



2148218 EQ ACCE D-Series Robot Software Kit

Operating Manual

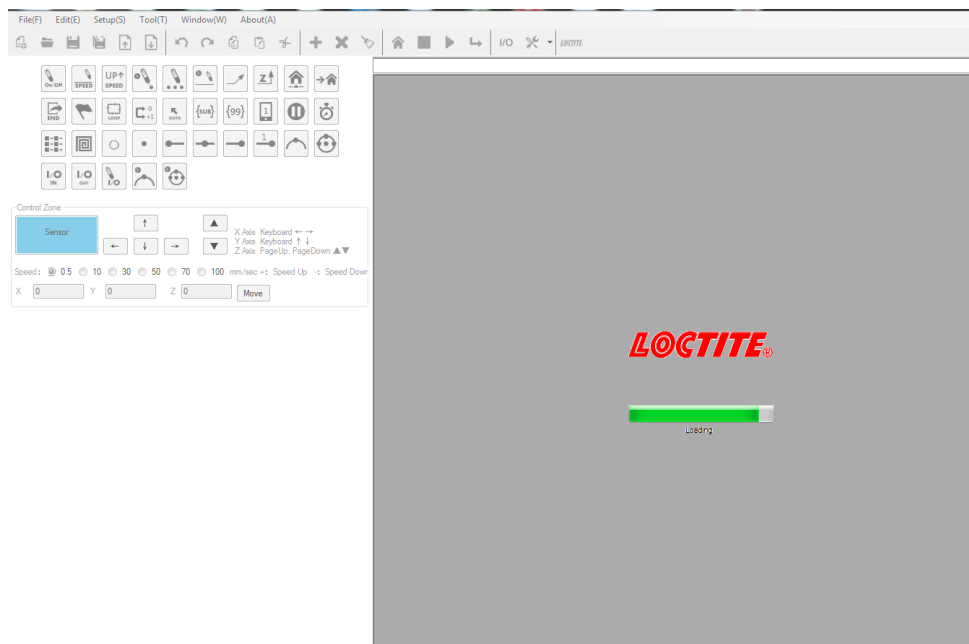


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To view this software manual online, as well as have access to helpful videos that accompany this manual, either scan the QR code above or click [here](#).

1 Please Observe The Following

1.1 Emphasized Sections

Warning!

Refers to safety regulations and requires safety measures that protect the operator or other persons from injury or danger to life.


Caution!


Emphasizes what must be done or avoided so that the unit or other property is not damaged.


Notice:

A notice gives recommendations for better handling of the unit during operation or adjustment as well as for service activities.


1.2 For Your Safety


 For safe and successful operation of the unit, read these instructions completely. If the instructions are not observed, the manufacturer can assume no responsibility.


 Do not expose the connecting cable to heat, oil, or sharp edges.

 Make sure the Unit stands stable and secure.

 Use only original equipment replacement parts.

 Always disconnect the power supply before servicing the unit.

 Observe general safety regulations for the handling of chemicals such as Loctite® adhesives and sealants. Observe the manufacturer's instructions as stated in the Safety Data Sheet.

 While under warranty, the unit may be repaired only by an authorized Henkel service representative.

1.3 Unpacking and Inspection

Carefully unpack the Loctite® EQ ACCE D-Series Robot Software Kit and examine the items contained in the carton. Inspect the unit for any damage that might have occurred in transit. If such damage has occurred, notify the carrier immediately. Claims for damage must be made by the consignee to the carrier and should be reported to the manufacturer.

1.4 Items supplied

1x Equipment Manual 8907214, provided on CD

1x USB Dongle 8907213

1x RS232 Cable 8907211

1x Software Installation File 8907212, provided on CD

2 Description

The Loctite® EQ ACCE D-Series Robot Software Kit are designed for Loctite® Series Benchtop Robots. It provides a method that an operator can control D-Series robots and programming D-Series robots on a PC. It also allows you convert a DXF file to a dispensing path and run in the robot.

The Loctite® EQ ACCE D-Series Robot Software Kit can work with the following robots from LOCTITE:

Products Description	IDH#
RB40 200D Benchtop Robot	2104801
RB40 300D Benchtop Robot	2104799
RB40 400D Benchtop Robot	2104795
RB40 500D Benchtop Robot	2103369
RB20 500D Dual Benchtop Robot	2112252
RB15 200D Gantry Robot	2112253
RB25 - Dual XYZ 300D Robot	2183980

3 Software Installation

Before using the equipment for the first time check it carefully for signs of external damage. If any shipping damage is found DO NOT USE THE EQUIPMENT – return it to your supplier immediately.

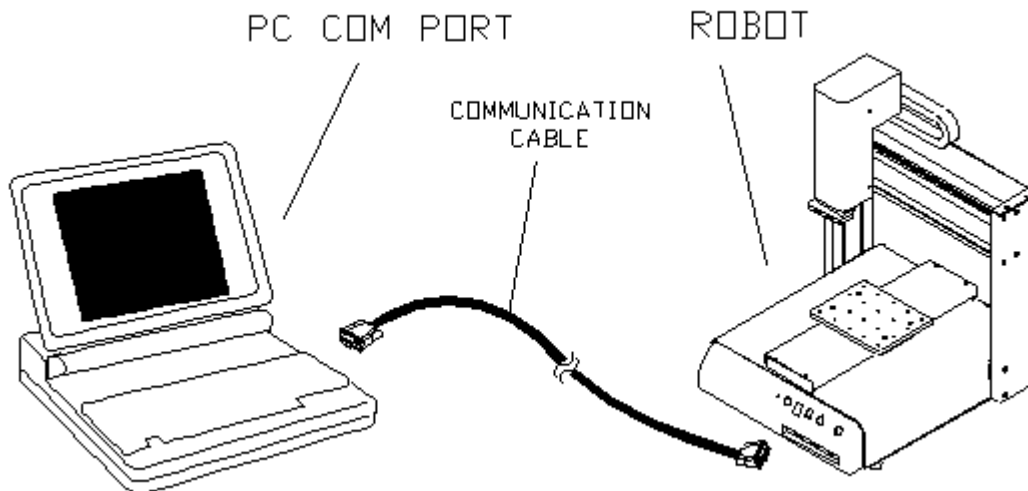
1. Prepare a PC. Please note, a RS232 port is needed on your PC. Or USB to a RS232 converter will be necessary.
2. System requirements: WIN XP, WIN 7, WIN 8 & WIN 10.
3. Software will be burned on a CD disk and shipped with the package. If PC does not have a CD Drive, an external CD Drive with USB compatibility should be used. The installation file is SmartRobotEditorSetup.exe. Please double click the file to start the installation.
4. This icon will show on your PC's desktop once finished.



