



Contents

1. ESD Warning	2
2. Tools	3
3. Step by step	4

Safety information



Warning! A qualified electrician must carry out installation, commissioning and service on the product by following installation standards and regulations. The product user hazardous voltage that can cause death or serious injury. Always disconnect power before working on equipment. Do not touch terminals when voltage is applied, output terminals can have live voltage even when the device is in off position. The product should only be used within the specified ratings. Check that you have the correct product in regards to mains voltage, supply voltage and rated product data.



Varning! Installation, idrifttagning och service av denna produkt skall endast utföras av behörig el-personal. Säkerhets- och installationsnormer skall följas. Produkten använder livsfarlig spänning, innan arbete utförs ska alltid spänningen frånskiljas. Rör inga anslutningar när produkten är spänningssatt, anslutningarna är spänningssatta även när produkten är i frånläge. Produkten skall endast användas inom dess specifierade data, kontrollera den gentemot huvudspänning, kontrolspänning och övriga märkdata.



Warnung! Installation, Inbetriebnahme und Service dieses Produktes darf nur durch qualifiziertes Fachpersonal unter Beachtung der nachfolgenden Hinweise und Erklärungen erfolgen. Die in dem Gerät vorhandenen Spannungen können bei Berührung zu tödlichen oder ernsthaften Verletzungen führen. Vor Arbeiten an dem Gerät ist grundsätzlich die Versorgung abzuschalten. Bei Anliegen der Versorgungsspannung dürfen keine Klemmen berührt werden, an den Ausgangsklemmen kann auch bei ausgeschaltetem Gerät eine gefährliche Spannung anliegen. Der Einsatz des Gerätes darf nur innerhalb der spezifizierten Bedingungen erfolgen. Überprüfen Sie vor Einsatz, dass die Geräetypen bezüglich Versorgungsspannung, Schaltspannung und sonstiger Daten den Anforderungen entspricht.



Avvertenza! L'installazione, la messa in servizio e la manutenzione di questo prodotto devono essere effettuate solo da un elettricista qualificato, seguendo fedelmente le disposizioni in materia di installazione e sicurezza. Il prodotto utilizza tensioni pericolose che possono causare gravi danni o morte. Collegare sempre l'alimentazione prima di accedere all'apparecchio. Non toccare mai i terminali quando l'apparecchio è sotto tensione: i terminali di uscita sono in tensione anche quando l'apparecchio è SPENTO. Prima dell'installazione; verificare di aver scelto il prodotto corretto specialmente in termini di tensione di alimentazione, principale ed ausiliaria, ma più in generale per tutte le caratteristiche tecniche. Il prodotto va utilizzato solo nelle condizioni specificate.



警告! 产品的安装、调试及运行必须由具备资质的专业电工遵照相关标准及安全规范完成。产品使用能致命或引起严重伤害的危险电压。在产品上进行操作时务必断开电源。通电时不可接触接线端子，产品关断后输出端子仍有电压。产品仅能按照规定额定值使用。检查主回路电压，控制回路电压及其它产品参数符合产品规定。



Avertissement! Un électricien qualifié doit exécuter l'installation, la mise en service et l'entretien de ce produit en suivant les normes d'installation et les règles de sécurité. Le produit utilise une tension dangereuse qui peut causer la mort ou des blessures graves. Toujours débrancher l'alimentation avant de travailler sur l'équipement. Ne touchez pas les prises de raccordements lorsqu'une tension est appliquée, les prises de raccordements de sortie auront toujours une tension résiduelle, même si l'appareil est sur OFF. Le produit doit être seulement utilisé dans les calibres spécifiées. Vérifiez que vous avez le bon produit en ce qui concerne la tension du secteur, la tension d'alimentation nominale et les données produits.



Осторожно! Установка, ввод в эксплуатацию и обслуживание данного оборудования должны производиться квалифицированным персоналом, специально допущенным к таким работам, в соответствии с действующим законодательством и требованиями предъявляемыми к обслуживанию электроустановок и обеспечению безопасности. В изделии используется опасное для человека напряжение, которое может привести к смерти или серьезным травмам. Всегда отключайте напряжение перед началом любых работ на оборудовании. Не дотрагивайтесь до клемм и токоведущих частей когда приложено напряжение. На выходных клеммах может быть напряжение даже если прибор выключен. Прибор должен использоваться строго в соответствии с заявленными параметрами. Проверьте, что прибор подобран правильно и номинальные параметры находятся в соответствии с силовым напряжением и напряжением управления.



