GTEC UPS MODEL:

DISCOVERY

Firmware upgrade procedure

SERVICE DOCUMENT
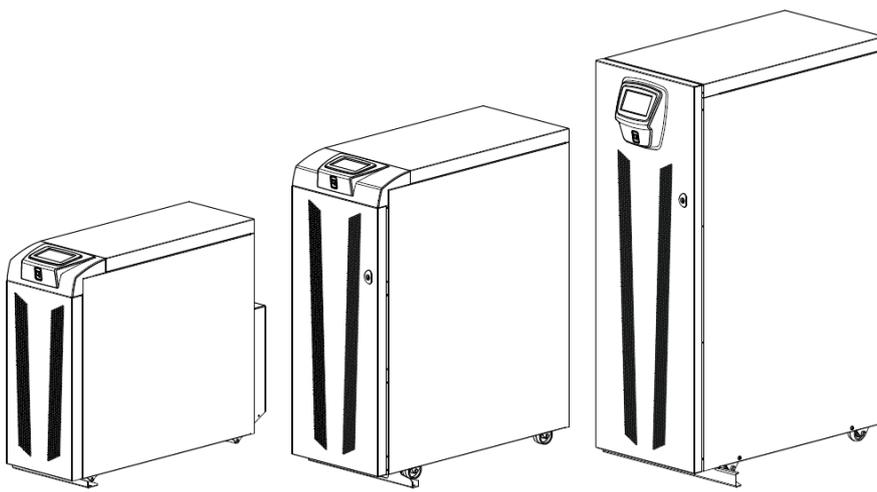
Contents

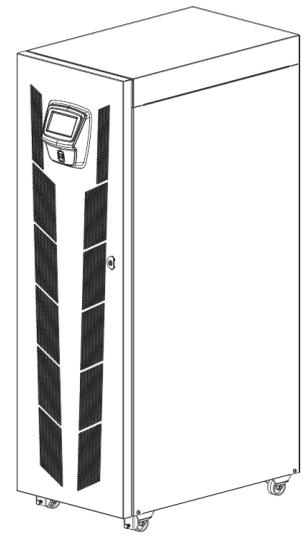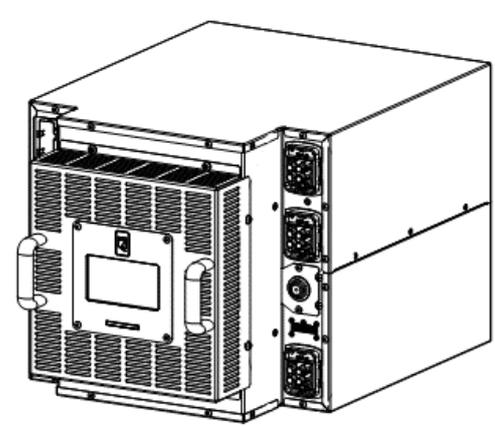***ALL OPERATIONS MUST EXCLUSIVELY BE CARRIED OUT BY QUALIFIED AND TRAINED PERSONNEL.***

1 INTRODUCTION

This manual explains how to update the DSP Firmware and the DISPLAY Firmware for the Sentryum series:

S3T/S3M 10-20 (CPT, ACT, XTD) **S3T 30-60 (ACT, XTD)** **S3U 10-30 (XTD)**

COMPACT - CPT   ACTIVE - ACT   XTEND - XTD

S3T 80-100-120	**SRT/SRM 20** **SMT/SMM 20**

1.1 Firmware versions

The firmware to be used are the following:

UPS family	DSP Firmware code	DISPLAY Firmware code
S3T/S3M 10-15-20 kVA	FW075-01xx	FW079-01xx
S3T 30-40 kVA	FW075-01xx	FW079-01xx
S3T 60 kVA	FW095-01xx	FW079-01xx
S3T 80-100-120 kVA	FW098-01xx	FW079-01xx

UPS family	DSP Firmware code	DISPLAY Firmware code
CBT 10-15-20 kVA	FW075-01xx	FW079-01xx
CBM 6-8-10-15-20 kVA	FW075-01xx	FW079-01xx
CBT 30-40 kVA	FW075-01xx	FW079-01xx

UPS family	DSP Firmware code	DISPLAY Firmware code
SRT/SRM 20 kVA	FW075-01xx	FW079-01xx

UPS family	DSP Firmware code	DISPLAY Firmware code
SMT/SMM 20 kVA	FW075-01xx	FW079-01xx

UPS family	DSP Firmware code	DISPLAY Firmware code
S3U 10-20-30 kVA	FW077-01xx	FW079-01xx

2 DSP FIRMWARE UPGRADE

2.1 Requirements

- DSPFlash 2.04 upgrading software (**or later version**):

  Refer to the software instructions: IT-DSPFlash 2 REV.xx (User Manual).

