Application manual IHM & GTBF32xx.exe

The HMI & GTBF32xx application is unique, it includes the HMI & GTBF software in French & English for the 3 products ALR 3220, ALR 3206D & ALR 3206T.

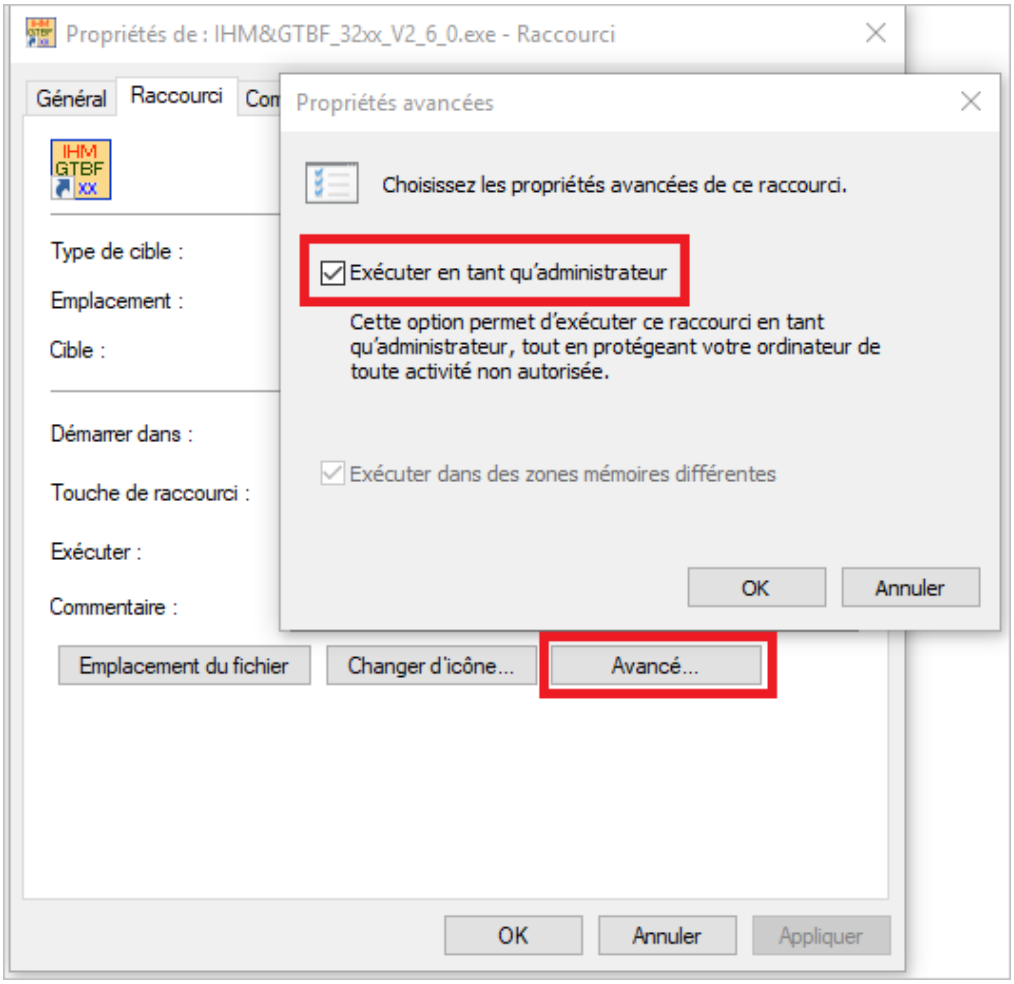
The HMI (Human-Machine Interface) function is a remote control of the front panel of the device, it has 16 memories on disk (in addition to the memories on the device), as well as a timer allowing stop the appliance after a set time.

The GTBF (Generator Very Low Frequency) function, allows to generate various waveforms (sine, triangle, ramp, square). Moreover, it has an arbitrary mode; to generate a custom waveform (possibly from a .CSV file).

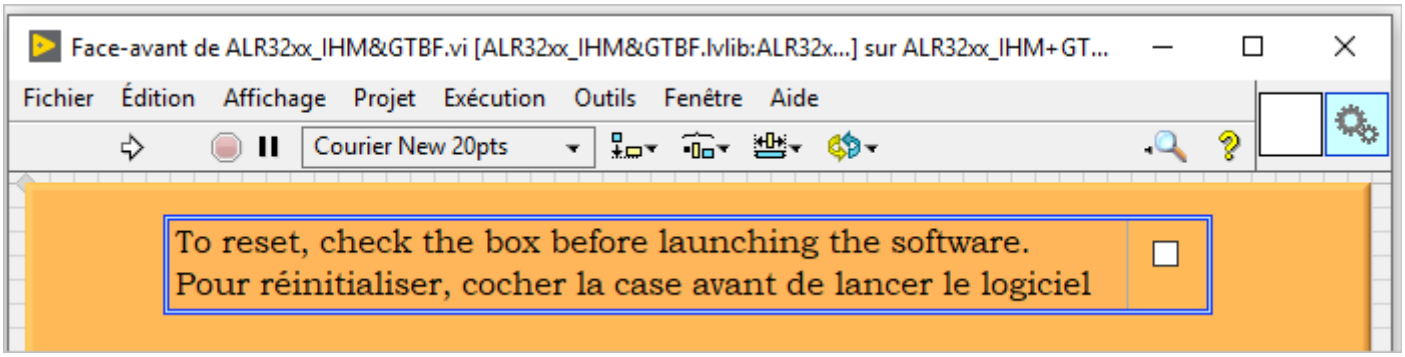
The application makes it possible to memorize on disk the choices: French / English, N ° COM port, ALR3220 / 3206D / 3206T, HMI / GTBF.

N.B: You must have administrator rights.

To launch the executable, with the administrators rights, perennially:
Place **`IHM & GTBF_32xx.exe`** in **`C:\Users\Public\Downloads`**, a shortcut to the executable on the desktop. Right click> Properties, Shortcut tab, click Advanced, check **"`Execute as administrator`"**.

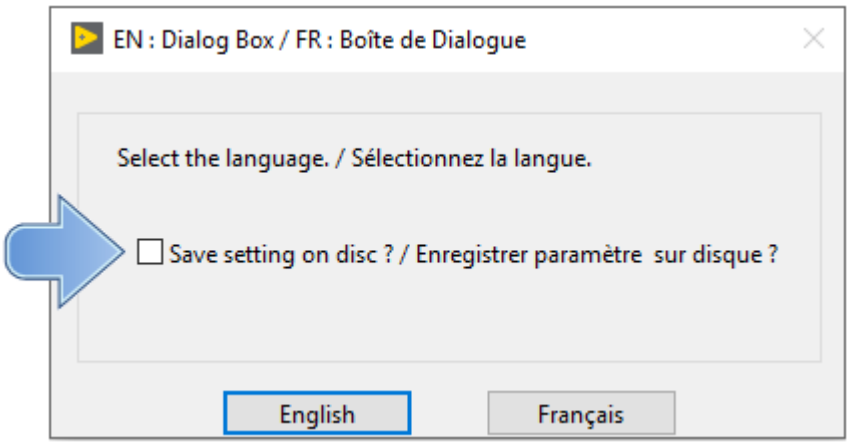


To find all the choices that were previously stored (therefore no longer available), just check the box at the top of the window when opening the software before launching it.

