Release Notes

ArcWelding2 PowerPac

2022.1

Revision: A

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ABB, Robotics,
Sweden

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1 Release Information

1.1 General

Release Name

The release name is **ArcWelding2 PowerPac 2022.1** and the build number is **6.13.0081.2015**

Release Date

The release date is **April 5th, 2022**

Language Support

ArcWelding2 PowerPac is available in the following language: English.

Documentation

Operator Manual is available in English language along with the product.

1.2 Prerequisites

Before you install…

Before you begin installing ArcWelding2 PowerPac, you must have Administrator privileges to successfully complete the installation.

It is advisable that RobotStudio be installed before installing ArcWelding2 PowerPac.

1.3 System requirements

Recommended Software

Operating System	
Microsoft Windows 10 (recommended)	64-bit edition

Recommended Hardware

CPU	**2.0 GHz or faster processor, multiple cores recommended**
Memory	8 GB if running Windows 64 bit edition (recommended)
Free disk space	10+ GB free space, solid state drive (SSD)
Graphics card	High-performance, DirectX 11 compatible, gaming graphics card from any of the leading vendors. For the Advanced lightning mode Direct3D feature level 10_1 or higher is required.
Screen resolution	1920 x 1080 pixels or higher is recommended
Colors	256 or higher
DPI	Normal size (100% / 96 dpi) up to Large size (150% / 144 dpi)
Mouse	Three-button mouse
3D Mouse [optional]	Any 3D mouse from 3DConnexion, see http://www.3dconnexion.com.

2 What's New?

Overview

This section contains information about the new features of ArcWelding2 PowerPac.

2.1 ArcWelding2 PowerPac 2022.1

a) Included WaitSyncTask and SyncMove action instructions support in Programming browser tree
    a. Support for adding MultiMove related Action instruction (WaitSyncTask)
    b. Support for adding MultiMove related Action instructions (SyncMoveOn/Off)
    c. Drag & drop function for action instructions within a process section
    d. Multi select continuous instructions and SyncMove instructions
    e. Recompute number of instructions in between Sync section

2.2 ArcWelding2 PowerPac 2021.3

a) Retains the last chosen process in 'Create Process Path' window

2.3 ArcWelding2 PowerPac 2021.2

a) Generic station data support is provided where user can:
    a. View and configure process template data types
    b. Create or delete instances of data types
b) Insert process instructions function is supported – Process instructions are added to the active path at the selected instruction.

Bugs reported during regression testing and RobotStudio 2021.2 compatibility testing were fixed.

2.4 ArcWelding2 PowerPac 2020.3

a) Stitch welding – During markup creation, user can choose stitch weld shapes such as 'Dash Linear Segment' or 'Dash Arc Segment' to create stitch welding. Markup properties is updated to show the segment information. In the Template editor, user can set the approach and depart offset, approach and depart motion types for stitch welding segments. During process path creation, stitch welding markup section is recognized and for the entire stitch welding segments path shall be generated.
b) Generic Data Editor support – Process templates data types can be viewed, and able to create/delete instances of data types.
c) Template Editor enhancement – Distance from start and end, for inserted points fields are introduced.

2.5 ArcWelding2 PowerPac 2020.2

a) MultiMove Function improvements
    a. SyncID and Tasklist support
b) Displacement functions support – RelTool and Offs

2.6 ArcWelding2 PowerPac 2020.1

a) Template Editor – Full fledged editor functions for Template management
b) Weld Shape templates – Predefined templates for Markup creation, in addition to Edge and Curve selections:
    a. One Linear Segment
    b. Two Linear Segments

    c. One Circular Segment
c) MultiMove programming
d) Arc templates are loaded automatically if the System has Arc options.
e) Modify Special instructions for Process section and instructions:
    a. Modify Positioner Axis
    b. Modify Track/Gantry Axis
    c. Modify all External Axes
    d. Modify Tool X Axis
    e. Set Tool Gravity Position
f) Updated VR functions (Compatibility)

2.7 ArcWelding2 PowerPac 2019.5

a) External axes animation support: The animation is improved overall and applies to external axes also during MoveTo and change configuration operations.
b) During split markup operation, for closed loops start point can be modified.

