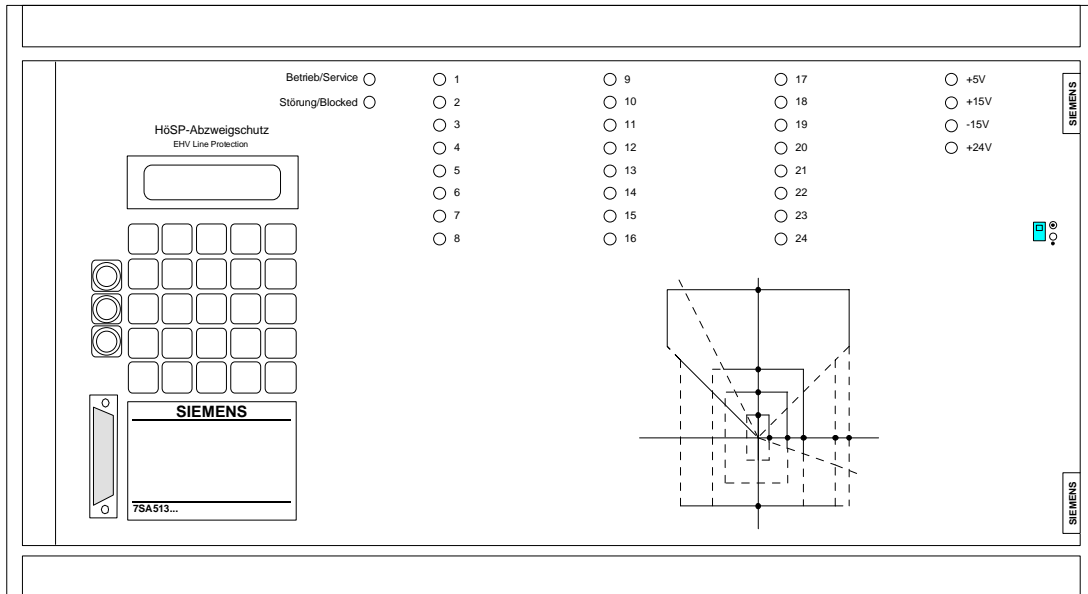


Service Information 7SA513 /BB... /EE Firmware Update V3.33 with Loading Program



For update devices with version /FF or higher, please read Service-Information C53000-A1000-X042-1F-20 (German) and C53000-A1000-X042-1F-7620 (English).

Firmware version **V3.33** for the numerical line protection relay **7SA513** is available now.

- Affected are **only** devices with a **DVH**-module (see fig. 1), which are manufactured in the **release 5** or higher. Release 5 is already present in all devices with the hardware version /CD or higher. For devices up to hardware version /CC, the DVH-release (≥ 5) is decisive and has to be identified (compare to No. 8 of this service-information)!
(Object number of the DVH-module: C73207-A272-A5-*with* ≥ 5).

Attention! Devices with a DVH-module of an older release (≤ 4), a firmware-upgrade is **only** possible by **replacing** the complete **DVH-module!** (Order procedure absolutely with declaration of the MLFB-No. of the device incl. hardware version .../!(≥ 5), Fab.-No. and required firmware version).

- Notice for devices 7SA513*-*****-C** with serial **interface** to a central data processing station (e.g. LSA):

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		C53000-A1000-X016-1K-7620
1C	firmware	29.04.98	Po	SIEMENS AG		
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission and Distribution		
Iss.	Type of notice	Date	Name			
						Page 1 / 17

The normal signal position for the data transmission is factory preset as „light off“. A change of the normal signal position to „light on“ by a jumper plug is only possible on **DVH**-modules with the **release 6** (or higher), and is already present in all devices with hardware version /DD and higher.

If operation with normal signal position „light on“ is necessary, for devices up to hardware version /CD the DVH-release (≥ 6) is decisive and has to be identified (compare No. 8 of this service-information)!

In case the DVH-module has to be changed to a „light on/off - version (object-number: C73207-A272-A5-*with* ≥ 6). Order procedure absolutely with declaration of the MLFB-No. of the device incl. hardware version .../**(!), Fab.-No. and required V3-firmware version.

Update-notice for DVH-modules with release 5 (or higher):

For devices 7SA513 with firmware versions V2.1X/V2.2X/V3.XX the upgrade to version **V3.33** can be made with a loading program: Load the Flash-EEPROM with the PC using the serial operator interface (described in service information C53000-A1000-X016-1K-7620). The upgrade kit to **V3.33** with the loading program and the disk (3,5“ DS HD for DOS-computers) can be ordered (see order data).

A firmware update via loading program from version V1.XX and V2.0X to version **V3.33** is **not** possible!