5. Insert Dongle into your PC.
6. Double click the icon to run the software.
7. Depending on IT settings, administrative permission may be needed before software can be ran. Plan accordingly if applicable.
8. When software is open, the first step needed is to complete the RS232 COM Port Setup. (See Section 5.1)

4 Connect to D-Series Robot

Refer to drawing below, connections to D robot.

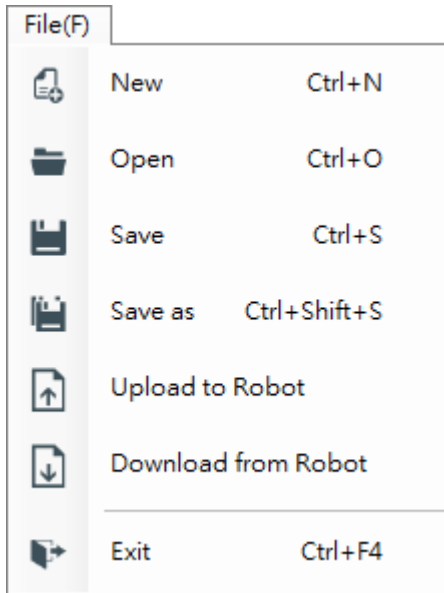


*Note: USB to a RS232 converter cable paired with communication cable if PC does not have an RS232 port.

5 Operation Instruction

5.1 Command List

For command list operation, found along top drop-down menus, there are some functions provided below:



New: Create a file

Open : Open an existing *. AVE file

Save : Save the current commands

Save as : Save the current commands into a file

Upload : Upload the current commands to the robot

Download : Download the current commands from the robot

Exit : Close the program

Copy : Copy the marked scripts to the memory

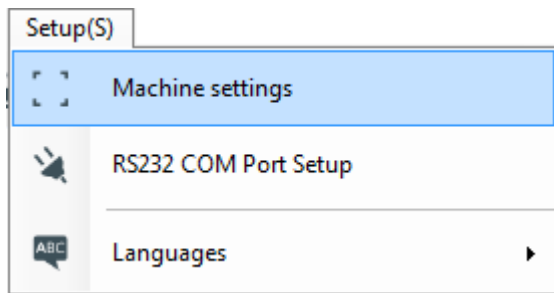
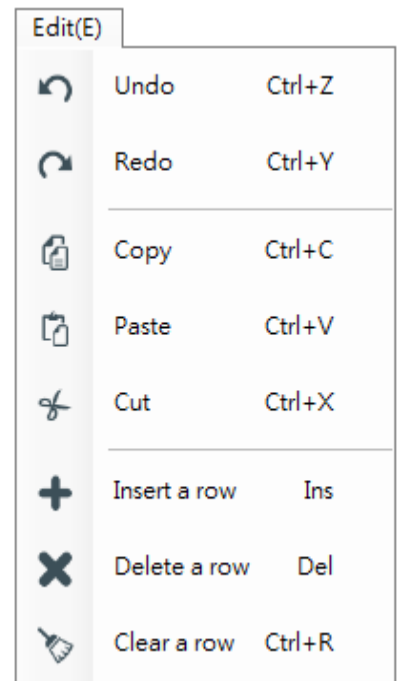
Paste : Paste the copied/cut scripts to the current command line.

Cut : Copy the marked scripts to the memory and clears the display.

Insert a row : Insert a blank row in the command lines where the cursor is located.

Delete a row : Delete the row that is marked.

Clear a row : Erase all the scripts in a row.

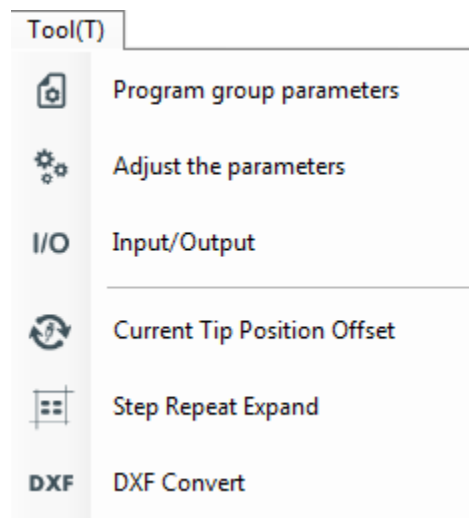
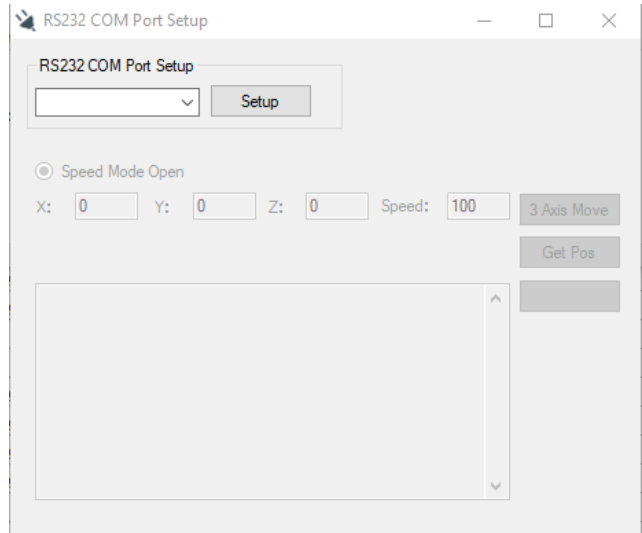