- Firmware:

  FW0xx-01xx (FW_S3T…._DSP_B0275_STANDARD).zip

- USB cable (A to B):

  Note: the cable is provided with the UPS.

2.2 Operations before the upgrade of the DSP firmware

⚠️ ATTENTION! It is necessary to switch off the UPS to upgrade the DSP firmware.

In case of single UPS, the maintenance bypass switch [SWMB] can be switched on to power the load.

WARNING! While SWMB is closed, any disturbance on mains or blackout will affect the load.

In case of a parallel redundant UPS system, if there's no central bypass switch, the firmware upgrade operation can be performed on one UPS per time, to avoid interrupting the power supply to the load.

For additional information, please refer to the Operative Procedures written in the User Manual.

a) If required, close the SWMB.

Figure 1

b) Press the "Menu" icon ☰ and select the "Command launcher" icon 🖵.

c) Tap the SYSTEM OFF/ON—>"0" command and press OK to confirm. The UPS will enter in the "STAND-BY WITH CB OFF" mode.
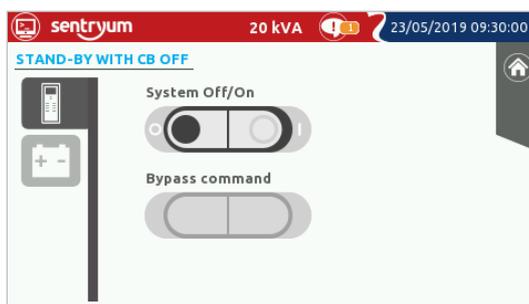

Figure 2

d) Open SWOUT, SWBYP (if present) and SWBAT (and in case an external battery switch) but leave SWIN closed.

2.3   Procedure to upgrade the DSP firmware

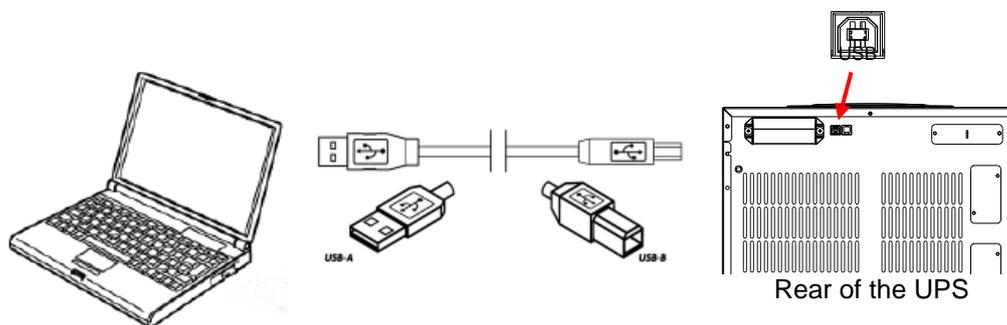a) Connect the PC to the UPS through a USB cable as picture below:

Rear of the UPS

Figure 3

b) Run DSPFlash 2.04 software (or higher version) and select "**USB E**" and "**S3T_0275**".
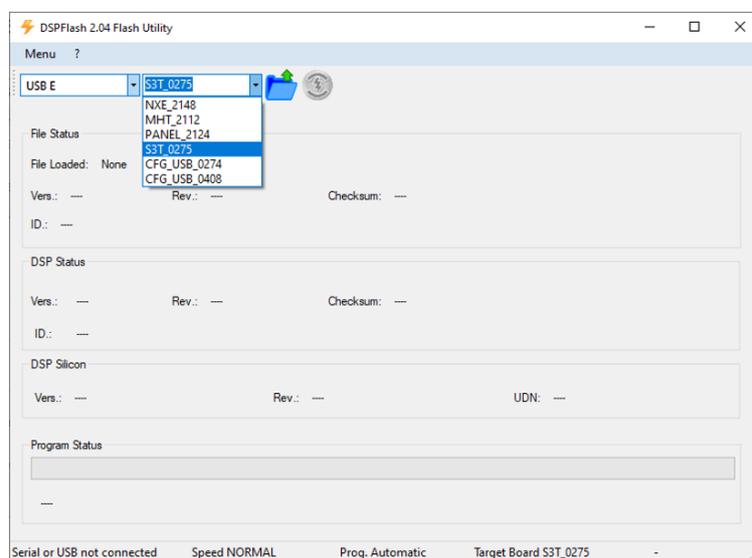

Figure 4

c) Click the icon and select the correct firmware (in FW075-01xx or FW077-01xx unzipped file), then click "Open".

