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1. ESD Warning



Please note!

The life span of electronics can be affected by damage caused by electrostatic discharge. This can happen if a charged tool or person touches a component. Therefore it is very important that all tools and personnel are discharged by touching an earthed point before the printed circuit board or any of the components are touched. It is equally important to discharge the package with the new component before opening it.

A person walking on a carpet can be charged with up to fifteen thousand volt (15000V). Compare this with the fact that some sensitive components can be destroyed when discharged on a much lower level (about 100V). We kindly ask you to pay notice to this, as this is a vital point in order to ensure the life span of the product.

2. Tools

Hexagon key 10mm

Hexagon key 13mm for PSTB370, 600V and 690V

Hexagon key 16mm for PSTB470...840, 600V and PSTB470...720, 690V

Hexagon key 18mm for PSTB1050, 600V and PSTB840...1050, 690V

Torx T20

Kit for changing thyristors

1SFA 899012R1002

Ethanol

3. Step by step

1. Before disconnecting the cables mark them.

2. Disconnect the cables from terminals 1L1, 3L2 and 5L3 (main voltage) and 2T1, 4T2 and 6T3 if necessarily (motor connection).

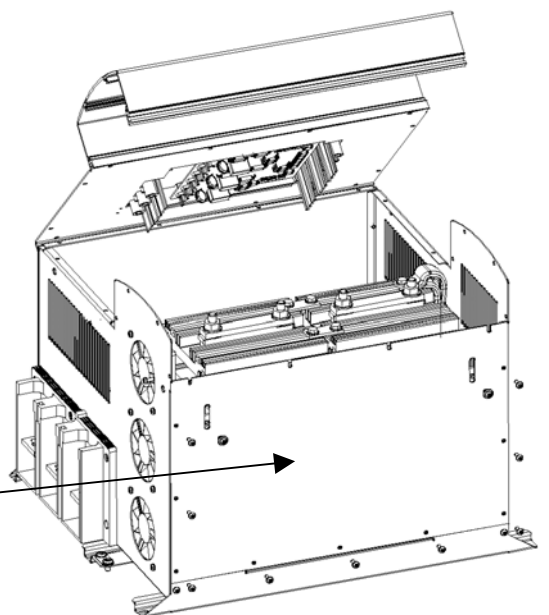
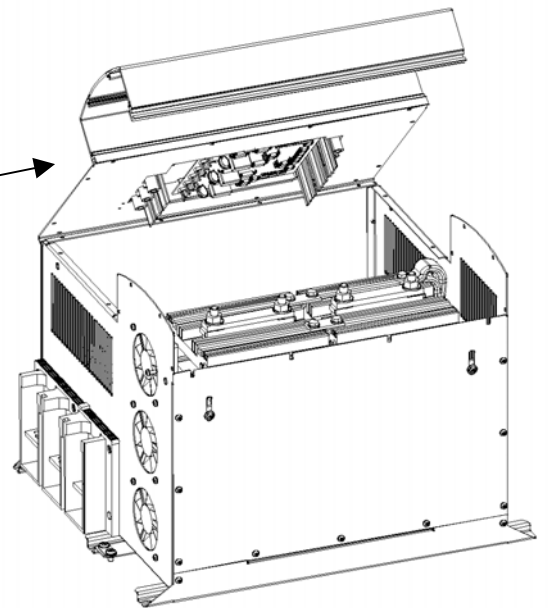
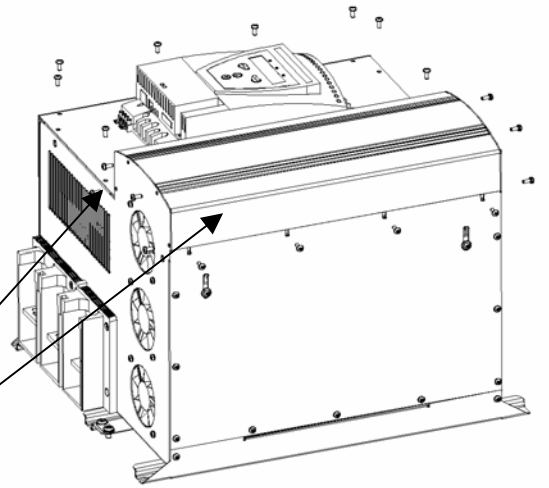
3. Disconnect all cables from the terminals 1 to 20, external keypad, PTC sensor and the Fieldbus plug.

