

GCode



Draw2GCode

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User manual



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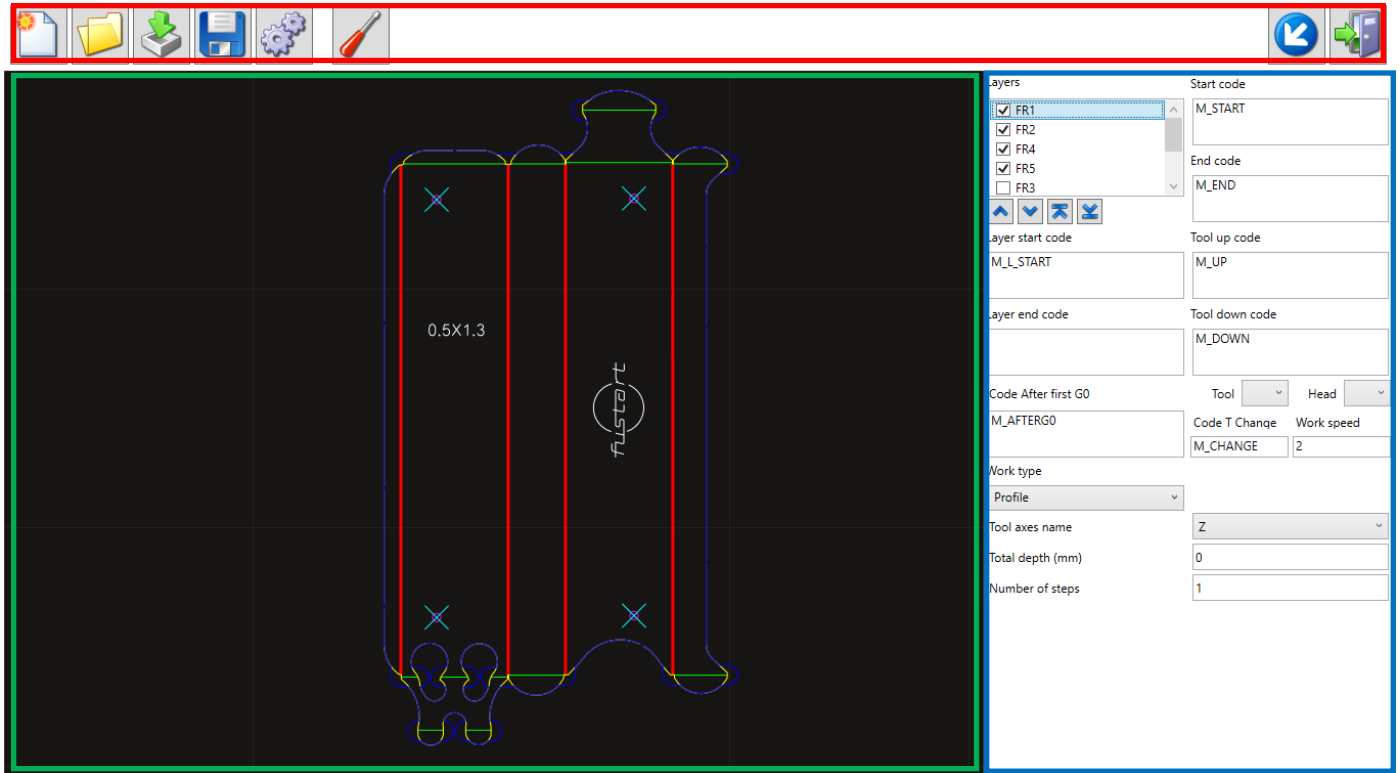
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1 INTRODUCTION

