

Kreon Baces arm

User's manual



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1 INTRODUCTION

1.1 WHAT IS IT?

The Kreon Baces arm is a high-precision coordinate measuring device able to tell the position and orientation of 3D-measurement devices mounted at the tip of the arm. It may be used for probing, by mounting a hard probe or touch-trigger probe at the tip of the arm, or for scanning, by mounting a Kreon 3D laser scanner.

1.2 CONTENTS

The suitcase contains:

- The Baces arm;
- A power supply and a cord adapted to your country;
- A base plate
- A kit of certificates
- A USB cable
- A CD with software and arm calibration
- A PAA1 with ball probe 4mm
- A S10 Renishaw key
- A Allen key 6mm
- A stylus tool
- 4 M6-50 hexagonal screws

The magnetic base and a Brunson adapter are in option.



2 HARDWARE INSTALLATION

2.1 FIXING THE ARM

Make sure that the base plate (or the magnetic base or tripod) is well fix on the working plane.

Then put the arm on the base plate and screw the 4 M6 screws provided with the arm.



2.2 PLUGGING THE ARM

Plug the power-supply on the round connector on the right of the back panel.

Plug the USB cable on the arm (left side of the back panel) and the other extremity of the cable on the computer.



The third connector is needed when using a Kreon scanner (Zephyr II or Solano).



Caution: the arm must be turned off before connecting or disconnecting the cables.

2.3 MOUNTING A PROBE

The tip of a six-axis arm is equipped with an M8 threaded hole. The probe is composed of two components: an M8-M4 adaptor and a 4mm ruby ball stylus.

To mount the probe on the arm, first screw the stylus on the adaptor, then screw the adaptor on the tip of the arm.




The tip of a seven-axis arm is equipped with a Renishaw Multiwire interface. The probe is composed of three components: a Renishaw PAA1, an M8-M4 adaptor and a 4mm ruby ball stylus.

To plug the probe, approach the PAA1 from the tip of the arm until contact, make sure the 2 marking dots are aligned (red dot on the arm and black dot on the PAA1). Lock the PAA1 with the S10 key.

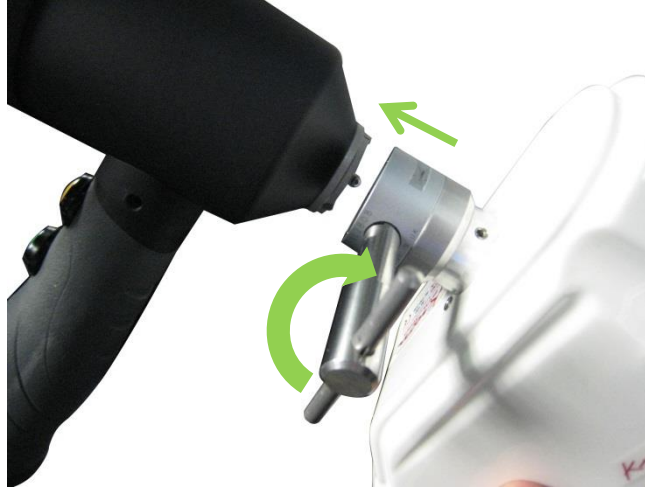


2.4 MOUNTING A SCANNER

To mount a scanner (with Renishaw attachment) on the arm it is the same as for the probe. The scanner must be equipped with a Multiwire interface.

 Ensure that the arm is turned off before mounting or removing the scanner.

Approach the scanner from the tip of the arm until contact; make sure the 2 marking dots are aligned. Then lock the scanner with the S10 key.



To mount a scanner (without Renishaw attachment) on the arm, screw the M8 attachment on the tip of the arm, then put the scanner on it and screw the three small screws with the 1.5mm Allen screwdriver (provided with the scanner).



3 SOFTWARE INSTALLATION

3.1 DRIVER INSTALLATION

Before installing the driver, make sure you have Administrator rights on the computer.

Insert the installation disk inside the CD-ROM drive, then browse the disk to find the KreonArm Install folder (x64 or x86 depending the Operating system). Then run "KreonArm * Install *.exe".

The driver includes the Kreon Arm Wizard program; so, please refer to the Kreon Arm Wizard documentation for details on the installation procedure.