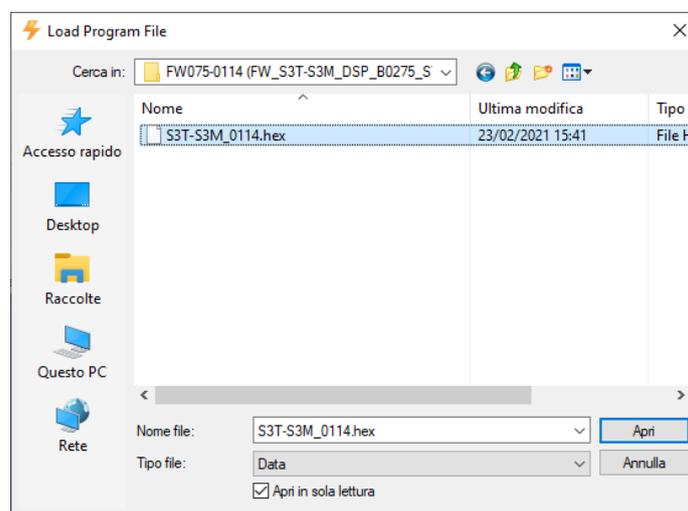**Figure 5**

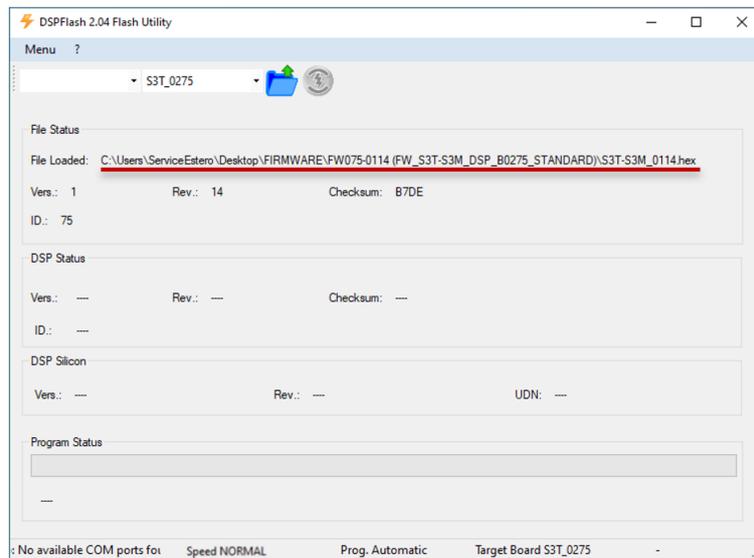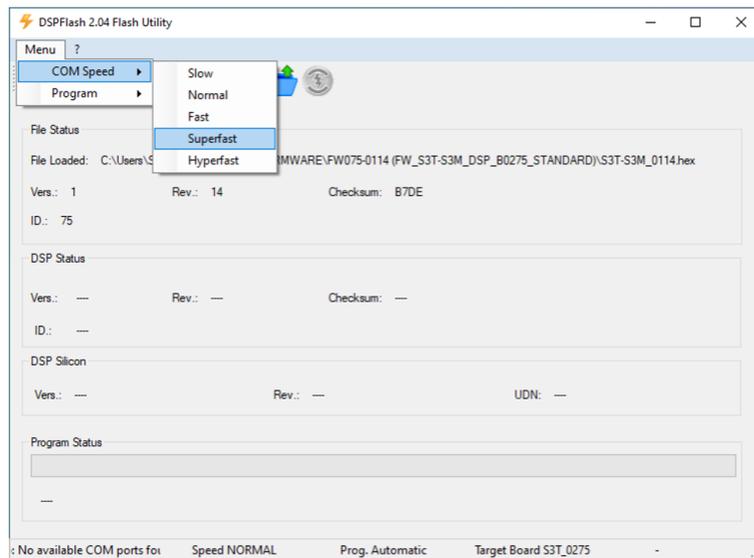The path will be shown in the "File Status" section, for example:

Figure 6

d) Select the COM Speed in "Superfast" for a fast upgrade.