تحذير! يسمح فقط للفني أو المهندس الكهربائي المختص للقيام بأعمال التأريب و التجهيز و الصيانة لهذا النوع من الأجهزة وذلك من خلال اتباع انظمة التوصيل والتأريب الكهربائية العالمية وشروط السلامة المعتمدة.

هذا النوع من الأجهزة يستخدم جهد خطر قد يؤدي لحدوث الاصابة أو الوفاة . دائمًا افضل مصدر التيار قبل بدء العمل على الجهاز . لاتلمس أطراف التوصيل عندما يكون هناك جهد مطبق لأن مخارج أطراف التوصيل تحتفظ بجهد حتى بعد فصل مصدر الجهد. هذا الجهاز يجب استخدامه مع ما يناسبه من قيم محددة . تأكد دائمًا من حصولك على الجهاز المناسب لمصدر الفولتية والتردد والقيم المحددة للتيار .

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

Torque wrench 5 – 7 Nm

Torx T20

Kit for changing thyristors
Ethanol

1SFA 899012R1002

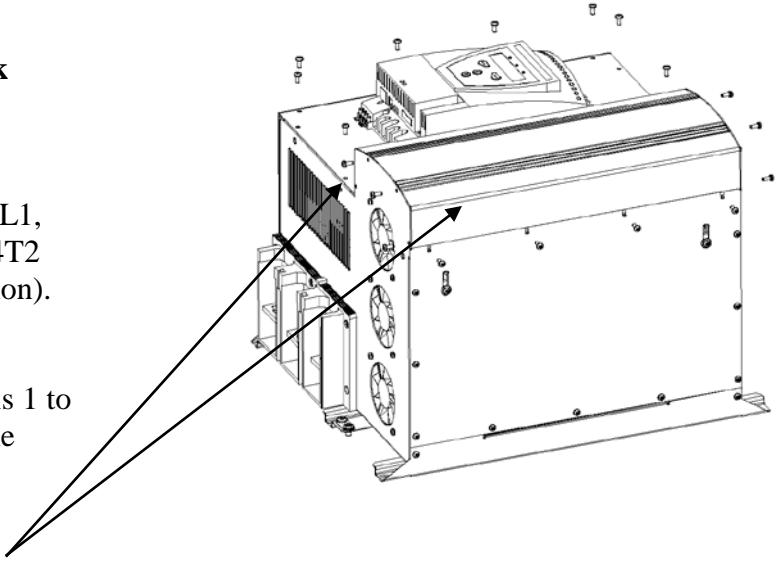
3. Step by step

1. Before disconnecting the cables mark them.

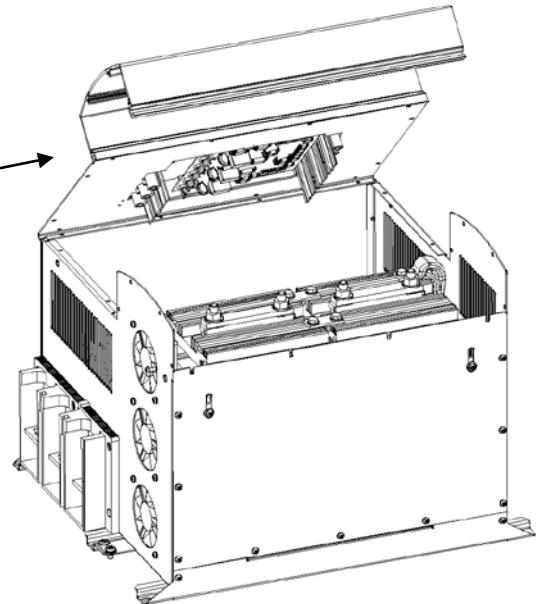
2. Disconnect the cables from terminals 1L1, 3L2 and 5L3 (main voltage) and 2T1, 4T2 and 6T3 if necessarily (motor connection).