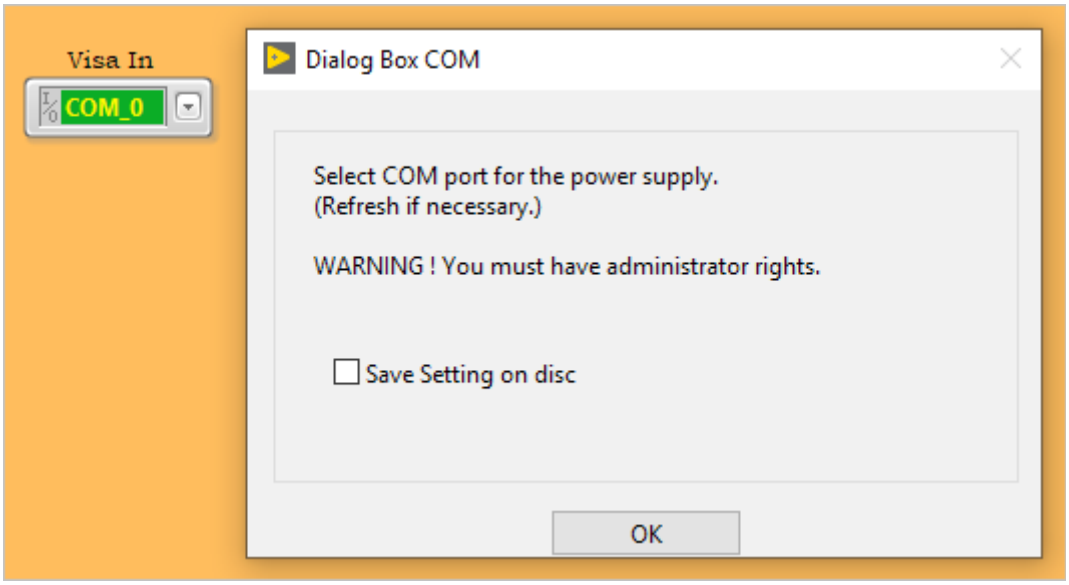


After the launch, the checkbox and its text are erased; a dialog box prompts you to select French/English.

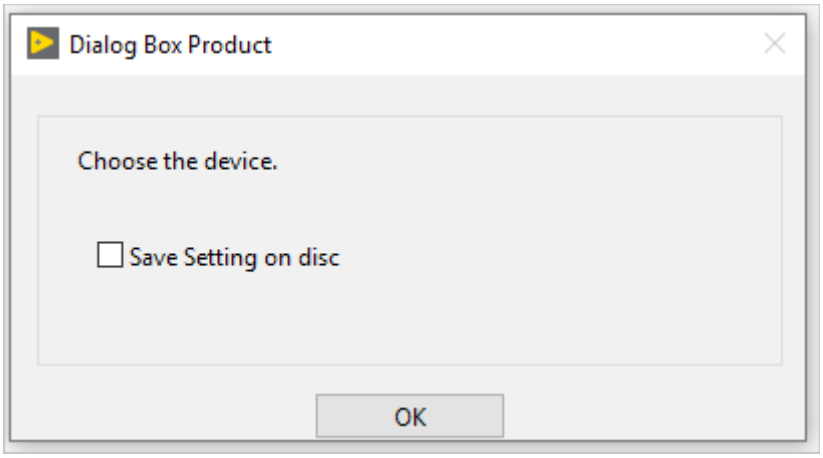
Check box



By checking the box, the French/English choice will no longer be offered at upcoming launches of the software.
After clicking `English` or `Français`, a new dialog box prompts you to choose the COM port, with the same storage principle.

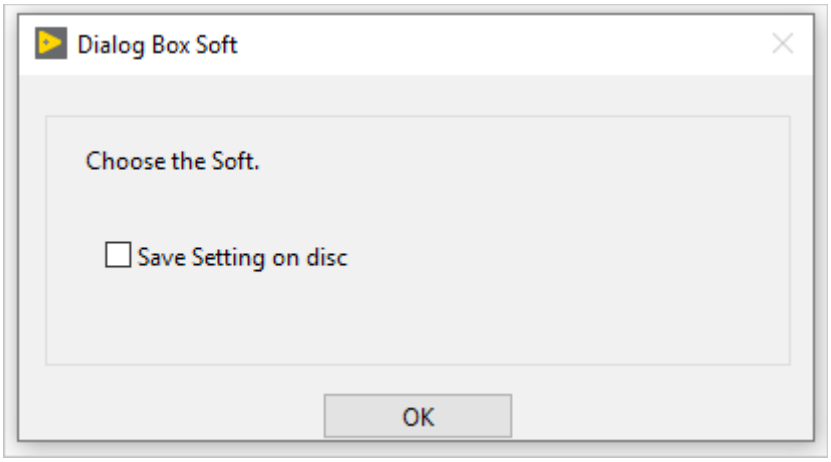


The following dialog box prompts you to choose the device.

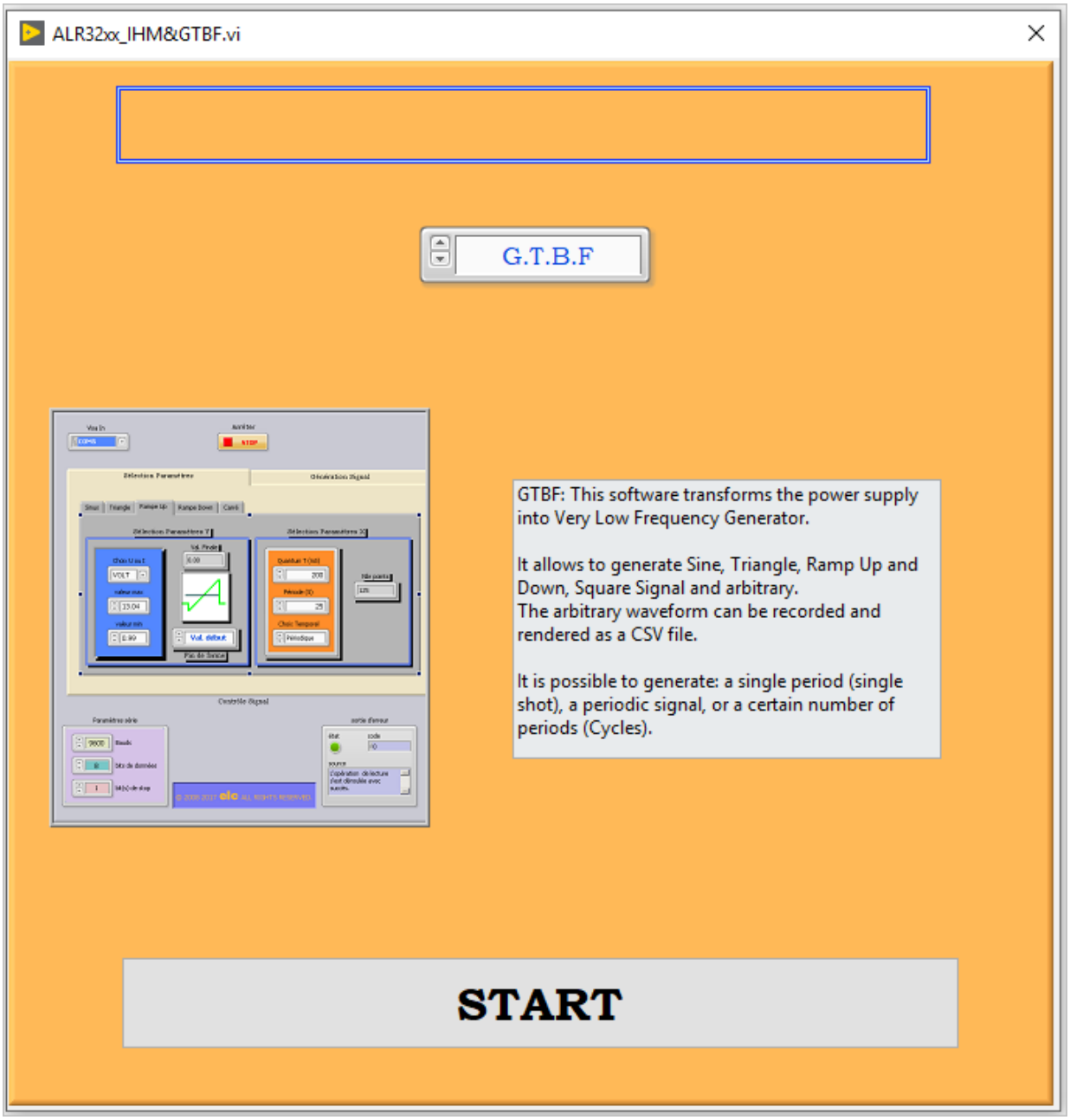


Select the device, and then click `Next Step`.

In the next step, you will be asked to choose the software.



With an image of the front of the software, as well as a brief explanatory text:



Click on **START** to launch the software.

