

Changing Printed Circuit Board, Display and Keypad PST30...300 PSTB370...1050

AC1006.12

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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 carpet can be charged with up to fifteen thousand volts (15,000V). 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 close attention 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

Torx T20 for removing the Printed Circuit Board

3. 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, 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. Disconnect the cables on the HV-Board from the SCRs and fans. Mark the cables from the SCRs with L1, L2 and L3.

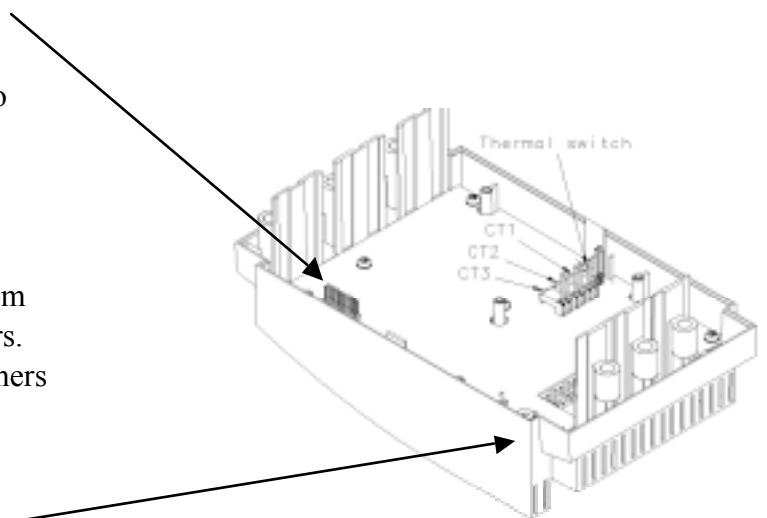
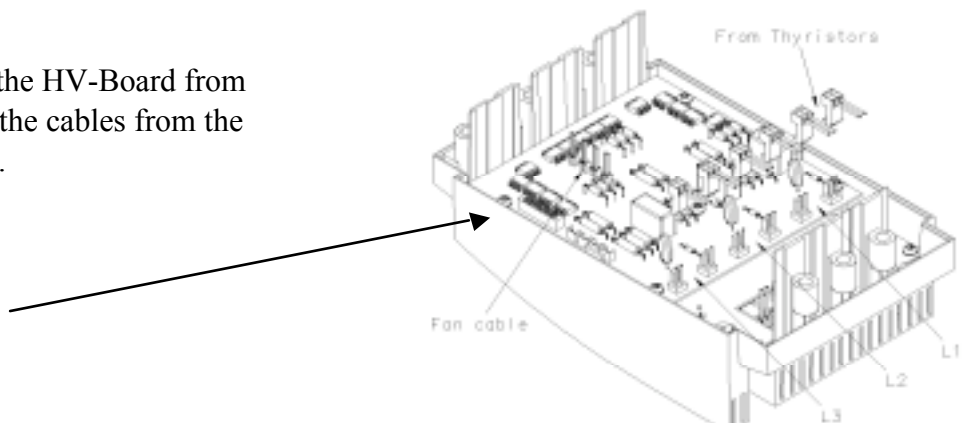
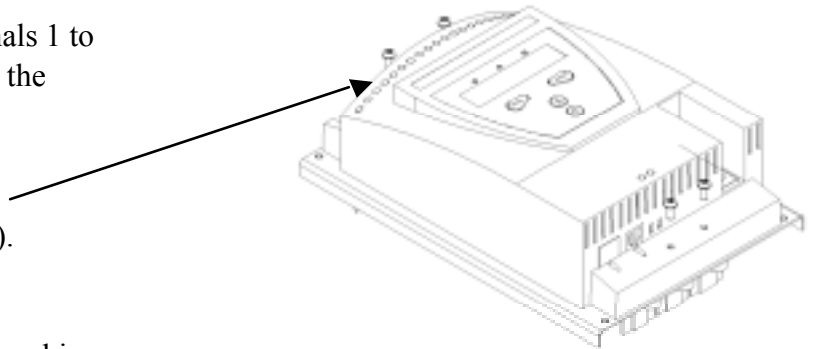
7. Remove the five screws.

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

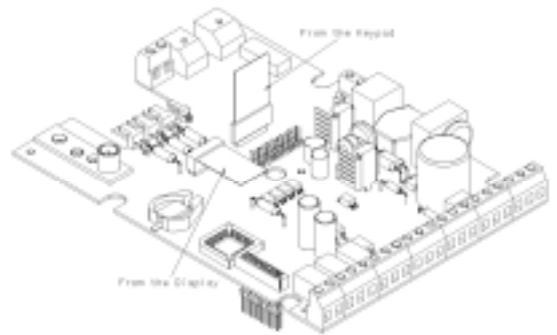
If only the HV-Board will be changed go to step 21.

9. Disconnect the cables on the LV-Board from the thermal switch and current transformers. Mark the cables from the current transformers with CT1, CT2 and CT3.

