



<b>Contents</b>	
1. ESD Warning.....	2
2. Tools.....	2
3. PCB information .....	2
4. Step by step.....	3
5. Configuration of the LV board.....	6

## 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

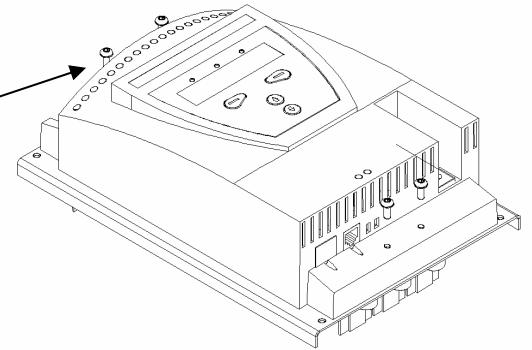
## 4. Step by step

### 1. Before disconnecting the cables mark them.

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

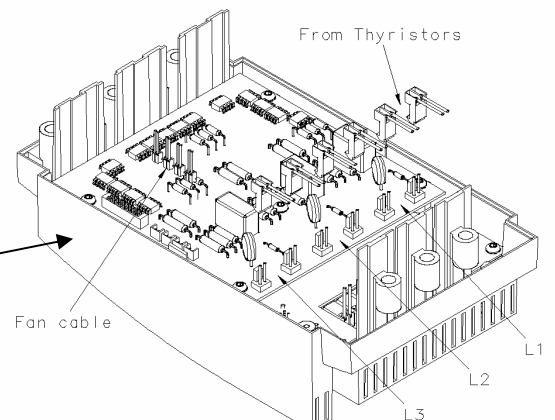
3. Disconnect all cables from the terminals 1 to 20, external keypad, "Analogue Out/PTC" sensor and the Fieldbus plug.

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.



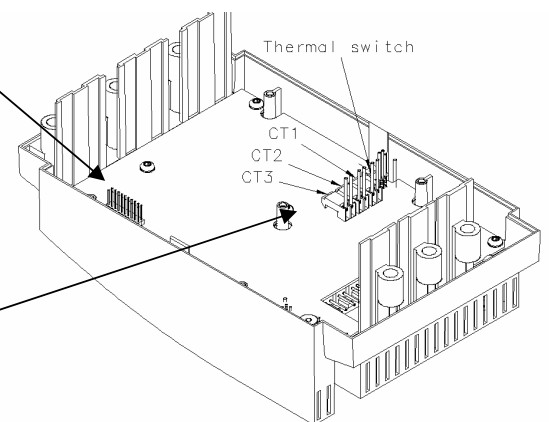
7. Remove the five screws.

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.

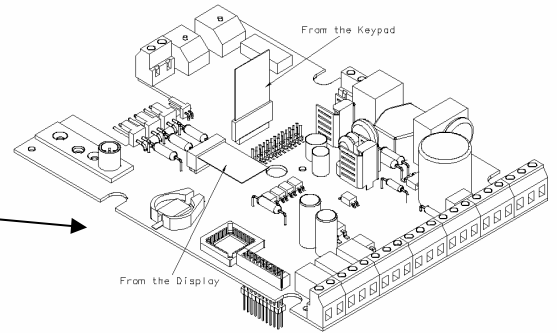
If the Softstarter shall be upgrade to Torque Control go to step 9.

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.

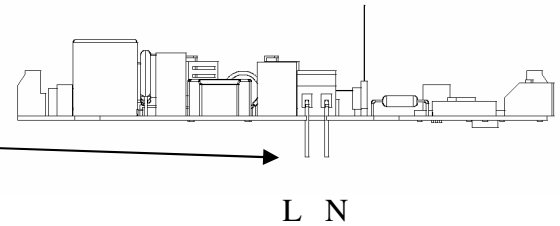


10. Remove the six screws.

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

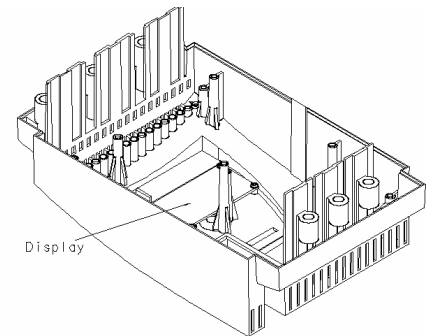


12. On PSTB unit remove the cables from the built in by-pass contactor after marking them. If only the LV-Board will be changed or upgrade to Torque Control go to step 19.



