

**WARNING:** *Once this upgrading procedure is initiated, you can hold it and restart it whenever you wish, but the winder will remain inoperative until you have completed the full upgrading procedure.*

## 1. PURPOSE:

This document describes how to update your Tonewinder unit to the latest version of the software, from the version 10.70 (for TW 1.2 R2 and earlier versions) and 10.80 (for TW 1.3 versions).



Figure 1: New start page of this version

- **New version 10.72/10.72\_ATC:** this version should only be installed on **TW 1.2 R2 units or earlier versions**, which has previously installed version 10.70/10.70\_ATC.
- **New version 10.82/10.82\_ATC:** this version should only be installed on **TW 1.3 units**, which has previously installed version 10.80/10.80\_ATC.
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If you have any doubts about the hardware or software version of your unit, please email us to confirm.

**In case your unit has a version lower than 10.70, you should not proceed with this update, as your unit will not work properly.**

## 2. SCOPE:

This update can only be installed on Tonewinder units with the TMC2226 drivers:

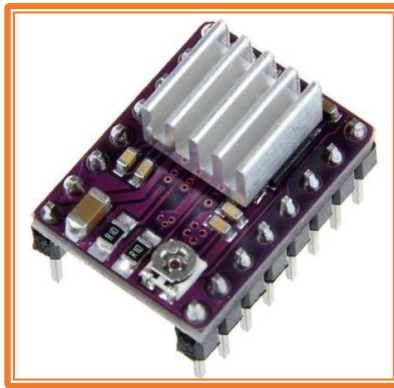


Figure 2: Old drivers (DRV8825). Purple colour and grey heat sink. **Not compatible.**

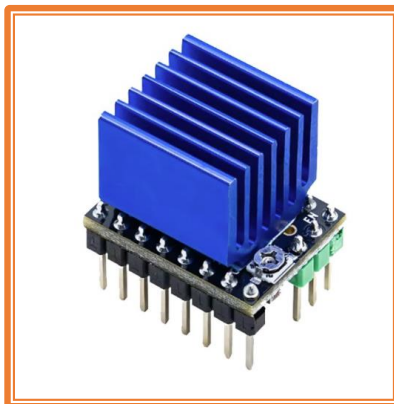


Figure 3: New drivers (TMC2226). Blue colour and big blue heat sink. **Compatible.**

To find out what kind of drivers your unit has installed, you can do this with two checks:

1. **Verification by installed software version:** If your unit has software version 10.70 or higher installed, then you have the TMC2226 drivers installed. On the other hand, if your unit has version 10.66 or lower, then you have installed the DRV8825.
2. **Visual inspection of the inside:** If you open the top cover of your unit, you can see which type of drivers are installed.

In case your unit has the DRV8825 installed, in order to perform this upgrade you must first install the 'Silent Kit', which is available on our website:

- [SILENT KIT](#)

Once this kit has been installed, and the software version has been updated to 10.70, you may proceed with this upgrade.

### 3. IMPROVEMENTS IN THE NEW VERSION:

In this new version of software, the following improvements (or fixes) have been made:

#### 1. **New user interface and reorganization of the main menu:**

In this new version, some menus have been restructured (e.g. the 'MAIN MENU'), and a different background image has been used.

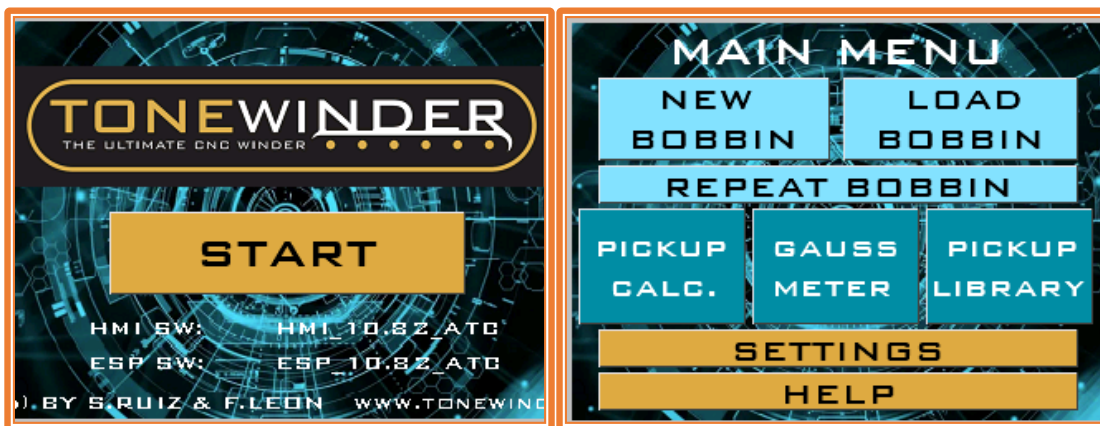


Figure 4: View of the new software version.