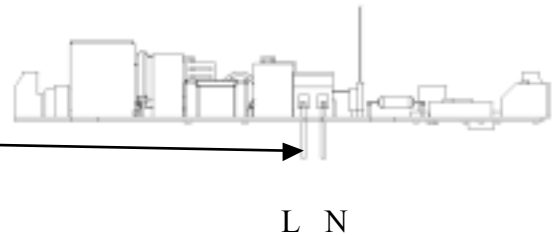
10. Remove the six screws.



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

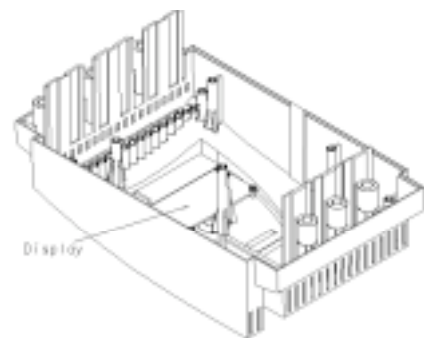


12. On PSTB unit remove the cables from the built in by-pass contactor after marking them. If only the LV-Board will be changed go to step 19.



13. To change the Display

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

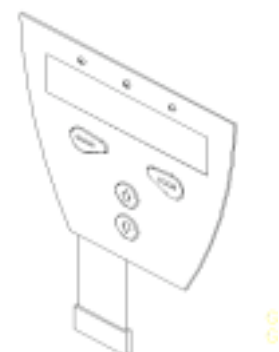


15. Mount the new Display. **Don't forget to remove the protective film.**
Go to step 19.

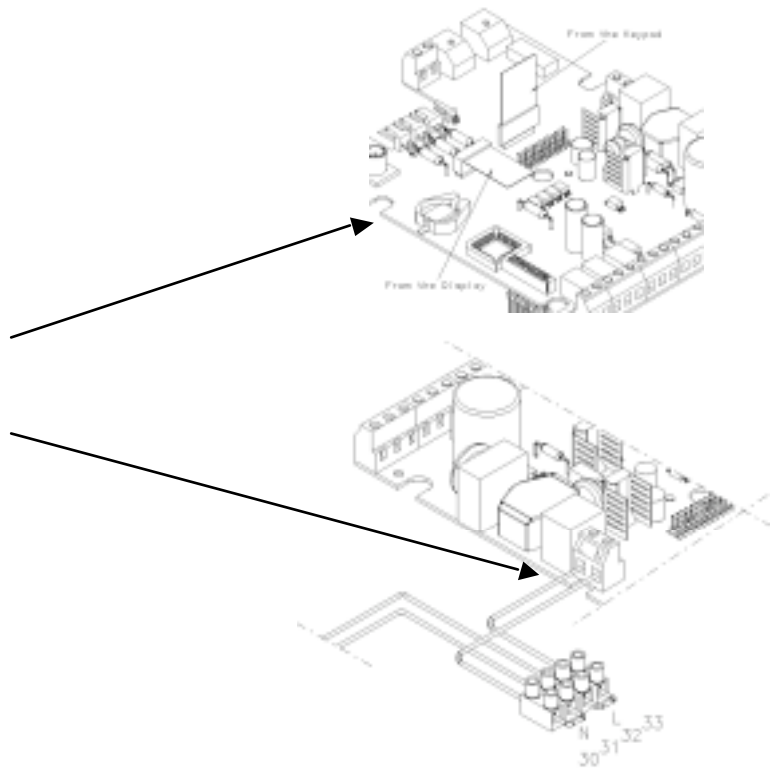
16. To change the Keypad.

17. Remove the Keypad from the Cover.

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

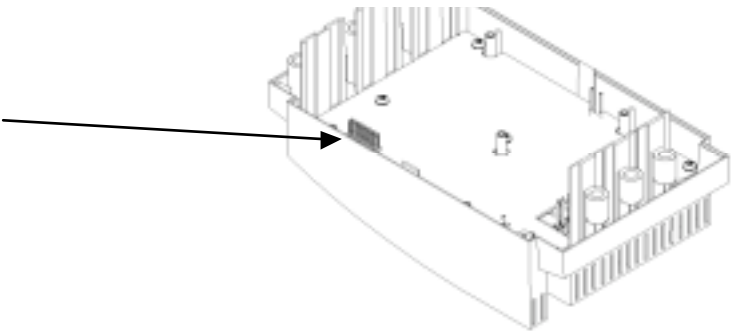


19. Mount the cables from the Display and the Keypad on the LV-Board (new or old).
On PSTB units, reconnect the cables from the built in by-pass contactor. **Be careful how you connect the Phase and Neutral.**



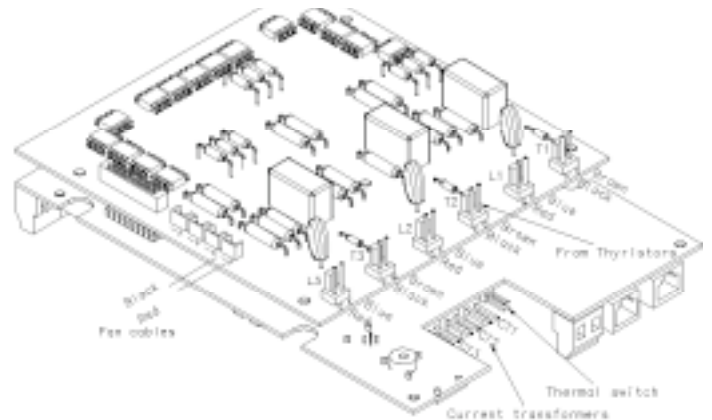
20. Mount the LV-Board with the six screws.