13. To change the Display

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

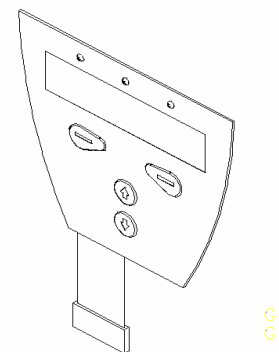


15. Mount the new Display. **Don't forget to remove the protective film.**  
Go to step 19.

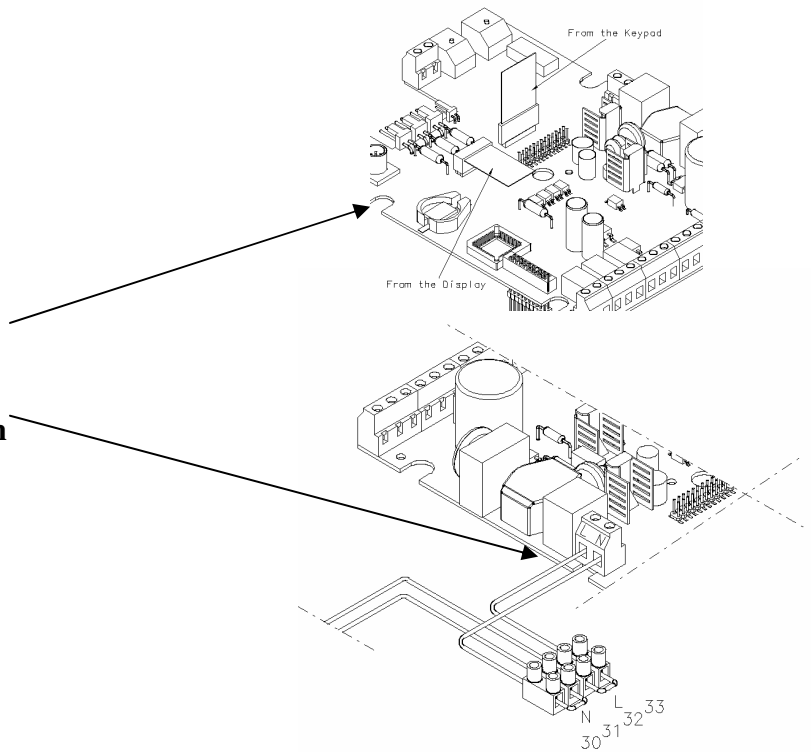
16. To change the Keypad.

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.**

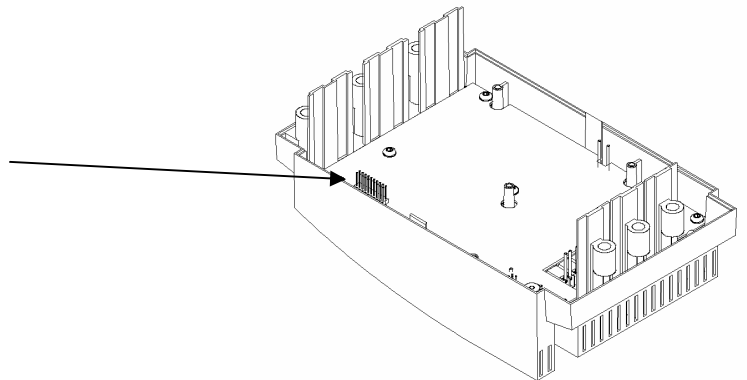


19. Mount the cables from the Display and the Keypad on the LV-Board (new or old). On PSTB units, reconnect the cables from the built in by-pass contactor. **Be careful how you connect the Red (L) and Brown (N) cable.**