Figure 7

Note: do not select Hyperfast

e) With the USB cable inserted, start the DSP upgrade clicking on [icon].
A message will inform you to turn OFF and ON the UPS **before** to click on "yes" (Figure 9).
Therefore, open the SWIN, wait the display turn off and then close the SWIN. The UPS will display "Starting" (Figure 10). Finally click on "yes".
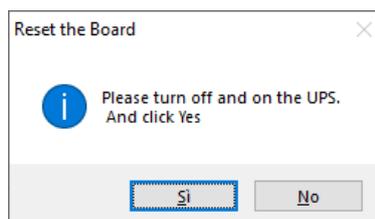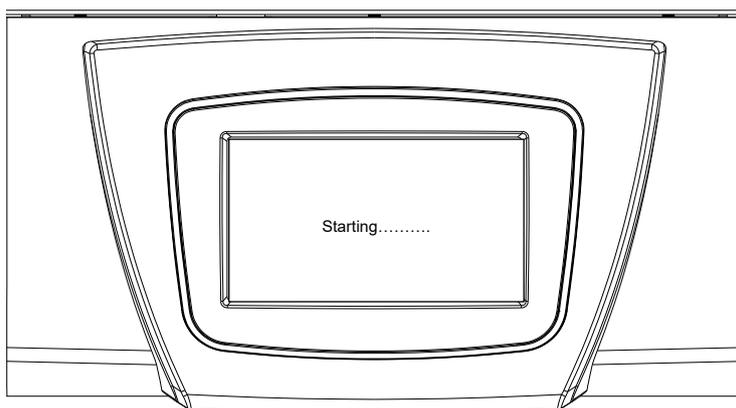

Figure 8

Figure 9

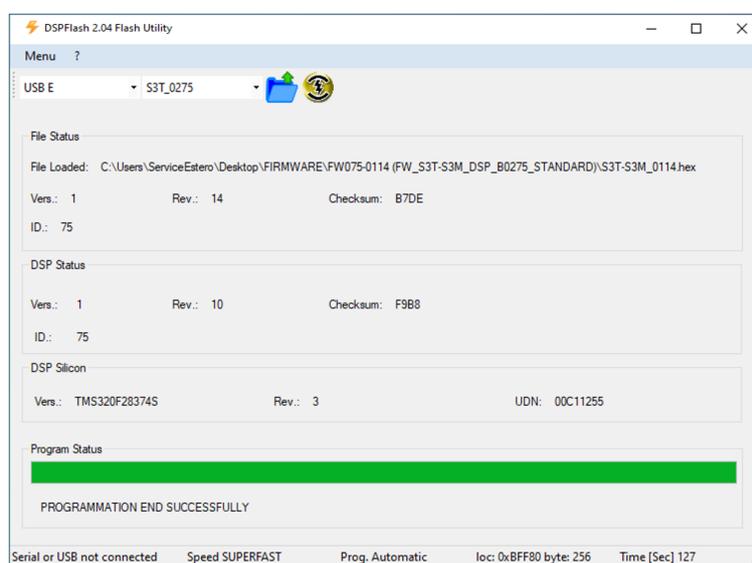f) Wait for the end of the upgrade process:

Figure 10

Note: <u>only</u> during the DSP upgrading is shown the "USB connected" in the bottom bar:

Figure 11

g) When the DSP programming is finished, the display automatically will turn on; it is possible to check the DSP upgraded firmware: expand the drop-down menu ☰ on the Home page and touch the information icon ⓘ.

h) Remove the USB cable.

2.4 Operations after the upgrade of the DSP firmware

Return in normal mode:

- Close SWBYP (if present)
- Close SWOUT
- Close SWBAT (and, if present, the external battery switch)

- Press the "Menu" icon ☰ and select the "Command launcher" icon 🖳.

<u>If the SWMB is close:</u>

- Check that not anomalies are present on the status bar (except [C05] "Manual bypass command").

- Tap the SYSTEM OFF/ON—>"1" command and press OK to confirm. Check that the bypass line is represented with a blue filled line as indicated in the following image:
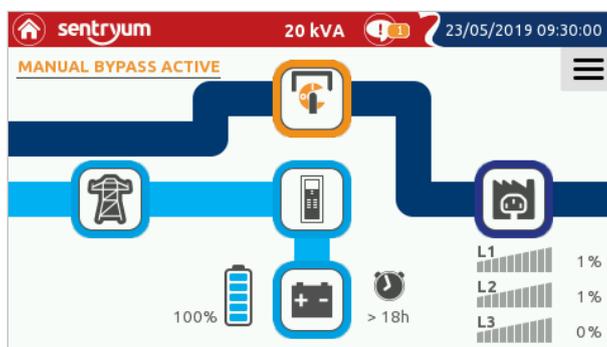

Figure 12

- Open the SWMB. The system will be in "ONLINE" mode.

<u>If the SWMB is open:</u>

- Check that no anomalies are present on the status bar.
- Tap the SYSTEM OFF/ON—>"1" command and press OK to confirm. The system will be in "ONLINE" mode.

3   DISPLAY FIRMWARE UPGRADE

3.1   Requirements

- Display Firmware file compressed:

  FW079-01xx (FW_S3T-S3M-S3U_MCU_B0306_STANDARD).zip

- USB cable (A to micro-USB B type)

  Note: the cable is <u>NOT</u> provided with the UPS.

3.2   Operation to remove the Display

The display can be removed with the UPS operating in normal mode. This procedure doesn't affect the UPS working.

