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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 specificerade data, kontrollera den gentemot huvudspänning, kontrollspänning 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 Gerätype 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. Scollegare 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'istallazione; 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，产品失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 التثبيت و التجهيز و الصيانة لهذا النوع من الأجهزة وذلك من خلال اتباع أنظمة التوصيل والتثبيت الكهربائية العالمية وشروط السلامة المعتمدة. هذا النوع من الأجهزة يستخدم جهد خطر قد يؤدي لحدوث الإصابة أو الوفاة. دائما افصل مصدر التيار قبل بدء العمل على الجهاز. لاتلمس أطراف التوصيل عندما يكون هناك جهد مطبق لأن مخارج أطراف التوصيل تحتفظ بلاجهد حتى بعد فصل مصدر الجهد. هذا الجهاز يجب استخدامه مع ما يناسبه من قيم محددة. تأد دائما 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

Torx T6 for removing the Display

Torx T15 for removing the Cover from PST30 ... PST72

Torx T20 for removing the Printed Circuit Board.
for removing the Cover from PST85...PST300 and PSTB370...PSTB1050

3. PCB information

For upgrade to **Torque Control** both LV board and HV board needs to be upgrade to following version:

LV board 1SFB636068D1011

HV board 1SFB636068D1013

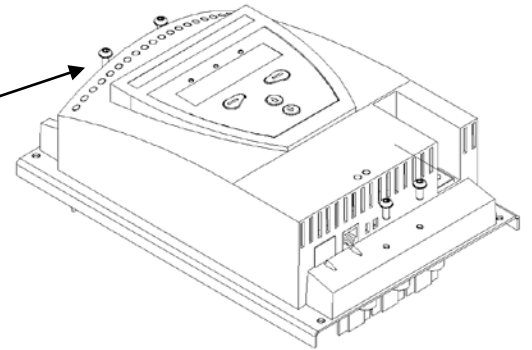
4. Step by step

1. Before disconnecting the cables mark them.

2. Disconnect the cables from terminals 1L1, 3L2, and 5L3 (main voltage).

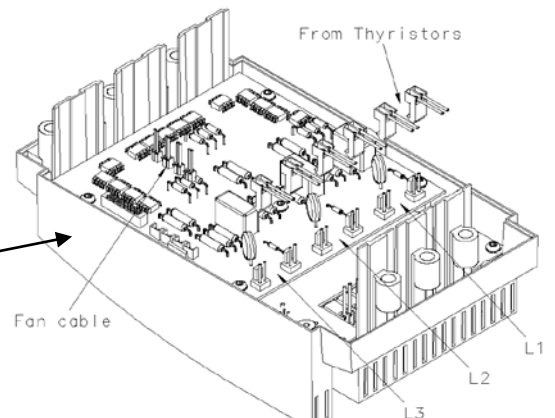
3. Disconnect all cables from the terminals 1 to 20, external keypad, "Analogue Out/PTC" sensor and the Fieldbus plug.

4. Remove the front cover (four screws).



5. Discharge the tools and yourself by touching earth (if you are not earthed).

6. If the cables from the thyristors not are marked, mark them with 1, 2 and 3. Disconnect the cables on the HV-Board from the thyristors and fans.



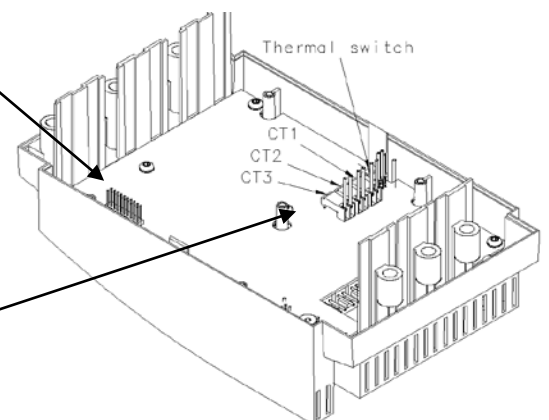
7. Remove the five screws.

