

KreonArm WIZARD

User's manual



Kreon Technologies

19, Rue Columbia (ESTER Technopole) – 87068 LIMOGES Cedex – FRANCE
Tel: +33 (0)5 55 42 80 40 – Fax: +33 (0)5 55 42 80 08
www.kreon3d.com – techsupport@kreon3d.com

Summary

1	INTRODUCTION.....	5
2	INSTALLATION.....	6
2.1	INSTALLING THE SOFTWARE	6
3	DESCRIPTION	8
3.1	USER INTERFACE	8
3.2	ADDING A PROFILE.....	10
4	PROBE CALIBRATION.....	13
4.1	CALIBRATION BY SPHERE	13
4.2	CALIBRATION BY HOLE	14

1 INTRODUCTION

The KreonArm WIZARD is a small program that permits to check and configure the different Kreon arms (ACE or BACES models).

Its installation program copies all the necessary files into the computer and configures it with default parameters. It also installs the USB driver and libraries required to use the arm.

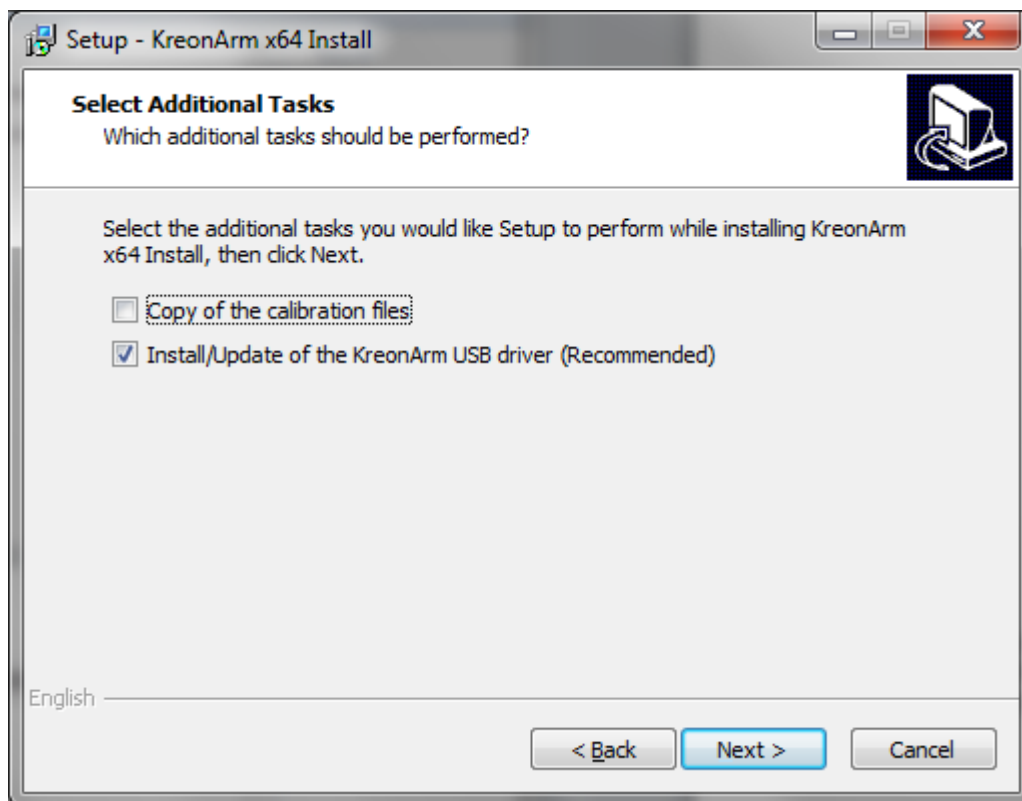
2 INSTALLATION

2.1 INSTALLING THE SOFTWARE

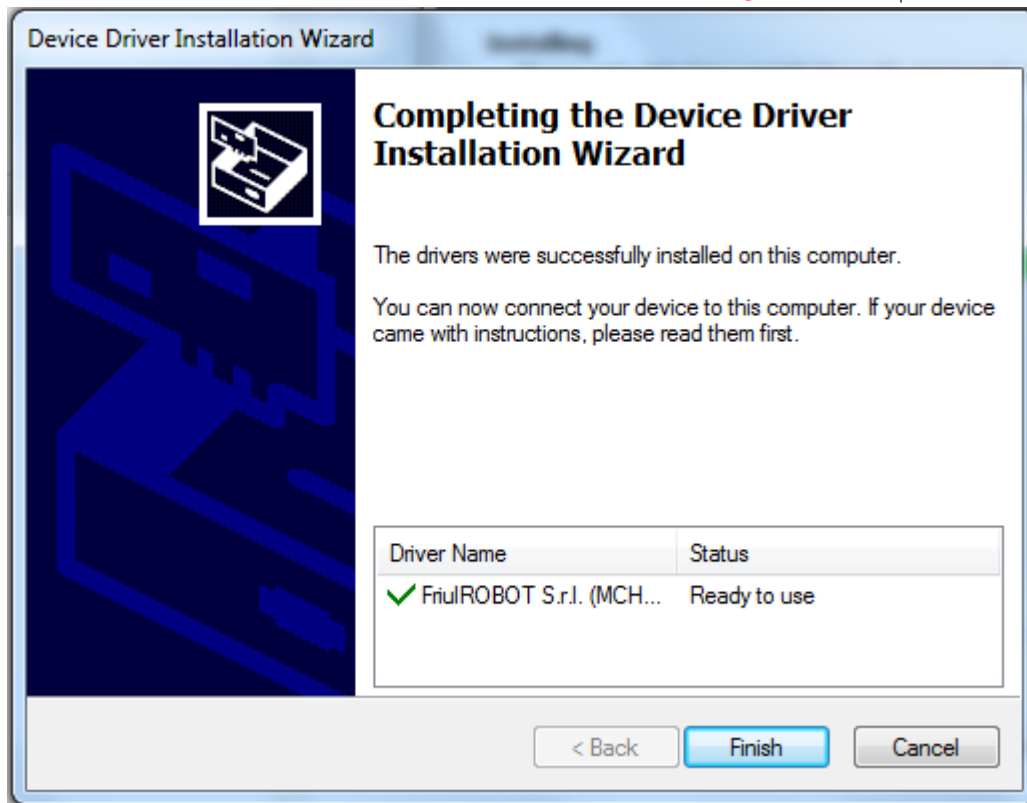
Before running the installer, make sure you are logged in with Administrator rights on the computer.

Locate the KreonArm Install folder (x64 or x86 depending the Operating system) on the provided CD-ROM (or any other media); then run “KreonArm * Install *.exe”.

- Select your preferred language for the installation program and validate by “OK”.
- Click “Next” when the window of the installation assistant appears.
- Choose the destination path of the software installation. It is recommended to leave it to the default location (“Program Files*Kreon Technologies\KreonArm”) unless you really have to install it elsewhere.
- Choose the folder name that will appear in the start menu if necessary, then click “Next”.
- Check the boxes (typically, check the second box only) if you want the software to execute the different tasks proposed then click on the “Next” and after on “Install”.