#### 2. **New internal memory management (presets):**

With this new file management, the problem of automatic and random resetting that occurred when opening or saving several presets in a row in memory has been solved. Now, you can load or save as many times as you want without the microcontroller resetting unexpectedly, as well as a higher reading speed of files (presets).

#### 3. **Addition of screen to confirm a coil abort:**

When you manually stop the winding in progress, and by mistake press the 'STOP' button, instead of the 'CONTINUE' button, Tonewinder will ask you if you are sure you want to abort the run:



Figure 5: New PRE-ABORT screen.

It's to prevent you from aborting the coil, when you really want to finish it (Thanks Nate!).

**4. Double filling factor added:**

Added the possibility to select a different fill factor for left-to-right and right-to-left scrolling. Only available in Constant mode:

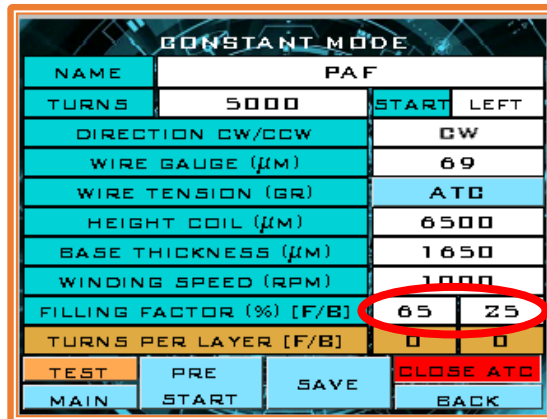


Figure 5: Double Filling factor available in Constant Mode.

You can access the interactive help just by clicking on the 'FILLING FACTOR (%) [F/B]' field, to get a detailed description:

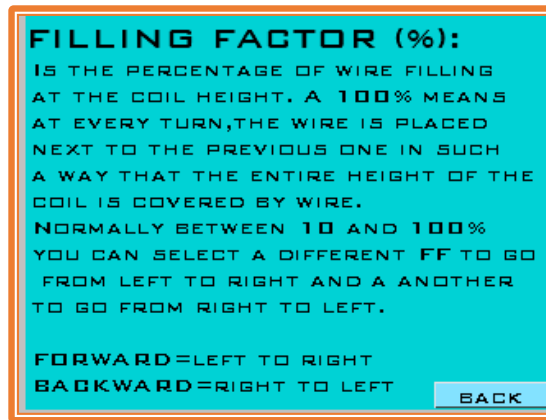


Figure 6: Interactive help.

**5. Possibility to start the coil at the opposite end:**

If you have placed your coil upside down (with the good side touching the plate), and you want to start (and end) the winding at the base of the coil, you can select to start the coil at the opposite end ('RIGHT'):

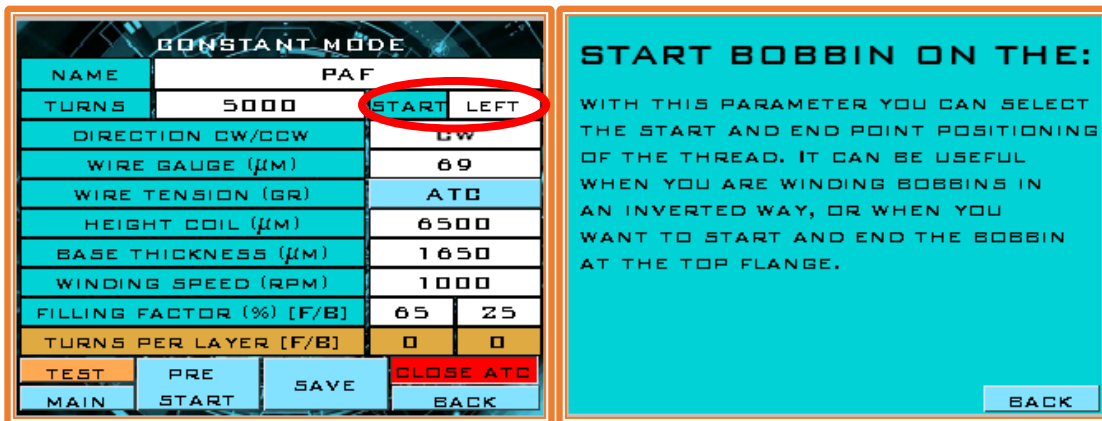


Figure 7: Change the start/end point of the coil.

