

Switchboard

Switchboard is a fixed electrical installation for connection and disconnection of power from supply side to electrical load side. It also provides overcurrent and earth fault protections for the cables and electrical equipment.

Switchboard has a series of components such as copper busbars, switchgears, protection and monitoring devices, indication lamps and meters, etc. mounted in a metal sheet enclosure. Large current rating switchboard is usually floor mounted and small current rating switchboard is usually wall mounted. The voltage level of a low voltage (LV) switchboard will not exceed 1000 V.

For a high-rise building, there are numbers of LV switchboard installed and located in the strategic places such as the main switchboard in switch room adjacent to the transformer room, the switchboard in water pump room, etc. The location of switchboard is preferably sited at its load centres.

Switchboard is usually grey in colour but the switchboard for essential electrical loads with power supply backed up by emergency generator such as fire services equipment is usually painted in red for easy identification.

Most of switchboards of a building are for 3-phase power supply and some may be for 1-phase power supply if the electrical load is small. In compliance with the Hong Kong “Code of Practice for Energy Efficiency of Electrical Installations”, the switchboard should be incorporated with appropriate metering and recording devices for energy monitoring and audit purposes.

Switchboard is accessed, operated and maintained by the authorized personnel e.g. Registered Electrical Worker (REW) of appropriate grade. As switchboard is one of the fixed electrical installations, it should be inspected, tested and certified periodically by Registered Electrical Contractor (REC) for complying with the statutory requirements of Hong Kong as appropriate, e.g. at least once every five years for installations with an approved loading exceeding 100 A in residential buildings.

[The Electrical Blog is contributed by the Electrical Division. If you would like to know more about this topic, please contact the Division Hon Secretary, Ir Geoffery L Chan at \[glchan@hec.com.hk\]\(mailto:glchan@hec.com.hk\)](#)