Devices with version V1.X or V2.0X can **only** be upgraded to **V3.33** via EPROM-exchange.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		
1C	firmware	29.04.98	Po	SIEMENS AG		C53000-A1000-X016-1K-7620
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission		
Iss.	Type of notice	Date	Name	and Distribution		
						Page 2 / 17

If required, the upgrade to firmware version **V3.33** can occur by EPROM-exchange (described in service information C53000-A1000-X015-1K-7620). For that the EPROM-update kit for **V3.33** is indispensable (see order data).

The update set can be ordered at:

SIEMENS AG
 PTD EA P RCC
 Wernerwerkdammm 5
 13623 Berlin
 Germany

Order number for update sets 7SA513:

Firmware	Loading program	EPROM-set
V3.33	C73207-A272-W522-4	C73207-A272-D515-4

Please specify in your Order:

- Number of devices
- MLFB No. and Fab.-No.
- Previous firmware version
- Required firmware version (**V3.33**)
- Clarification, if full VDEW-compatible DVH-module is required
 („light on / light off“- jumper plug)

Ordering procedure via AGAVE, LABIV, SAP etc.

Order forms to UMWB

The firmware exchange may only be carried out by qualified persons.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		
1C	firmware	29.04.98	Po	SIEMENS AG		C53000-A1000-X016-1K-7620
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission		
Iss.	Type of notice	Date	Name	and Distribution		
						Page 3 / 17

We recommend observing the following procedure when updating the firmware.

Requirements:

Check operating system. The update operates only with Windows 95/98, Win NT4.0 and Windows XP.

Connecting cable to the protection device <-> PC, e.g. Order-#. 7XV5100-5 (PC-Side 25-pin), 7XV5100-4 (PC-Side 9-pin).

Installing the firmware load program

The firmware load program has to be installed on your computer before loading. This installation should always be executed even if one version of the load program had previously been installed on your computer. The procedure for installation is:

The following files are on the disk: (the file names can differ depending on the device type and the firmware version):

Dateiname	Größe	Typ	Geändert am	Attribute
Liesmich.doc	64 KB	Microsoft Word-Dokument	27.10.00 16:15	A
Readme.doc	64 KB	Microsoft Word-Dokument	27.10.00 16:13	A
Readme.txt	3 KB	Textdatei	06.07.00 09:58	A
Setup_7XXXXX_YY.YY.YY.EXE	855 KB	Anwendung	27.10.00 12:40	A

Please read the notes in the file "Readme.txt" before continuing the installation.

Start the program "Setup_7XXXXX_YY.YY.YY.exe" and follow the instructions of the installation program. We recommend to save all Updates in the same directory „C:\Siemens“. The Updateprogram structures all updates later on. You will find the following files in the installation directory (the file names can differ depending on the device type and the firmware version).

Dateiname	Größe	Typ	Geändert am	Attribute
7XXXXX_YY.YY.YY.PCK	582 KB	PCK-Datei	16.03.00 17:10	A
FIRMWAREUPDATE	2 KB	Kurzwahleintrag	16.03.00 17:10	A
FirmwareUpdate.DE	10 KB	DE-Datei	16.03.00 17:10	A
FirmwareUpdate.EN	10 KB	EN-Datei	16.03.00 17:10	A
FirmwareUpdate.EXE	341 KB	Anwendung	16.03.00 17:10	A

The installation of the firmware load program is now complete.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.***--> V3.33 Firmware update with loading program	
1J	Firmware	21.05.02	Zi	Name	Röse		
1H	firmware	26.06.01	ZC	Tested	Claus		
1G	firmware	11.04.01	ZC	Stand.			
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)			
1C	firmware	29.04.98	Po	SIEMENS AG PTDEADSC14 Power Transmission and Distribution		Page	
1B	firmware	20.05.97	Po			C53000-A1000-X016-1K-7620	4 / 17
1A	first issue	20.05.97	Po				
Iss.	Type of notice	Date	Name				

Attention !

The following described procedures are a serious manipulation in the protection system.
During the loading procedure

- there is **no protection function** in operating status.
- **under no circumstances**, it is allowed, to switch off the auxiliary direct voltage.

After successful loading procedure, an original start-up will be carried out.
Finally, **all parameters have to be re-entered and checked.**

Update to firmware V3.33:

1. After the firmware exchange, the device will revert to the original factory settings.
2. Observe the relevant ESD (Electrostatic Sensitive Devices) precautions.
3. Remove the front cover of the device (turn up the folds that cover the rack both at the top and at the bottom and remove the four screws under the folds).
4. Before exchanging the firmware, read out or write down the settings and marshallings of the protection device by using an operator panel/display, 7XR50 or laptop/PC with DIGSI.
5. Switch off the device (e.g. at the front-side slide-switch).
6. Loosen the screws on the right hand side of the front door and open the front door of the relay.
7. Carefully remove the ribbon cables, which connect the DVH-module (see fig. 1, pos (2)) with the other modules that the DVH-module can be pulled out.