The parameters are stored in the directory containing the executable; as an INI file, called : `Configuration.ini`

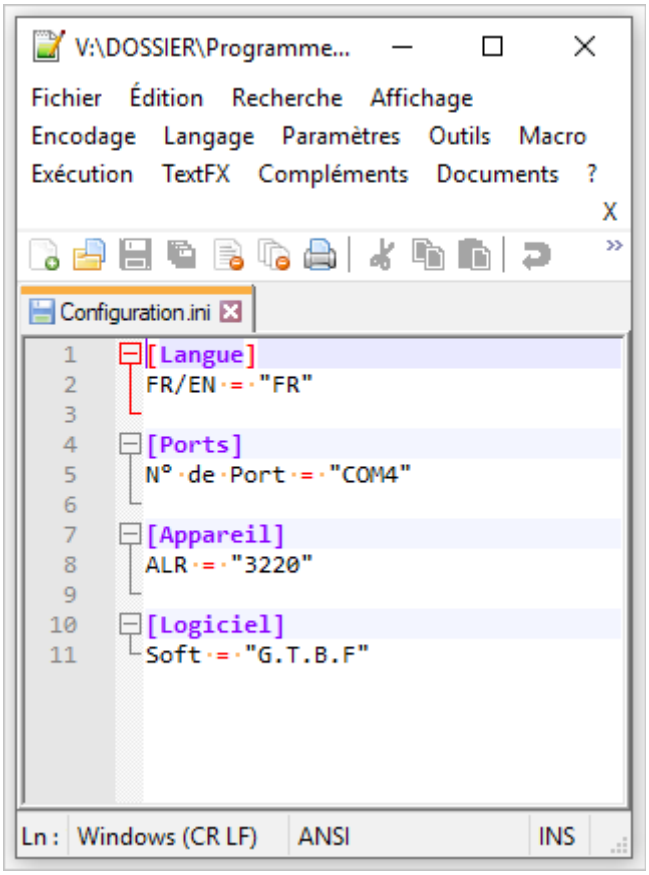
Keys :

Language :
`"FR"` or `"EN"`

Ports : `"COMx"`

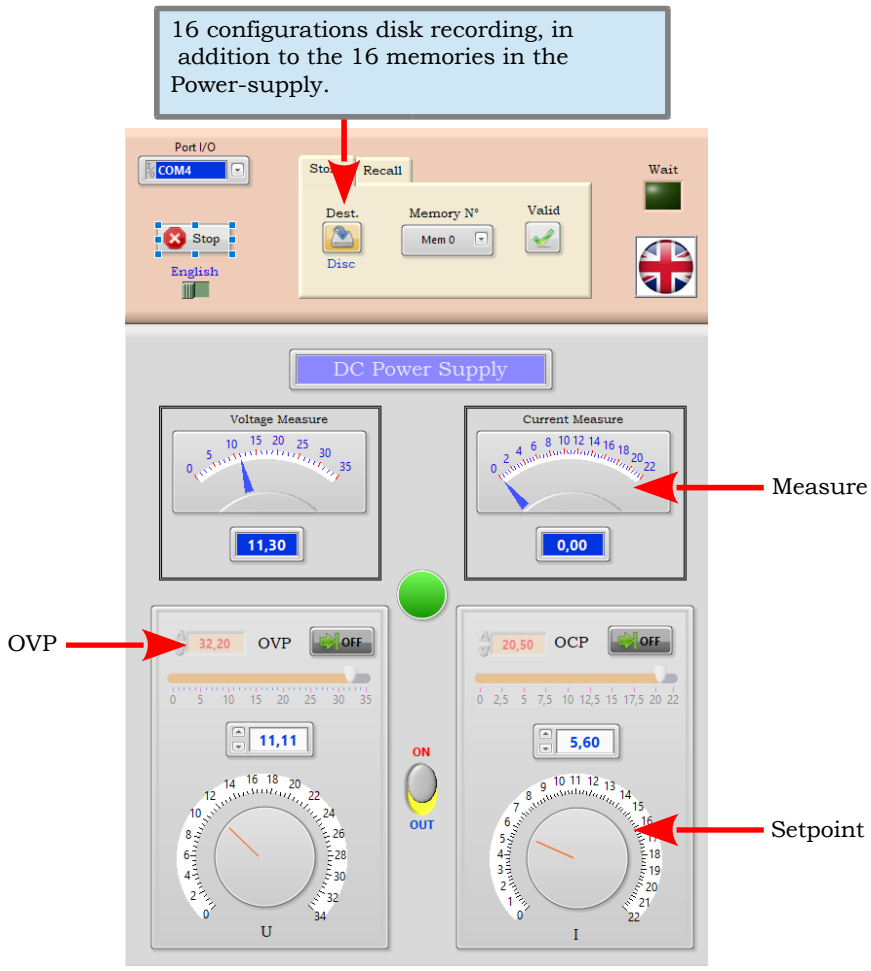
Device : `"3220"` or `"3206D"` or `"3206T"`

Soft :
`"I.H.M"` or `"G.T.B.F"`



N.B: The **`IHM&GTBF_32xx_V2_6_0.ini`** file is set by LabVIEW for the executable, and must not be modified.

Using HMI 3220



When the software starts, the values of the power supply are copied to the Human Machine Interface.

1) To impose a voltage or current:
- turn the knob to the desired value,
- or enter the value in the digital display.

2) To determine the OVP & OCP :
- enter the value in the digital display,
- or move the slider.

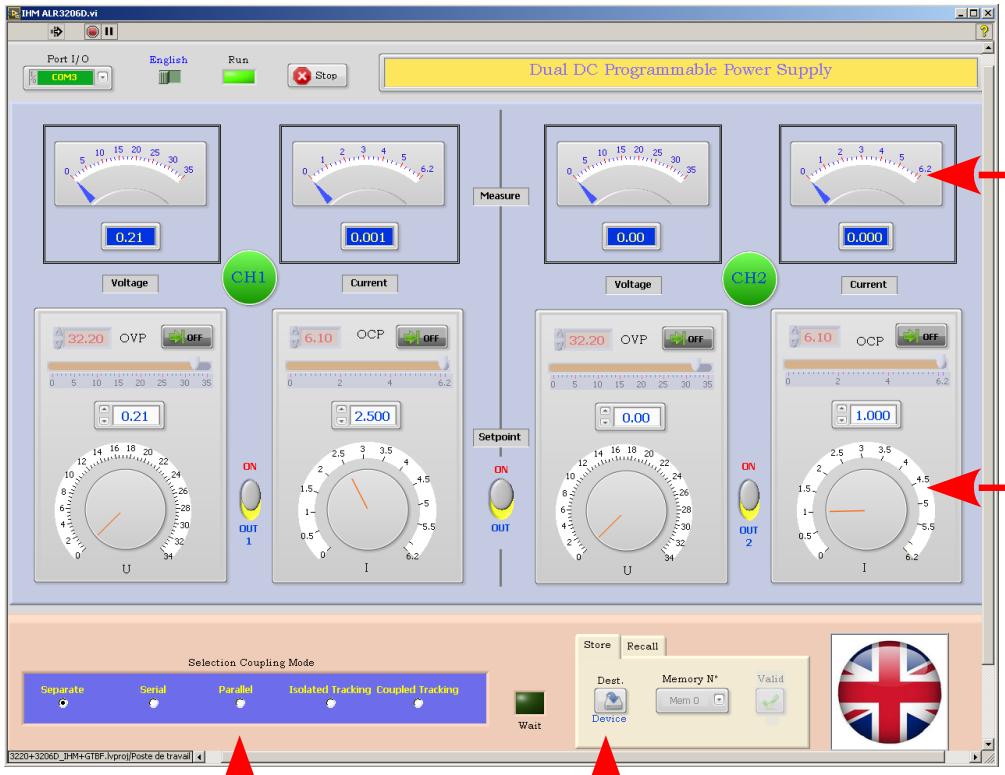
One pressing on the ON / OFF button allows to delete the OVP and/or the OCP to restore the maximum value of the power supply: 32.1V and 20.5A.
The slider and the display are "greyed out".

The analogic displays: indicate current and voltage measurements.