2.8 ArcWelding2 PowerPac 2019.3

a) Label Manager: Managing the markup labels to display in the station. Also, it differentiates the markup for which the process section been created and not created.
b) Process Path for curves: Markup can be created for curves, which allows to create the Process path/ process section for curves.
c) Tool Orientation while creating Process Path: This presents options to quickly align the robot with the desired tool orientation on the markup.

2.9 ArcWelding2 PowerPac 2019.1

Few utility functions are added to support VR:

a) Move To - Enable Jog and ModPos - Functions to modify a target position using the Robot as a reference.
   How it works: With MoveTo function, move the robot to the selected point, enable Jog and jog the Robot to the desired position and modify.

b) Add process - Tool angle trim - To modify the tool angle with reference to the process markup along the XYS plane, while creating the process path.
   How it works: Select a markup and move the robot close to the markup; using these functions adjust the tool angles.

2.10 ArcWelding PowerPac2 6.08

Process Markup

Identify edges/joints as curves in the CAD model which are referred as Process Markups. These are used to estimate the Weld lengths and Sequences. Weld paths are created on these process markups.

Robot Centric Programming

The workflow for creating weld paths/support instructions is Robot centric.

- Easily bring the Robot close to the desired location
- Interactively verify the Tool orientations
- Animated Configuration management, helps to visualize the cable turns for different combinations
- Support for finding potential reachability issues, even before creating the path itself
- Create instructions based on various templates

This reduces the post programming reachability issues.

Interactive Browser tree

New Browser tree for managing the Programs and Components (Process Markups and Templates)

- Organize instructions in groups of Process sections
- Switch between Instruction and Target view modes
- Work seamlessly with RobotStudio, all context menu options are readily available and extended with new functions.

Properties for Process Markup, Robot targets and instructions

Depends on the context in the ArcWelding browser tree, properties shall be displayed.
Markup Properties:

- Displays the Cycle Time and overall length of the Process Markup, along with the other parameters.
- The Process markup sequence can be modified.
- Export the markup properties.

Instruction Properties:

- Displays the Robot configuration
- Option to convert Joint to Linear instruction
- MoveTo next Joint instruction
- Change the animation speed

Target Properties:

- Modify the offset for selected/multiple targets.

Sync & Play

For the selected process path shall be synced to RAPID with updated references and start simulation automatically.

Motion Analyser

Track the real robot live together with the RobotStudio station (Digital Twin).

- Record and play-back the path
- Assign and check signal triggers

Template Manager

Leverages on the updated RobotStudio Instruction template manager, to automatically find and create templates for available process instructions, with editing provisions. Saved as a Station document and easy to extend to other applications.

Virtual Reality

All relevant functions / concepts from Arc Welding2 PowerPac are also available in the VR setup.

2.11 Comparison between PowerPac versions

The following table highlights the comparison between with earlier PowerPac versions:

	Arc Welding2 PowerPac	**Arc Welding PowerPac**
Markup		
Process Markups	Yes	NO
Programs & Path creation		
Create Part Program	YES	YES
Modify Part Program	YES	YES
Create Process Path	YES	YES
Create Process Section	YES	YES
Import / Export Process Section / Path	NO	YES
Target reachability check before Path creation	YES	NO
Target reachability check after Path creation	YES	YES
Add Air Instruction	YES	YES
Add Search Instruction	YES	YES
Path View (Horizontal View)	NO	YES
Move To (Path View) operation	YES	YES
Jump To (Path View) operation	NO	YES
Modify/optimize selected targets	YES	YES
Animated Configuration management	YES	NO
MultiMove Process section support	YES	YES
Graphics		
Guided assistance in Notification area while creating Process Path	YES	NO
Process Markup are shown as Wire Parts	YES	NO
Collision detection while moving along the path	YES	NO
Templates		
Arc templates in package	YES	YES
Template Editor	YES	YES
Process data editor	NO	YES
Others		
Motion Analyzer	YES	NO
Virtual Reality	YES	NO

3 Late-breaking information

1.1 Overview

This section contains late-breaking information that will be included in the appropriate documents in the subsequent releases.