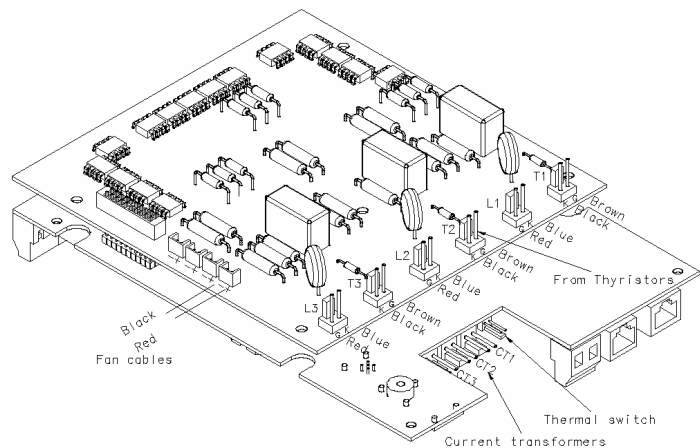
20. Mount the LV-Board with the six screws.

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).



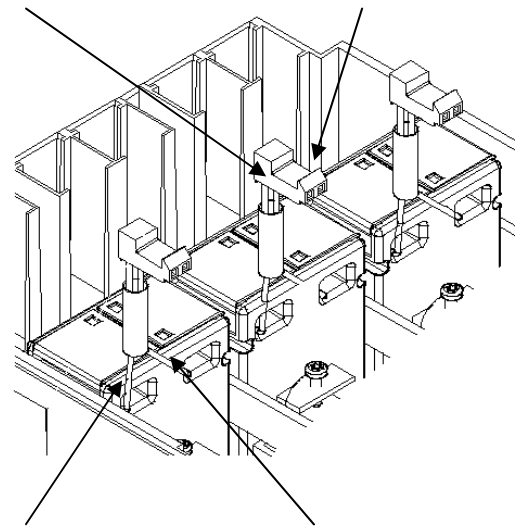
24. Mount the cables from the thyristors and fans on the HV-Board. Be careful how you connect the cables from the thyristors.

White side      **PST**      Black side

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.

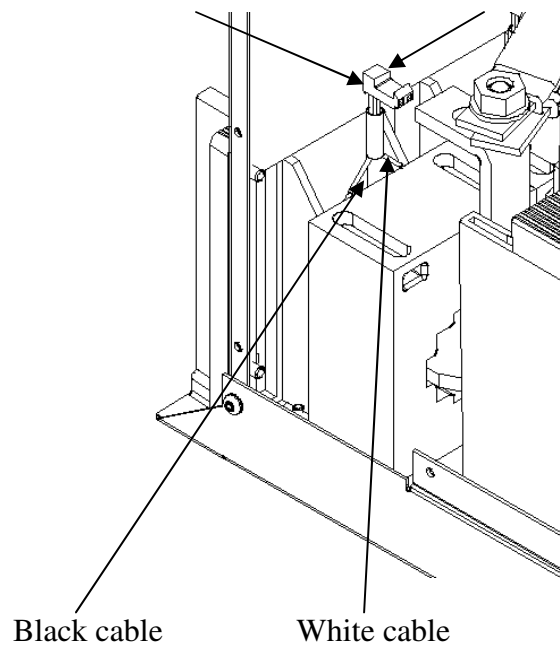
27. Change the position of the cables on the current transformers to obtain correct position if necessary.



Black cable

White cable

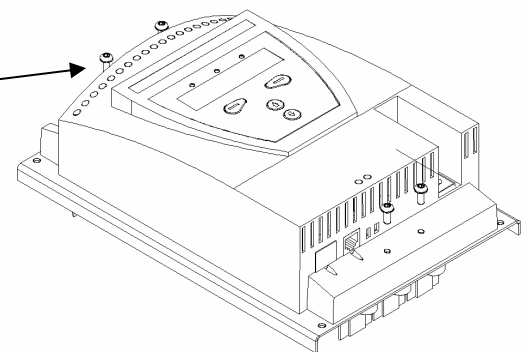
White cable **PSTB** Black side



Black cable

White cable

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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