As long as the selected current isn't reached ("C.V." mode), the voltage display reflects accurately the U instruction.
While the current's display shows the current supplied by the power supply.

Conversely, by decreasing the load resistance, when the current flow reaches the I instruction, it will stall itself on that.
And it's the measurement display U that will have its value decreased "C.C" mode).

Using HMI 3206D



When the software starts, the values of the power supply are copied to the Human Machine Interface.

1) To impose a voltage or current:
- turn the knob to the desired value,
- or enter the value in the digital display.

2) To determine the OVP & OCP :
- enter the value in the digital display,
- or move the slider.

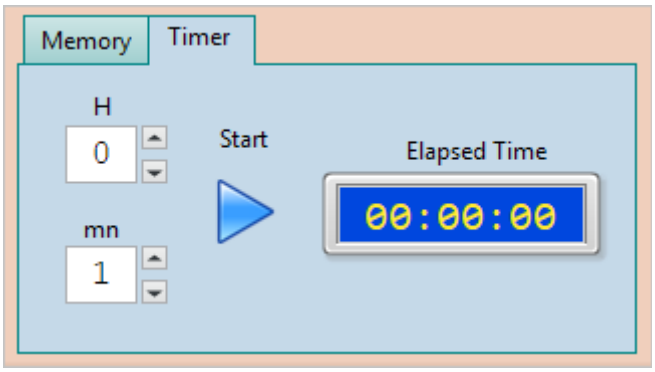
One pressing on the ON / OFF button allows to delete the OVP and/or the OCP to restore the maximum value of the power supply: 32.1V and 6A.
The slider and the display are "grayed out".

The analogic displays: indicate current and voltage measurements.

As long as the selected current isn't reached ("C.V." mode), the voltage display reflects accurately the U instruction.
While the current's display shows the current supplied by the power supply.

Conversely, by decreasing the load resistance, when the current flow reaches the I instruction, it will stall itself on that.
And it's the measurement display U that will have its value decreased "C.C" mode).

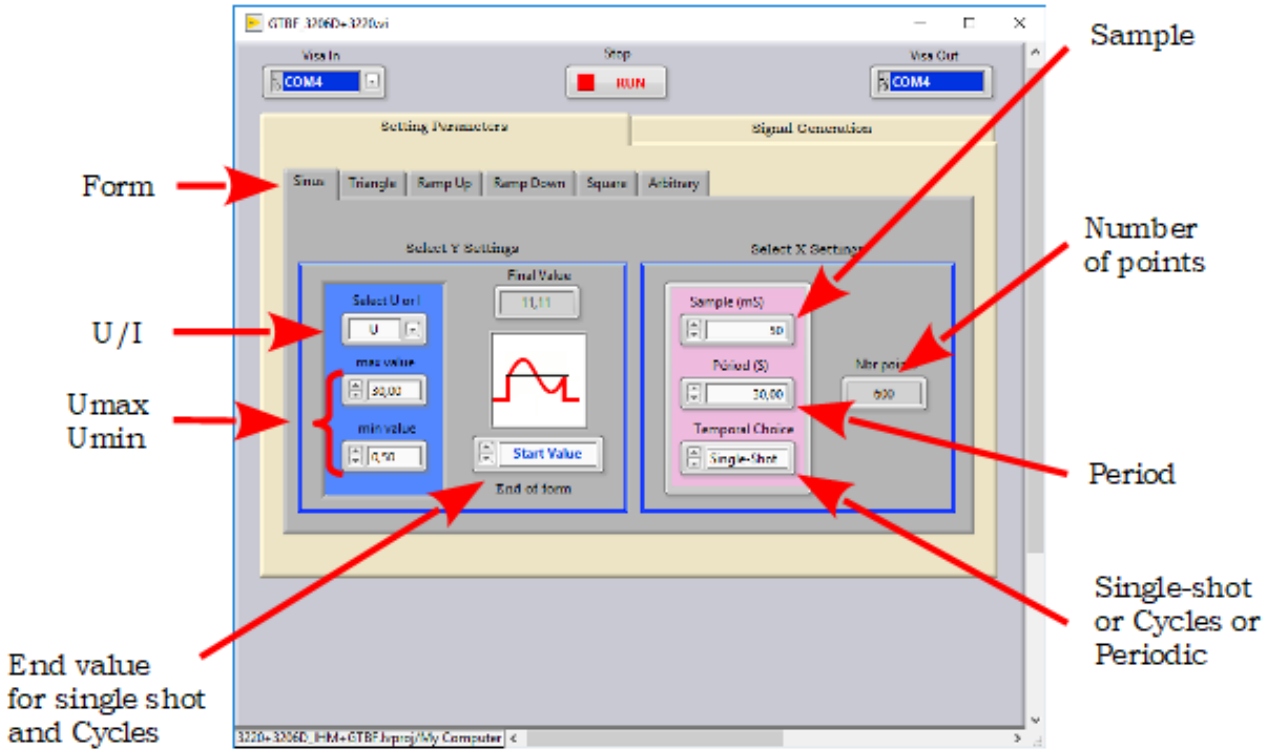
Timer HMI 3220 & 3206D



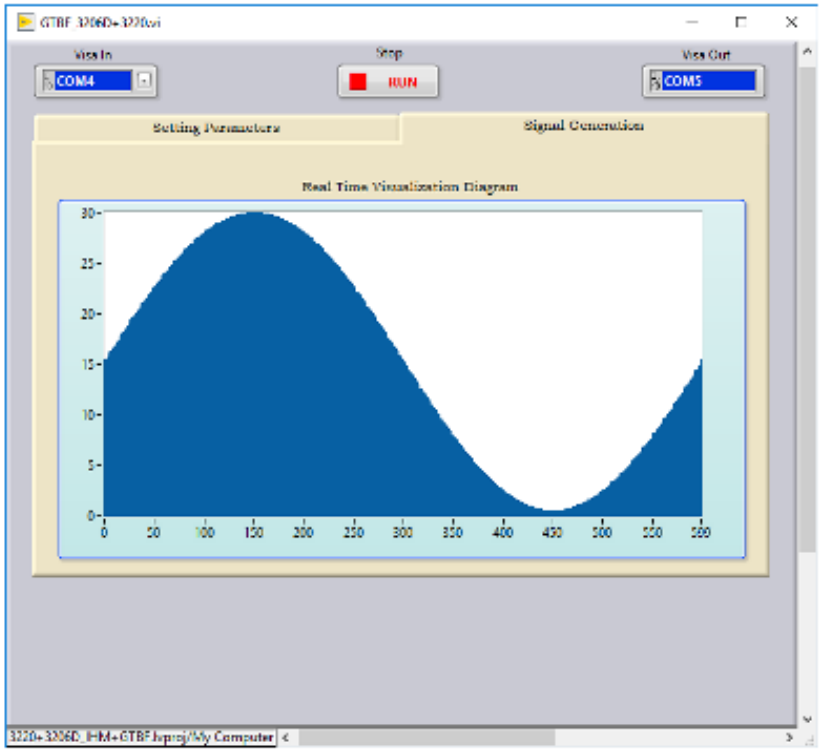
The timer can be programmed from 1 minute to 59 hours.
At the end of the time, the power goes OFF, and the software stops.