8. Remove the old HV-Board. **Don't lose the connector between HV-Board and LV-Board.**

If only the HV-Board will be changed go to step 21.

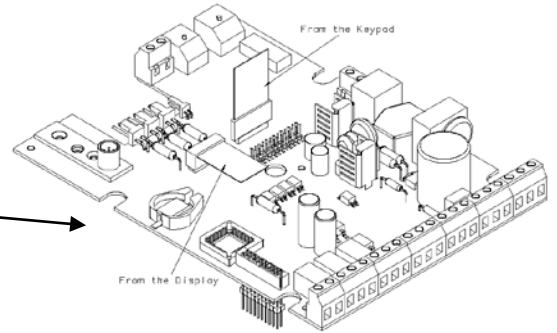
If the Softstarter shall be upgrade to Torque Control go to step 9.

9. If the cables from the current transformers not are marked, mark them with 1, 2 and 3. Disconnect the cables on the LV-Board from the thermal switch and current transformers.

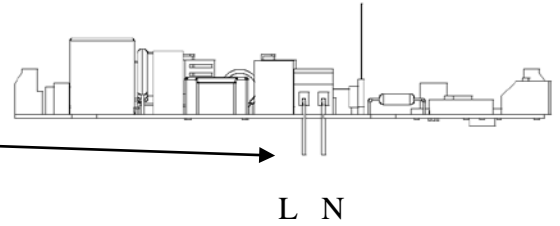


10. Remove the six screws.

11. Remove the old LV-Board and disconnect the cables from the Display and the Keypad.

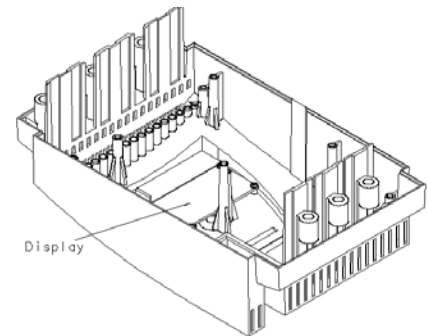


12. On PSTB unit remove the cables from the built in by-pass contactor after marking them. If only the LV-Board will be changed or upgrade to Torque Control go to step 19.



13. To change the Display

14. Remove the four screws and take away the old Display.

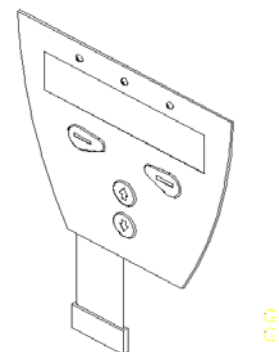


15. Mount the new Display. **Don't forget to remove the protective film.**
Go to step 19.

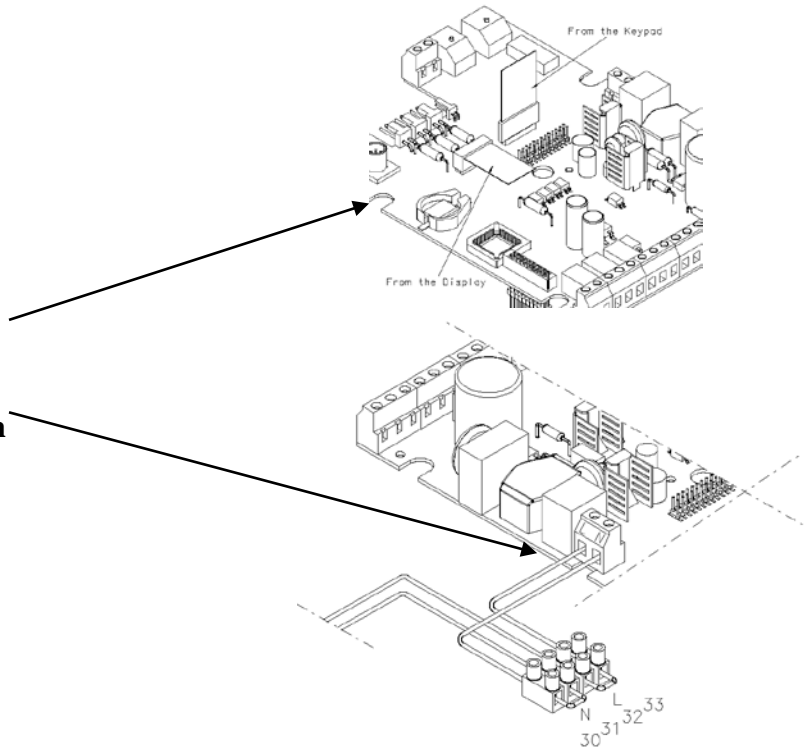
16. To change the Keypad.