> ⚠ Attention! The UPS without the display continues to operate but no indication from the UPS are available. ⚠
>
> ⚡ Take properly in consideration the working status of the UPS to avoid electrical hazards. ⚡

3.2.1 COMPACT (CPT) CHASSIS:
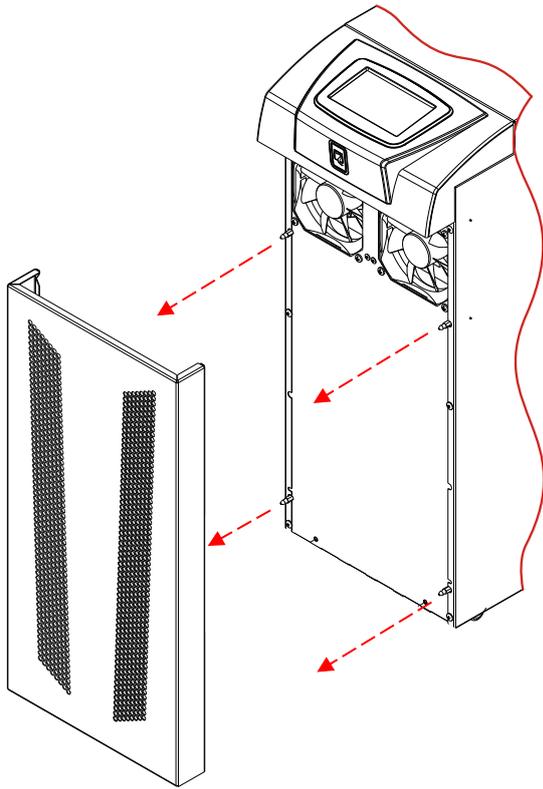
1) Remove the frontal panel pulling it (Figure 14).

2) Remove the two retaining screws of the metallic support placed under the display (Figure 15).

3) Remove from the display the RJ45 cable (Figure 16).
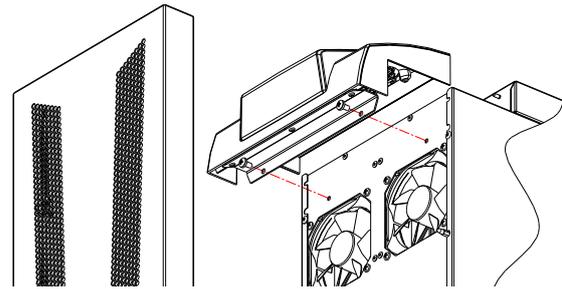
4) Pull out completely the display.
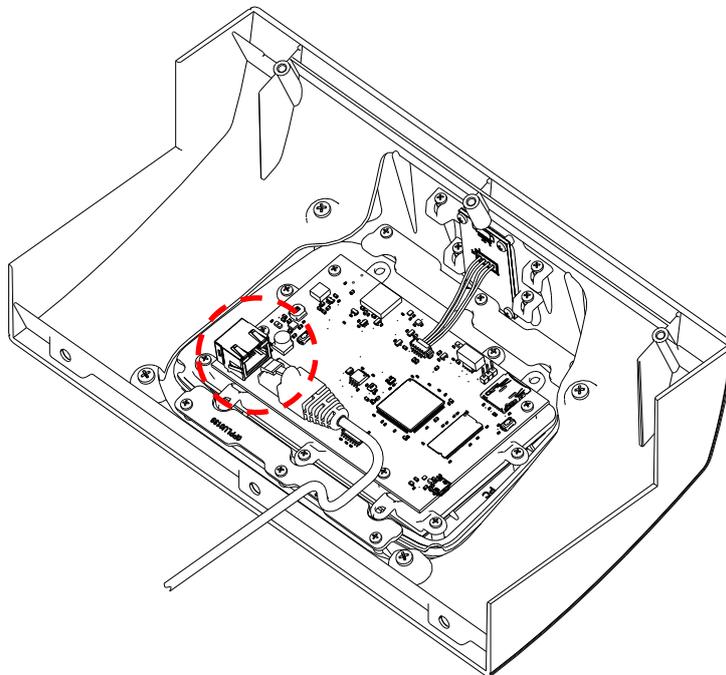

Figure 13

Figure 14 – bottom view
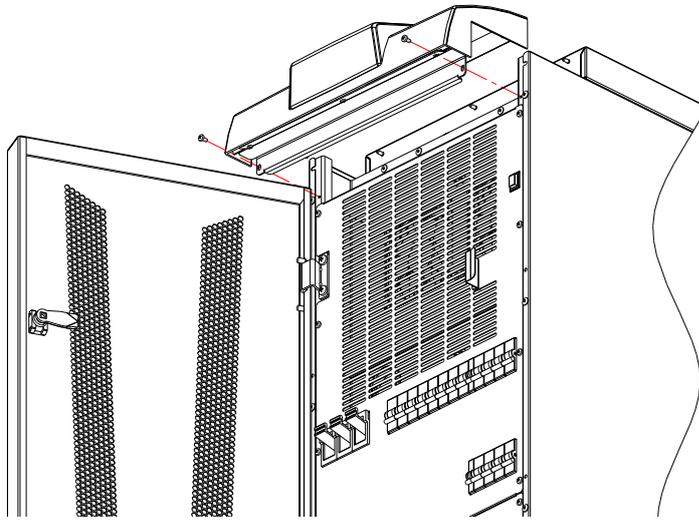

Figure 15 – Display rear view

3.2.2 *ACTIVE (ACT)* CHASSIS:

1) Open the UPS door.

