I) Introduction

About

This document describes how to download a new firmware and a new paneltext version by using the DownloadTool FDT1.5

Affected Systems

all DCS400, DCE400 plus and DCS400 EasyDrive.

Requirements

Following components are needed:

- Personal computer with 386 processor or higher
- Hard disk with 2MB free memory
- VGA Monitor
- Windows 98 , NT, ME, 2000
- RS232 standard cable 9 Pin SUB-D (male/female) (the same is used for DriveWindow Light)
- Hitachi Download Tool FDT1.5
- The self-extracting zip-file *DCS400 Update Drive-SW V111.0 & Panel V7.01.exe*
- ABB software Drive Window Light (not mandatory)

Important Note

- Before updating a DCS 400 Control Panel with the new panel texts, **parameter values** that might have been created in the DCS 400 must be saved with the PC Tool **Drive Window Light**. Otherwise these values would be lost during the actualization process of the control panel's flash PROM.
- Parameters which are stored in the DCS 400 converter module will not get lost during update of the drive firmware.
- If the stored parameters in the panel and in the drive are the same, you need not to save the parameters. They will still be available in the drive after the update-procedure, so you can upload them again into the panel.
- If you have different parameter-sets in the panel and the drive you should save the parameters in the panel on your PC by using the PC-Tool Drive Window Light

Overview

- The DCS 400 drive software (drive firmware) and the texts in the control panel DCS400-PAN can be updated via the same PC-tool FDT1.5.
- The DCS400 has to be connected via the built-in RS232 interface to your PC
- As the panel cannot directly be connected to the PC for downloading the new panel texts, the upgrade will be done in two steps.
- First the new panel texts will be downloaded to the DCS400. Then the DCS400 acts as programming tool for the Panel and the panel texts are loaded from the Drive into the panel The DCS 400 is not functioning in this stage. (Hint: At this moment, several panels could be updated in a row, for the user's convenience)
- After finishing the update of the panel texts, you will have to complete the update procedure and load the drive firmware itself.
- Hint: If several drives have to be updated at one time, you first can update all panels at one drive. For the other drives you can directly start with the firmware download as you do not have to download the panel texts to every drive.

II) Step-by-Step Guide for Updating the DCS400 (Drive and Panel)

Install the Download Tool FDT1.5 on your computer.

1. Unzip the **ftd1_5.zip** file
2. Start the **ftd15.exe** installation file
3. Follow the installation Steps
   In the **ToolChain Selection Window**, Select **IAR only**
   In the **Kernel Component Selection Window**, Select **Install Kernel Binaries only**
   In the **Device Selection window**, select **H8/3048F**
   In the **Available Binaries box**, select **IAR only**.

Install the DCS 400 Workspace

The file **DCS400 Update Drive-SW 111.0 & Panel 7.01.exe** is the second part you need for this download tool. It contains the DCS 400 Drive firmware 111.0 and DCS400-Panel panel text version 7.01.
Start this self-extracting zip-file and extract it to any path on your hard disk.

DCS 400 Preparations

1. Switch **Off** the DCS400 electronics supply.
2. Disconnect Connector **S4** (centered behind the flap) from position 3-4 (Normal Mode) and reconnect on position **1-2** (Programming Mode).
3. Connect your PC with the DCS 400 via the RS232 connection. You need a standard cable 9 pin D-SUB (male/female). No crossing.
4. Switch **On** the DCS 400 electronics supply. 7 segment display is completely on. Indication on DCS400-PAN: **COMM LOSS.**

Start the previously installed FDT1.5 DownloadTool

In the dialogue box select **Open an existing workspace** and load the workspace-file **DCS400 Update Drive-SW V111.0 & Panel V7.01.fdt** from the folder where you unzipped it previously.
The following window should occure when all folders are expanded.

In the **Menu-Bar** select **Tools/One Touch Programming Mode** and confirm the dialogue

Download Panel-Texts to the Drive

You now see the One Touch Programming Mode
Select the **GO-Button on the left side** to download the Panel Texts to the drive.

