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Softstarter Firmware Upgrade

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1 How to upgrade PSTX firmware

The PSTX Softstarter has two firmware; one firmware for PSTX HMI and one firmware for the PSTX Control Board (CB). The two firmware are in one zip-package and can be found at ABB Library. It is only published internally ABB, but sharing to customers is approved. To upgrade the PSTX softstarter with the firmware, the SoftstarterCare is required. Use the hyperlinks below to download from the ABB library (only available for ABB personnel - intranet).

- Firmware Package
- <u>SoftstarterCare</u>

It is also possible to find the PSTX firmware and the SoftstarterCare under *Documents->Software* at <u>ABB Library - PSTX Softstarter</u>.

In order to upgrade PSTX, there are two different instructions available depending on the CB firmware version used. The CB firmware version can typically be found using the HMI (*Menu->System info->Softstarter*). If the HMI cannot be used, connect SoftstarterCare to the PSTX softstarter and you will find the CB firmware version on *Information->DEVICE INFORMATION* sheet.

IMPORTANT: If you use SoftstarterCare version 2.2.9 or newer and PSTX CB version 1.36.2 or older, you will not be able to upgrade if you are running in demo mode. Quit demo mode before upgrade.

1.1 Upgrade PSTX softstarter with CB FW version higher than 1.22.0

IMPORTANT: This instruction shall only be used for softstarters with CB firmware version <u>higher</u> than 1.22.0.

1.1.1 Preparation

- a. You need a standard USB cable "Mini-USB to USB".
- b. Unzip and Install SoftstarterCare on your PC. *Note:* Please make sure to install the correct version of the Visual C++ Redistributable for Visual Studio 2015 package prior to installation of Softstarter Care. No matter what type of Windows computer you have, please install the x86 version (32-bits) as Softstarter Care is a 32-bits application. It also applies to 64-bits computers. The file name of the redistributable package to download and install from microsoft.com is vc_redist.x86.exe.

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c. Unzip the PSTX Firmware Package.

1.1.2 Upgrade firmware

- a. Ensure that the PSTX softstarter is disconnected from operational voltage and control supply voltage (100-250V). It only requires the power from the USB.
- b. Set the PSTX HMI in boot mode.



Hold both the stop and L/R button when connecting the USB cable between the PC and the PSTX HMI. This will set the HMI in boot mode and all four LEDs (Ready, Run, Protection and Fault) will be lit. Release the buttons and verify that all 4 LEDs still are lit.

c. Start SoftstarterCare and confirm that the softstarter is connected. Windows Start->All programs->ABB-> ABB SoftstarterCare[™] -Service Engineer Tool-> SoftstarterCare[™] - Service Engineer Tool.



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d. Click on *Firmware upgrade* to start the firmware upgrade wizard.



e. Select the firmware (.cab) files previously unzipped during the preparation and then click *Next*.

🕼 Firmware Upgrade Wizard			
Welcome to the Firmware Upgrade Wizard			
This wizard helps you upgrade the firmware on the connected PSTX Softstarter. You should only use this wizard if you are an advanced user or you have been directed here by technical support. Select the Control Board firmware file you want to download.			
C:\Users\===:AppData\Roaming\ABB Control Products\Prc Browse			
Select the HMI firmware file you want to download.			
C:\Users\\AppData\Roaming\ABB Control Products\Prc Browse			
Click Next to continue.			
< Back Next > Cancel			

f. Your PSTX softstarter is already in boot mode so click *Next* to proceed with the upgrade.

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Firmware Upgrade Wizard
Set HMI in boot mode
 Make sure your PSTX device is in HMI boot mode (4 leds are lit). Remove the USB cable and wait for the device to be disconnected. Hold both the STOP button and L/R button. Attach the USB cable and release the STOP and L/R button. Wait for device to reconnect to SoftstarterCare™ (1-2 min). Press next.
< Back Next > Cancel

g. The softstarter parameters are stored to a specified directory for allowing user to restore parameters after upgrade.

Click Next to use the default directory and start the firmware upgrade.

Ç	Firmware Upgrade Wizard		
R	eady to Upgrade Firmware		
	During Firmware Upgrade, the device parameters are stored to below specified directory for allowing user to restore the parameters after upgrade complete.		
	Parameters are stored to directory:		
	C:\Users\setosam\Documents\ABB\SoftstarterCare™ - Service Engineer Tool\PS		
	Browse		
Click Next to continue, or Cancel to exit Firmware Upgrade.			
	< Back Next > Cancel		

h. The firmware upgrade is now in progress. The upgrade takes up to 15 minutes.