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



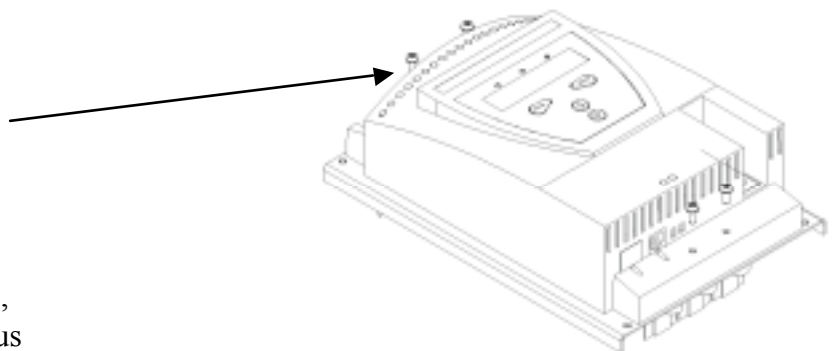
22. Mount the HV-Board with the five screws.

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).



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

24. Mount the front cover (four screws).



25. Connect all cables to terminal 1 to 20, external keypad, PTC sensor, Fieldbus plug and the cables to 1L1, 3L2 and 5L3.

4. 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 the LV board must be done before the softstarter can be taken into operation. Every softstarter size has its own parameter values for the LV board according to table 1 or 2 that must be used. Follow the step-by-step instructions below to do this set-up.

1. Switch on the power supply (terminal 1 and 2).
2. Enter the menu **Service settings** using the 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 the 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. After pressing *Next* when the parameter SOP4 is set, the programming is complete.
10. Before taking the softstarter into operation, don't forget to set the rated motor current and activate the required protections, warnings, input / outputs etc.

Table 1 valid for softstarter catalog number PST(X)XXX-600-70 (600V-version)

Softstarter size	CT Ratio Ir	Int ByPass	ByPass AC3	SOP1	SOP2	SOP3	SOP4
PST30	30	No	0	0.85	4	0.77	4
PST37	40	No	0	0.85	3	0.63	4
PST44	50	No	0	0.8	2.2	0.44	4
PST50	50	No	0	0.8	2.2	0.44	4
PST60	60	No	0	0.8	1.5	0.31	4
PST72	75	No	0	0.8	1.2	0.26	4
PST85	100	No	0	0.8	1.2	0.26	4
PST105	125	No	0	0.9	0.55	0.19	4
PST142	150	No	0	0.85	0.45	0.18	4
PST175	200	No	0	0.85	0.45	0.18	4
PST210	250	No	0	0.85	0.3	0.157	4
PST250	250	No	0	0.93	0.27	0.085	4
PST300	300	No	0	0.93	0.27	0.085	4
PSTB370	400	Yes	260	1.03	0.48	0.05	4
PSTB470	500	Yes	305	1	0.35	0.032	4
PSTB570	600	Yes	400	1	0.35	0.032	4
PSTB720	750	Yes	580	0.98	0.17	0.024	4
PSTB840	1000	Yes	750	0.86	0.17	0.024	4
PSTB1050	1200	Yes	750	0.88	0.12	0.017	4

Table 2 valid for softstarter catalog number PST(X)XXX-690-70 (690V-version)

Softstarter size	CT Ratio Ir	Int ByPass	ByPass AC3	SOP1	SOP2	SOP3	SOP4
PST30	30	No	0	0.85	4	0.77	4
PST37	40	No	0	0.85	3	0.63	4
PST44	50	No	0	0.8	2.2	0.44	4
PST50	50	No	0	0.8	2.2	0.44	4
PST60	60	No	0	0.8	1.5	0.31	4
PST72	75	No	0	0.8	1.2	0.26	4
PST85	100	No	0	0.8	1.2	0.26	4
PST105	125	No	0	0.9	0.55	0.19	4
PST142	150	No	0	0.85	0.45	0.18	4
PST175	200	No	0	0.85	0.45	0.18	4
PST210	250	No	0	0.85	0.3	0.157	4
PST250	250	No	0	0.93	0.27	0.085	4
PST300	300	No	0	0.93	0.27	0.085	4
PSTB370	400	Yes	260	1.03	0.48	0.05	4
PSTB470	500	Yes	305	1	0.35	0.032	4
PSTB570	600	Yes	400	1	0.35	0.032	4
PSTB720	750	Yes	580	0.98	0.17	0.024	4
PSTB840	1000	Yes	750	0.96	0.15	0.017	4
PSTB1050	1200	Yes	750	0.97	0.1	0.011	4

Ready for start!!



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