4. Remove the top cover (twenty screws).

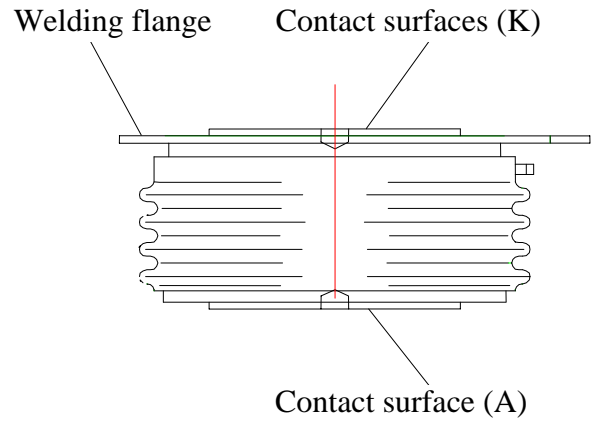
5. Turn the top cover to the left and fix it.

6. Remove the eleven screws on the right gable

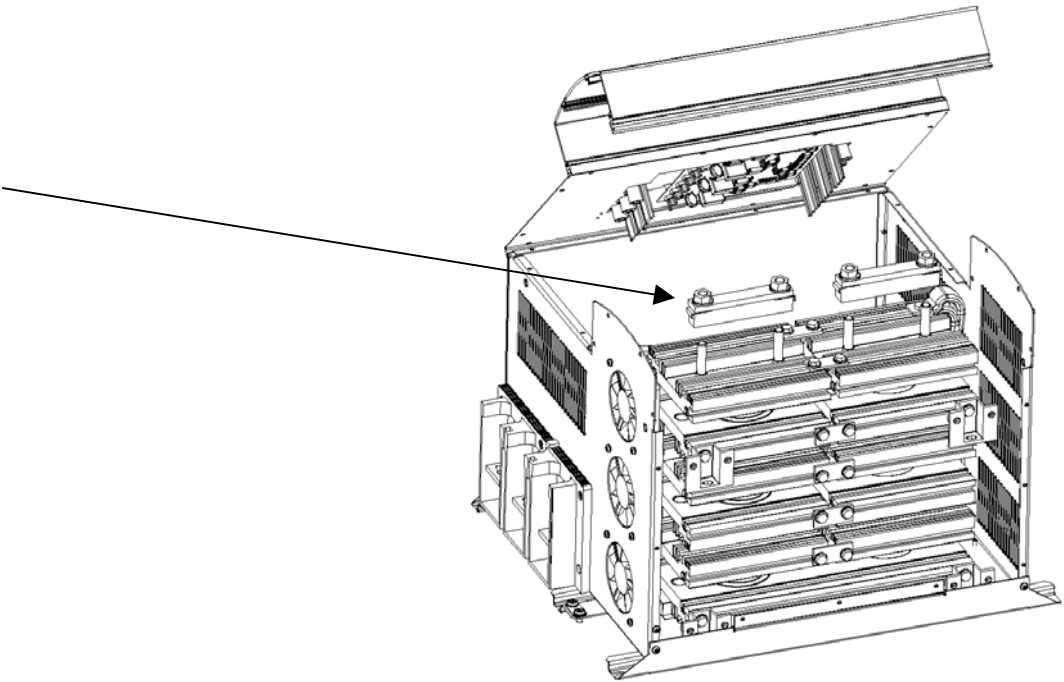
7. Handling



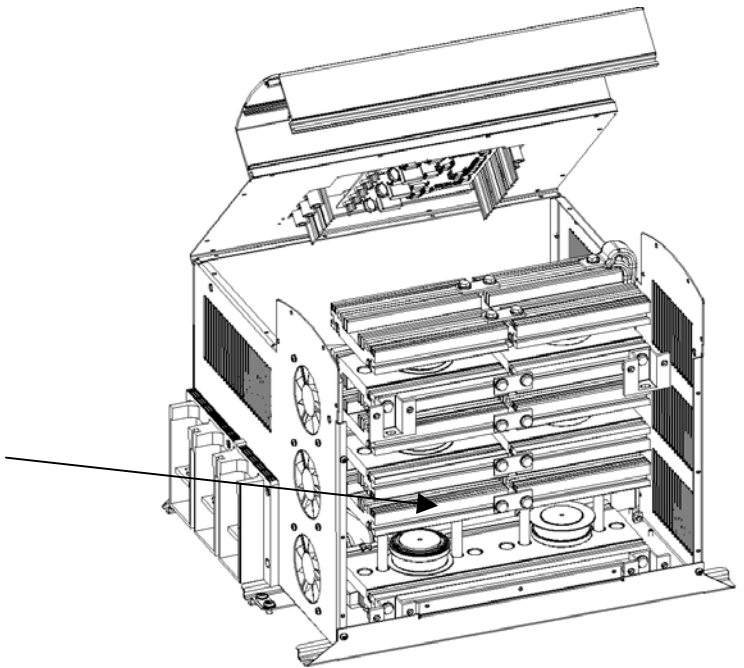
- Semiconductors and heat sinks are to be handled carefully to avoid scratches and other marks.
- Avoid touching the contact surfaces.