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G Firmware Upgrade Wizard	
Firmware upgrade in Progress	
 Backup Parameters Upgrade Control Board a Restore Parameters 	and HMI Firmware
	11%
Upgrading Control Board and	d HMI Firmware
	Total 20%
	< Back Next > Cancel

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i. Message box asks whether you want to restore parameters or not. Click Yes to restore parameters.



The upgrade is now completed. Click Finish. j.

🕼 Firmware Upgrade Wizard
Firmware Upgrade Completed Successfully
Summary: Firmware is upgraded successfully, but following parameters values are not restored because of safety reasons: Motor rated current Ie Ie seq 1 Ie seq 2 Ie seq 3 ID Set the above parameters to desired values before using Softstarter.New Control Board Firmware Version: 1.34.7
< Back Next > Finish

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1.2 Upgrade PSTX softstarter with CB FW version lower than 1.22.0

IMPORTANT: This instruction shall only be used for softstarters with CB firmware version <u>lower</u> than 1.22.0.

SoftstarterCare has very limited support for softstarters with old CB firmware, i.e. parameters backup/restore is not supported, only firmware upgrade is supported. In addition to the firmware upgrade instruction of softstarters with new CB firmware, two additional steps is needed for old CB firmware in order to not lose parameter setting during firmware upgrade.

1.2.1 Preparation

- a. You need a standard USB cable "Mini-USB to USB".
- b. You need to connect a jumper cable to the COM2 port in order to set it in boot mode. Contact softstarters support (<u>se-softstarters-</u> <u>support@abb.com</u>) to order one.



If you don't have the cable it's still possible to get into boot mode by connecting the 3 pins shown in the picture below.



c. Unzip and Install SoftstarterCare on your PC **Note**: Please make sure to install the correct version of the Visual C++ Redistributable for Visual Studio 2015 package prior to installation of Softstarter Care. No matter what type of Windows computer you have, please install the x86 version (32-bits) as Softstarter Care is a 32-bits application. It also applies to 64-bits

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computers. The file name of the redistributable package to download and install from microsoft.com is vc_redist.x86.exe.

d. Unzip the PSTX Firmware Package CB1.34.7/HMI1.16.6.

1.2.2 Backup parameters

Write down all modified parameters. These parameters must be manually restored after firmware upgrade.

To list the modified parameters, use the HMI and navigate to *Menu->Parameters->Modified.* If the HMI cannot be used for some reason, then it is possible to connect another HMI to the PSTX softstarter to list the modified parameters.

1.2.3 Upgrade firmware

- a. Ensure that the PSTX softstarter is disconnected from operational voltage and control supply voltage (100-250V). It only requires the power from the USB.
- b. Attach jumper cable to Control Board (Jumper cable will force PSTX CB to boot mode when it is power on)
- c. Set the PSTX HMI in boot mode.



Hold both the stop and L/R button when connecting the USB cable between the PC and the PSTX HMI. This will set the HMI in boot mode and all four LEDs (Ready, Run, Protection and Fault) will be lit. Release the buttons and verify that all 4 LEDs still are lit.

- d. Remove jumper cable. The Control Board will need to restart itself into application mode during the upgrade, and that's not possible if the jumper cable remains connected to the COM2 port.
- e. Start SoftstarterCare, Windows Start->All programs->ABB-> ABB SoftstarterCare™ - Service Engineer Tool-> SoftstarterCare™ -Service Engineer Tool.

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You will get the following information dialog. Click OK.





- f. Click on Firmware upgrade
- g. Select the firmware (.cab) files previously unzipped during the preparation and then click *Next*.



h. Your PSTX softstarter is already in boot mode so click *Next* to proceed with the upgrade.

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G Firmware Upgrade Wizard
Set HMI in boot mode
Make sure your PSTX device is in HMI boot mode (4 leds are lit). - Remove the USB cable and wait for the device to be disconnected. - Hold both the STOP button and L/R button. - Attach the USB cable and release the STOP and L/R button. - Wait for device to reconnect to SoftstarterCare™ (1-2 min). - Press next.
< Back Next > Cancel

i. Since parameters cannot be read from device, you will have to set the PSTX model number manually. Click *Select* and choose the correct model number. Then click *OK* to start the firmware upgrade.