4 Corrections

Overview

This section describes the defects (PDD) solved in ArcWelding2 PowerPac in 2022.1

PDD14381: RobotStudio - When using "Move along section", the tool goes red and will not move.

PDD14336(PDD14358): Move To not working after update to RobotStudio and ArcWelding PowerPac 2021.4

5 Known Limitations

Overview

This section describes the known limitations in Arc Welding2 PowerPac

5.1 Robot configuration error during simulation in 2022.1

If robot configuration error occurs during simulation, execute ‘MoveTo’ which may set the suitable configurations

5.2 Support for action instructions in programming bowser in 2022.1

- When Sync is dropped from one path to another path in same task same IDs are assigned to Sync
- Deleting Sync will not remove IDs from instructions (Deleting Sync should happen together means if SyncMoveOn is deleted SyncMoveOff also should be deleted and vice versa
- Recomputing IDs are not handled in case of non-action instructions are added
- When WaitSyncTask is added automatically all the tasks are considered
- Validation messages are not implemented

5.3 Process Markup

Limited provision to customize the process markups.

Work around: Manually create curves and move the Part into the Markup group in the RobotStudio Layout browser tree.

5.4 MoveTo operation

In Multi Move systems, “MoveTo” operation is limited to the selected task only.

5.5 Search operation

This version supports Search_1D option.

6 RobotWare compatibility

ArcWelding2 PowerPac 2022.1 is compatible with RobotWare 5.15.xx onwards, though there are no known limitations with earlier versions of RobotWare.

7 Installation information

7.1 Installing ArcWelding2 PowerPac

Installation Instructions

ArcWelding2 PowerPac will be installed side-by-side with any previous installation of ArcWelding PowerPac. It uses the same activation key.

ArcWelding2 PowerPac requires RobotStudio and RobotWare to be installed.

New Installation Path: ArcWelding2 PowerPac 2022 is installed in C:\Program Files (x86)\ABB\ArcWelding2 PowerPac 2022 (Same as RobotStudio).

How to install ArcWelding2 PowerPac on a PC

	Action
1	Go to the website http://new.abb.com/products/robotics/robotstudio/downloads
2	Download ArcWelding2 PowerPac from the PowerPacs section.
3	Unzip **ArcWelding2 PowerPac 2022.1.zip** file, to extract all the installation components to the folder specified.
4	Go to the extracted location.
5	Double click on **ABB ArcWelding2 PowerPac 2022.1.exe** file. Go through the wizard to finish installation.

ArcWelding2 PowerPac 2022 should be installed in the same level as the Base application i.e. RobotStudio 2022

The default installation path for the ArcWelding2 PowerPac 2022 is “$[Program Files]\ABB\”.

Licensing

The ArcWelding2 PowerPac software licenses are designed to cater to the Engineering (Office) and Operations (shop floor) requirements. The following licensing options are available:

RobotStudio and ArcWelding PowerPac:

- Basic (no license required)
- Premium

Licenses for Robot Controller:

- 633-4 Arc option

For more details, see the Operating manual - ArcWelding PowerPac

NOTE: Select “Simulated Welder” System option, for simulation of welder system.

Otherwise, set the Weld System in blocked mode (From Virtual FlexPendant) for simulation to work.

Activation of ArcWelding2 PowerPac Trial license

PowerPac Trial license can be generated from Robot Studio ‘Request Trial License’.

RobotStudio Trial License:

Users need to request a trial license from within RobotStudio, whereby RobotStudio connects to a cloud service that provides a trial license key unless a previous trial has been granted to that particular machine.

Only one trial per machine is allowed.

Internet connection is required for the trial.

How to activate ArcWelding PowerPac license?

Use the Activation Wizard to activate your ArcWelding PowerPac installation.

Note

If you have a problem with your activation, contact your local ABB customer support representative at the e-mail address or telephone number provided at http://www.abb.com/contacts.

For using the Activation Wizard, follow this procedure.