- Don't lift the semiconductor by the gate wire.
- There must be no damage to the welding flange or to the contact surface.



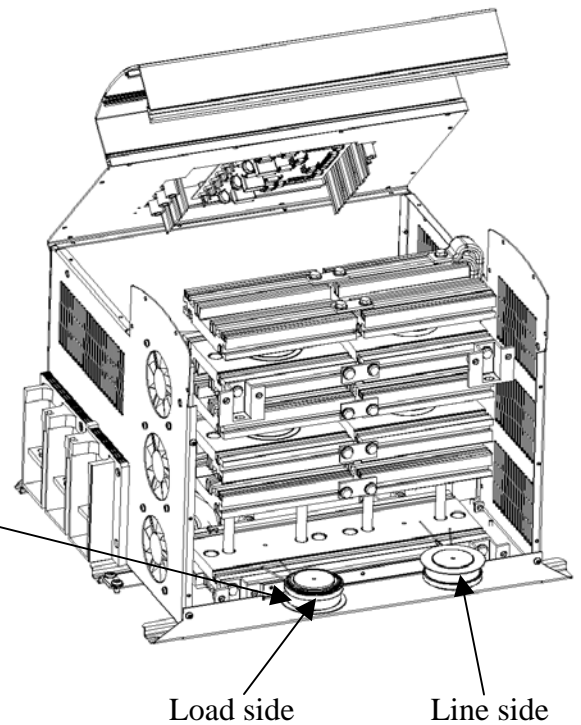
8. Remove the Clamps



9. Lift up the heatsinks above the faulty thyristor.

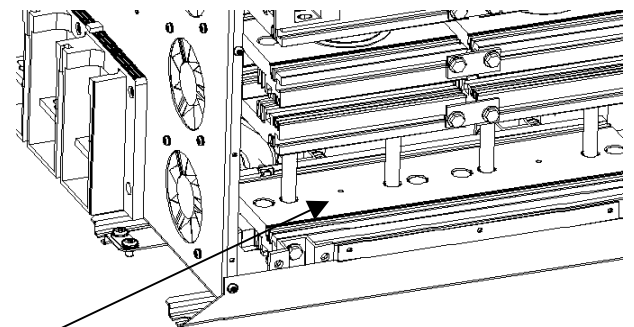


10. Remove the faulty thyristors.



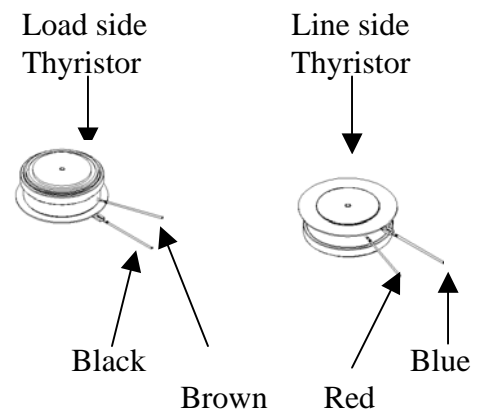
11. Preparation of heat sink and semiconductor.