This installation is compatible also with the ACE arm.

3.2 SWITCHING THE ARM ON/OFF

To turn ON the arm, switch the interrupter to the right.

To turn OFF the arm, switch the interrupter to the left.

3.3 CONFIGURING THE ARM

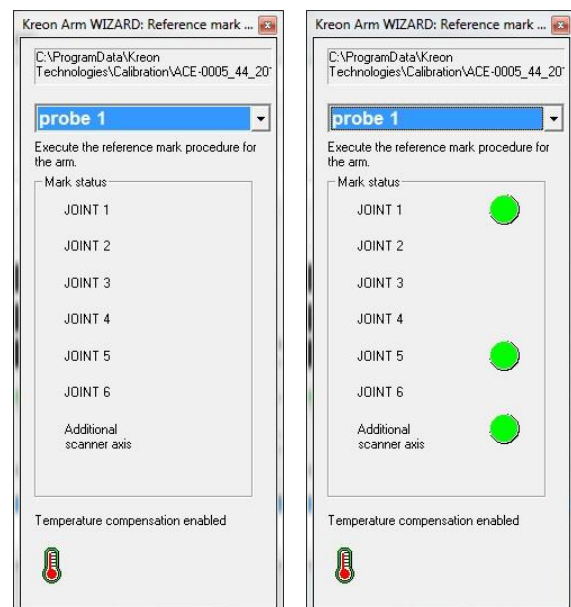
After turning ON the arm, the arm is in an unknown state. In the application software, at the first connection to the arm, the Reference window opens.

This window shows the status of all the axes of the arm, so it is necessary here to make the "reset" procedure of the arm. Select the good profile depending on the probe (or scanner) mount on the arm (in the illustration, it is "probe 1").

These profiles are configurable inside the Kreon Arm WIZARD (cf. its documentation)

Manipulate the arm to let it find its Zero marks for each axis is. When one axis is OK, a green dot appears, and when all are OK the window closes automatically.

At any time, it is possible to change the profile using the green KreonArm icon in the system tray (at the bottom right of the screen).



The probes can be calibrated inside the Kreon Arm WIZARD and then selected inside Polygonia or plug-ins by defining a "Factory calibrated" probe (refer to the "Probe Calibration" section in the "KreonArm Wizard" documentation).

3.4 CONFIGURATION IN KREON APPLICATIONS

To use the Kreon Baces arm in Polygonia or with plug-ins, there are some parameters to set.

First, select the machine "KreonArm.par". Please note that, in some applications, it may be necessary to select a scanner calibration file, first. When using the arm for probing only, any scanner calibration file will be fine.

Second, select the calibration file of the arm (*.tab) in the "Arm properties" window.

Then calibrate the probe or the scanner, check this in the "Probe Calibration" and/or "Scanner Positioning" documentations.

4 TROUBLESHOOTING

4.1 INCORRECT DATA ACQUISITION

Problem: The acquired data (probed or scanned points) seem incorrect.

Solution 1: Check that you selected the correct arm calibration TAB file. If the arm has already been recalibrated, make sure that you are using the latest version of the calibration file.

Solution 2: Check that you selected the correct profile in the Probe Management window.

Solution 3: Check that the arm is firmly attached to the workbench or tripod and that the whole workspace is stable.

Solution 4: Try recalibrating the probe or the scanner until the result (standard deviation) is within the specifications of the arm.

Solution 5: An arm recalibration might be necessary. Please contact your reseller or directly Kreon Technologies Technical Support (techsupport@kreon3d.com).

4.2 UNABLE TO CONNECT TO THE ARM

Problem: The arm is switched on but I can't connect to the arm.

Solution 1: Check the USB connection. Also check that it is correctly detected as "KREON Technologies Measuring Arm (USB)" in windows Device Manager. If not, then install the latest KreonArm driver and, during installation, accept installing the USB driver.

Solution 2: You may also try connecting the arm to another USB port.

4.3 UNABLE TO SCAN

Problem: When I try to start scanning by pressing an arm button, the arm goes back to pause immediately.

Solution 1: Check in the Probe Management window that the selected profile is "Scanner" (not "Probe").

Solution 2: For scanners with a controller box (ECU), check that the "trigger" cable that goes from the arm to the ECU is plugged correctly.