Machine settings :

Sets maximum robot operation range in XYZ direction. Please refer to Section 5.5.2.1

RS232 COM Port Setup : Sets COM port to communicate with Robot. (NOTE: Must set COM port before software can communicate with robot. If you are unaware which COM Port the robot is connected to, you can view this by accessing your PC's device manager via the Control Panel)

Languages : Language selection, available for Traditional Chinese, Simplified Chinese, English, French.



Program group parameters:

Adjust the parameters : Adjusts the parameters for current command lines, please refer to section 5.5.3

Input/output : Provides a simple I/O check, please refer to Section 5.8.3.





















Current Tip Position Offset : Offset the current Tip position, please refer to Section 14.

Step Repeat Expand : Expand the commands of the Step & Repeat, please refer to Section 11.

DXF Convert : Convert the DXF data into a dispensing path, please refer to Section 14.

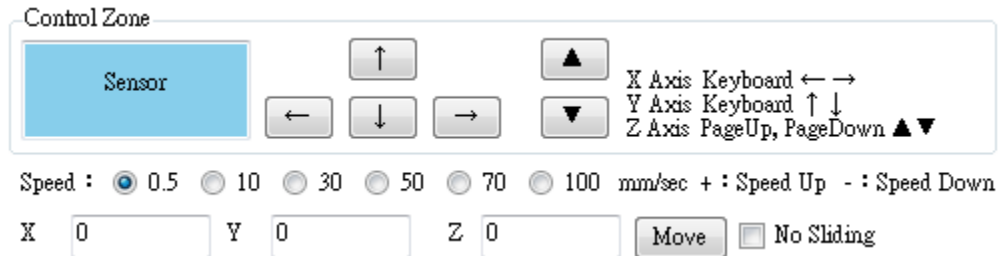
5.2 Quick Button

There are several frequently used functions assigned to individual icons/buttons located underneath the drop-down menus for quick access, explained as follows:

	New		Open		Save
	Save as		Upload the current commands to robot		Download the current commands from the robot
	Undo		Redo		Copy
	Paste		Cut		Clear
	Insert a row		Delete a row		Move the head to home position (0,0,0)
	Stop Click to stop the robot immediately while operating. Click this button to stop the robot immediately when the command is being executed, the next steps will not be executed.		Start Click to execute all commands.		Move Move the head to the position that the selected command line with the coordinates data.
	Output / Input Open the output / input window and check the I/O status.				
	<p>Parameters window</p> <p>Program Group parameters: Edit the parameters for the current command data.</p> <p>Adjustment parameters: Adjust the parameters for current command lines.</p>				

5.3 Jog
































SRE provides jog functions in the control zone.



You can move the tip controlled by a keyboard when the cursor stays in the sensor area and it turns into red color. The movement speed is accordance with your selection; Press "+" to speed up 0.5mm/sec or "-" to slow down 0.5mm/sec for each time. If checked "No Sliding", it will stop moving when released the keyboard; the default is disable, it will slow down to a stop when the keyboard is released. The tip can also be controlled by clicking on the directional arrows to the right of the sensor area.

Input the XYZ coordinates in the bottom box and click 'Move', it will move to the desired position at default speed.