2) Remove the two retaining screws of the metallic support placed under the display (Figure 17).

3) Remove from the display the RJ45 cable (Figure 18).
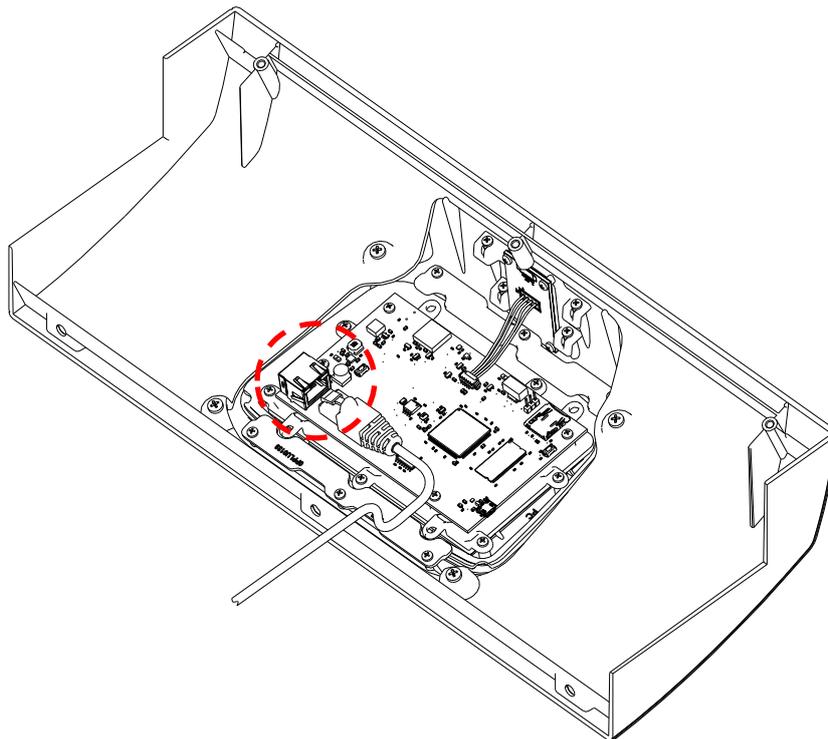
4) Pull out completely the display.

Figure 16

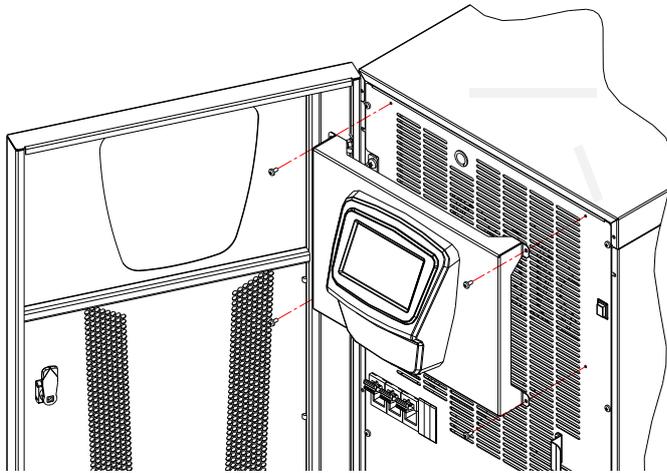**Figure 17– Display rear view**

3.2.3 XTEND (XTD) CHASSIS:

Figure 18

1) Open the UPS door.

2) Remove the four retaining screws of the metallic display support (Figure 19).

3) Remove the four screws as shown in Figure 20.