	Action
1	On the ***File*** tab, click ***Options*** and go to ***General: Licensing***.
2	On the Licensing page to the right, click ***Activation wizard*** to launch the Activation Wizard.
	In the Activation Wizard, on the ***Activate RobotStudio*** page, indicate whether you have a ***Standalone License*** or a ***Network License***, and then click ***Next***. If you have chosen ***Standalone License***, you will proceed to ***the Activate a Standalone License*** page. See ***Activate automatically over the Internet or manually*** below for further steps. If you have chosen ***Network License***, you will proceed to the Network License page. See the ***RobotStudio Operating manual*** for further steps.

Activate automatically over the Internet or manually

The Activation Wizard gives you two choices on how to proceed. You can choose either automatic activation over the Internet or manual activation. These are explained in the following section.

Automatic Activation (recommended)

In Automatic Activation, the Activation Wizard automatically contacts and sends your activation request to the ABB licensing servers over your Internet connection. Your license will then be automatically installed and your product will be ready for use.

For Automatic Activation you need a working Internet connections and also a valid Activation Key that has not exceeded the number of installations allowed.

RobotStudio must be restarted after the activation has been successfully completed.

Note

If you choose to activate over the Internet but are not currently connected to the Internet, then the wizard alerts you that there is no connection.

Manual Activation

1. If the computer does not have a working Internet connection or a trial license needs to be activated, you must proceed with Manual Activation
2. A license file has an extension ".bin".
3. If you already have a license file, follow the step 8.
4. If you want to create a license file follow steps 5 – 8.

5. Create a license file by selecting the option ***Step 1: Create a license request file.*** Proceed through the wizard, enter your Activation Key and save the License Request File to your computer.
6. Use a removable storage medium, such as a USB stick or floppy disk, to transfer the file to a computer with an Internet connection. In that computer, open a web browser, go to http://manualactivation.e.abb.com/ and follow the instructions given.

   The result will be a License File that should be saved and transferred back to the computer having the installation awaiting activation.
7. Re-launch the Activation Wizard and go through the steps until you reach the ***Activate a Standalone License page***.
8. Under ***Manual Activation***, select the option ***Step 3: Install a license file***.

Proceed through the wizard, selecting the License File when requested. Upon completion, ArcWelding PowerPac is activated and ready for use.

RobotStudio must be restarted after the activation has been successfully completed.

How can I tell whether my ArcWelding PowerPac installation has already been activated?

1. Go to the ***File*** tab***,*** click on the ***Options*** button, and select the ***Licensing*** section.
2. Click ***View Installed License Keys*** to see the status of your current license.
3. If your ArcWelding installation is activated, you will have valid licenses for the features covered by your subscription.

8 Technical support

8.1 Overview

Contacting ABB

If you have any questions or problems with your PowerPac installation, please get in touch with your local ABB Robotics Service representative, or the person who has shared this build.

Have the following in mind

1. Running the latest version of RobotStudio and ArcWelding PowerPac ensures that it works properly and includes improvements and new product functionality. ABB recommends that you update to the latest version of RobotStudio and ArcWelding PowerPac whenever a new version is available and before contacting ABB for support.
2. Give a brief description of how to reproduce your problem.
3. Create screenshots if applicable. (Use ALT + PRINT SCREEN to get an image of the active window instead of the entire screen.)
4. Generate a Full Scan with the RobotStudio Support Tool available next to RobotStudio in the Start menu, save the report and attach it with your problem description. (Click ***Start*** → ***Programs*** → ***ABB*** → ***RobotStudio 2022*** → ***RobotStudio Support Tool***, click on ***Run Full Scan*** and then ***Save Report.***
5. We also need the following user information:
   i. name
   ii. company
   iii. contact information
   iv. what operating system you are running (incl. language)
   v. subscription ID for your purchased license.
   vi. Machine ID, see Help section of File tab.

Note

When sending large (> 1 Mb) files, please compress them with WinZip® or WinRAR.

License support

For license-related questions, please contact the team responsible for license support directly at *softwarefactory_support@se.abb.com*