Afterwards remove the other ribbon cables which connect the front panel with the

- operational interface
- LCD-display
- membrane keyboard

8. Pull the DVH module out of the relay (see fig. 1, pos (2)) and place it on the conductive surface.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program	
1J	Firmware	21.05.02	Zi	Name	Röse		
1H	firmware	26.06.01	ZC	Tested	Claus		
1G	firmware	11.04.01	ZC	Stand.			
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)			
1C	firmware	29.04.98	Po	SIEMENS AG PTDEADSC14 Power Transmission and Distribution		Page	
1B	firmware	20.05.97	Po			C53000-A1000-X016-1K-7620	5 / 17
1A	first issue	20.05.97	Po				
Iss.	Type of notice	Date	Name				

On the DVH-module a label with **-A272-A5-*** is fixed. This label characterises the complete module as a DVH-module. The release is labeled at the point of the star (*).

Example: -A272-A5-5).

The release of the module has to be checked.

--> **The release of the DVH-module must be 5 or higher !**

Note:

- The firmware update as shown in this service-information is only possible with a DVH-module having a release of 5 or higher (≥ 5).
- Devices with a DVH-module of an older release (≤ 4), a firmware-upgrade is only possible by replacing the complete DVH-module! (Order procedure absolutely with declaration of the MLFB-No. of the device incl. hardware version .../!(), Fab.-No. and required firmware version).

Notice for devices 7SA513*-***-C** with serial interface to a central data processing station (LSA):**

- The normal signal position for the data transmission is factory preset as „light off“.
- A change of the normal signal position to „light on“ by a jumper plug is only possible on DVH-modules with the **release 6** (or higher).
- If operation with normal signal position „light on“ is necessary, the DVH-module has to be changed to a „light on/off - version (DVH-release ≥ 6).

Order procedure absolutely with declaration of the MLFB-No. of the device incl. hardware version .../!(), Fab.-No. and required firmware version.

9. Plug the supplied so-called '**jumper-switch-cable**' (item no.: C73207-A272-B121-1) onto the pins **X31** and **X32** of the **ZPH** board (i.e. the submodule of the DVH with the red and green LED). The plug connector X31, X32 and X33 is located in the middle of the upper edge of the ZPH board (see figure 2) and is normally not equipped with a jumper plug (if necessary, remove any existing jumper plugs. Do not replace them after the update has been carried out!).

The programming voltage for the Flash-EPROMs is released via the switch of the jumper-switch cable. The lagging of the programming voltage in comparison to the IC supply voltage must be

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		Firmware update with loading program
1C	firmware	29.04.98	Po	SIEMENS AG		C53000-A1000-X016-1K-7620
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission		
Iss.	Type of notice	Date	Name	and Distribution		
						Page
						6 / 17

ensured when switching on the device (vice versa when switching off)! The following procedure must be strictly observed:

The **jumper-switch-cable** must be inserted in OFF-status [**switch to pos. 1**]. After switching on/start-up of the device, set the jumper-switch to the ON-position [**switch to Pos. 2**] for Flash-EEPROM programming (see point no.16); after loading procedure, please re-set the jumper-switch to the OFF-position [**switch to pos. 1**] before switching off the device (see point No.19).

After the update, the jumper-switch-cable has to be removed again (see point no. 20).

Attention: The former method of providing the programming voltage via a simple plug-in jumper (place in and removal while the device is switched off) may no longer be applied!

10. Re-insert the DVH module in the housing; ensure that the module is firmly pushed in.
11. Carefully re-connect the ribbon cables, which connect the DVH-module (see fig. 1, pos (2)), with the other modules. Be careful, that no terminal pins suffer injury (bending).

Then re-connect the ribbon cables from the front panel; take care for correct polarity:

- from the operational interface
- from the LCD-display
- from the membrane keyboard

12. Close the door of the housing.

The jumper switch cable has to be in the position that the switch operating is possible when the front door is closed. This means that the cable has to be between the front door and the frame of the housing.

13. Make sure that the jumper switch is in **OFF** position [**Switch in Pos. 1**].
14. Switch on the device.
15. When the relay is in service (green LED is illuminating), the switch of the jumper cable has to be switched to ON position [**Switch in Pos. 2**].