This new feature is available in all winding modes.

#### 6. Coil termination at start point:

A finishing routine has been implemented so that in the last 5 turns the wire returns to the starting position (where it started winding) and makes one more turn there. This way, when you've finished winding, you'll find the wire next to the starting base, and you won't have to make extra turns to get it to the end of the spool.

#### 7. "File Conversion Tool" inside the new software version:

As the new presets used in this new software version, have more parameters than the previous ones, a conversion tool has been implemented so that, once you have updated the software, you can convert your presets to the new format by simply pressing this button. This avoids having to upload a file initialization program prior to updating the software.

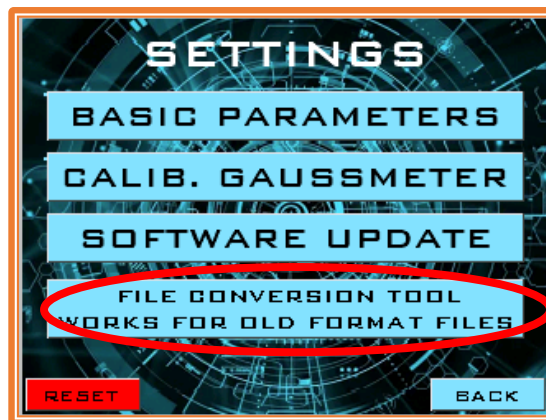


Figure 8: "File Conversion Tool" button.

#### 4. DOWNLOAD SOFTWARE VERSION:

You can download the zipped folder called "TONEWINDER 10.72/10.82 SOFTWARE" from our website, [www.tonewinder.es](http://www.tonewinder.es), in the "DOWNLOADS" section, where you will find all the files and software that you need to upgrade your unit:

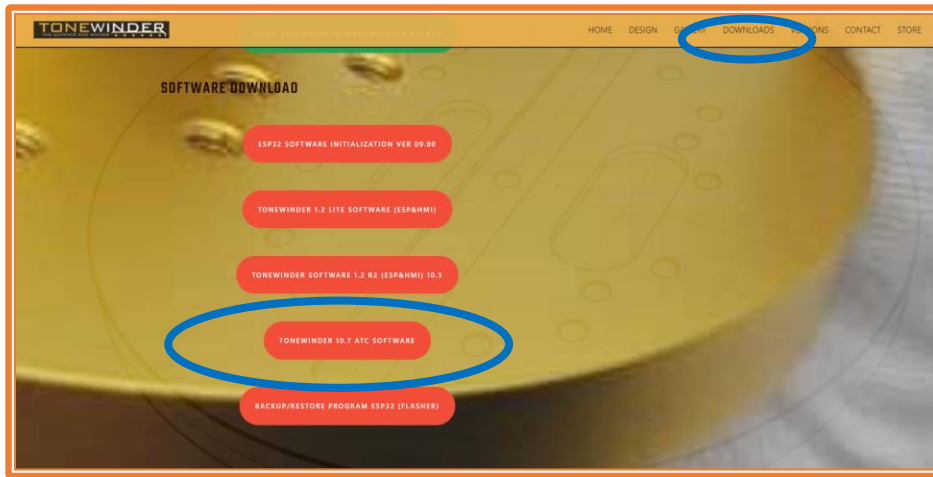


Figure 9: Download “TONEWINDER 10.72/10.82 SOFTWARE” folder.

