge refrigerant capacity. As conclusion, new sets of data and information on Inverter split unit air conditioning can be used for teaching and learning reference and can assist the troubleshooting work at site as well.

**Keywords:** Undercharge refrigerant; Inverter Air conditioning; Maintenance