Patent claims

1. A device for connecting and breaking DC power comprising an input DC power (DC-In) arranged to be connected to a circuit board (1) and to the collector port (C) of an insulated gate bipolar transistor (IGBT), the insulated gate bipolar transistor (IGBT) is arranged to be connected to the circuit board (1), an output DC power (DC-Out) is arranged to be connected to the emitter port (E) of the insulated gate bipolar transistor (IGBT) and the circuit board (1), the circuit board (1) is arranged to be connected to the gate port (G) of the insulated gate bipolar transistor (IGBT), the circuit board (1) is designed to monitor predetermined conditions of the input and output DC power (DC-In, DC-Out).

2. A device according to claim 1, wherein signal transfer means (3) are connected to the circuit board (1) and arranged to transmit control commands to the device.

3. A device according to claim 2, wherein the signal transfer means (3) are optical fibres.

4. A device according to claim 2, wherein the signal transfer means (3) are opto couplers.

5. A device according to claim 2, wherein the signal transfer means (3) have galvanic isolation.

6. A device according to claim 1, wherein means for measuring temperature (2) is connected to the circuit board (1) for measuring heat sink temperature.

7. A device according to one of the claims 2, 3, 4 or 5, wherein said control commands are either on or off.

8. A device according to claim 1, wherein the device is arranged to handle high power, such as 1,5 Mega Watts.

9. A device according to claim 1, wherein the device is arranged to be used in large application, such as drilling rigs, motor drives on ships or industrial plants.

10. A device according to claim 1, wherein the device is arranged to control one DC-capacitor battery towards the DC-distribution.

11. Use of a device according to claim 1, wherein the device is arranged to isolate a failure in a converter on a common DC-distribution before neighbour converters are disturbed.

12. Use of a device according to claim 1, wherein the device is arranged to send measurements to the signal transfer means (3).

13. Use of a device according to claim 12, wherein the measurements are incoming DC-voltage, DC-In, outgoing DC-voltage, DC-Out, current, $I_{E\text{-}DCB}$ and heat sink temperature.

Patent claims

1. A three wire device for connecting and breaking DC power comprising: an input DC power (DC-In) arranged to be connected to a circuit board and to a collector port (C) of an insulated gate bipolar transistor (IGBT); wherein the insulated gate bipolar transistor (IGBT) is arranged to be connected to the circuit board; an output DC power (DC-Out) is arranged to be connected to an emitter port (E) of the insulated gate bipolar transistor (IGBT) and the circuit board; wherein the circuit board is arranged to be connected to a gate port (G) of the insulated gate bipolar transistor (IGBT); wherein the circuit board is designed to monitor predetermined conditions of the input and output DC power (DC-In, DC-Out); an internal DC-DC converter provided by the circuit board, wherein the internal DC-DC converter coverts high DC voltage to internal voltages; wherein the three wire device reconnects a load in accordance with an on signal received by the circuit board; and a DC minus line coupled to the circuit board.

2. The device according to claim 1, wherein signal transfer means are connected to the circuit board and arranged to transmit control commands to the device.

3. The device according to claim 2, wherein the signal transfer means are optical fibres.

4. The device according to claim 2, wherein the signal transfer means are opto couplers.

5. The device according to claim 2, wherein the signal transfer means have galvanic isolation.

6. The device according to claim 1, wherein means for measuring temperature is connected to the circuit board for measuring heat sink temperature.

7. The device according to claim 2, wherein said control commands are either on or off.

8. The device according to claim 1, wherein the device is arranged to handle high power.

9. The device according to claim 1, wherein the device is arranged to be used in large application.

10. The device according to claim 1, wherein the device is arranged to control one DC-capacitor battery towards a DC-distribution.

11. The three wire device according to claim 1 comprising: wherein the device is arranged to isolate a failure in a converter on a common DC-distribution before neighbour converters are disturbed.

12. The three wire device according to claim 1 comprising: wherein the device is arranged to send measurements to a signal transfer means.

13. The device according to claim 12, wherein the measurements are incoming DC-voltage, DC-In, outgoing DC-voltage, DC-Out, current, $I_{E\text{-}DCB}$ and heat sink temperature.

14. The device according to claim 8, wherein the high power is 1.5 MW.

15. The device according to claim 9, wherein the large application comprises at least one of drilling rigs, motor drives on ships, and industrial plants.