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

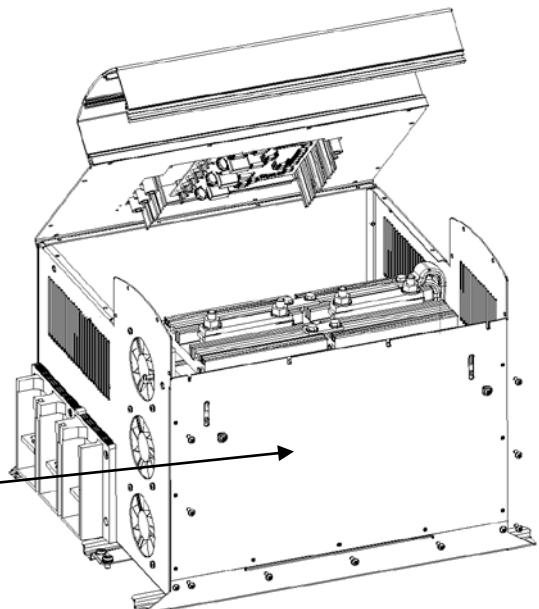
4. Remove the top cover (twenty screws).



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

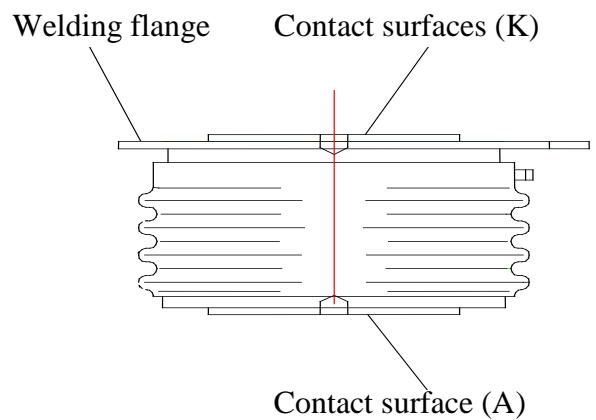


6. Remove the eleven screws on the right gable

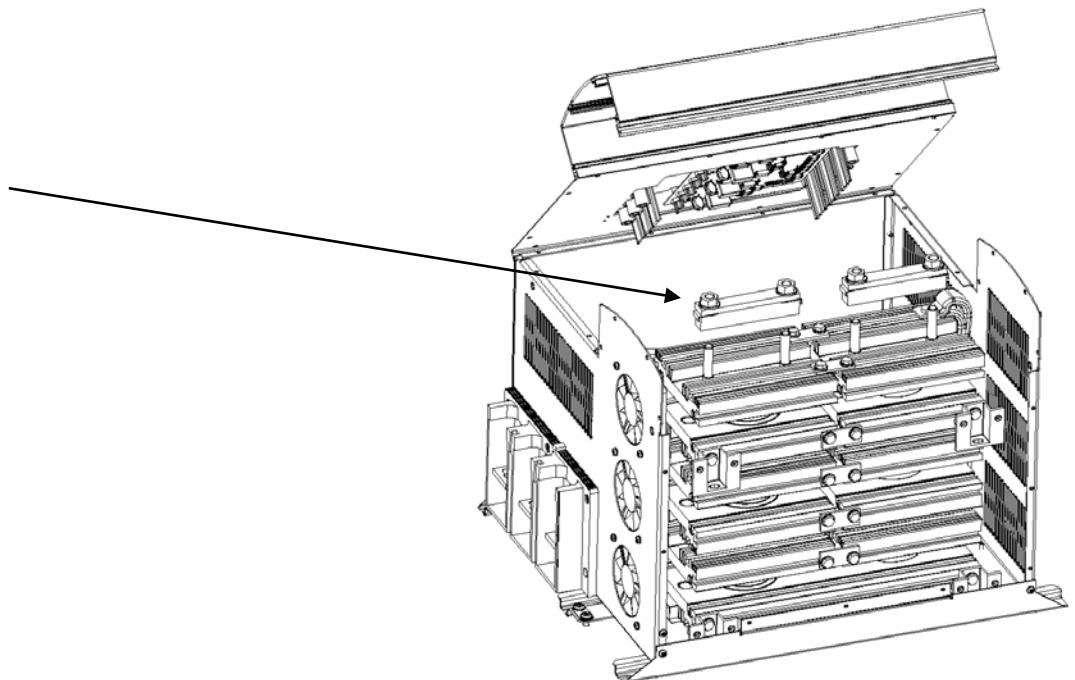


7. Handling

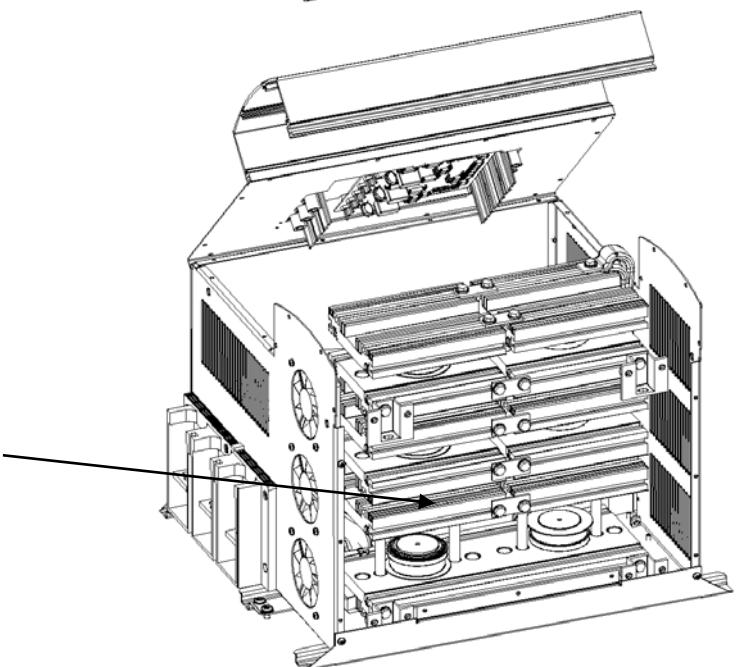