Select PSTX Model Number
Your PSTX device is using an old firmware. The PSTX Model Number can not be detected.
Select your PSTX Model Number (ID):
Select

j. A message box will show up because of the parameters that cannot be saved. Click *Yes* to continue with firmware upgrade.

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k. The firmware upgrade is now in progress. The upgrade takes up to 15 minutes.

G Firmware Upgrade Wizard	
Firmware upgrade in Progress	
 Backup Parameters Upgrade Control Board a Restore Parameters Downloading firmware. 	nd HMI Firmware
	11%
Upgrading Control Board and	d HMI Firmware
	Total 20%
	< Back Next > Cancel

I. The upgrade is now completed, click *Finish* to exit upgrade wizard.

G Firmware Upgrade Wizard	x
Firmware Upgrade Failed	
Summary:	
Failed to backup and restore the parameters during firmware upgrade, hen set the parameters manually to the desired values before using Softstarter.	ce
< Back Next > Fin	ish

- m. Restore all *modified parameters* by setting each parameter to the value stored before firmware upgrade, see section *1.2.2 Backup parameters*.
- n. Done, firmware update completed.

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2 How to upgrade PSE firmware

The PSE firmware can be found at ABB Library. It is only published internally ABB, but sharing to customers is approved. To upgrade the PSE softstarter with the firmware, the SoftstarterCare is required. Use the hyperlinks below to download from the ABB library (only available for ABB personnel - intranet).

• <u>SoftstarterCare</u>

It is also possible to find the PSE firmware and the SoftstarterCare under *Documents-* >Software at <u>ABB Library - PSE Softstarter</u>.

2.1 Preparation

- a. You need a USB cable for ABB SoftstarterCare Service Engineer Tool
 - Type code: PSECA
 - Order code: 1SFA897201R1001
- b. Unzip and Install ABB SoftstarterCare Service Engineer Tool on your PC.

Note: Please make sure to install the correct version of the Visual C++ Redistributable for Visual Studio 2015 package prior to installation of Softstarter Care. No matter what type of Windows computer you have, please install the x86 version (32-bits) as Softstarter Care is a 32-bits application. It also applies to 64-bits computers. The file name of the redistributable package to download and install from microsoft.com is **vc_redist.x86.exe**.

2.2 Upgrade firmware

- a. Ensure that the PSE softstarter is disconnected from operational voltage and control supply voltage (100-250V). It only requires the power from the USB.
- b. Start SoftstarterCare and confirm that the softstarter is connected. Windows Start->All programs->ABB-> ABB SoftstarterCare[™] -Service Engineer Tool-> SoftstarterCare[™] - Service Engineer Tool.

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aBB SoftstarterCare	™ - Service Engineer Tool			
-D =				
Home				
Download Set Date and Tim	e Troubleshooting Firmware Form Upgrade			-
Parameters	Tools Help			
	Online			×
PSE142	Device Information - Online			
	Softstartar Time	000142		
	Softstarter Main Board Serial Number	151601143164110044		
Information	Softstarter Main Board Revision	G		
	Softstarter Boot Firmware Version	01.00.00		
2	Softstarter Application Firmware Version	01.03.02		
	Softstarter Communication Interface Version	0		
Parameters				
Status Data				
Junas Data				
i				
Event Log				
			Connected USER	ABB

d. Select the firmware (.cab) file and then click Next.

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e. The softstarter parameters are stored to a specified directory for allowing user to restore parameters after upgrade.

Click *Next* to use the default directory and start the firmware upgrade.

G Firmware Upgrade Wizard
Ready to Upgrade Firmware
During Firmware Upgrade, the device parameters are stored to below specified directory for allowing user to restore the parameters after upgrade complete. Parameters are stored to directory:
C:\Users\setosam\Documents\ABB\SoftstarterCare™ - Service Engineer Tool\PS
Browse
Click Next to continue, or Cancel to exit Firmware Upgrade.
< Back Next > Cancel

f. The firmware upgrade is now in progress. The upgrade takes up to 1 minute.

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g. Message box asks whether you want to restore parameters or not. Click Yes to restore parameters.

h. The upgrade is now completed. Click Finish.

V Firmware Upgrade Wizard		
Firmware Upgrade Completed Successfully		
Summary:		
Firmware is upgraded successfully, but following parameters values are not restored because of safety reasons:		
Motor rated current		
Set the above parameters to desired values before using the Softstarter.		
< Back Next > Finish		

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