5.4 Dispenser Function

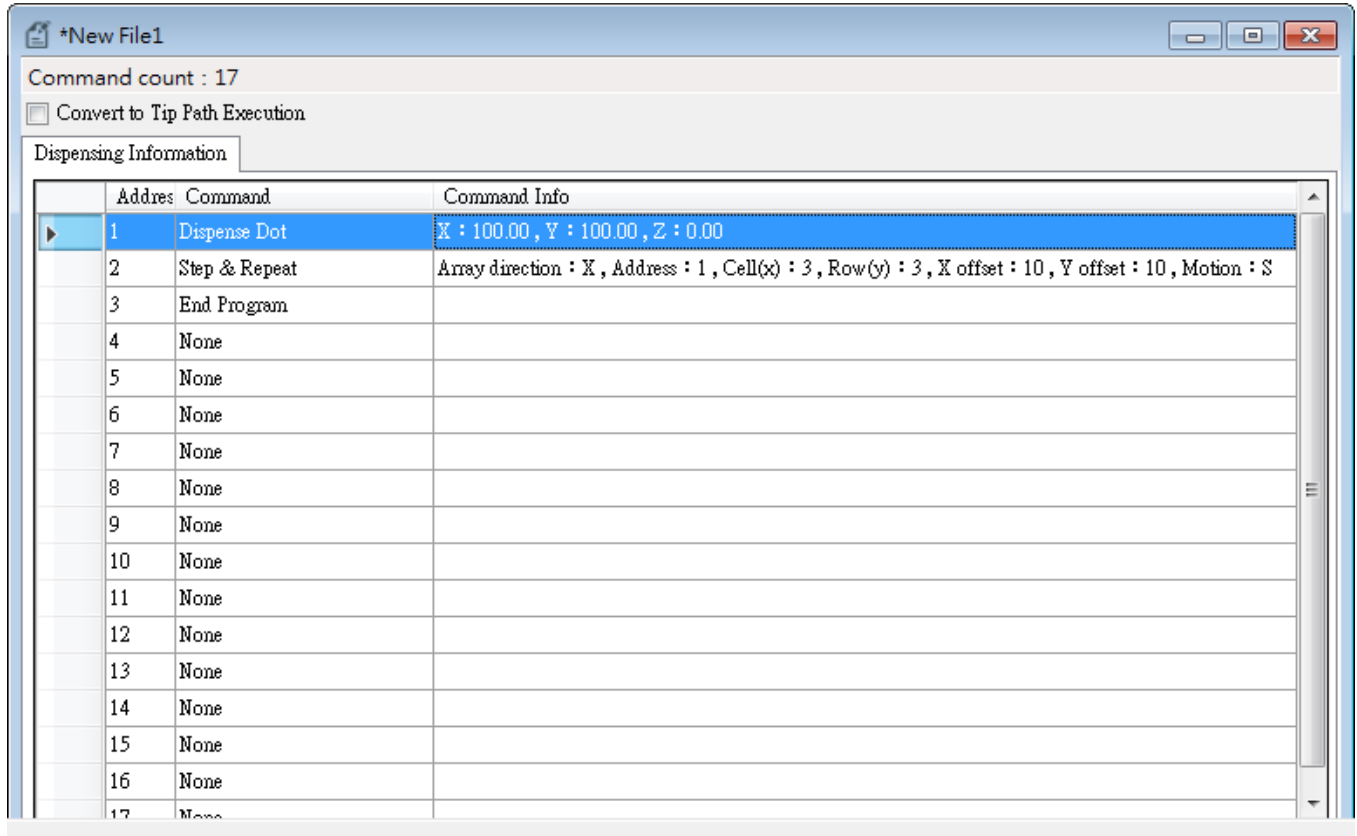
	Registers a DISPENSE DOT point.		Registers a LINE START point.		Registers a LINE PASSING point.
	Registers a LINE END point.		Registers an ARC POINT.		Registers points to dispense a circle.
	End Program		Dispenser output setup		Jump to a specified memory address
	Step & Repeat		Brush area		Call subroutine
	I/O input		I/O output		Wait time
	Stop point		Home point		Loop address
	Loop count		Dummy point		Label
	Call program No.		Dispense output setup		Line speed
	Line dispense Setup		Dispense End Setup		Point dispense Setup
	Retract Setup		Z clearance		Display count
	Speed up				

5.5 Editor Zone

Editor Zone is divided into 5 blocks; please see instructions below for more information.

5.5.1 Parameter adjustment

SRE allows editing commands in the worksheet, as shown below.



Address	Command	Command Info
1	Dispense Dot	X : 100.00, Y : 100.00, Z : 0.00
2	Step & Repeat	Array direction : X, Address : 1, Cell(x) : 3, Row(y) : 3, X offset : 10, Y offset : 10, Motion : S
3	End Program	
4	None	
5	None	
6	None	
7	None	
8	None	
9	None	
10	None	
11	None	
12	None	
13	None	
14	None	
15	None	
16	None	
17	None	

It is allowed to modify Dispensing Information in the worksheet. There are some tools provided for easy modification, please see instructions below.

The following commands are provided when opening a file.

5.5.1.1. Copy

Combination Key : Ctrl + C

Copy the selected instructions to temporary memory; you can paste it to the wanted memory address or to the other program. It only keeps the latest copied/cut instructions saved in the temporary memory.

5.5.1.2 Cut

Combination Key : Ctrl + X

Copy the selected instructions to temporary memory and delete the current memory; you can paste it to the wanted memory address or to the other program. It only keeps the latest copied/cut instructions saved in the temporary memory.

5.5.1.3. Paste

Combination Key : Ctrl + V

Paste the instructions saved in the temporary memory to the wanted memory address. It will be pasted by the order when there are many instructions in the temporary memory

5.5.1.4. Insert a row

Combination Key : Insert

Inserts an empty row before the current memory address.

5.5.1.5. Delete rows

Combination Key : Delete

Delete the current memory address.

5.5.1.6 Clear rows

Clears / erases the numeric value currently saved in the memory address.

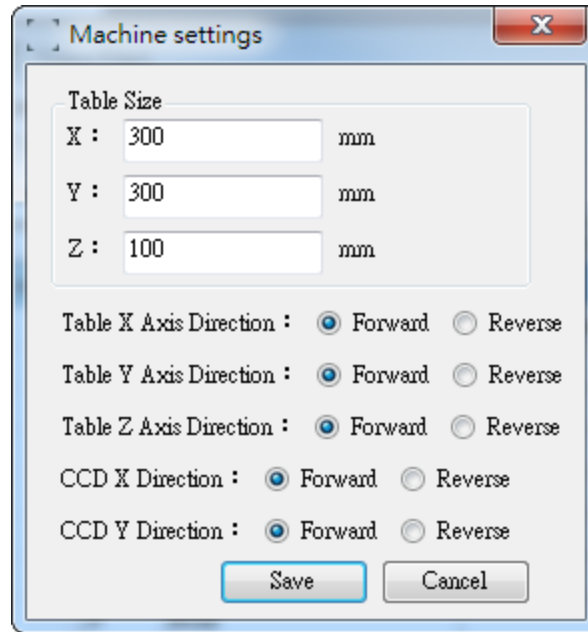
5.5.1.7. Command

Double click the current command line to pop out parameters window for editing.

5.5.2. Parameter

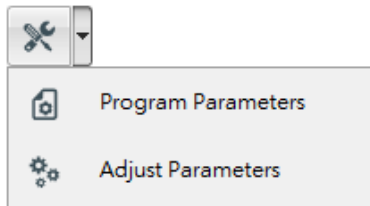
5.5.2.1. Table size setup

Registers the table size of the machine by XYZ axes, and the moving direction of each axis. Please see below window.