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program	
1J	Firmware	21.05.02	Zi	Name	Röse		
1H	firmware	26.06.01	ZC	Tested	Claus		
1G	firmware	11.04.01	ZC	Stand.			
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)			
1C	firmware	29.04.98	Po	SIEMENS AG PTDEADSC14 Power Transmission and Distribution		Page	
1B	firmware	20.05.97	Po			C53000-A1000-X016-1K-7620	7 / 17
1A	first issue	20.05.97	Po				
Iss.	Type of notice	Date	Name				

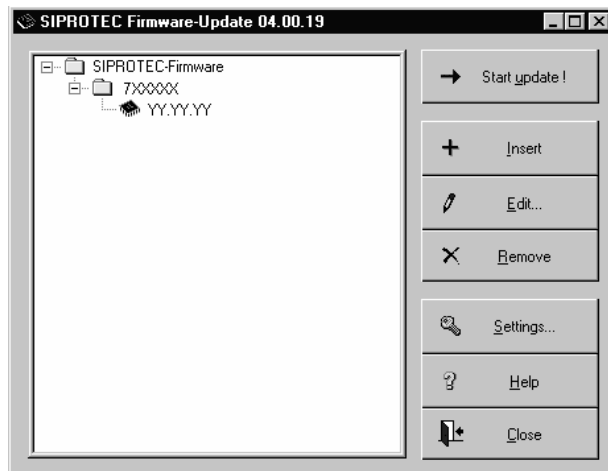
Caution:

Please take care that there is no loss of DC voltage during loading of the new software (item) and before the jumper switch is in OFF position (switch in position 1).

- 16. The serial interface at the front of the device must be connected to the serial interface of the PC (COM1 or COM2). The connection cable used for DIGSI can be used for this procedure as well.
- 17. The program "FirmwareUpdate.EXE" can now be started from the directory where the load program has been installed.

Note: When loading the firmware the parameter set in the device will be erased. Therefore it should first be stored using DIGSI!

The firmware load program starts with the following menu:



The left-hand window on the screen shows all firmware versions which are actually available on the PC. First the firmware which shall be loaded has to be selected. This is done by selecting the required firmware under the device type (e.g. „01.23.45“ for V1.23). Depending on the device type not only one device firmware is offered.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		C53000-A1000-X016-1K-7620
1C	firmware	29.04.98	Po	SIEMENS AG		
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission and Distribution		
Iss.	Type of notice	Date	Name			Page 8 / 17

Before starting the loading procedure, please select under "Settings" the serial interface of your PC which is connected with the device by the connection cable. This is done in the following menu:



Further information is given under "Help". Now the loading procedure for the firmware can be started by "Start Update".

Please pay attention to the written text in the load program during the loading procedure.

WARNING!

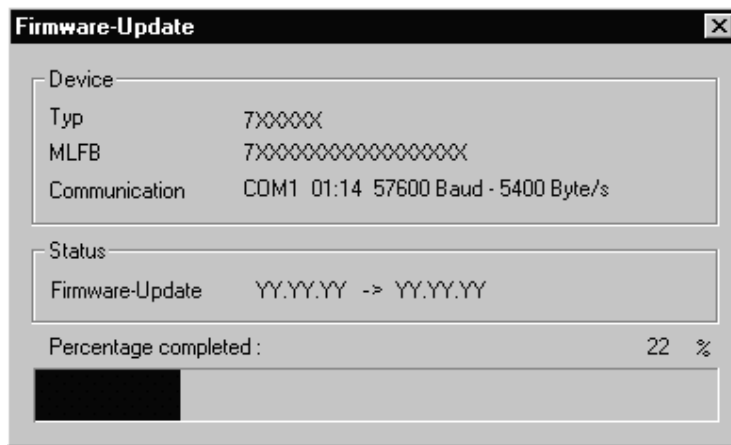
The auxiliary voltage of the protection device must not be interrupted during the load process.

Note:

In the event of an auxiliary voltage failure during the installation the loading procedure should be attempted again. Depending on the instant of voltage failure this might be impossible. In case of failure the device has to be returned to the factory. If this is the case or if unexpected problems occur, please contact your SIEMENS partner.

The load program monitors the correct data transfer between PC and protection device. During the loading procedure the following picture is displayed on the screen.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		
1C	firmware	29.04.98	Po	SIEMENS AG PTDEADSC14 Power Transmission and Distribution		Page
1B	firmware	20.05.97	Po			
1A	first issue	20.05.97	Po			C53000-A1000-X016-1K-7620
Iss.	Type of notice	Date	Name			



After the loading procedure, the protection device automatically performs a check sum test in order to ensure that the new firmware has correctly been transferred to the device. The loading procedure is indicated by flashing LED's on the input- output module EAH0. After the successful update the green "RUN" LED is on and the red "EROR" LED is off. Than the update will start an original start. At this moment the red "EROR" LED goes on. When the original start is finished the red "EROR" LED goes off durable.

When the loading procedure is interrupted, an alarm message appears, and the loading program has to be started again. (!!Please take care that there is no loss of DC voltage!!).