Using Very Low Frequency Generator

GTBF 3220
Select Settings

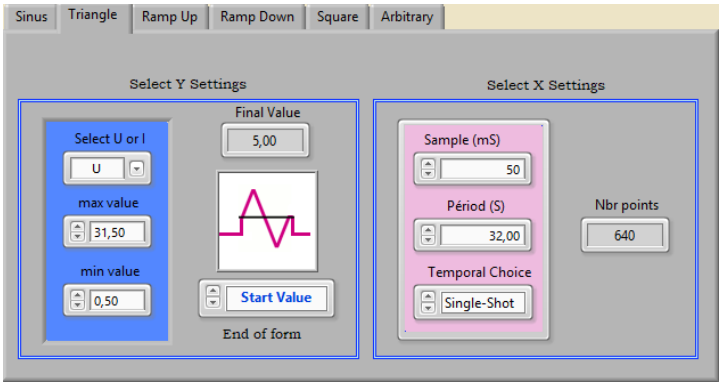


Signal generation tab

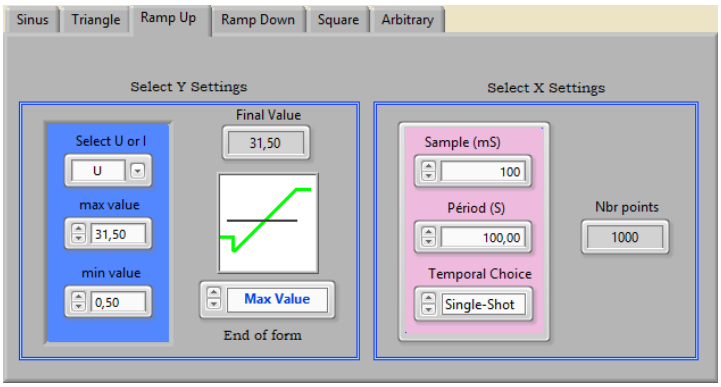


Real-time representation of the generated form

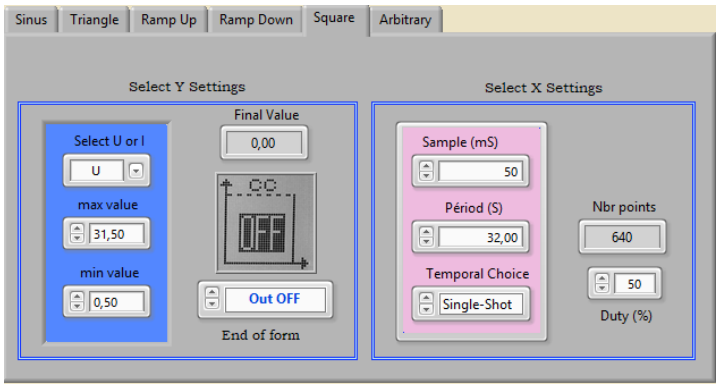
In the Tab « Select parameters », 6 waveforms are available:
Sinus, Triangle, Ramp up/down, Square & Arbitrary signal.



The right side is reserved for the time parameters:
Period, Sample, Periodic or Cycles, or Single-shot signal.
Depending on the period and Sample selection, an indicator indicates the number of points on the curve (definition).



In the left section, you can select the parameters U or I, the maxi & minimum values, and the value that will be retained at the end of the curve (signal shot mode).

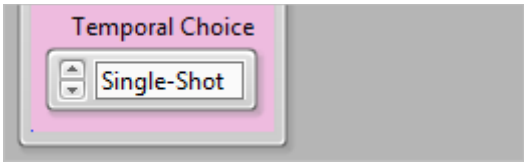


For all the signal shot waveforms, the power-supply can switch in the "OFF" mode, at the end of the period.
For sine and triangle waveforms, the choice of the end value can be either the start value (the value present before entering in the function generator) or the average value. For the other waveforms (Ramp Up/Down, Square, Arbitrary), the waveform may end, in addition to the previous choices, by the min or max value.

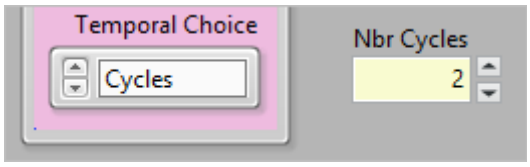
Cycles Function

The cycles function makes it possible to generate a determined number of periods.

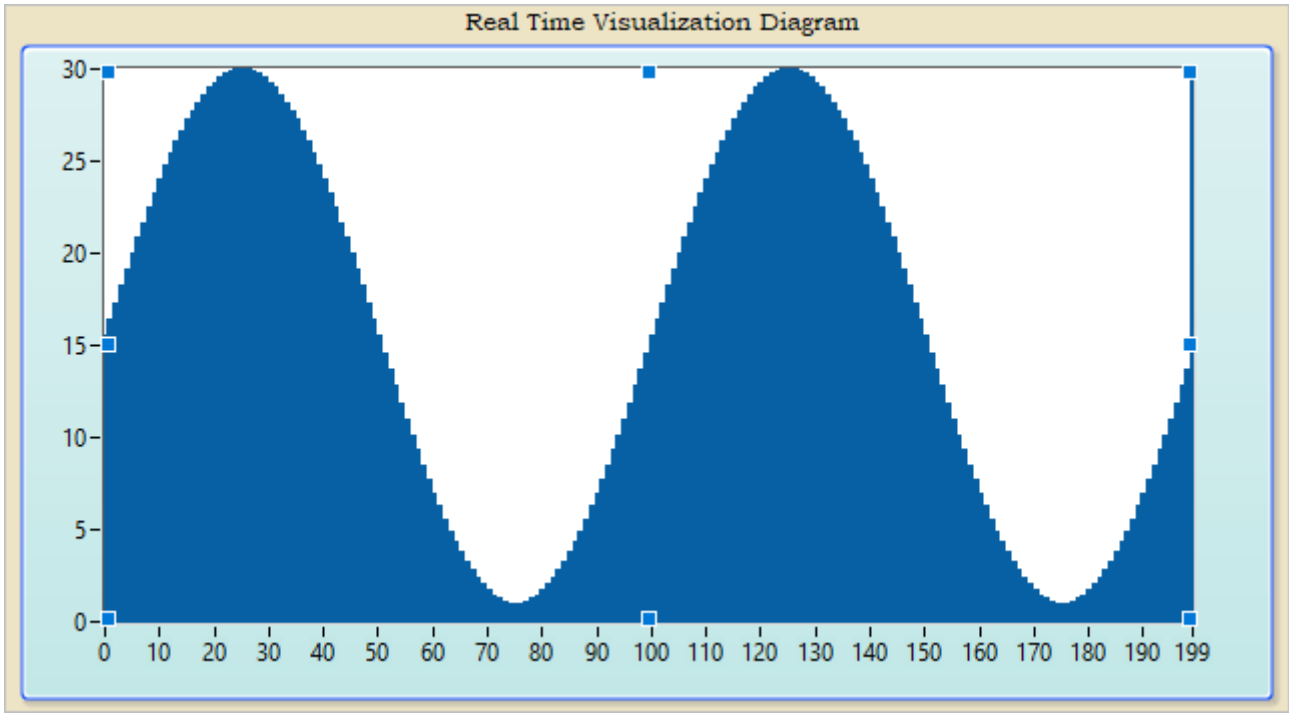
The time choice is now available in 3 options: Single, Cycles, or Periodic.



When switching from Single Shot to Cycles, a window appears on the right, which allows you to choose the number of periods generated.



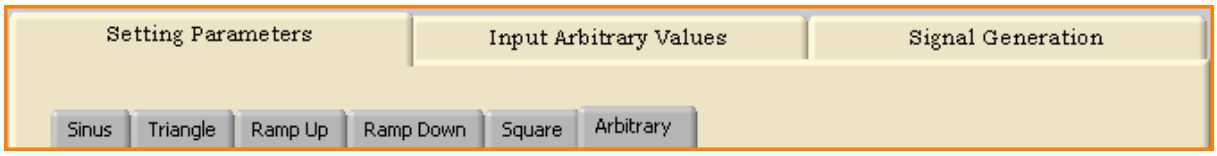
Visualization of the choice of 2 periods:

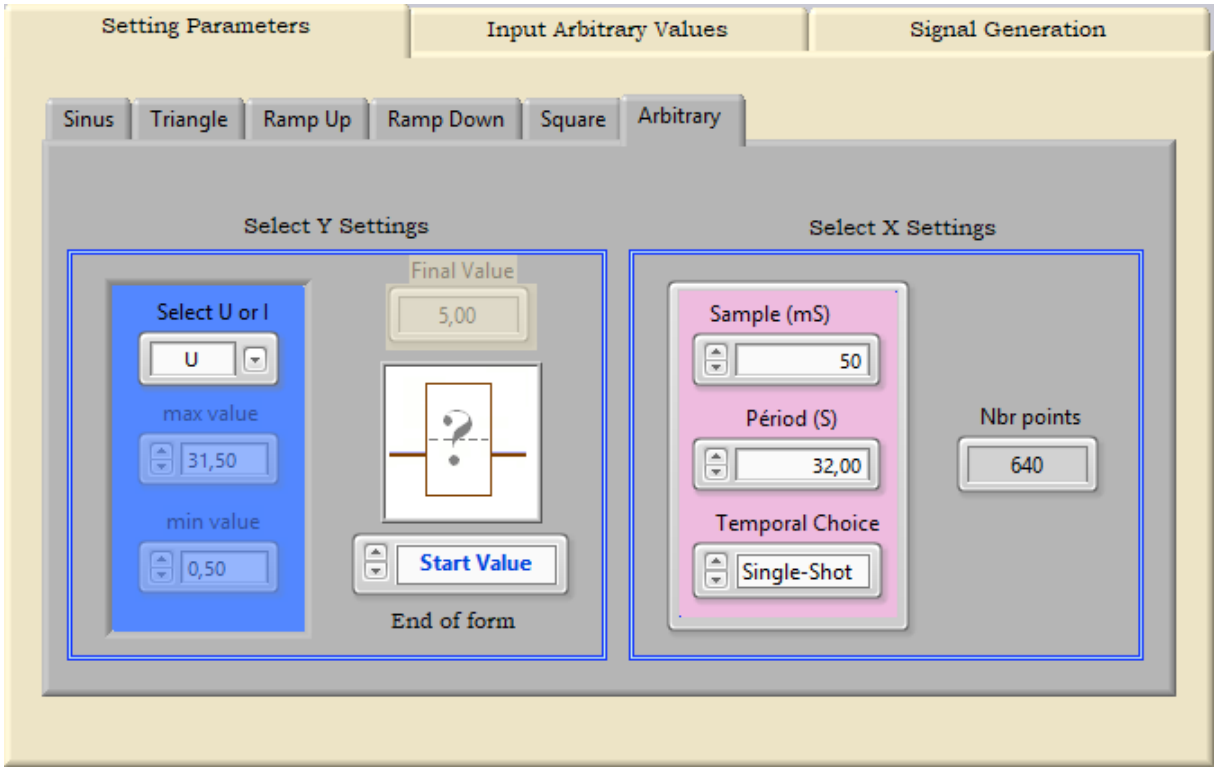


N.B : Le choix de la valeur terminale (Fin de forme) est identique que pour le monocoup.

Arbitrary mode

When the arbitrary mode is selected, an additional tab appears in the main command.
It will be used to enter, read, and record arbitrary values.



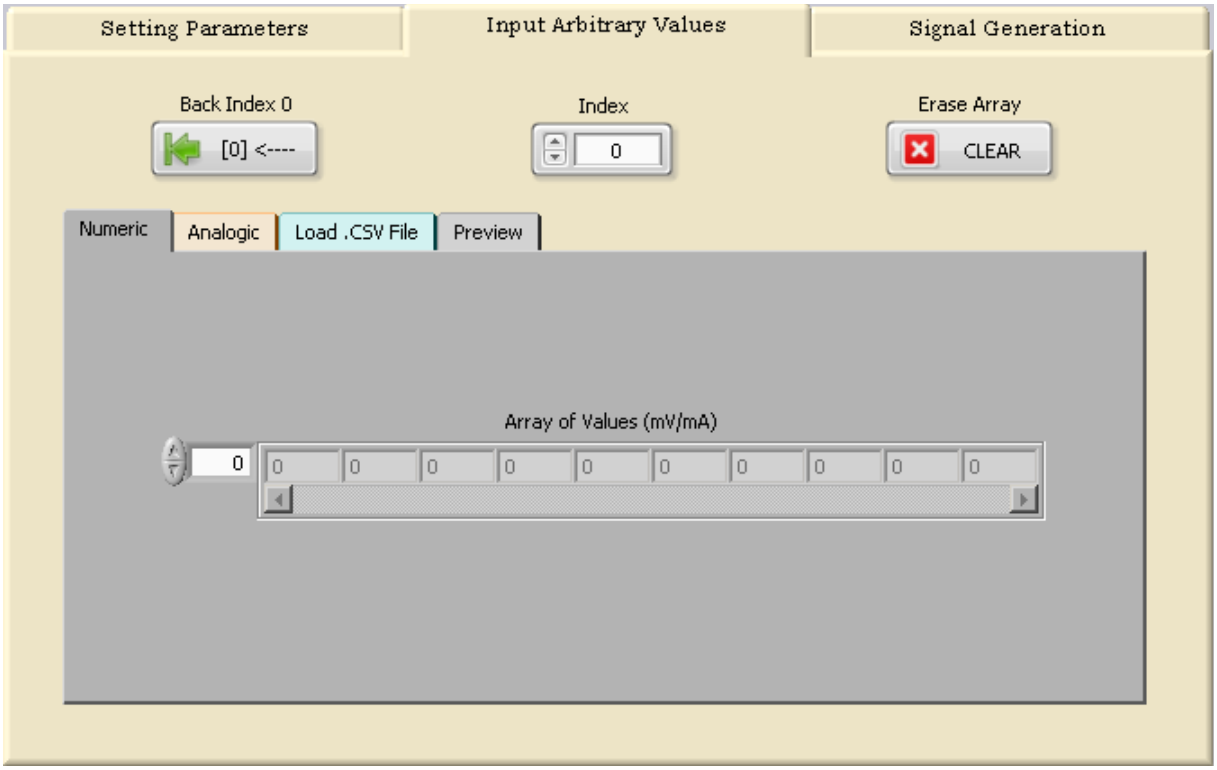


The commands "max", "min" and the "Val. Finale "switches to gray mode and the waveforms window displays: "? ".
These parameters will be selected in the newly opened tab "Arbitrary Input Values".

Enter arbitrary values

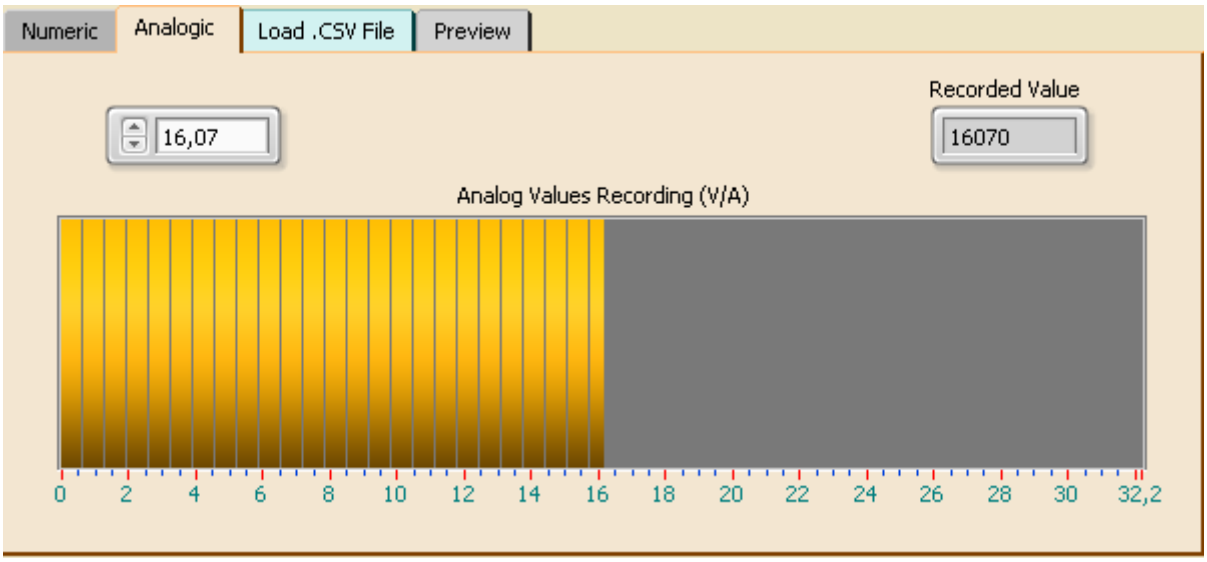
Entering arbitrary values can be done in several ways:

Direct entry of values into the numeric table (left box).