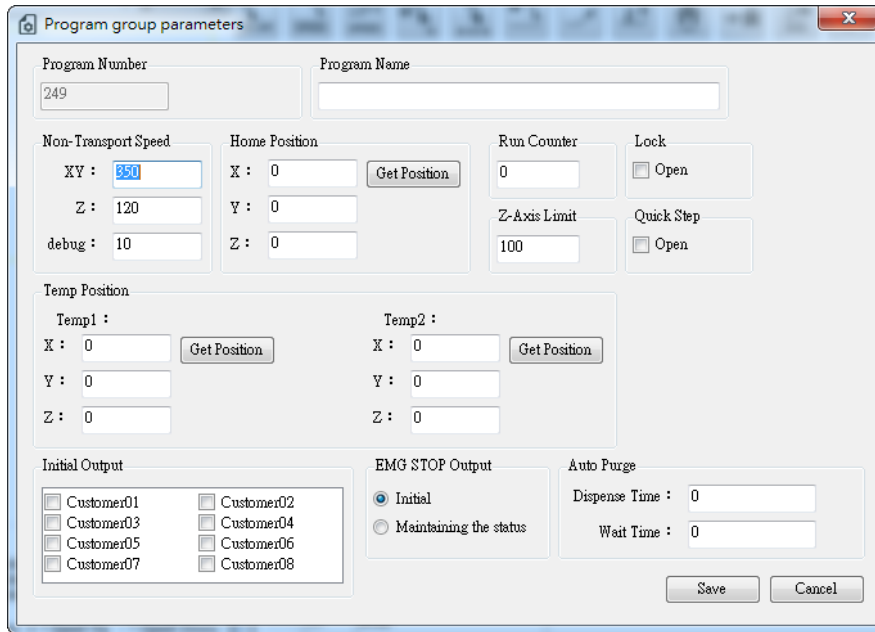


5.5.2.2. Parameter adjustment

Icons :



1. Please note that program group parameters will not upload to the robot when saved; it is updated when uploading to the robot.



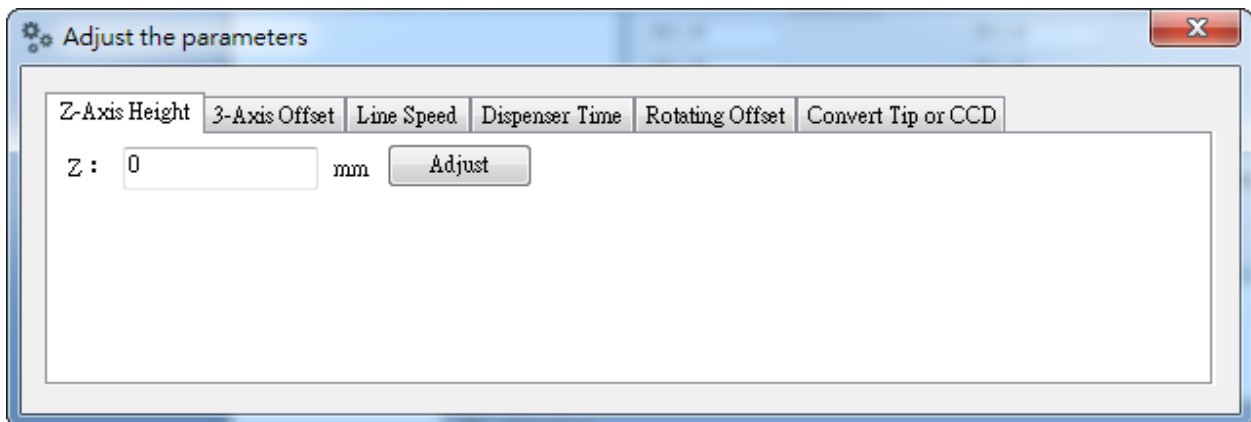
2. Batch adjusting the parameters.

5.5.3. Adjustment parameters

The software has the ability to adjust parameters in the program.

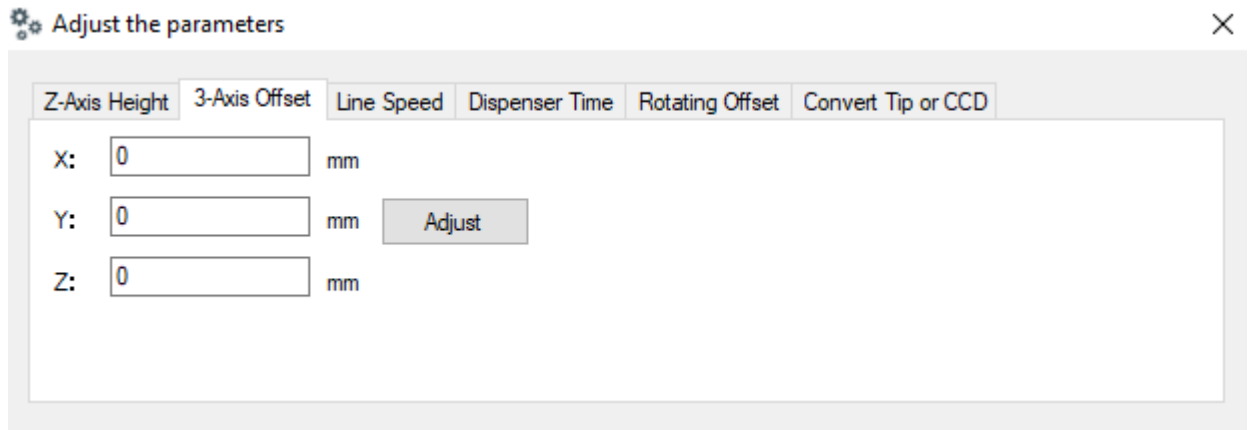
5.5.3.1 Z-axis height adjustment

The Offset function allows Z locations in a program to be shifted in the Z-axis by a user-defined distance. Please note that this a relative, not absolute, adjustment.