Unzip this file in C:\ (for example). After unzipping this file you’ll find all these folders inside:

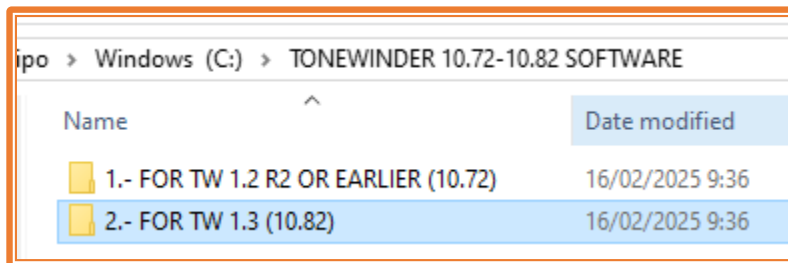


Figure 10: Folders inside of “TONEWINDER 10.72-10.82 SOFTWARE”.

Select the folder that match with the version of your winder, for example “2.- FOR TW 1.3 (10.82)”:

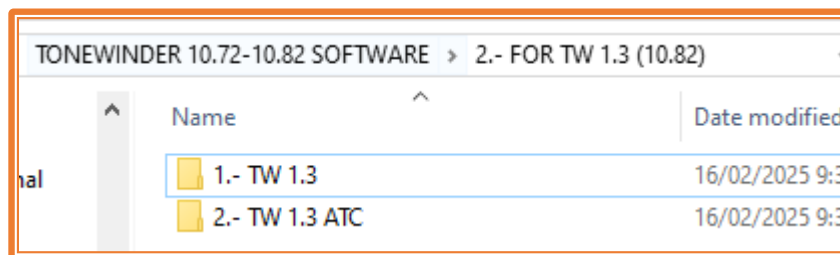


Figure 11: Folders inside of “2.- FOR TW 1.3 (10.82)”.

Select the appropriate depending if the ATC is installed in your winder, for example “2.- TW 1.3 ATC”:

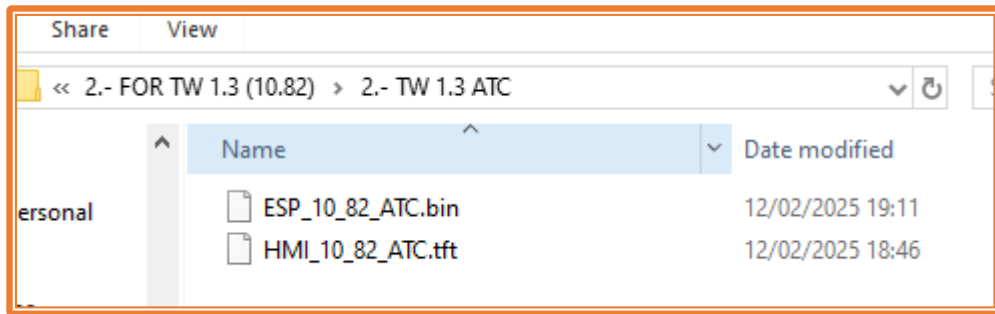


Figure 12: Files inside of “2.- TW 1.3 ATC”.

You will need those files to update your winder correctly.

## 5. INSTALL THE UPDATE:

Here are the steps to follow to install this new software version:

- **STEP 1:** Make a backup (mirror copy) of your current ESP memory. To carry out this task, download the FLASHER PROGRAM from our website:

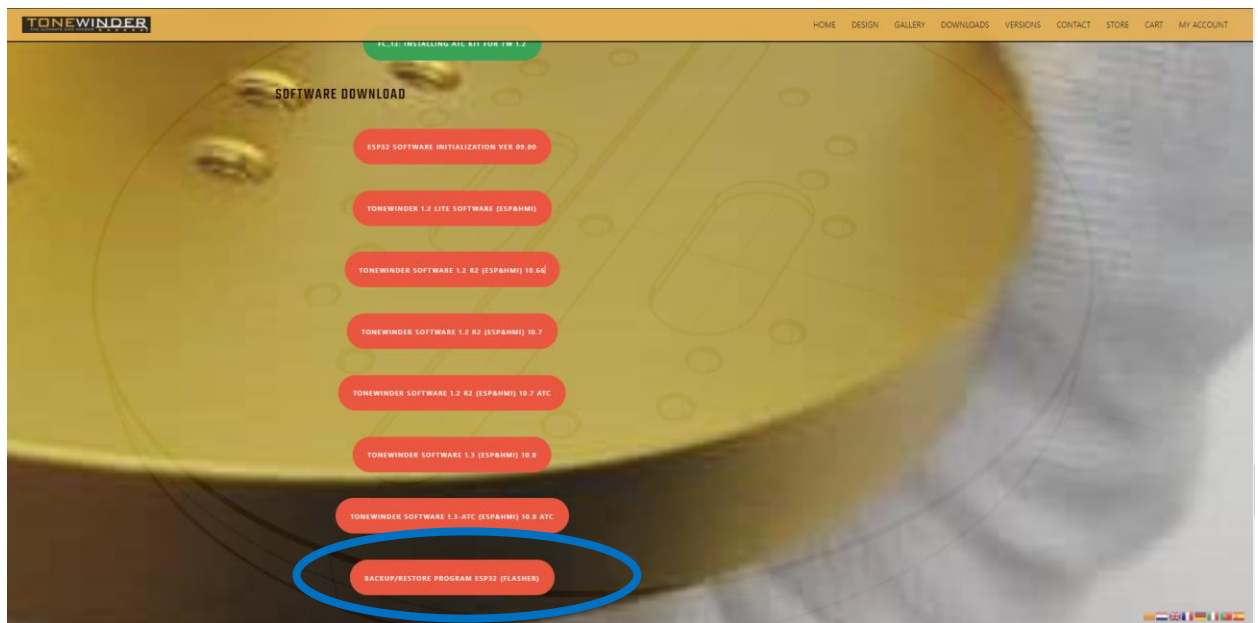


Figure 13: BACKUP/RESTORE PROGRAM ESP32 (FLASHER)



.With this program, you will be able to create a mirror copy of your current ESP, just in case you have an issue during the updating process.

Connect the winder to your PC using a USB C cable (The power supply plug must be disconnected from the winder), and the touch screen will light up.

Then, select the COM port where the winder is connected (if you have any doubt regarding which port it is using, you can open the “Computer Management” program and list the COM ports, to find in which port your winder is connected (USB-SERIAL CH340(comX)):

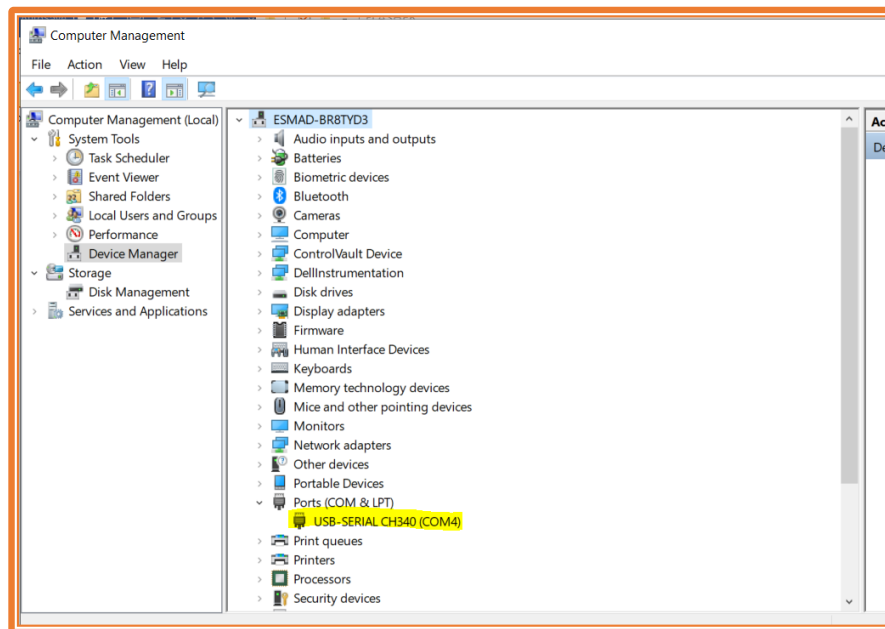


Figure 14: Computer management program.

Once you know which port it is using, run the file “**DownTonewinderFLASH.bat**” located in this folder, and follow the instructions.

If all goes well, you will see a progression during it makes a copy into your PC.

When the procedure is finished, you will see a new file in the folder which is called “**tonewinderMemory\_FLASH.bin**”, and this is your mirror copy, so you should keep it in a safe place.

NOTE: If you don't have a saved presets, you can skip this step.

- **STEP 2:** Before proceeding, you must keep the current "**BASIC PARAMETERS**" that are set in your winder. Later you will need it to rewrite in the ESP microcontroller, in case it has been reset during the software upgrade.