- Lightly polish the contact surface of semiconductor (the nickel layer must not be polished through) with abrasive cloth P600 which is fix on a flat surface.
- Clean all polished contact surfaces carefully with Ethanol.
- Use well moistened lint-free paper.
- Avoid contact with surface.
- Lubricate directly after polishing/cleaning, within 5 minutes. The contact surfaces must be dry before lubrication.
- Drip a couple of drops of silicone oil on the cleaned contact surfaces, avoid getting oil in the guide hole. Smooth the oil lightly over the whole surface using lint-free paper. Then wipe off the surface in order to get a very thin layer of oil.
- Avoid contact with the surfaces after lubrication.

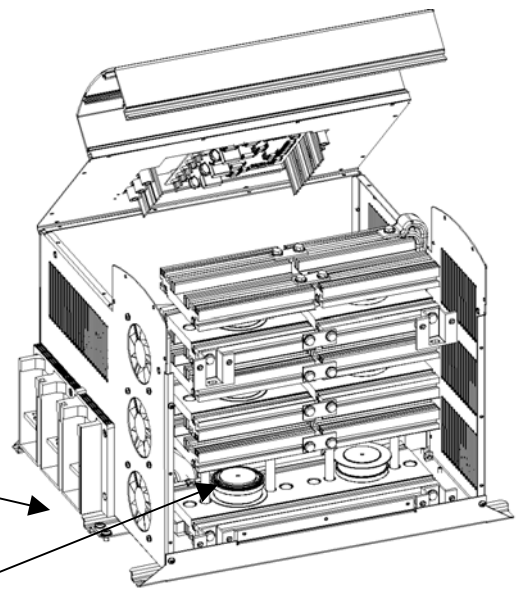


12. Mount the guide pins at the bottom heatsink.

13. Check the semiconductor's symbol and type specification. Connect the gate cables. Place the semiconductor in the right direction.



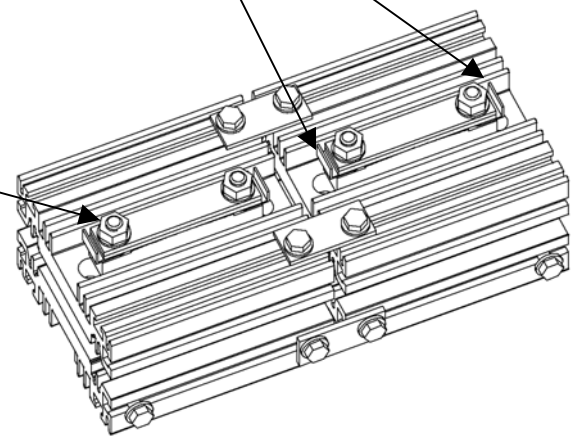
14. Centre the semiconductor with the guide pin.
Handle the semiconductor with care. Don't let
the guide pin scratch the contact surfaces.



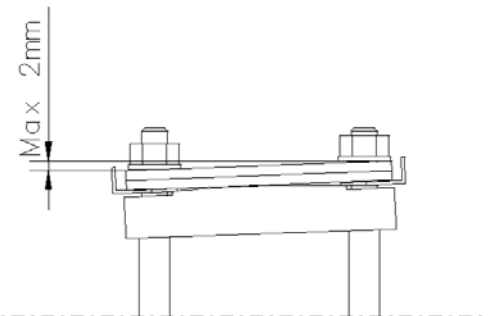
15. Turn the component so that the gate wires
point in the right direction.

16. Screw in the nuts by hand so that the clamp is
parallel to the heat sink.
Tighten each nut by half a turn alternately
until the spring gap indicators are just
trapped, then tighten 1/4 turn.

Spring gap indicator



17. The slope may not be more than 2 mm.



18. Reassembly the softstarter

19. Connect the cables to terminals 1L1, 3L2 and
5L3 (main voltage) and 2T1, 4T2 and 6T3 if
necessarily (motor connection).

20. Connect all cables to the terminals 1 to 20,
external keypad, PTC sensor and the Fieldbus
plug.

Ready for start!!



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