been already developed. This technology has a problem that an existing terminal box or circuit breaker has to be replaced with this apparatus, resulting in burdensome costs and effort.

Disclosure

Technical Problem

~~Accordingly,~~Embodiments of the present invention ~~has~~have been made keeping in mind the above problems occurring in the prior art~~,~~. ~~and an object~~Embodiments of the present invention ~~is to~~ provide a module type safety bus bar having the following advantages: (a) it provides an insulating handle to facilitate safe and convenient connection work when connecting a terminal box and a circuit breaker to each other; (b) it eliminates safety issues, which may arise in connection with conventional bus bars after the connection work is completed, by covering a portion of the bus bar which appears on the outside after the connection work is completed; and (c) it acquires information on use of each phase of power which is connected, for later use.

~~Another object~~Embodiments of the invention ~~is to~~ provide a module type safety bus bar that can provide useful information for improvement of power quality by finding either a power line which causes excessive reactive power or a phase of power which is excessively consumed and by connecting loads in a manner so as to increase consumption of real power or to

decrease the phase of reactive power.

Technical Solution

~~In order to accomplish the above objects, according~~According to one aspect, there is provided a module type safety bus bar including: a vertical coupling portion which is a vertically-extending rectangular parallelepiped insulating block, has an upper end provided with a first combining means, and has a middle portion into which a bus bar penetrates to be combined with the vertical coupling portion in the form of a cross, the bus bar connecting a terminal for one phase of power of a distributor and a terminal for one phase of power of a circuit breaker; and a horizontal coupling portion which is a horizontally-extending rectangular parallelepiped insulating block and has a second combining means, which is to be combined with the first combining means of the vertical coupling portion, in a middle portion of a lower end thereof, wherein the distributor and the circuit breaker are safely connected to each other by allowing an operator to hold the vertical coupling portion, and a metallic connection portion of the bus bar is covered by the horizontal coupling portion so as to be safe after the bus bar is connected.

A sensor module portion which senses electrical information flowing to the bus bar is mounted inside the vertical coupling portion; a connector which transmits a

Advantageous Effects

The module type safety bus bar according to embodiments of the present invention has advantages of: providing an insulating handle to facilitate safe and convenient connection work when connecting a terminal box and a circuit breaker to each other using a bus bar; eliminating safety issues, which may arise in connection with conventional bus bars after connection work is completed, by covering a portion of the bus bar which appears on the outside after the connection work is completed; and acquiring information on use of each phase of power which is connected for later use.

Additionally, the module type safety bus bar according to embodiments of the present invention has an advantage of providing useful information for improvement of power quality by finding either a power line which causes excessive reactive power or a phase of power which is excessively consumed, and by connecting loads in such a manner so as to increase consumption of real power or decrease the phase of reactive power.

Description of Drawings

FIG. 1 is a perspective view illustrating a master bus bar which is not covered by a cover, according to the present invention;

FIG. 2 is a perspective view illustrating a slave bus bar