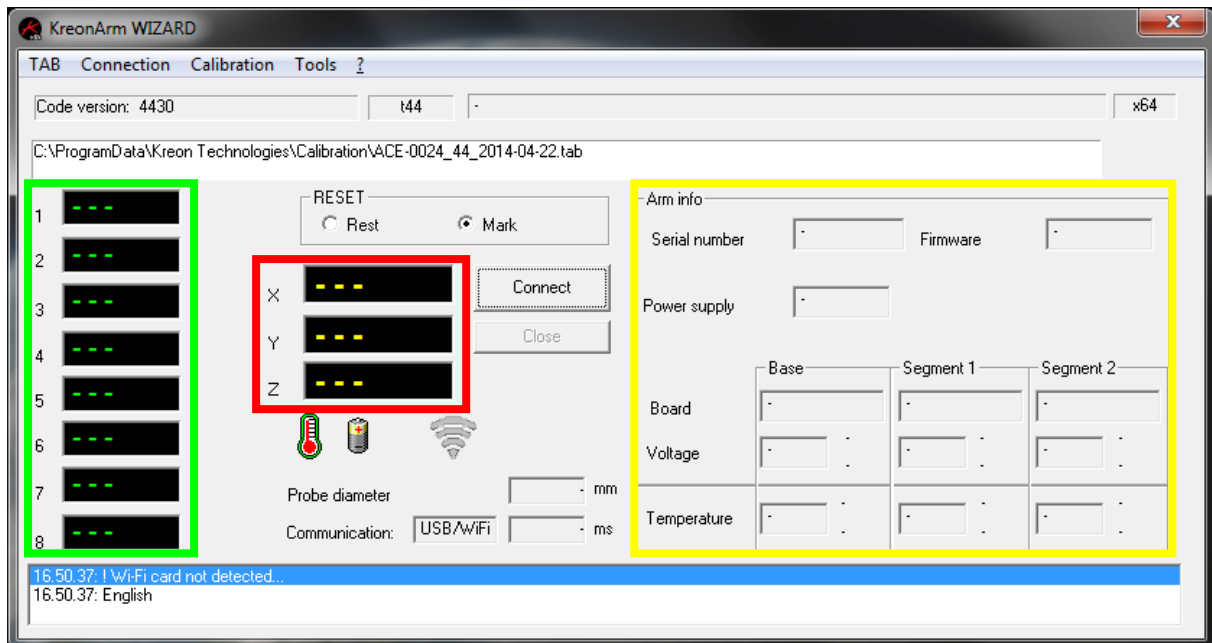
- If you have checked the box to install the arm drivers, the installation will begin after. If Windows opens a window with a red banner to tell that the editor of the driver is unknown, continue the installation. Press the “Finish” button.



- At the end of the installation, you should accept to install the Microsoft VS2005 redistributable files.
- Press "Close" to end the installation.

