CLAIMS

1. A pre-assembled switchboard for connection to a plurality of sub-circuit cables, each sub-circuit cable comprising a plurality of insulated conductors, the switchboard comprising:

   a housing having a plurality of bus bars and a cable entrance for a plurality of sub-circuit cables;

   ~~a~~ one or more sub-circuit termination blocks having a plurality of conductor coupling elements configured for connection to the conductors of a plurality of sub-circuit cables;

   a plurality of circuit protection devices connected between the bus bars and the one or more sub-circuit termination blocks;

   the conductor coupling elements being grouped by sub-circuit wherein the conductors for each sub-circuit cable can be terminated adjacent to each other.

2. A pre-assembled switchboard as claimed in claim 1 wherein at least one circuit protection device is remotely configurable.

3. A pre-assembled switchboard as claimed in claim 1 or claim 2 wherein the circuit protection devices each comprise a module which is selectively removable.

4. A pre-assembled switchboard as claimed in any one of the preceding claims wherein the one or more sub- circuit termination blocks comprises a plurality of sub-circuit termination blocks.

5. A preassembled switchboard as claimed in claim 4 wherein each circuit protection device comprises a corresponding sub-circuit termination block.

6. A preassembled switchboard as claimed in claim 4 or claim 5 wherein the sub-circuit termination block for each circuit protection device provides a group of conductor coupling elements for terminating the conductors of the sub-circuit cable.

7. A pre-assembled switchboard as claimed in any one of the preceding claims ~~1 or claim 2~~ wherein the conductor coupling elements are arranged in one or more rows.

8. ~~The~~ A pre-assembled switchboard ~~of~~ as claimed in any one of the preceding claims wherein ~~the~~ a row of conductor coupling elements is provided at a side of the housing.

9. A pre-assembled switchboard as claimed in claim 8 wherein a row of conductor coupling elements is provided at each side of the housing.

~~8.~~

~~9.~~10. ~~The~~ A pre-assembled switchboard ~~of~~ as claimed in any one of the preceding claims wherein ~~the~~ a row of conductor coupling elements is provided at a centre of the housing.

11. ~~The~~A pre-assembled switchboard ~~of~~ as claimed in claim 10 wherein two rows of conductor coupling elements are provided centrally of the housing.

~~10.~~12. ~~The~~ A pre-assembled switchboard ~~of~~ as claimed in any one of the preceding claims wherein the housing comprises two cable entrances, the one or more sub-circuit termination blocks comprise two rows of conductor coupling elements, and the switchboard further comprises two cable channels ~~are provided~~.

~~11. The switchboard of claim 10 wherein a row of coupling elements is provided at each side of the housing.~~

~~12.~~1. ~~The switchboard of claim 10 wherein two rows of coupling elements are provided centrally of the housing.~~

13. ~~The~~ A pre-assembled switchboard ~~of~~ as claimed in ~~any~~ claim 12 ~~one of the preceding claims~~ wherein each circuit protection device ~~module~~ comprises a wall, and the wall comprises part of ~~the or each~~ a corresponding cable channel.

14. ~~The~~ A pre-assembled switchboard ~~of~~ as claimed in claim 12 or claim 13 ~~any one of the preceding claims~~ wherein ~~the~~ each circuit protection device ~~modules are~~ is oriented substantially transversely relative to ~~the or each~~ a corresponding cable channel.

15. ~~The~~ A pre-assembled switchboard ~~of~~ as claimed in any one claim 12 to claim 14 ~~of the preceding claims~~ wherein each sub-circuit protection device ~~or module~~ comprises a button or switch operable by a user, and wherein ~~the~~ a corresponding cable channel is provided between the button or switch and the ~~or each~~ corresponding row of ~~sub-circuit~~ conductor coupling elements.

16. ~~The~~ A pre-assembled switchboard ~~of~~ as claimed in any one of the preceding claims wherein the ~~sub-circuit~~ conductor coupling elements for each sub–circuit cable comprise a phase coupling element and a neutral coupling element.

17. ~~The~~ A pre-assembled switchboard as claimed in ~~of~~ any one of the preceding claims ~~were~~ wherein the ~~sub-circuit~~ conductor coupling elements for each sub–circuit cable comprise a phase coupling element~~s~~, a neutral coupling element, and an earth coupling element.

18. A pre-assembled switchboard or residential power distribution and management system comprising:

a mains isolation means electrically connected to an external grid power supply;

one or more sub-circuit protection modules electrically connected to the mains isolation module through a pre-assembled electrical connection; and

one or more sub-circuit terminations each electrically connected to a corresponding sub-circuit protection module through a pre-configured or pre-wired electrical connection, and each configured to electrically connect the system to an external sub-circuit.

19. A circuit protection device comprising:

a first termination for connection to a busbar and a second termination for connection to a sub-circuit;

a disconnect means configured to electrically isolate the first termination from the second termination upon receipt of a disconnect signal;

an outer wall defining part of a cable receiving channel;

wherein the first and second terminations are provided on either side of the cable receiving channel.

20. A circuit breaker as claimed in claim 19 further comprising a user operated button or switch operable to actuate the disconnect means and wherein the cable receiving channel is provided between the second termination and the button or switch.

21. A circuit breaker as claimed in claim 19 wherein the cable receiving channel comprises a cable tray.

22. A circuit protection device comprising:

a first termination for connection to a bus bar;

a second termination for connection to a sub-circuit;

a current sensor;

a first controllable relay comprising a solid-state switch;

a second controllable relay comprising physically separable contacts, the first and second relays being connected in series;

a controller configured to receive signals from the sensor and to selectively operate one or both the first and second relays to electrically isolate the first termination from the second termination;

a housing wherein the first controllable relay is provided at one end of the housing and the second controllable relay is provided at the other end of the housing.

23. A circuit protection device as claimed in claim 22 wherein the cable receiving channel is provided in the housing and the cable receiving channel is provided between the first termination and second termination.

~~23.~~

~~to~~24. ~~a~~A switchboard comprising:

a housing having a plurality of bus bars and a cable entrance for sub-circuit cables;

a plurality of circuit protection modules connected to the bus bars, each module including or being connected to a sub-circuit termination configured for connection to a sub-circuit cable;

the sub-circuit terminations being provided in a row;

a cable channel extending from the cable entrance and substantially parallel to the row of sub-circuit terminations.