4) Remove from the display the RJ45 cable.
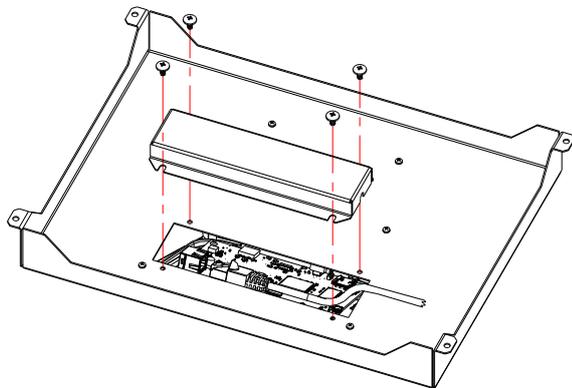
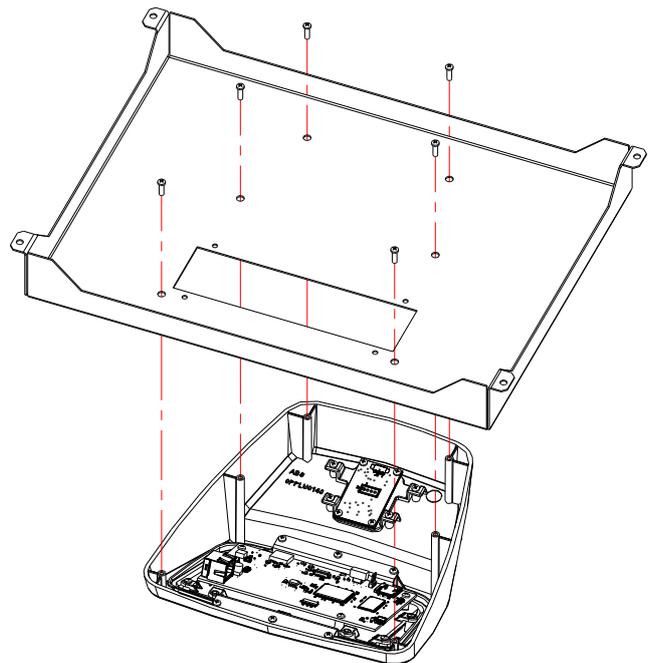5) Remove the six screws as shown in Figure 21.

Figure 19

Figure 20

3.3 Procedure to upgrade the display firmware

a) Extract all the contents of the compressed file to a new folder on your PC.
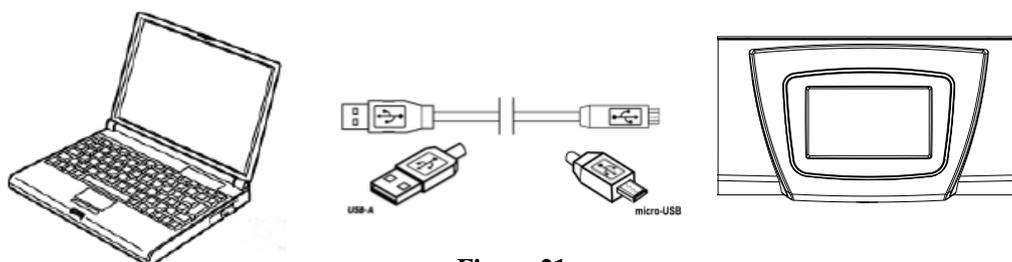
b) Connect the display to the PC using the USB cable.

Figure 21

Figure 22

If the display is correctly connected to the PC, a led on the board turns on as shown in the left picture.

Then, it is possible to upgrade the display firmware.

c) The driver for the display programming is automatically loaded by the operating system when the display is connected to the PC.

⚠️ **Note**: if the operation fails, you need to install the driver manually. The driver must be installed only once (refer to the guide in 3.3.1 section).

d) Run "S3DISPLAY_FW079-xxxx.bat" batch file extracted previously.

> **Note**: if the batch file doesn't find the device, refer to the guide in 3.3.1 section.

The display programming will start with the following step:

> **Note**: don't remove the USB cable until all the operations are completed.
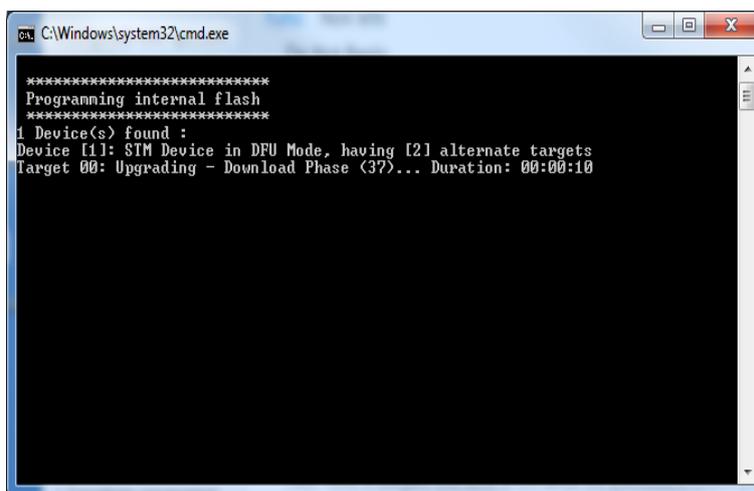
- Erasing and programming internal flash memory:

Figure 23

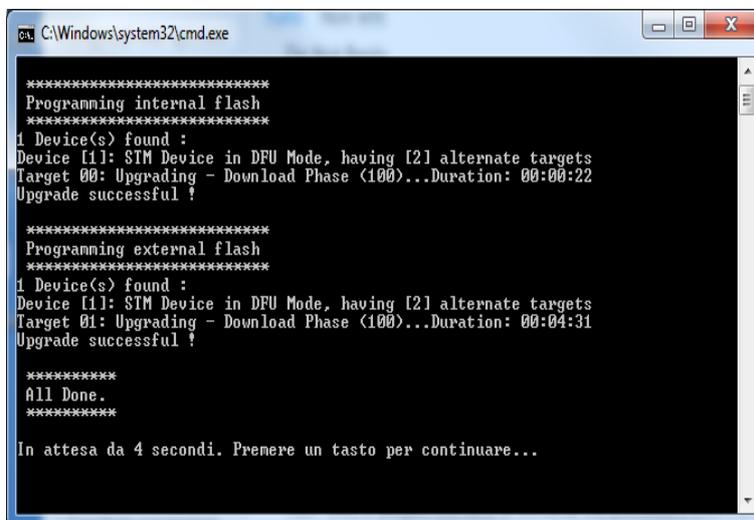- Erasing and programming external flash memory:

Figure 24

The process duration is shown during the programming. At the end, the batch file closes automatically after 5 seconds.

Note: the duration of the upgrade session can take up to 10 minutes depending on the operating system.

Remove then the USB cable and reinstall the display to the UPS (refer to the 3.4 section).

It is possible to check the display upgraded firmware: expand the drop-down menu ≡ on the Home page and touch the information icon ⓘ.

3.3.1 Guide: Driver installation

If the automatic OS installation driver fails, or if the batch program does not find the device, you need to install manually the driver for the display.

First, check if the device is correctly connected and recognized by the OS device management.

Then, click on the "Driver" folder (in the extracted files) and install the correct driver according to the operating system of the PC. Follow the wizard.
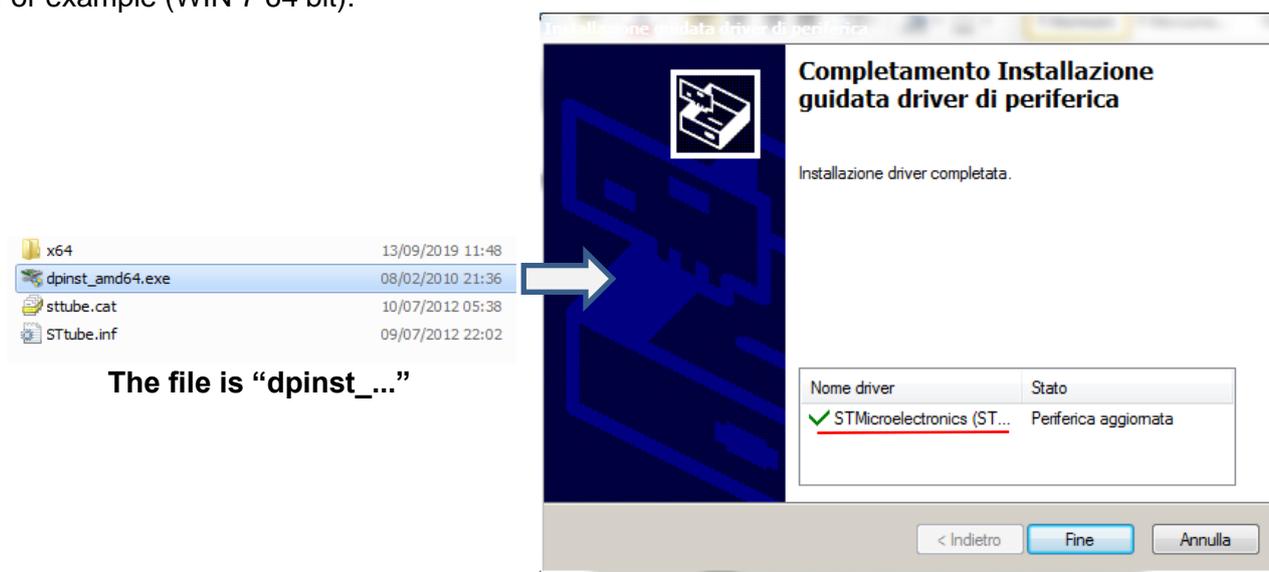
For example (WIN 7 64 bit):

Figure 25

3.4   Operation to reinstall the Display

Refer to "3.2 Operation to remove the display" and follow the procedures in reverse to reinstall the display. Once the RJ45 cable is connected, the display will start automatically.