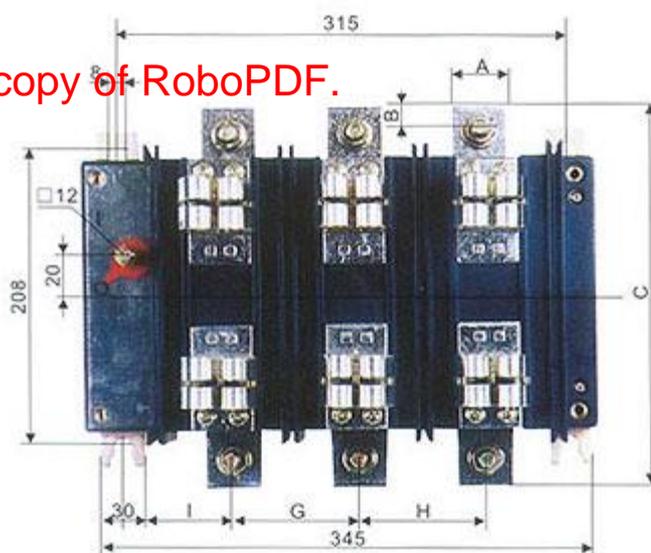


# SAFE ISOLATION

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Many fatal accidents occur during the proving of isolation. **Electricians** must be on guard, as you may have no idea what type of supply you will be working on.

Before beginning work on any electrical circuit you should make sure that it is completely isolated from the supply by following recognised procedures as follows:

- Identify sources of supply
- Isolate
- Secure isolation
- Test that the equipment/system is dead
- Begin work

## Identify sources of supply

It is important that you know the source of the supply and what type it is. For example **Band 1** supply covers Extra-low voltage (ELV) which does not exceed 50 volts which is not normally enough to kill you. Band 1 also covers telecommunications, signalling, alarm and control circuits.

**Band 2** supplies contain Low voltage (LV) but not exceeding 1000 volts a.c but exceed ELV. Band 2 is the supply used for domestic installations. Band 2

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will contain single and three phase supplies. The actual voltage may differ from the nominal value by + 10% and – 6%.

## Isolate

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Now that you have identified the type of supply regulations require that a means of isolation must be provided to enable electrically skilled personnel to carry out work *on or near parts* which would normally be energised.

An isolator is a device for such purposes and would normally be installed within easy access of the plant or equipment to be worked on.

If it is installed in a remote position then it must be capable of being secured in the open position using a lock and key that is unique to that isolator.

**N.B.** simply switching something off is not the same as isolating. Switching may well break the normal load current whereas isolating will cut the already dead circuit so that re-closing the switch will not make it live again.

## Secure isolation

To prevent any unauthorised or unexpected reclosing of the contacts the isolator must be provided with the means of *locking in the off position* with a padlock. The key would be kept by the person doing the work. (See Reg 537-02-07)

## Test the equipment and system is dead

All circuits to be worked on must be tested to ensure they are dead. The voltage indicator or test lamp must first be tested on a known supply or proving unit before use.

Then test between phase and neutral, phase and earth then neutral and earth. Three phase supplies will be tested between all phases, between phases and earth and between phases and neutral and neutral and earth, providing a neutral is included in the circuit.

After testing retest the indicator to prove it is not faulty and also erect warning notices clearly stating “**Danger Electrician at Work**”.

**N.B.** All live conductors must be isolated before work can be done. As the neutral conductor is classified as a live conductor this also has to be disconnected.

## Begin work

Some companies make use of ‘Permit to Work’ systems for all isolation procedures. In this they will also make use of warning notices and ensure your name, date and time you started work is included on the permit.

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