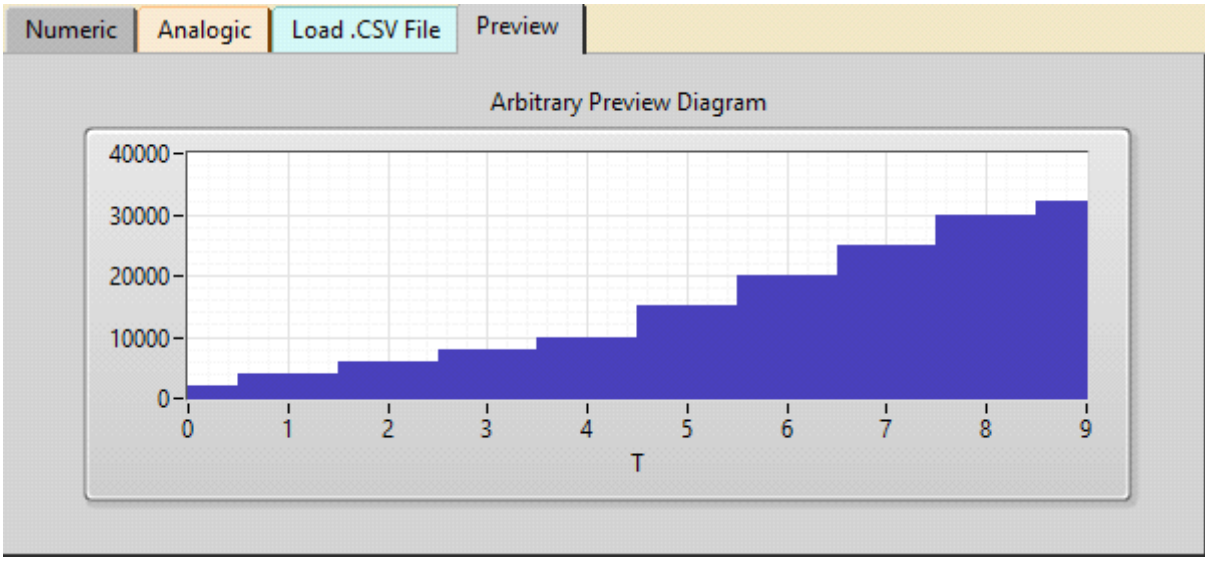
The table is incremented automatically after each enters.
N.B: To display the values on the picture, the table has been deployed, but while being entered, the recorded values disappear to the left as the index increases.

Entering analogic values (by potentiometer)



Just click on the desired values, with each release of the computer mouse, the value is stored in the numeric table, and the index incremented.

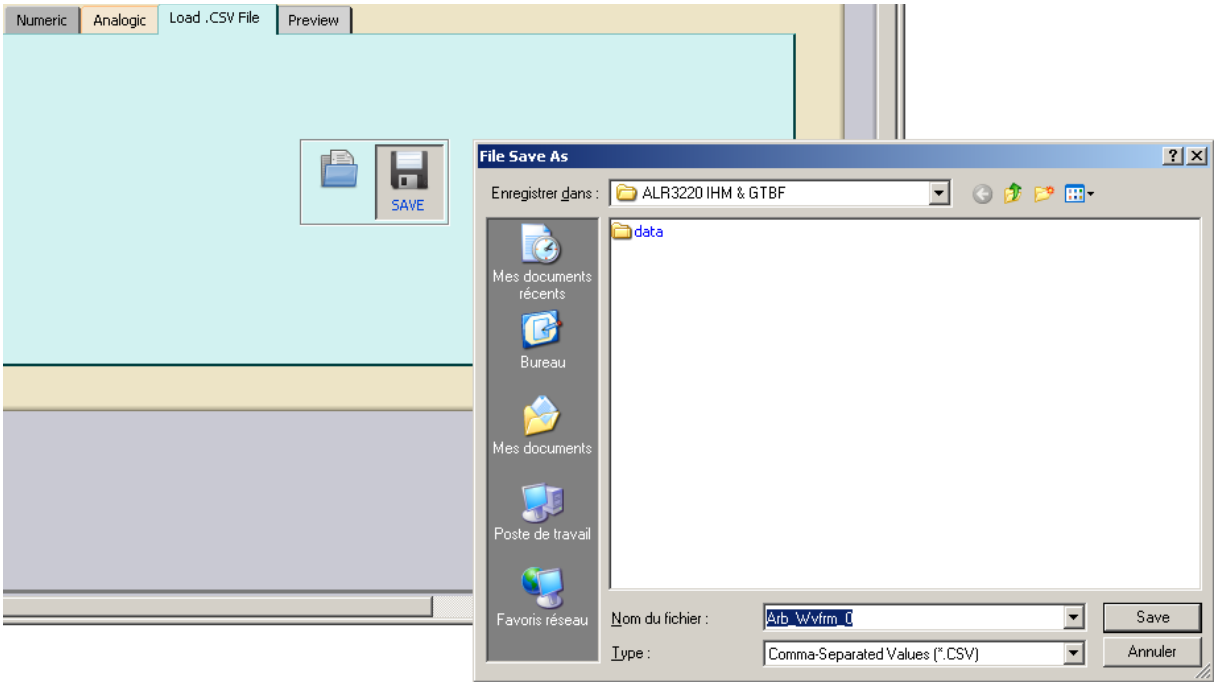
Anytime, it's possible to see the curve in the "Preview" tab.



It's also possible to correct one or more values by returning to the numeric tab.
Attention, reposition the index command (on the top) on the last box of the table.

The table of arbitrary values can be stored as a .CSV (Comma Separated Values) file.

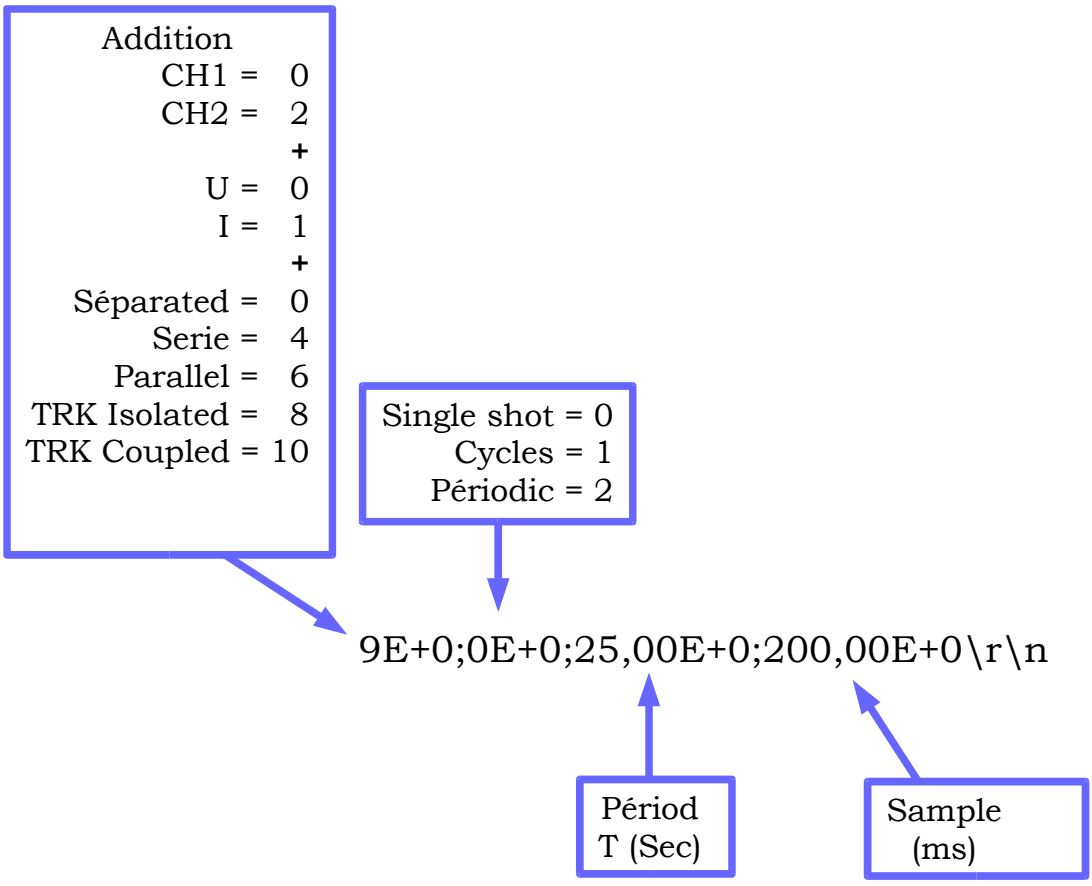
The first line of the file contains the sequence of values.
At the registration, a second line is created, which groups together the X parameters: Period, Sample, and Time Selection.