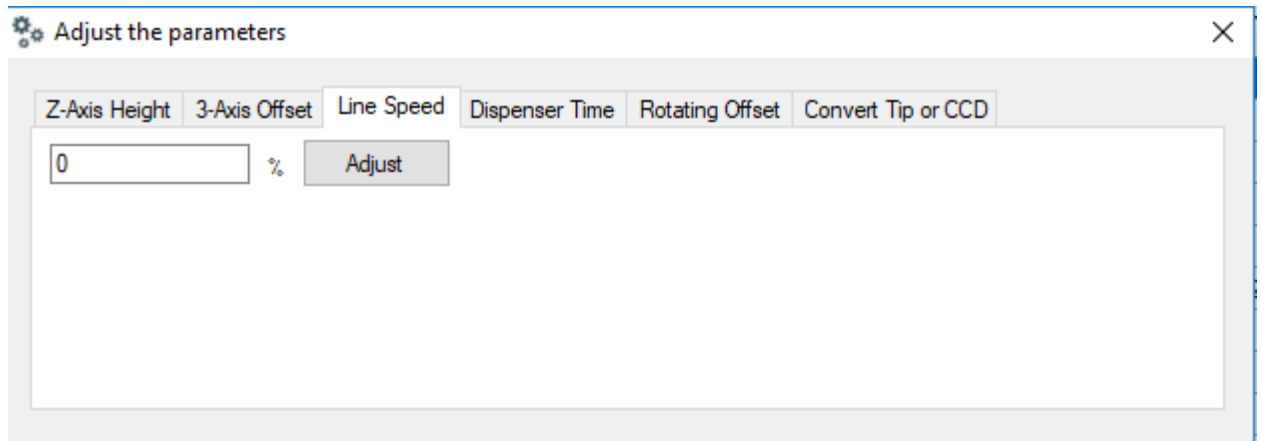
5.5.3.2 XYZ-axis offset adjustment

The Offset function allows all XYZ locations in a program to be shifted in the X, Y, or Z-axis by a user-defined distance.



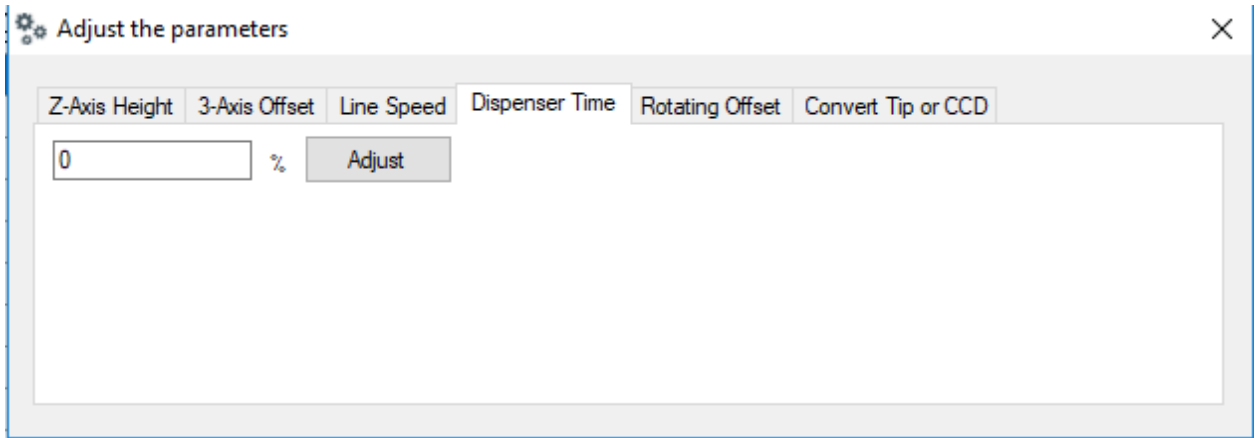
5.5.3.3 Line speed adjustment

The adjustment function allows you to modify line speed at the specified points. Note that the adjustment is a percentage.



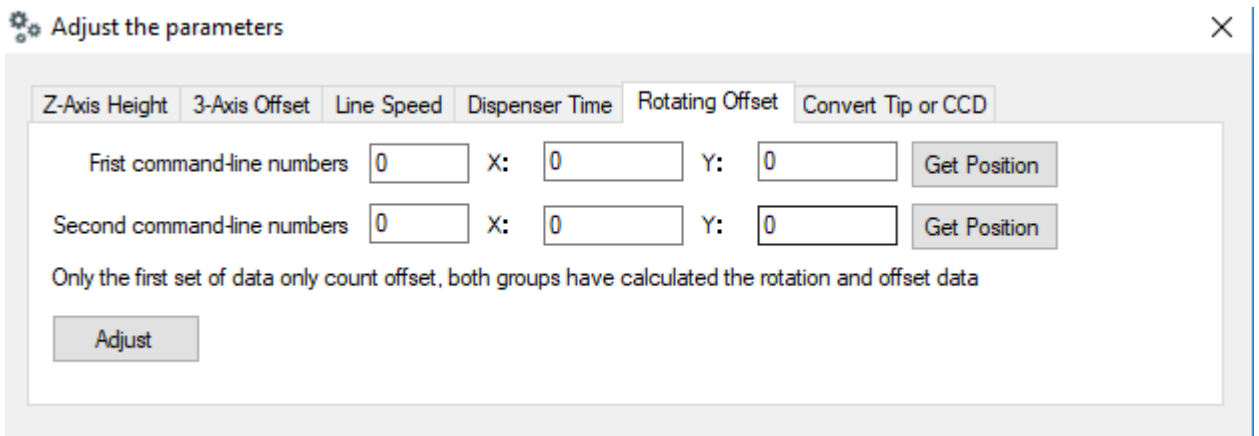
5.5.3.4. Dispenser time adjustment

The adjustment function allows you to modify dispenser time at the specified points. Note that the adjustment is a percentage.