- Semiconductors and heat sinks are to be handled carefully to avoid scratches and other marks.
- Avoid touching the contact surfaces.
- Don't lift the semiconductor by the gate wire.
- There must be no damage to the welding flange or to the contact surface.



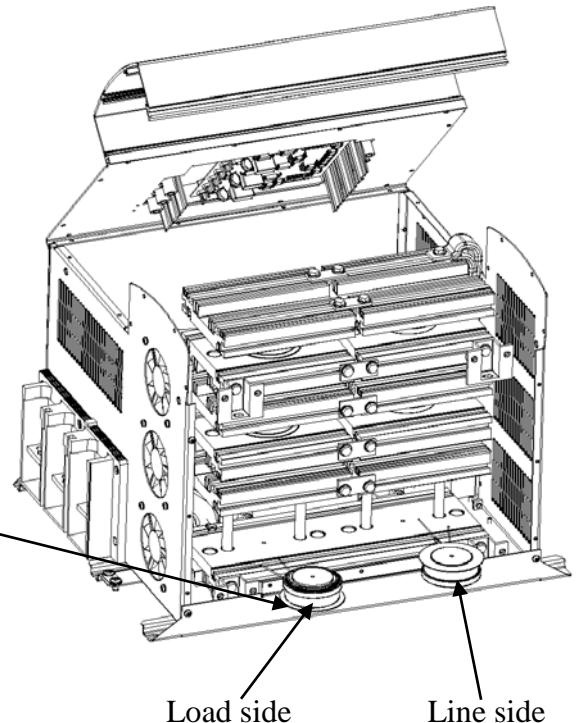
8. Remove the Clamps



9. Lift up the heatsinks above the faulty thyristor.



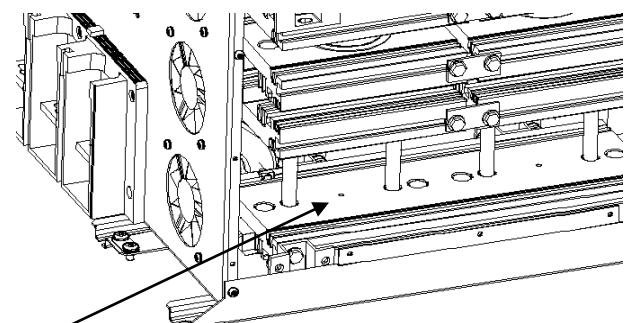
10. Remove the faulty thyristors.