17. Remove the Keypad from the Cover.

18. Clean the surface of the Cover with Etanol and mount the new Keypad. **Don't forget to remove the protective film.**

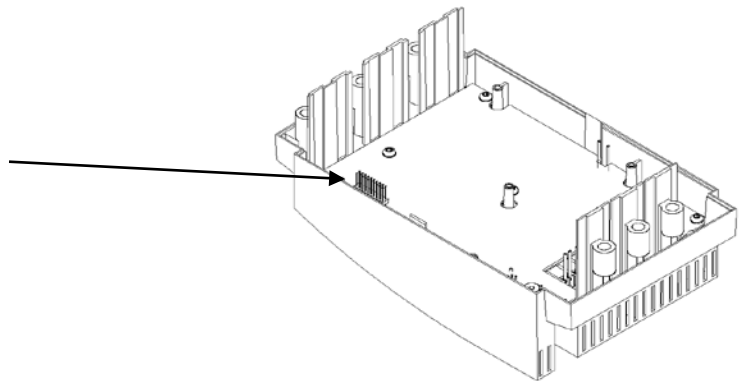


19. Mount the cables from the Display and the Keypad on the LV-Board (new or old). On PSTB units, reconnect the cables from the built in by-pass contactor. **Be careful how you connect the Red (L) and Brown (N) cable.**



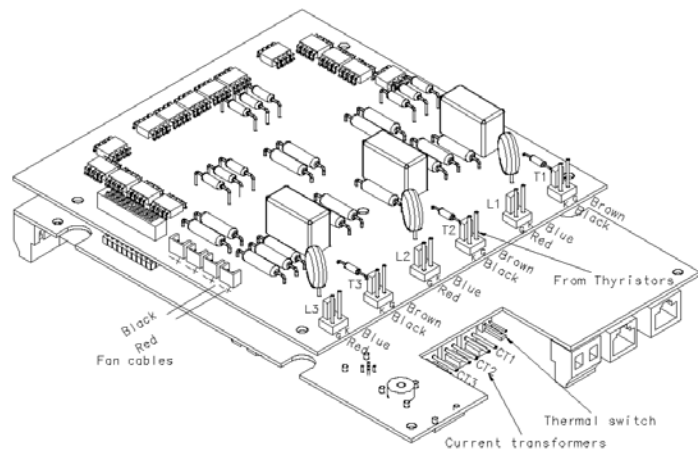
20. Mount the LV-Board with the six screws.