(Note: If you have already a panel updated you can shift this step and directly go to the Step Downloading new Firmware)

Wait until the Download is finished.

Start Panel Update Tool of the Drive

- Switch **Off** the DCS 400 electronics supply.
- Reconnect connector **S4** from programming position 1-2 to normal position **3-4**
- Attach the DCS400-PAN control panel to the drive.
- Switch **On** the DCS 400 electronics supply.

Display when the Electronics Supply is powered ON

Display on control panel
DCS400-PAN

DCS 400 Panel
or **A**CS 400 Panel

Load panel text
Version 07.01

Old (actual) version
of the panel texts

Start Programming

Press **ENTER**.
Select **Overwrite** (= Update)
press once more **ENTER**

Display when the Program Starts

Flashes shortly

Update of DCS400-PAN ongoing

DO NOT remove Control Panel while Programming

Start — **L d 0 0 7 . 0 1**

Duration ca. 4 minutes

End — **E n d 0 3 4 7 2**
End of the programming

Update another DCS400-PAN?

- **YES**:
  Remove the updated control panel.
  Attach the new control panel.
  Continue with step *Display when the electronics supply is powered on* (see above).
  You can update non-limited numbers of control panels in a row.

- **NO**:
  Now you have to load the DCS400 firmware

Trouble Shooting Panel Update

- **Empty control panel**
- **No control panel**
- **Control panel removed while programming**
- **Power interrupt while programming**

- The drive automatically detects a DCS400-PAN, which has been loaded with a panel text (not empty). Display shows:

  You can start programming the drive as previously described, from the control panel's menu.

Unidentified Panel

- In two particular cases the drive (update software) cannot identify a control panel:
  a) Control panel which has **never been loaded with a panel text** version (=**empty control panel**)
  b) Control panel has been **removed while programming**

In these cases you cannot start the programming of the drive via the control panel. Therefore the programming will start **automatically** 15 seconds after the power electronics supply has been switched **On** or the panel has been removed.

Automatic Update of the control panel after approximately 15 seconds

DO NOT remove the Control Panel while Programming

Start — **L d 0 0 7 . 0 1**
Load panel text version 7.01

Duration about 4 minutes

End — **E n d 0 3 4 7 2**
End of Programming

Update further Control Panels?

- **See previous page**

What to do in Case

Wait about 15 secs. until the display is updated

Switch the electronics supply **Off** and **On** again. Wait about 15 secs, programming will start then **automatically**.

Check Version

- In case the DCS400-PAN display is „**Ld007.01**“, you may press the **MENU** button in order to query the tool version:
- Update tool's software version is stored in Parameter **SW Version (7.04)**.
- The panel's actual text version is stored in Parameter **Pan Text Vers (7.19)**

Downloading new Drive Firmware

DCS 400 Preparations

- Switch **Off** the DCS400 electronics supply.
- Disconnect Connector **S4** (centered behind the flap) from position 3-4 (Normal Mode) and reconnect on position **1-2** (Programming Mode)
- Switch **On** the DCS 400 electronics supply. 7 segment display is completely on. Indication on DCS400-PAN: **COMM LOSS.**
- Your PC should still be connected and Download Tool FDT1.5 still running, otherwise enter again the One Touch Programming Mode

Downloading Drive Firmware

In the One Touch Programming Mode:
Select the GO-Button on the right side to download the Drive Firmware to the drive.

Wait until the Download is finished.

Bring DCS 400 back into initial mode.

- After successful completion, close the Download Tool.
- Switch **Off** the DCS 400 electronics supply.
- Reconnect the Connector S4 from position 1-2 back to **3-4**

Finish!

Your DCS400 is now updated!
To check the Panel's and the Drive's firmware versions, switch on the electronic's supply and see

- Par. 7.04 for the Drive's software Version
- Par. 7.19 for the Panel Text Version (Enable Long Par. List!)