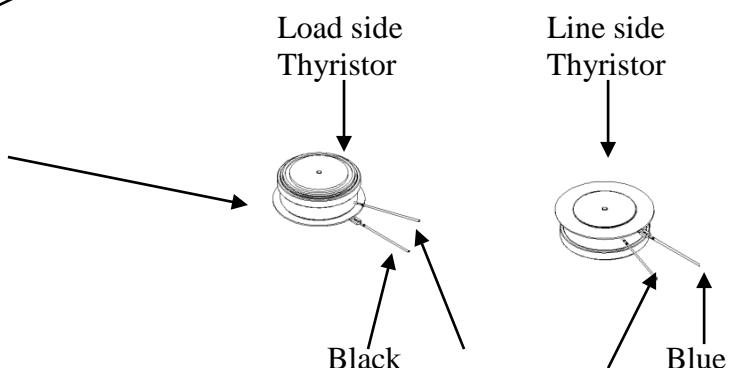
11. Preparation of heat sink and semiconductor.

- 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.

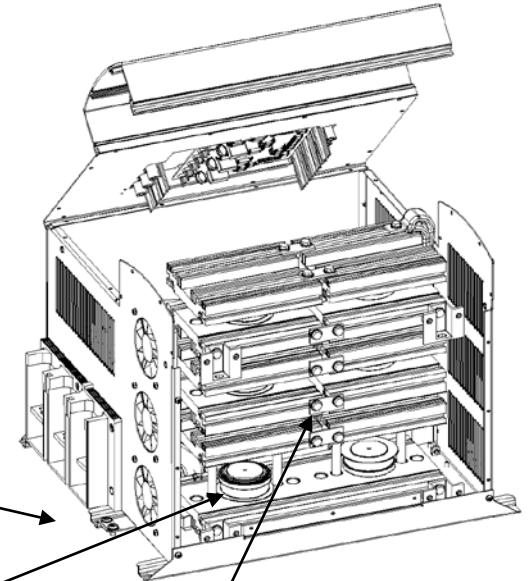
12. Mount the guide pins at the bottom heatsink.



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

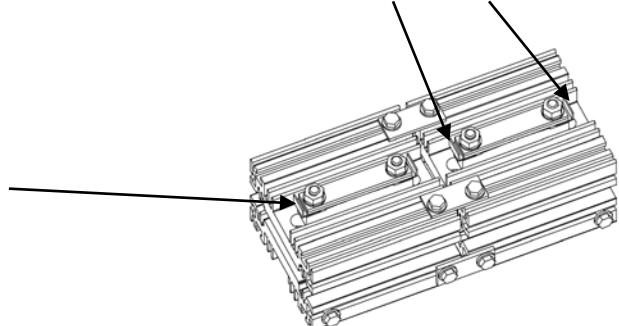


14. Centre the semiconductor with the guide pin.
Handle the semiconductor with care. Don't let
the guide pin scratch the contact surfaces.

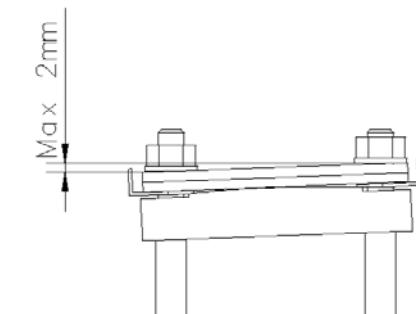


15. Turn the component so that the gate wires
point in the right direction.

Spring gap indicator



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.



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!!

5 Nm

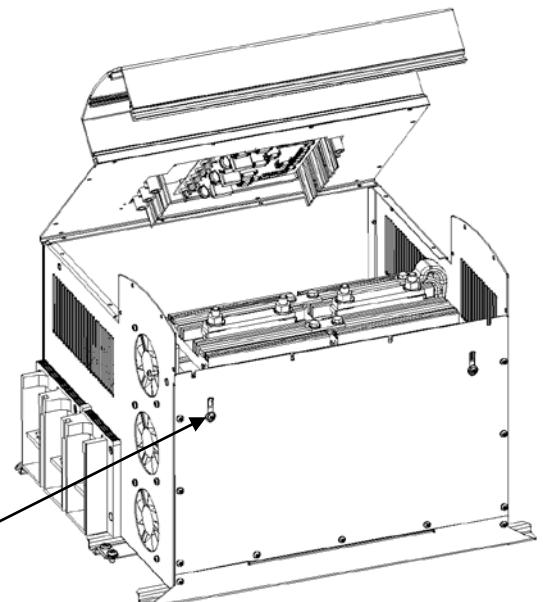




ABB AB, Control Products

SE-721 61 Västerås, SWEDEN
Telephone +46 21 32 07 00
TELEFAX +46 21 12 60 01
www.abb.com/lowvoltage