The default filename is “`Arb_Wvfrm_0`”

Meaning of 2è line .CSV file

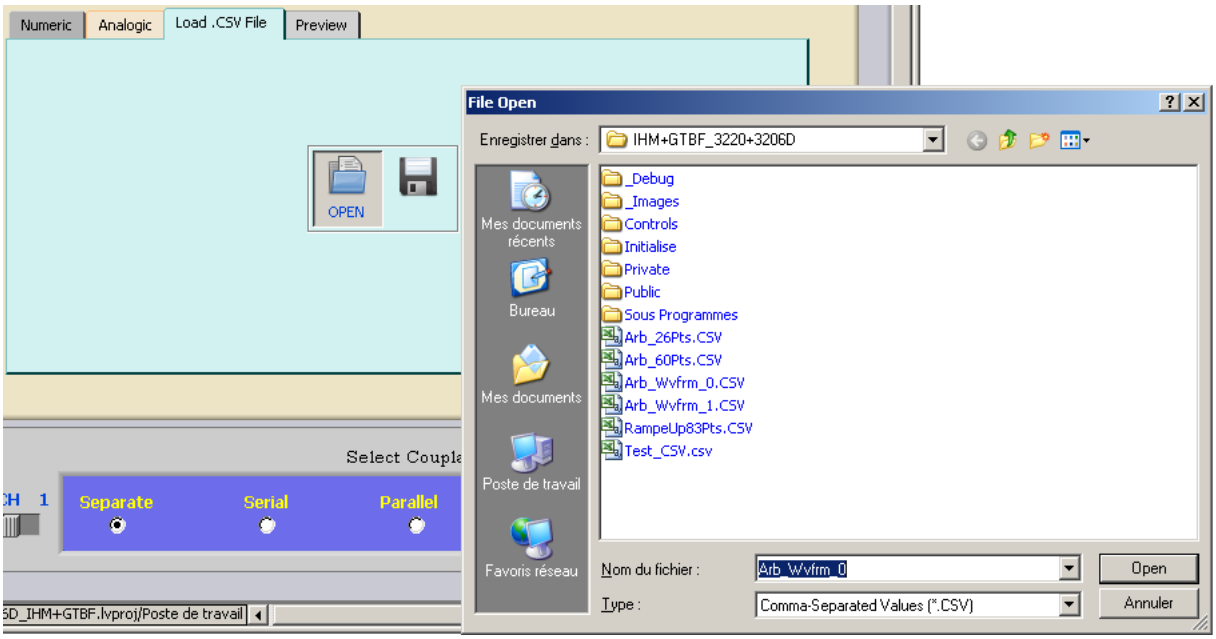
0 : U CH 1 Séparated
1 : I CH 1 Séparated
2 : U CH 2 Séparated
3 : I CH 2 Séparated
4 : U Serie
5 : I Serie
6 : U Parallel
7 : I Parallel
8 : U TRK Isolated
9 : I TRK Isolated
10 : U TRK Coupled
11 : I TRK Coupled



Meaning : Tracking Isolated, I, Single Shot, Period = 25 Sec, Sample = 200 ms

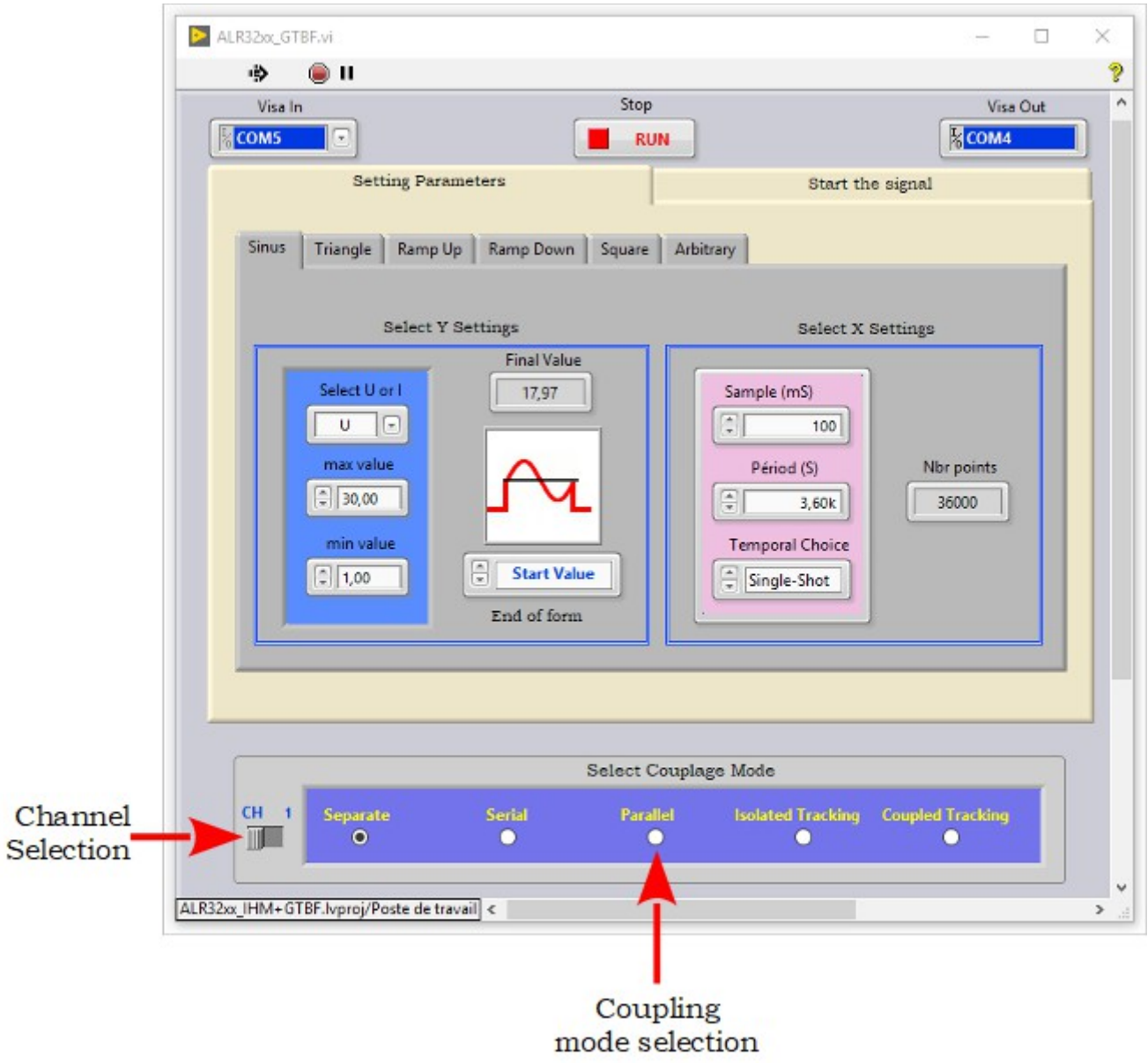
N.B: The choice of the channel (CH1 / 2) exists only in separate mode, because in the other modes, the channels are coupled.

It's possible to open a table previously saved on the disk with this software (containing 2 lines: Values / parameter X).
Also, a table from other measuring devices (with 1 single line).
In this case, it's necessary to return to the general tab
"Parameter Selection" and enter manually the parameters X: Period, Samples and Time Selection.



If values have already been entered (table present in the software), a dialog box prompts you to overwrite them, or to add them one the table present on the disk.

Using GTBF3206D & T



Before starting the signal, it is possible to choose the coupling mode of the power supply.

In separate mode, it is possible to choose the channel on which the generated waveform will apply. In the other modes, the channel selector is grayed out, since the two channels are together.

N.B: On the ALR3206T only the 2 main channels are available for signal generation