3 DESCRIPTION

3.1 USER INTERFACE

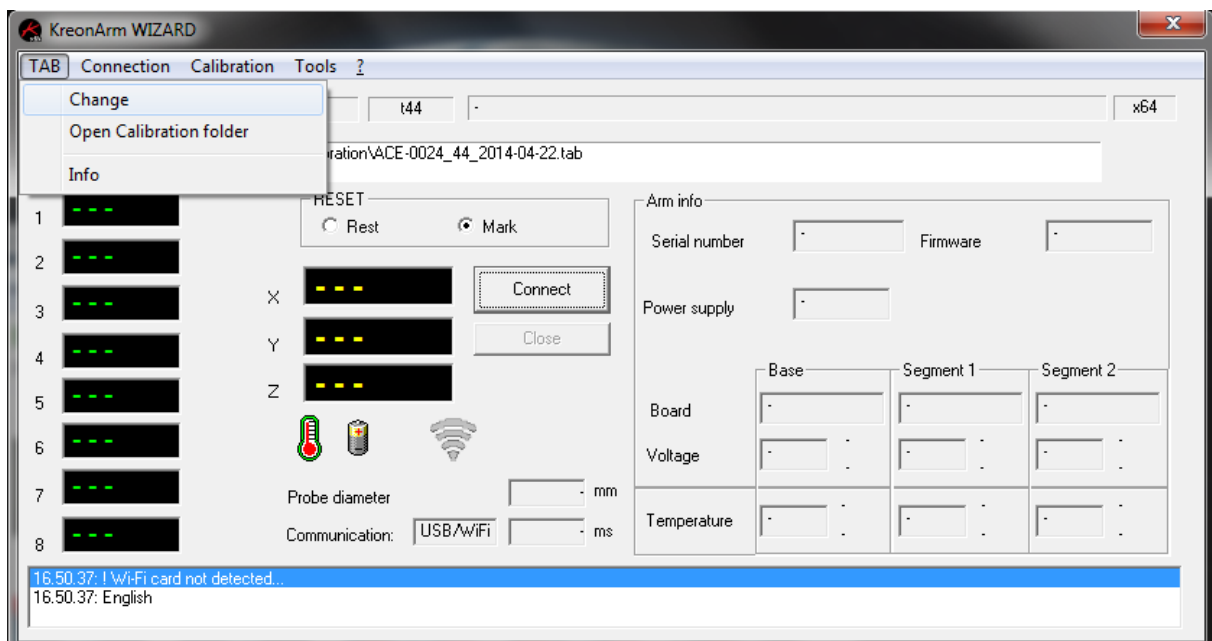


This is the main window when you run the KreonArm WIZARD.

The first area (green) shows the encoders' values. You can see here if all the encoders of the arm are counting properly.

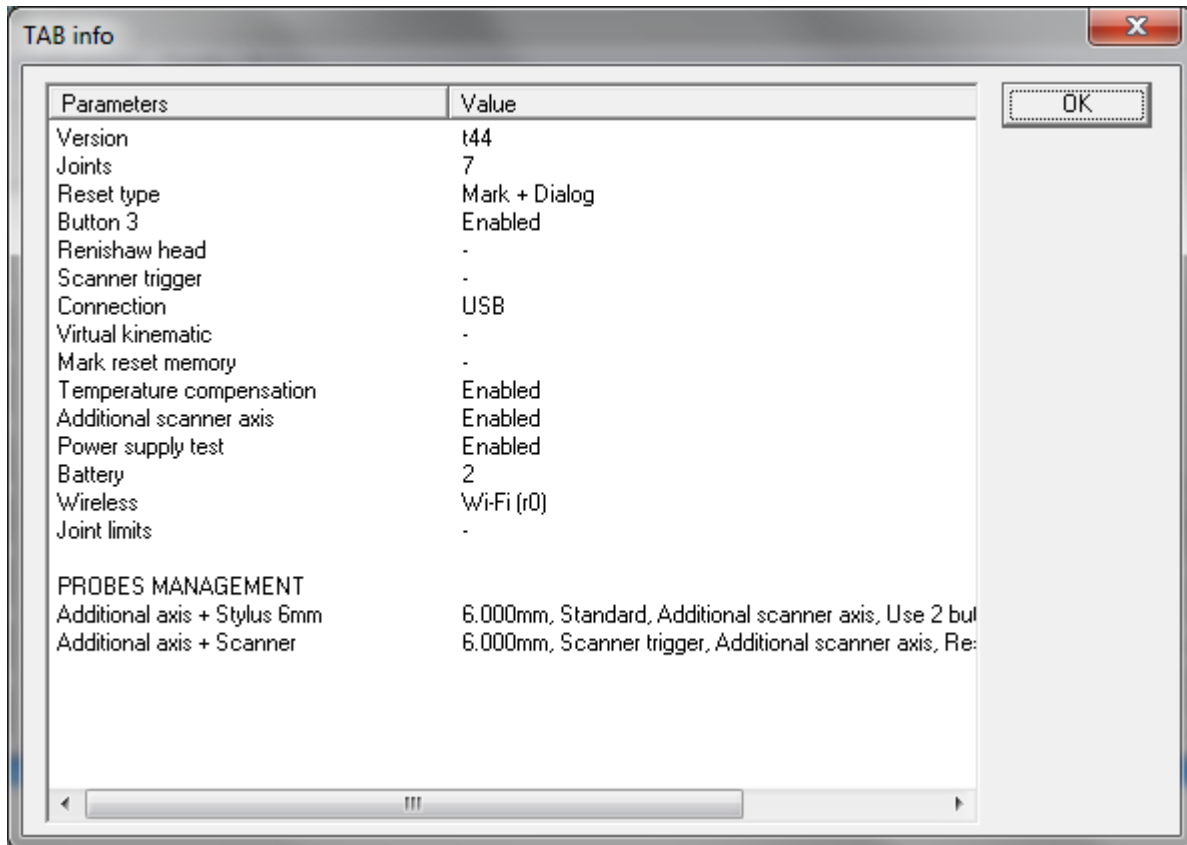
The second area (red) is the XYZ value of the tip of the arm (depending on the selected probe calibration profile).