To do this, disconnect the USB-C cable from your unit, connect the power supply plug, and switch on the winder.

Then, navigate to the "BASIC PARAMETERS" Screen and take a picture of this screen.

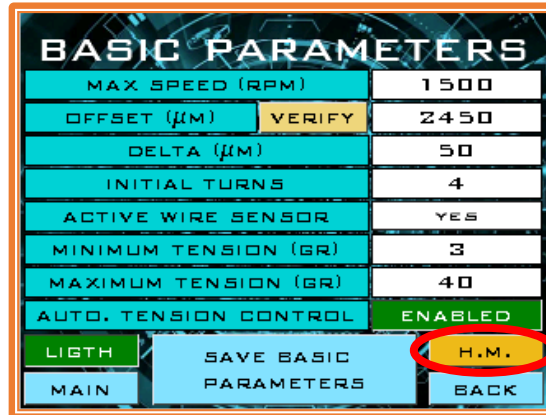


Figure 15: Basic parameters screen.

If your Basic parameters page has the "H.M." (Hidden Menu) button, press it and access the menu using the code "2024". You will then enter the calibration menu of the arm, to check what type of calibration your unit has:

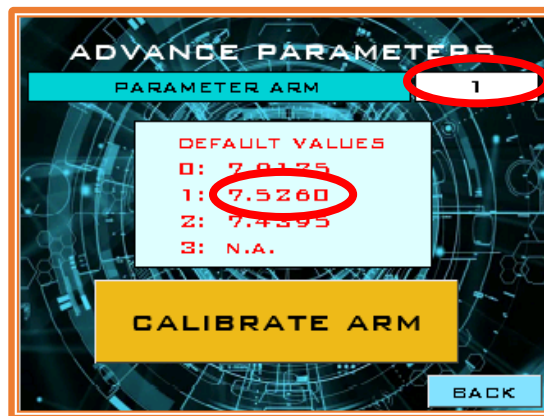


Figure 16: Advance parameters screen.

Please, copy these numbers and save them. You will need them to calibrate your unit to the correct values once the new software version will be updated.

**NOTE:** in case you have not recorded this data, there is a procedure to recalibrate it.

- **STEP 3:** Upgrade the ESP32 Microcontroller software with “ESP\_10\_82\_ATC.bin” (for TW 1.3 ATC, but you have to choose your software version).

Switch on the winder (connected to the power supply), and go to the “SOFTWARE UPDATE” section. Enter your wifi network name and password, and press ‘Connect’. Once the microcontroller has connected to your computer, it will show you the IP address so you can connect to it (for example 192.168.1.150). Press the big button to open the connection between your winder and your PC.



Figure 17: Press the button to open the Tonewinder connection.

Then, write this IP address in your Internet navigator address field and press enter:

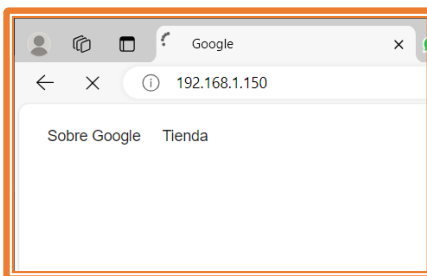


Figure 18: Write the IP address of your winder in your navigator.

When the winder connects with your PC, you will see this screen:

