

AUTOMATIC ACTIVE PHASE SELECTOR FOR UNINTERRUPTED LOAD RUN IN RURAL AREAS

Phase absence is a very common and severe problem in any industry, home or office. Many times one or two phases may not be live in three phase supply. Because of this, many times, some electrical appliances will be on in one room and OFF in another room. This creates a big disturbance to our routine work.

This project is designed to check the availability of any live phase, and the load will be connected to the particular live phase only. Even a single phase is available, and then also, the load will be in ON condition.

The mains power supply phase is stepped down by transformer to deliver 12V, 500 mA, which is rectified by diode and filtered by capacitor to produce the operating voltage for the operational amplifier. The voltage at inverting pin of operational amplifier is taken from the voltage divider circuit. A preset is used to set the reference voltage according to the requirement. The reference voltage at non-inverting pin is fixed to 5.1V through zener diode.

This project is more useful for rural areas, where the phase absence is more. In this case, the load selects the active phase automatically.