21. Mount the connector. **Be careful to avoid damage on the pins.**



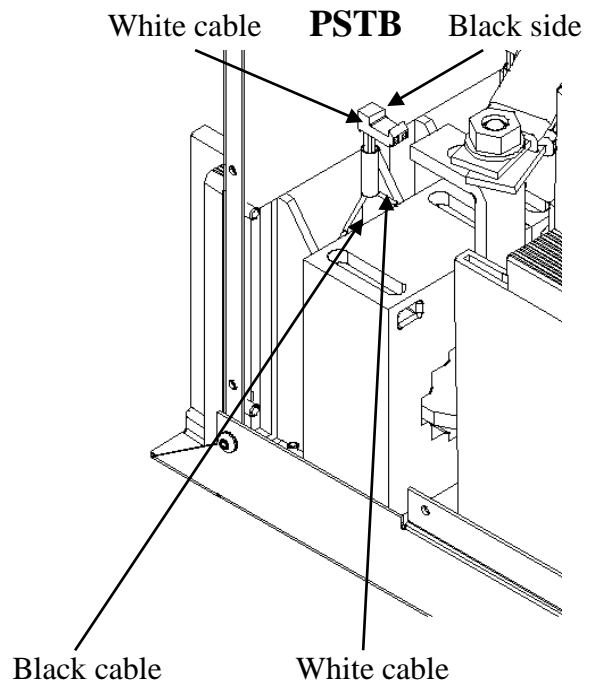
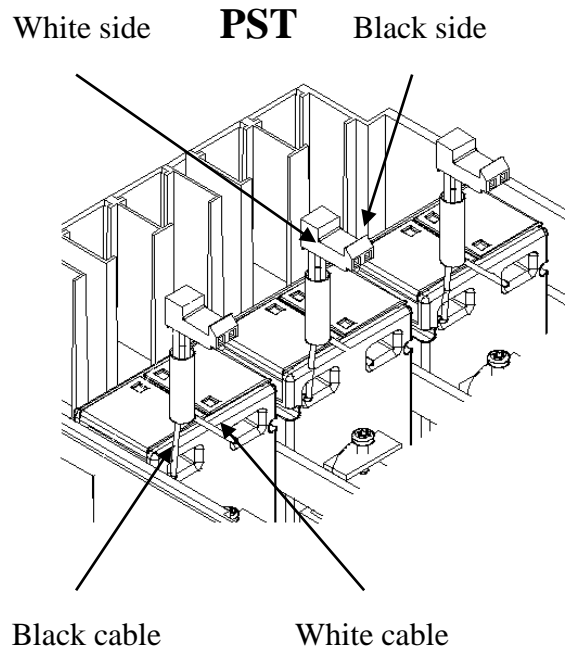
22. Mount the new HV-Board with the five screws.

23. Mount the cables from the thermal switch and current transformers on the LV-Board. Be careful how you connect the cables from the current transformers (correct phase sequence).

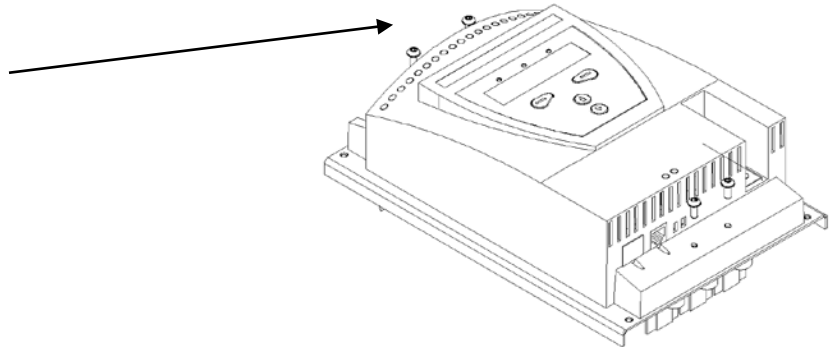


24. Mount the cables from the thyristors and fans on the HV-Board. Be careful how you connect the cables from the thyristors.

25. For upgrade to Torque Control it is important to check the connection on the current transformer (see fig below).
26. If the two cables on each current transformer are **black** use a multimeter to detect the right connection. The resistance of the current transformer are between 0,2-6 ohm, depending of the PST(B) size.
27. Change the position of the cables on the current transformers to obtain correct position if necessary.



28. Mount the front cover (four screws).



29. Connect all cables to terminal 1 to 20, external keypad, "Analogue Out/PTC", Fieldbusplug and the cables to 1L1, 3L2 and 5L3 (main voltage).

5. Configuration of the LV board

If only the HV board is changed, the softstarter is ready to start. If the LV board is changed, a programming of this must be done before the softstarter can be taken in operation. Every softstarter size has its own parameter values for the LV board according to table 1 or 2 (see next page) that must be used. Follow the step by step instruction below to do this set-up.