After succesful update, the green LED is illuminating to indicate readiness of service. The display shows the settings of the implemented firmware version (V3.33) and the MLFB-No. *) of the device:

```
Display:  0 7SA513   V3.33
          7SA513****2*****
```

*) Please note: For updates V2.** ---> V3.** the number on the 11th MLFB position for V3 has changed to cipher " 2 " (for V2 originally cipher " 1 "). The other MLFB positions are unchanged.

The settings of the relay are the original factory settings.

Please note:

In comparison to versions V2.0*/V2.1* the functions which serve to supervise auxiliary voltage

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		
1C	firmware	29.04.98	Po	SIEMENS AG		C53000-A1000-X016-1K-7620
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission		
Iss.	Type of notice	Date	Name	and Distribution		
						Page 10 / 17

and hardware extension and which forestall readiness for service of the device (in case of fault detection), have been subjected to stricter criteria (setpoint function!). Therefore it is advisable to check on the following two topics:

- 5V auxiliary voltage: On some 7SA513 devices the 5V auxiliary voltage has been adjusted to the upper tolerance limit which may cause the internal software-operated voltage supervision to respond under given circumstance. Up to version V2.12, entries were stored to the operational annunciation buffer leaving the device functions unaffected. With versions V2.2*/V3.** , the device reverts to blocked mode if the 5V supervision responds.

Corrective measures: Checking/adjustment of the 5V auxiliary voltage as described in service information C53000-A1000-X011-1-20: Checking of the 5 Volt power supply. The relevant steps are listed under point 29.

- EAH extension (binary input/output modules; pos. (3), (4), (5) in figure 1): the MLFB code, which pertains to the ordered device, has been software-implemented by the producer and will appear in the display. The 12th MLFB position denotes the EAH extension (e.g. 2 EAH or. 3 EAH modules). Up to version V2.12 the actual number of extant EAH modules have not been verified by the software. In versions V2.2*/V3.** , the number of the plugged-in EAH modules are compared to the number, recorded in the implemented MLFB code. In case of deviation, the device will go into the monitor subroutine (malfunction of device).

Corrective measures: Number of EAH modules (i.e. excluding/including module EAH2 in pos. (3) as in figure 1) must correspond to the number shown in the implemented MLFB code. Before carrying out a firmware update, write down the MLFB code (address 0 or 0000). Check and, if necessary, modify the EAH configuration of the device.

18. After the device is in service, the switch of the jumper switch cable must be switched to OFF position [**Switch in position 1**].
19. The installed jumper switch cable has to be removed. The following steps have to be carried out:
 - Switch off the device.
 - Open the front door.
 - Connection cables between the modules have to be removed carefully (refer to point 7).

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		
1C	firmware	29.04.98	Po	SIEMENS AG		C53000-A1000-X016-1K-7620
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission		
Iss.	Type of notice	Date	Name	and Distribution		
						Page 11 / 17

- Withdraw the DVH module and place it on the ESD base.
- Remove jumper switch cable from the pins X31, X32 (refer to point 9).
- The pins X31 to X33 shall not be linked with a bridge.

20. To indicate that the firmware has been updated, a label should be attached to the lower side of the ZPH-processor board. Use the supplied label and fix it on a suitable location (e.g. covering the former label).

21. Insert the DVH module into the housing; ensure that the module is firmly pushed in. Carefully re-connect the ribbon cables, which connect the DVH-module (see fig. 1, pos (2)), with the other modules. Be careful, that no terminal pins suffer injury (bending). Then re-connect the ribbon cables from the front panel; take care for correct polarity:

22. The update should now also be indicated externally by the appropriate label on the inner side of the door of the housing. Use the supplied new label to replace the previous invalidated label. Another label to indicate the update on the outside of the device is recommended.

If the firmware is updated from V2.** to version V3.**, the MLFB-code on the nameplate (underneath the operator panel) should be modified. Correct the 11th position of the MLFB code in accordance with the newly installed version V3 (using a water-resistant pen):

- for Version V3.** --> 11th MLFB position = 2 : 7SA513* - * * * * 2 * - * * * *

23. Close the front door of the relay and fix the two screws of the front door (see No. 6).

24. Switch on the device.

25. After successful start, the green LED is illuminated to indicate readiness of service. The display shows the MLFB-code of the device indicating the newly installed firmware. The firmware update is thus completed.

The settings stored in the device are the **original factory settings**.

26. The device is now ready for normal commissioning.

ATTENTION!

After successful installation, a restart is carried out.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	<small>(readme_BB_EE.doc)</small>		
1C	firmware	29.04.98	Po	SIEMENS AG		C53000-A1000-X016-1K-7620
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission		
Iss.	Type of notice	Date	Name	and Distribution		
						Page 12 / 17

Subsequently, **all parameters must be re-set and checked.**

In written inquiries, please always specify the serial number and the complete MLFB code for the device/component in question.