Next to this area is the "Connect" button, which you have to click to connect to the arm. However, before pressing that button, you must select the calibration file of the arm. To do this click on the "TAB" menu on the top left of the window, click then on "Change".



Then browse to the location of the calibration file. Usually it is located:
 “C:\ProgramData\Kreon Technologies\Calibration” (for Windows Vista, 7 or 8, 32-bit or 64-bit).
 For Windows XP it is located in:
 “C:\Documents and settings\All users\Kreon Technologies\Calibration”.

After this, if you click on the “TAB” Info menu, you can see the window below, which shows some arm properties that are recorded inside the tab file.

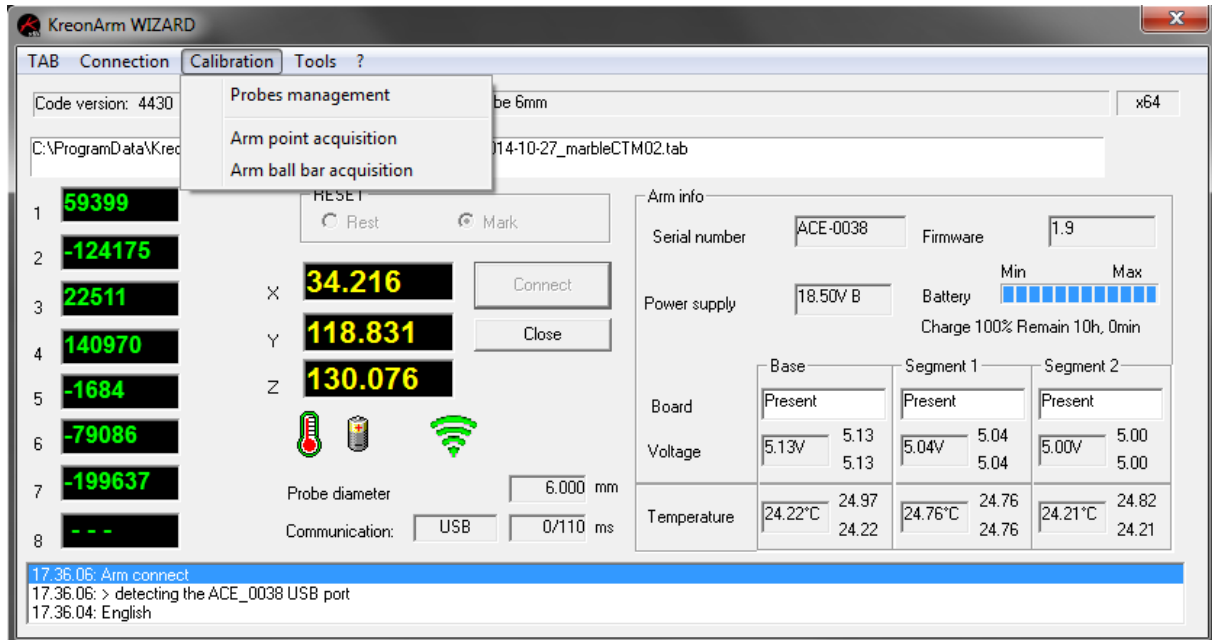


The third area (yellow) shows different data about the arm, such as the serial number, the type of power supply and its voltage, the temperatures...