1. Switch on the power supply (terminal 1 and 2).
2. Enter the menu *Service settings* using following path:
Menu / SETTINGS / Service Settings / New PCB and press *Select*
3. Press *Yes* on the question “Are you sure?”
4. Set the required display language. Press *Store* to save the value and press *Next* to continue. If wrong language was selected press *Back* for previous level. These commands are valid for the whole set-up.
5. Set the parameter CT Ratio Ir. (table 1 or 2)
6. Set the parameter Int ByPass. (table 1 or 2)
7. Set the parameter ByPass AC3. (table 1 or 2)
8. Set the 4 parameters SOP1 - SOP4. (table 1 or 2)
9. Set the parameter PST(B). (table 1 or 2)
10. After pressing *Next* when the parameter PST(B) is set, the programming is complete.
11. Before taking the softstarter in operation, don't forget to set the rated motor current and activate the required protections, warnings, input / outputs etc.
12. For set-up of Torque Control during start and stop see separate manual sheet or update manual.

Table 1 valid for softstarter order code 1SFA894xxxR7000 (600V-version)

Softstarter size	CT Ratio Ir	Int ByPass	ByPass AC3	SOP1	SOP2	SOP3	SOP4	PST(B)
PST30	30	No	0	0,85	4	0,77	4	30
PST37	40	No	0	0,85	3	0,63	4	37
PST44	50	No	0	0,8	2,2	0,44	4	44
PST50	50	No	0	0,8	2,2	0,44	4	50
PST60	60	No	0	0,8	1,5	0,31	4	60
PST72	75	No	0	0,8	1,2	0,26	4	72
PST85	100	No	0	0,8	1,2	0,26	4	85
PST105	125	No	0	0,9	0,55	0,19	4	105
PST142	150	No	0	0,85	0,45	0,18	4	142
PST175	200	No	0	0,85	0,45	0,18	4	175
PST210	250	No	0	0,85	0,3	0,157	4	210
PST250	250	No	0	0,93	0,27	0,085	4	250
PST300	300	No	0	0,93	0,27	0,085	4	300
PSTB370	400	Yes	305	1,03	0,48	0,05	4	370
PSTB470	500	Yes	305	1	0,35	0,032	4	470
PSTB570	600	Yes	460	1	0,35	0,032	4	570
PSTB720	750	Yes	580	0,98	0,17	0,024	4	720
PSTB840	1000	Yes	750	0,86	0,17	0,024	4	840
PSTB1050	1200	Yes	750	0,88	0,12	0,017	4	1050

Table 2 valid for softstarter order code 1SFA895xxxR7000 (690V-version)

Softstarter size	CT Ratio Ir	Int ByPass	ByPass AC3	SOP1	SOP2	SOP3	SOP4	PST(B)
PST30	30	No	0	0,85	4	0,77	4	30
PST37	40	No	0	0,85	3	0,63	4	37
PST44	50	No	0	0,8	2,2	0,44	4	44
PST50	50	No	0	0,8	2,2	0,44	4	50
PST60	60	No	0	0,8	1,5	0,31	4	60
PST72	75	No	0	0,8	1,2	0,26	4	72
PST85	100	No	0	0,8	1,2	0,26	4	85
PST105	125	No	0	0,9	0,55	0,19	4	105
PST142	150	No	0	0,85	0,45	0,18	4	142
PST175	200	No	0	0,85	0,45	0,18	4	175
PST210	250	No	0	0,85	0,3	0,157	4	210
PST250	250	No	0	0,93	0,27	0,085	4	250
PST300	300	No	0	0,93	0,27	0,085	4	300
PSTB370	400	Yes	280	1,03	0,48	0,05	4	370
PSTB470	500	Yes	280	1	0,35	0,032	4	470
PSTB570	600	Yes	400	1	0,35	0,032	4	570
PSTB720	750	Yes	500	0,98	0,17	0,024	4	720
PSTB840	1000	Yes	650	0,96	0,15	0,017	4	840
PSTB1050	1200	Yes	650	0,97	0,1	0,011	4	1050

Ready for start!



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