Please note:

In the case of a voltage failure during installation, it may be necessary to exchange the EPROMs to attain the firmware update. Please contact your SIEMENS agent in such an event.

Devices with firmware-version V2.0X can only be upgraded by EPROM exchange.

In this case, please follow the notes of service information C53000-A1000-X015-1K-7620.

Order-No. for EPROM set 7SA513-V3.33: **C73207-A272-D515-4**

27. Measures for note-position „5V-auxiliary supply“ (No. 18 of this information):

Checking/adjustment of the 5V auxiliary voltage as described in service information

C53000-A1000-X011-1-20: Checking of the 5 Volt power supply.

For check/adjustment of the 5V-auxiliary supply, the door of the housing must be opened.

27.1 Switch off the primary power supply.

27.2 Remove the bus plug **-X11** from the power supply module **SVH** (see fig. 1).

27.3 Connect a digital-voltmeter to pin 2 (positive pole +5V) and pin 5 (negative pole -5V) of the plug connector X11 (SVH-module). Pin-location see fig. 1.

27.4 Switch on the power supply.

27.5 The measured voltage must be **5,00 Volt**. The tolerance is **+ 0,150 Volt**.

27.6 If the voltage is within the tolerance, go to No. **27.14**.

27.7 Voltage too high or too low?

27.8 Switch off the power supply.

27.9 Pull out the SVH-module out of the housing for approx. 6 cm.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		Firmware update with loading program
1C	firmware	29.04.98	Po	SIEMENS AG		C53000-A1000-X016-1K-7620
1B	firmware	20.05.97	Po	PTDEADSC14		
1A	first issue	20.05.97	Po	Power Transmission		
Iss.	Type of notice	Date	Name	and Distribution		
						Page
						13 / 17

- 27.10 Adjust **potentiometer R15** with a suitable screwdriver or balancing pin through the drilled hole of the right SVH-module:
- Voltage too high --> Adjust the potentiometer approx. 5° clockwise.
 - Voltage too low --> Adjust the potentiometer approx. 5° anti-clockwise.
- 27.11 Push the SVH-module back into the housing.
- 27.12 Switch on the power supply.
- 27.13 Go on with No. 27.5.
- 27.14 Switch off the power supply.
- 27.15 Replace the bus plug **-X11** to the plug connector X11 of the power supply module **SVH** (see fig. 1).
- 27.16 The check/adjustment of the 5V-auxiliary supply is finished.

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program	
1J	Firmware	21.05.02	Zi	Name	Röse		
1H	firmware	26.06.01	ZC	Tested	Claus		
1G	firmware	11.04.01	ZC	Stand.			
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)			
1C	firmware	29.04.98	Po	SIEMENS AG PTDEADSC14 Power Transmission and Distribution		Page	
1B	firmware	20.05.97	Po			C53000-A1000-X016-1K-7620	14 / 17
1A	first issue	20.05.97	Po				
Iss.	Type of notice	Date	Name				

