# **API Axxis Scanner Arm (7 DOF)**



# Prerequisites

**Note:** You must have the proper calibration file for the arm (manufacturer-supplied). The file name will contain the arm serial number and will end with ...Arm.tab. You will be prompted to browse for the path to this file when the interface starts.

 Copy Calibration files (calibration files are supplied with arm and scanner and are place in the C:\ProgramData\Kreon Technologies\Calibration\ by default but you can browse to any location).

2. Download Plugin\_SpatialAnalyzerXXXX.zip from ftp://ftp.kinematics.com/pub/SA/Install/Driver%20Down-loads/Scanners/Kreon%20Scanner%20Plugin/. Check the SA Readme file for the appropriate version.

AS an example, SA version 2019.04.09 requires Plugin 3.3.2.3.

**3.** Unzip the file to your hard drive, and run Setup.exe. The installer will guide you through the process of installing the scanner and the HASP dongle driver.

Part of the installation process copies necessary files into the SA install directory. For that reason the Kreon plugin will need to be run again with each new SA installation.

- 4. Configure your network connection as needed for your scanner. The SkylineConfig.exe utility is part of the current (Plugin-SpatialAnalyzerXXX install and will be placed in your SA install directory). Run this utilty to verify and configure your network.
- **5.** Once configuration is complete a reboot may be necessary.

Finally, the Kreon arm uses an additional external USB License dongle. this dongle must be in place on the machine for the arm to be used in SA.

**Note:** You must have the proper calibration file for the scanner. The Kreon install will prompt you for the file. It will be named [scanner serial number]. cal.

### Running the Instrument in SA

- **1.** Add an instrument using the menu item Instrument>Add Instrument or use the R<sub>4</sub> icon.
- 2. Select the API Axxis 7DOF arm (Figure 15-50).



- 3. With the new instrument added run the arm interface module. Simply click the *X*<sup>\*</sup> icon.
- **4.** You will be asked to choose a communication method and a parameter file. This parameter file should be supplied with the arm (Figure 15-51).

Greon Arm properties		Х
Calibration file		
C:\ProgramData\Kreon Technologies\Calibration\D070_	44nt_2014-06-25.tab	
	OK Cancel	

Once the connection is established the arm must be initialized. This includes first selecting a profile from the drop down list and then initializing the encoders. To do so, simply exercise the arm until all encoders have a green status (Figure 15-52). Once complete, SA arm interface will then appear.



**Figure 15-51.** The Axxis connection settings dialog.

C:\ProgramData\Kreon Technologies\Calibration\D070_44nt_201 Additional axis + Scanne Execute the reference mark procedure for the arm. Mark status JOINT 1 JOINT 2 JOINT 2 JOINT 3 JOINT 4 JOINT 5 JOINT 6 Additional scanner axis	Kr	eon Arm DLL: Reference mark dialog
Additional axis + Scanne Execute the reference mark procedure for the arm. Mark status JOINT 1 JOINT 2 JOINT 3 JOINT 3 JOINT 4 JOINT 5 JOINT 6 Additional scanner axis		C:\ProgramData\Kreon Technologies\Calibration\D070_44nt_201
Execute the reference mark procedure for the arm. Mark status JOINT 1 JOINT 2 JOINT 3 JOINT 4 JOINT 5 JOINT 6 Additional scanner axis		Additional axis + Scanne
Mark status JOINT 1 JOINT 2 JOINT 3 JOINT 4 JOINT 5 JOINT 6 Additional scanner axis		Execute the reference mark procedure for the arm
JOINT 1 JOINT 2 JOINT 3 JOINT 4 JOINT 5 JOINT 6 Additional scanner axis		Mark status
JOINT 2 JOINT 3 JOINT 4 JOINT 5 JOINT 6 Additional scanner axis		JOINT 1
JOINT 3 JOINT 4 JOINT 5 JOINT 6 Additional scanner axis		JOINT 2
JOINT 4 JOINT 5 JOINT 6 Additional scanner axis		JOINT 3
JOINT 5 JOINT 6 Additional scanner axis		JOINT 4
JOINT 6 Additional scanner axis		JOINT 5
Additional scanner axis		JOINT 6
		Additional scanner axis

**Figure 15-52.** Exercising the encoders on the arm.

## Scanner Calibration and Controls:

In order to scan be sure to set a scanning profile in the Kreon Arm Probe Management utility (see "Kreon Arm Specific Settings" on page 549). To access the Scanner calibration routine press the Calibration button in the arm interface. Perform a scanner calibration with a certified Sphere and accept the results or repeat as needed following the direction in the dialog (Figure 15-53).

#### SPATIALANALYZER USER MANUAL



arm.

Figure 15-53. Calibrating the

Right-clicking on the scanner button in the instrument interface will provide direct access to the scanner settings controls (Figure 15-54).



The Scanner Properties button the Video Setup button provide access to information about the scanner, its firmware and calibration date as well as access to the exposure and Quality control settings (Figure 15-55).

**Figure 15-54.** Scanner settings through Right-Click

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Camera Integration (s)   Automatic Contrasted   - 1/60 1/125   - 1/250 1/250   - 1/100 1/1200   - 1/4000 1/18000	AQC Quality C5 Comfort	Zephyrll properties Properties Model: Serial Number: Calibration Date: ECU FPGA Version: ECU Firmware Version: Sensor FPGA Version: Sensor FPGA Version: API Version:	× Zephyrll Z2-100 120 13/09/2017 0.3 2.3 9.2 1.1 0.2 
(206.6 Hz) Laser width: 1.8 / 1	Advanced parameters	API Version: Board Version:	0
		Temperature: Parameters	29.7°C

**Figure 15-55.** Scanner Properties and Video Setup

## **Kreon Arm Specific Settings**

The Arm configuration profiles is first selected when you connect to SA through the Encoder Initialization dialog. However, the Arm configuration can be changed during operation through the Kreon Arm Probes Management tool located in the task bar (Figure 15-56).

Its important to note that the profile must be changed from a probing configuration to a scanning profile in order to change modes of operation.

The probes Management tool also provides calibration access.

lditional Axis + Probe 4mm	•	Apply
Add Delete	Modify	
Mode	Probe diameter 4.000 m	nn
💿 Standard 🛛 🖌	· · · · ·	
C Trigger	Reset memory	~
C Scanner (ECU)	Use 2 buttons probe	~
	Additional scanner axis	$\overline{\checkmark}$

With a satisfactory calibration the arm is ready to measure. Simply use the buttons on the arm to trigger measurements, change measurements, etc.