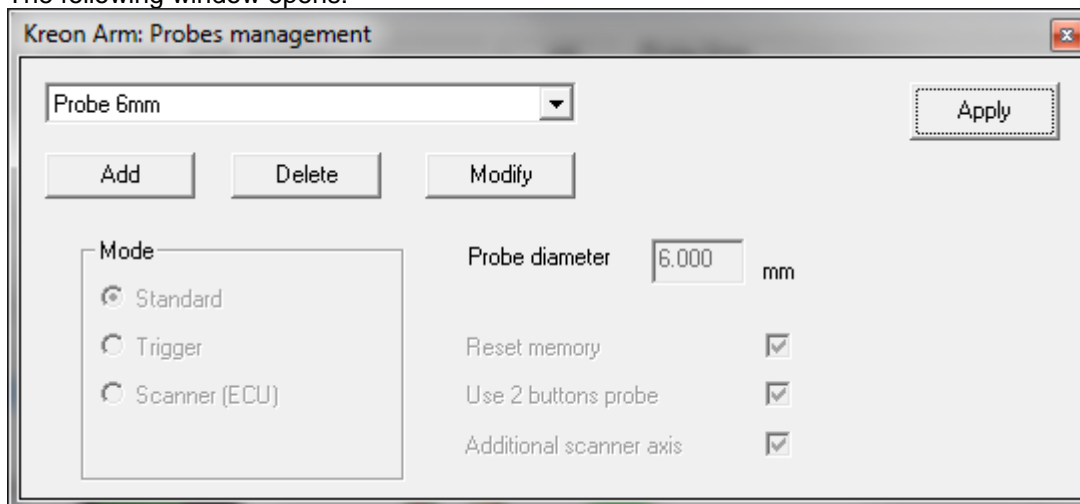
3.2 ADDING A PROFILE

With this software, it is possible to create or modify a probe profile. Such profiles can be selected during the axis reset procedure when connecting to arm or later from the “Probes Management” window.

To add (or modify) a profile, go to the “Calibration” menu and click on “Probes Management”.



The following window opens:



You can select the profile you want to modify (or delete) by clicking on the drop-down list and the click on the “Modify” (or “Delete”) button.
Or click on “Add” to create a new profile.

After pressing “Add” or “Modify”, the window changes to this form:

Here you can set the parameters of the device you want to use with the arm.

First select the Mode: “Standard” is the mode for hard probing, “Trigger” is to use a trigger probe such as Renishaw LP2 or TP2, and “Scanner (ECU)” is the mode to use a Kreon scanner with the arm).

Then, name your profile (for example name it by with the name of the device use).

Enter a probe diameter (enter 0 if you want to use a point probe or a scanner).

Check the boxes as needed: “Reset memory” will memorize the reset of the arm so that you will not have to repeat the reset of the arm axes until the next time you turn on the arm, “Use two button probe” has to be checked if you have an Ace arm or a Baces arm with a two-button probe. The additional axis has to be checked when it is a seven-axis arm.

If you are creating a Standard or Trigger probe, enter the diameter of the datum sphere you will use to calibrate the probe (or put 0 if you do it in a conical hole).

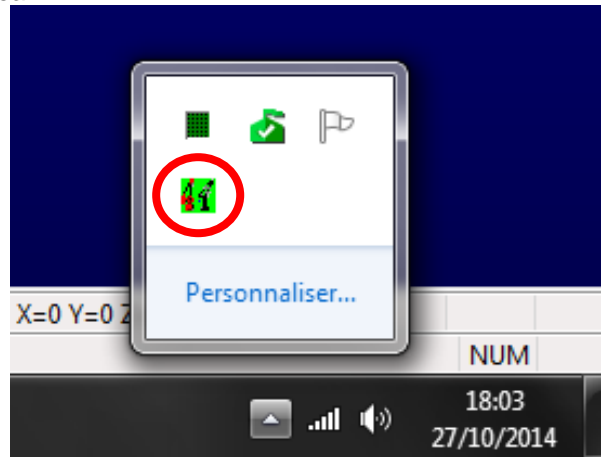
When you create a scanner profile, you can directly save the profile (then apply it and close). No need to follow the next instructions.