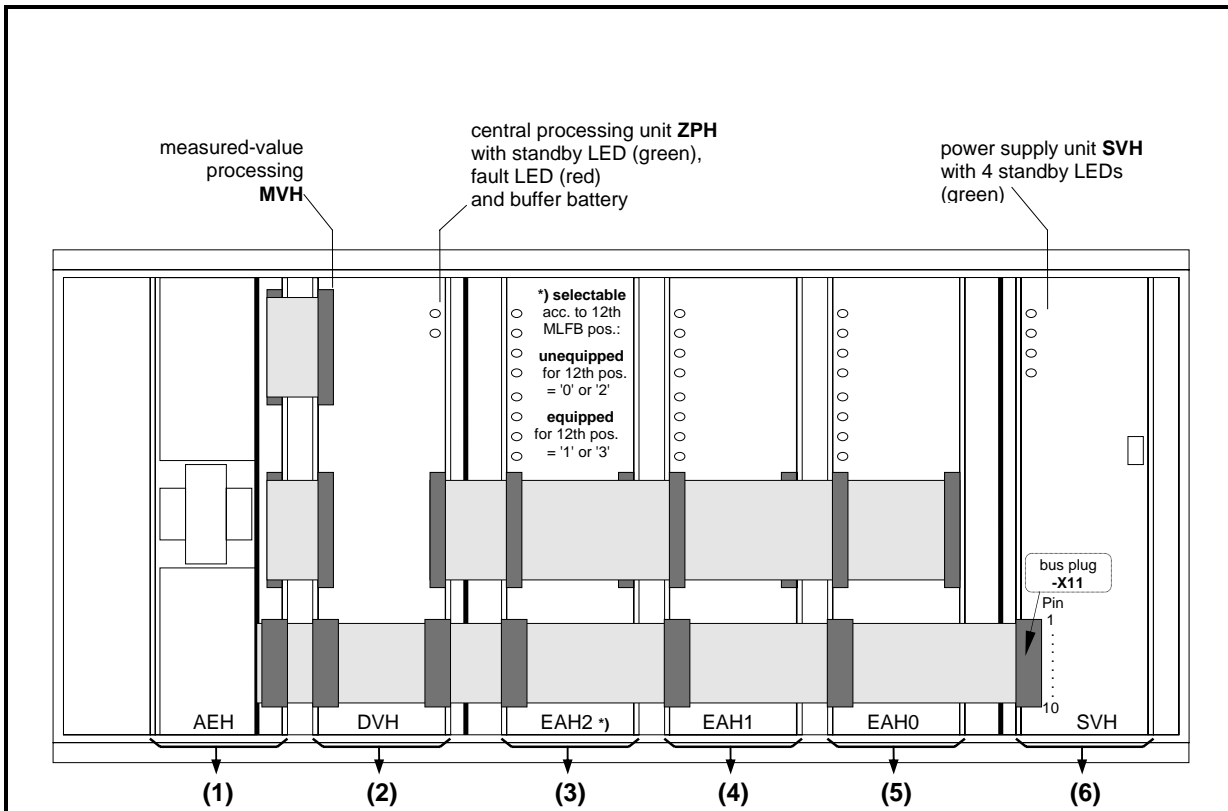


Figure 1: Front view of 7SA513 when front door is open (simplified),
Module (2) ---> DVH (Numerical Processing extra-high voltage)

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program	
1J	Firmware	21.05.02	Zi	Name	Röse		
1H	firmware	26.06.01	ZC	Tested	Claus		
1G	firmware	11.04.01	ZC	Stand.			
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)			
1C	firmware	29.04.98	Po	SIEMENS AG PT DE AD SC 14 Power Transmission and Distribution		Page	
1B	firmware	20.05.97	Po			C53000-A1000-X016-1K-7620	15 / 17
1A	first issue	20.05.97	Po				
Iss.	Type of notice	Date	Name				