5.5.3.5. Rotation Offset

Sets reference points of the new fixture which are corresponding to the two positions in the body of the main program. Click the Rotation Offset to correct the positions accordingly.



5.6 Expand Step & Repeat

This function allows you to expand all the positions set in Step & Repeat to be actual positions.

Notes : When expanding, it occupies lots of memory space. But only doing this, you can modify some instructions accordingly.

5.7 DXF Path

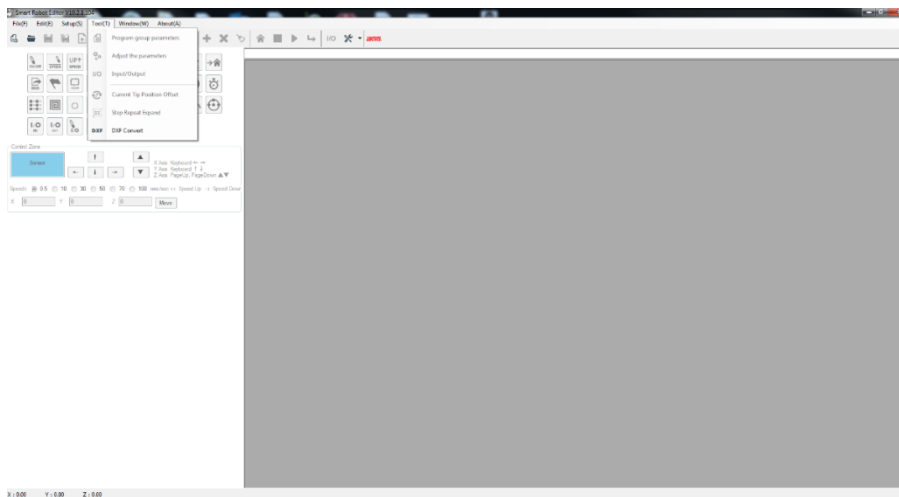
5.7.1 Open a DXF file

Open a DXF file and display the drawing, and it will show the related instructions converted at the right column of the window.

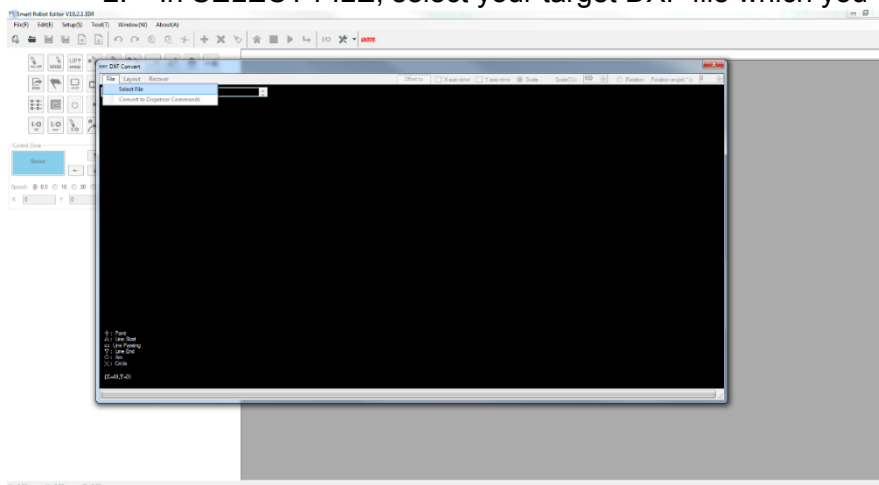
Please note: The software and robot run in mm's, so be sure to convert your DXF file before attempting to open with the software. The software will not automatically convert from in to mm.

1. TOOLS→DXF Convert

Convert to Dispensing instructions : Make the DXF file convert into the Dispensing Path, it can be done after adjusting the path order at right column.



2. In SELECT FILE, select your target DXF file which you want to convert.





Media1.mp4

Click on video link or visit Loctite Equipment website to see video guide.

5.7.2 Layout

When opening a DXF file, it will also show the layout of each layer. You can check the box to show the selected path.

5.7.3 Recover

Click to return to the original layout.

5.7.4 Scale (%)

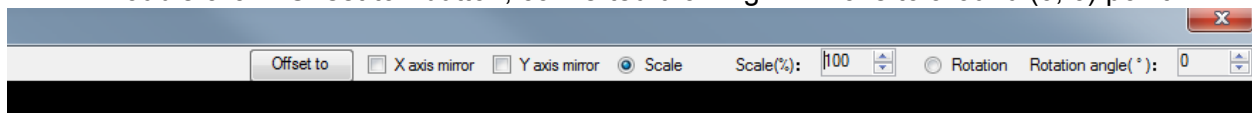
Move the cursor to the black area to scale the image size by scrolling the control button. The view size changes will not affect actual converted path.

5.7.5 Move

Move the cursor to the black area, and drag the left button for a distance; the pattern dragged will be moved to a specified location. This movement will not affect actual converted path.

5.7.6 Offset to

Double click <Offset to> button, converted drawing will move to around (0, 0) point.



5.7.7 Convert to Dispenser Commands

Under the file drop-down menu, select the Convert to Dispenser Commands button to have DXF File converted into the dispense command window.