To calibrate a new probe, you will have to pick points as described in the next chapter. Then, click on “Compute”; then “Save” to store the profile into the Calibration file.

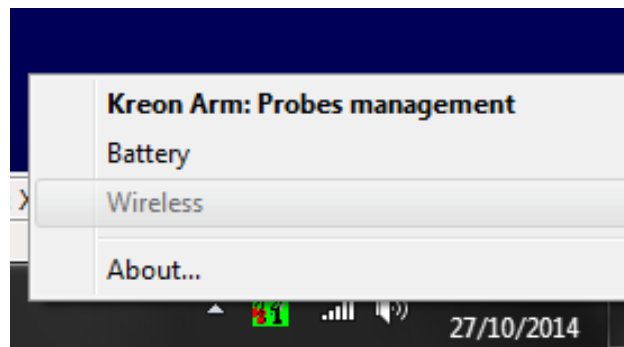
When finished, click on Apply to take the new profile into account, then close the window.

Remark: You can also access the “Probes management” when you are using an application software (such as Polygonia, or a plug-in for PowerInspect, Polyworks, Geomagic, and others).

In those applications, after connecting to the arm, an icon (see the one circled in red below) should be visible in the IconTray area.



Right click on the icon to open the context menu shown below. Then you can click on the “Probes management” and follow the same procedure as above.



4 PROBE CALIBRATION

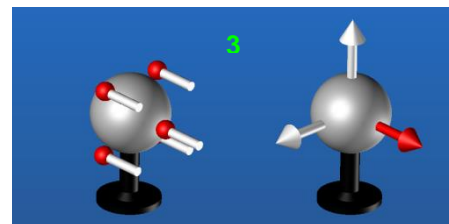
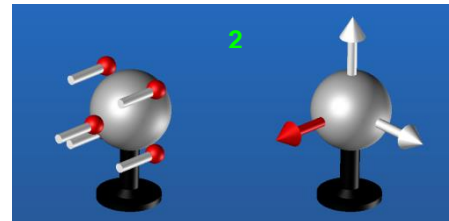
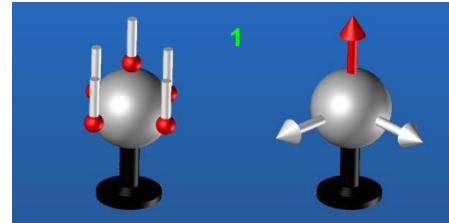
Two methods are possible to calibrate the probe on the arm: by sphere or by hole.

4.1 CALIBRATION BY SPHERE

With this method you can calibrate all types of probes (spherical, point probe, trigger probe).

- Probe at least 15 points grouped as follows (30 for a 7-axis arm):
- First, probe 5 points with a vertical probe orientation by pressing the main arm button (red for Ace arm or green for 2-button Baces or for 3-button Baces);
- Then, probe 5 other points with a perpendicular direction;
- Finally, probe the last 5 points with another direction perpendicular to the first two ones;
- With a 7-axis arm, at each step, probe 5 more points rotating the last axis by $\pm 90^\circ$

i With a Trigger probe, it is not necessary to push the green arm button. Points are automatically recorded when the probe touches the sphere.



4.2 CALIBRATION BY HOLE

With this method, you can only calibrate the spherical hard probes (no trigger or point probes)

- *First, place the hard probe vertically at the bottom of the hole;*
- *While keeping the hard probe at the bottom of the hole, move the arm to make three 90° arcs downwards, spaced by 120° around the vertical axis while keeping pressed the main arm button (red for Ace arm or green for 2-button Baces or for 3-button Baces) to collect points;*
- *Then with a probe orientation about 30° from the vertical, describe a circle with the arm wrist while keeping the main arm button pressed;*

i You have to take at least a few tens of points before computing the data.