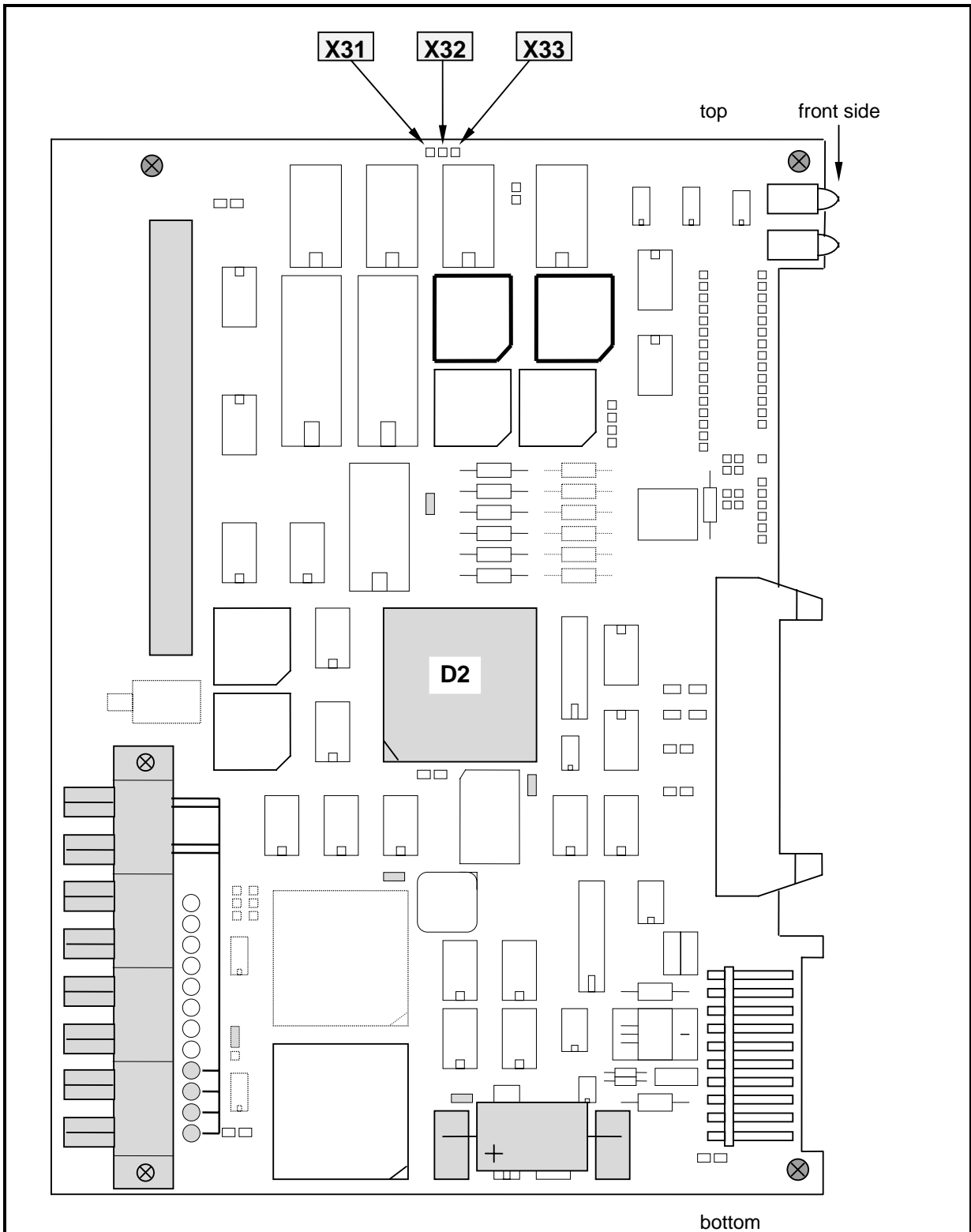


Figure 2: ZPH board, mounting side
 Location of pins X31, X32, X33
 Location of the ZPH processor D2

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information 7SA513 /BB.../EE V2.1/V2.2/V3.**--> V3.33 Firmware update with loading program
1J	Firmware	21.05.02	Zi	Name	Röse	
1H	firmware	26.06.01	ZC	Tested	Claus	
1G	firmware	11.04.01	ZC	Stand.		
1D	firmware	19.04.99	Rö	(readme_BB_EE.doc)		<div style="text-align: center;"> SIEMENS AG PTDEADSC14 Power Transmission and Distribution </div>
1C	firmware	29.04.98	Po			
1B	firmware	20.05.97	Po			
1A	first issue	20.05.97	Po			
Iss.	Type of notice	Date	Name			
C53000-A1000-X016-1K-7620						Page 16 / 17



WARNING

Dangerous voltages may occur in devices and modules during operation depending on the design and application. Incorrect use of these devices can therefore result in severe personal injury or substantial damage to property.

Only suitably qualified staff should work on this device.

Correct and safe operation of this device is dependent on proper handling, installation, operation and maintenance.

Should you require further information, or should particular problems occur which are not handled in sufficient depth in the Instructions, help can be requested through your local Siemens Office or representative.

QUALIFIED PERSON

A "qualified person" is one who is familiar with the installation, construction and operation of the device and who has the appropriate qualifications, e.g.

- is trained and authorized to operate and maintain devices/systems in accordance with established safety practices for devices with electrical circuits.
- is trained in the proper care and use of protective equipment in accordance with established safety practices.
- is trained in first aid.



WARNUNG

Beim Betrieb können in Geräten und Baugruppen je nach Ausführung und Anwendung gefährliche elektrische Spannungen auftreten. Unsachgemäßer Umgang mit diesen Geräten kann deshalb zu schweren Körperverletzungen oder erheblichen Sachschäden führen.

Nur entsprechend qualifiziertes Personal sollte an diesem Gerät arbeiten.

Der einwandfreie und sichere Betrieb dieses Gerätes setzt sachgemäßen Transport, fachgerechte Lagerung, Aufstellung und Montage sowie sorgfältige Bedienung und Instandhaltung voraus.

Sollten Sie weitere Informationen wünschen, oder sollten besondere Probleme auftreten, die in der Anleitung nicht ausführlich genug behandelt werden, können Sie die erforderliche Auskunft über die örtliche Siemens-Niederlassung anfordern.

QUALIFIZIERTES PERSONAL

sind Personen, die mit Aufstellung, Montage, Inbetriebsetzung und Betrieb des Produktes vertraut sind und über entsprechende Qualifikationen verfügen, wie z.B.:

- Ausbildung oder Unterweisung bzw. Berechtigung Geräte/Systeme gemäß den Standards der Sicherheitstechnik für elektrische Stromkreise zu betreiben und zu warten.
- Ausbildung oder Unterweisung gemäß den Standards der Sicherheitstechnik in Pflege und Gebrauch angemessener Sicherheitsausrüstung
- Schulung in Erster Hilfe

Subject to change without prior notice !

1K	Firmware	09.12.05	Zi	Date	19.04.98	Service Information
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1A	first issue	20.05.97	Po	Power Transmission and Distribution		C53000-A1000-X016-1K-7620
Iss.	Type of notice	Date	Name			17 / 17