5.7.8 Key Considerations for Import

The import tool does not take in consideration parallelism of fixture to robot X/Y plane. It is necessary to make correction by either:

- Correct the program: re-teach imported points to correct Rx / Ry deviation
- Make sure that part / fixture is parallel to robot X/Y plane:
Mechanical shim of fixture after running robot to extreme features of part and either:
 - Verify by measuring Z-gap needle to part
 - Running an indicator mounted to the robot in place of the dispensing tool

The import program is not optimizing paths options. This work needs to be done when defining paths as part of the 2D CAD file preparation.

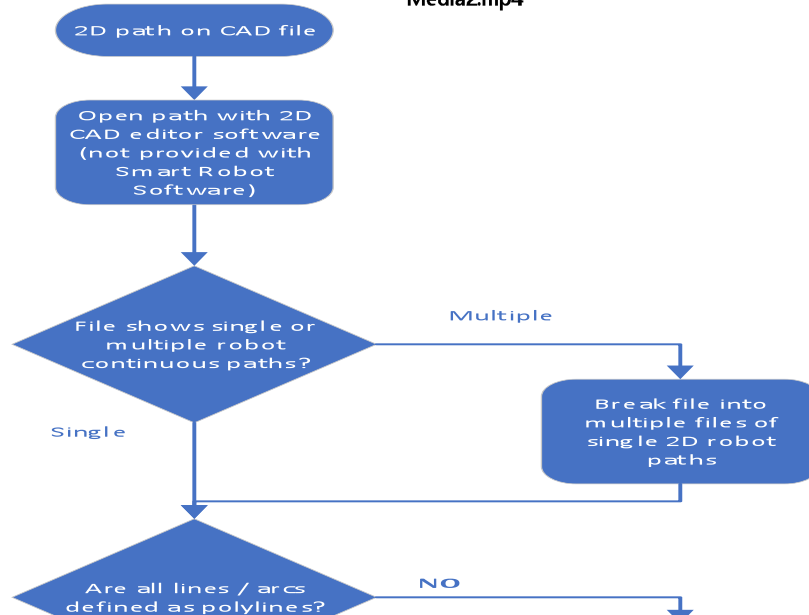
If re-orienting and re-positioning of the path is troublesome with the converter, convert to commands and then use robot teach pendant function “Relocate Data” – see user’s manual page 70.

5.7.9 2D CAD File Preparation Process

If you are struggling to correctly prepare the 2D CAD file for the DXF import, follow the flow chart below to make sure all steps are being followed. For a video demonstration, visit the Loctite Equipment website by scanning the QR code at the beginning of the software manual, clicking the embedded link below, or click [here](#).

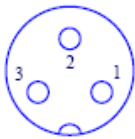


Media2.mp4



5.8 IO Specifications

5.8.1 Dispenser Signals



<i>Pin #</i>	<i>Description</i>
1	NO
2	COM -
3	EARTH

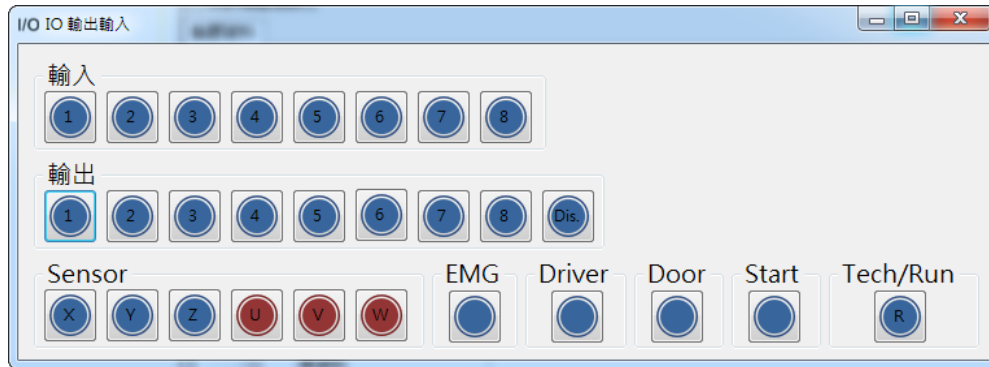
5.8.2 Input / Output Signals

<i>Pin #</i>	<i>Description</i>
1	IN # 1
2	IN # 2
3	IN # 3
4	IN # 4
5	IN # 5
6	IN # 6
7	IN # 7
8	IN # 8

<i>Pin #</i>	<i>Description</i>
14	OUT #1
15	OUT #2
16	OUT #3
17	OUT #4
18	OUT #5
19	OUT #6
20	OUT #7
21	OUT #8

5.8.3 Input / Output Test

You can check the status of each I/O port in this window. Red color stands for 'ON', and blue color stands for 'OFF'.



6 Warranty

Henkel expressly warrants that all products referred to in this Instruction Manual for 2148218 Loctite® EQ ACCE D-Series Robot Software Kit (hereafter called "Products") shall be free from defects in materials and workmanship. Liability for Henkel shall be limited, as its option, to replacing those Products which are shown to be defective in either materials or workmanship or to credit the purchaser the amount of the purchase price thereof (plus freight and insurance charges paid therefor by the user). The purchaser's sole and exclusive remedy for breach of warranty shall be such replacement or credit.

A claim of defect in materials or workmanship in any Products shall be allowed only when it is submitted in writing within one month after discovery of the defect or after the time the defect should reasonably have been discovered and in any event, within (12) months after the delivery of the Products to the purchaser. This warranty does not apply to perishable items, such as (fuses, filters, lights, etc.). No such claim shall be allowed in respect of products which have been neglected or improperly stored, transported, handled, installed, connected, operated, used or maintained. In the event of unauthorized modification of the Products including, where products, parts or attachments for use in connection with the Products are available from Henkel, the use of products, parts or attachments which are not manufactured by Henkel, no claim shall be allowed.

No Products shall be returned to Henkel for any reason without prior written approval from Henkel. Products shall be returned freight prepaid, in accordance with instructions from Henkel.

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