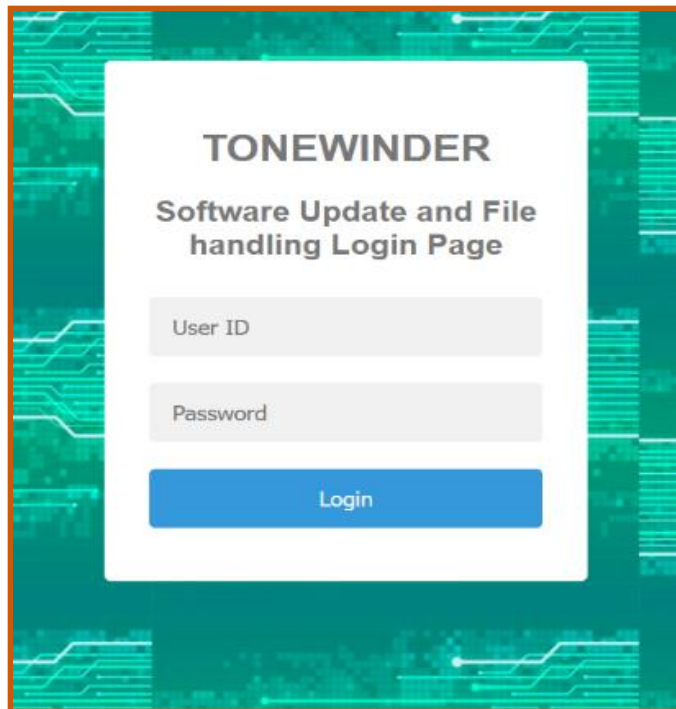


Figure 19: Basic parameters screen.

Use “**admin**” as the User ID, and “**tonewinder**” as the password, and press “Login”.


Select the first option “1.- Tonewinder Software Upgrade”, and choose the file to update “ESP\_10\_82\_ATC.bin”, located in the path C:\TONEWINDER 10.72-10.82 SOFTWARE\2.- FOR TW 1.3 (10.82)\2.-TW 1.3 ATC”. Remember this is an example and you have to choose the correct version for your winder.

Once the software is loaded the winder will be reset.

If you have any doubts about the upload software procedure, please see section “6.5.6.5.- Software update”, in the manual.

- **STEP 4:** Upgrade the touchscreen software with the file “HMI 10.82\_ATC.tft”, located in the folder. Save this file on a micro SD card (with less than 32 Gb) using a computer with Windows S.O.. Insert the micro SD card into the touch screen, facing the contacts to you (follow section 6.5.6.7 in the manual):

**6.5.6.7 Touch Screen Software Update:**



The touchscreen software update is performed using a **microSD, max 32Gb**, card through the slit located under the screen. **Only a Windows OS can be used to save and update this software.**

Download the updated version of the **Nextion software** program in the download section of <http://tonewinder.es>.

**NOTE:** the downloaded file is compressed (zip), and you must decompress it before use it. **The extension of this file is .tft.**

Copy the program to an empty **microSD** card. With **Tonewinder** turned off, insert the **microSD** card into the ready-made socket under the display (**Contacts facing to you**). Make sure the card has been adjusted correctly (you will feel a soft resistance when the card is seated, making a final click). Then operate the **Tonewinder** power switch.

The guide arm will be moved first to the starting position and then to the zero position. This movement is normal.

The update screen should show the progress of the program load and, after a few seconds, the screen will show the successfully updated status.

Remove the **microSD** card by pushing it lightly and then remove it completely.

Figure 20: Touch screen software update.

**NOTE:** In case you only have a MAC to carry out this step, please this document to save this file on the SD card using a MAC.

- [UPDATE HMI SOFTWARE USING A MAC](#)
- **STEP 5:** Switch on the Tonewinder and wait until the touch screen software update is finished:

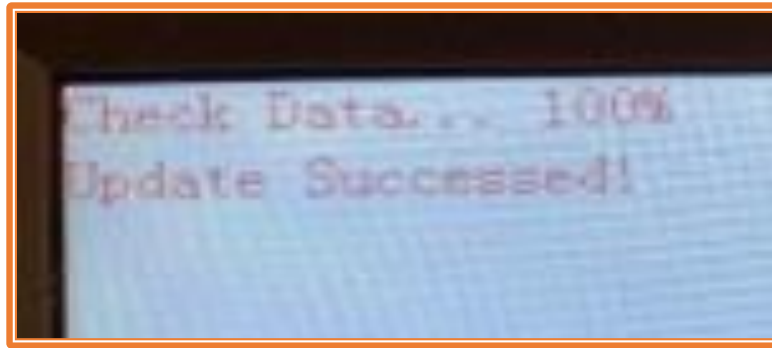


Figure 21: Touch screen software update.

Once you see this screen, switch off the winder and remove the SD card.

- **STEP 6:** Go to MAIN MENU>SETTINGS>BASIC PARAMETERS, and set the parameters to your previous value, in case they are modified.
- **STEP 7:** Access to the Hidden Menu, and restore the calibration arm parameter of your unit. Also you can recalibrate the arm by pressing the "Calibrate Arm" button and following the instructions.

## 6. CONTACT FOR SUPPORTING:

If you face any kind of problem during this procedure, please contact us by email:

[info@tonewinder.es](mailto:info@tonewinder.es)