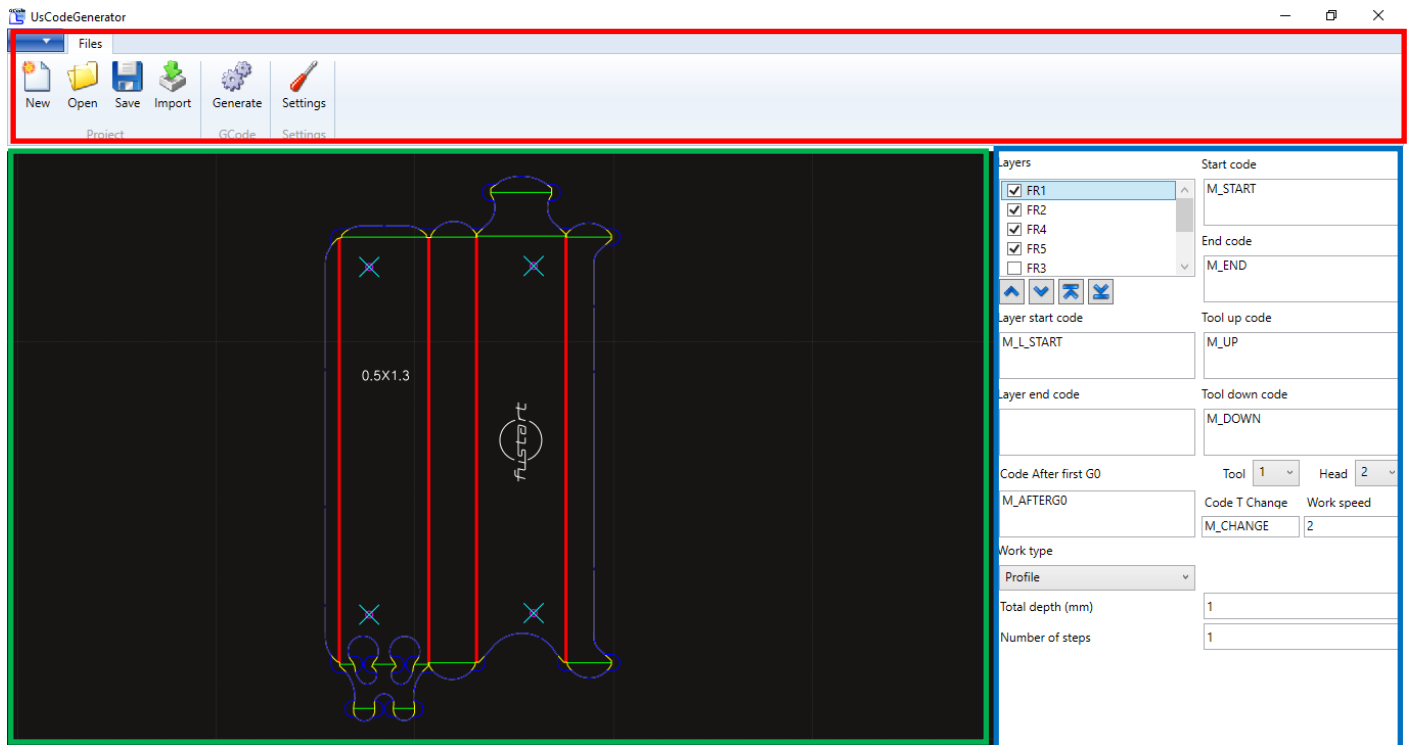
Draw2GCode is a software for importing **DXF**, **HPGL**, and **GCode** files for generating GCode with user-selected settings. You can select a processing type for each layer of the imported file with its parameters. The same software can be used within **IsoUs** software as a plugin

2 USER INTERFACE

The software has two interfaces, according to the use it is made. For use with IsoUs, the interface is this:



the interface without IsoUs is this:



In the two interfaces are divided into 3 basic sections:

Red section – Commands section

Green section – Section for the preview

Blue section – Section for the processing parameters values for the code generation

2.1 Commands section

This section includes commands that can be used by the user. These commands are:



Command for the creation of a new project



Command that used to open an existing project



Command for import the draw file in the current project to generate the code



Command to save the current project



Command to generate the GCode



Command to manage the global and default settings



Command to minimize the plugin window (only with IsoUs)



Command to close the plugin (only with IsoUs)

The commands in detail will be described at [chapter 4](#)

2.2 Preview section

This section displays the paths imported or read by a project. When the layer is selected in the list, the path entities associated with the layer are enlarged to the line so that they have an immediate display

2.3 Processing parameters section

In this section there are controls where you can change the processing parameters for the selected layer. The next chapter describes the parameters in detail

3 PROCESSING PARAMETERS SETTING

The parameters for generating ISO files for use in IsoUs are the following:

- **Layers** : This list will show the layers read when importing a file. Here you can select one at a time, so you can see the associated data for processing in section controls, you can also exclude some layers from generation by selecting the check next to the name
- **Start code**: In this control you can enter the initial processing code
- **End code**: In this control you can enter the final processing code
- **Layer start code**: In this control you can enter the initial processing code of the selected layer
- **Layer end code**: In this control you can enter the final processing code of the selected layer
- **Tool up code**: In this control you can enter the tool up code for the selected layer
- **Tool down code**: In this control you can enter the tool down code for the selected layer
- **Code after first GO**: In this control you can enter the code to be set after the first GO motion of the selected layer
- **Tool**: In this control you can enter the tool ID to use for the selected layer
- **Head**: In this control you can enter the head ID to use for the selected layer
- **Code T change**: In this control you can enter the tool change code for the selected layer
- **Work speed**: In this control you can enter the working speed for the selected layer
- **Work type**: In this control, you can select the work to be done by associating it with the current layer. The processing settings of the selected work type will be displayed under the control. The work types at the moment are:
 - **Profile**: This is the profile processing and has the following parameters:
 - **Tool axes name**: Here you can select the axis name for profile processing. The list will show the names of the configuration axes if used with IsoUS, otherwise the list of all available axes on the system
 - **Total depth**: Here you can enter the total sinking of the machining. It will be automatically divided by the number of steps
 - **Number of steps**: Here you can enter the number of steps to be taken for processing
 - **Tangency**: This is the processing for the use of a knife in tangency and has the following parameters:
 - **Axes name**: In this control, you can select the axis name for the tangency processing. The list will show the names of the configuration axes if used with IsoUS, otherwise the list of all available axes on the system
 - **Tool rot code**: Here you can enter the code for tool rotation after the tool up to bring the blade to the correct position
 - **Edge angle**: In this control you can enter the angle for the edge threshold recognition for the tool up

- **Offset tangential axes:** Here you can enter the offset for the tangential axis to correct any misalignments with the work plane

4 DEFAULT SETTINGS

To manages the default settings, open the **Default settings dialog** with the command **MANAGE SETTINGS**. This is the dialog window:


In the dialog, are presents these sections:

- **GENERALS:** In this section is possible change the import parameters that used when the user try to import a draw file. The values are:
 - **Normalize origins:** If is checked, the elements of the draw, are moved to the X0 Y0 coordinate
 - **Find tolerance:** Tolerance in mm to find consecutive segments for generating continuous paths. The search is performed on the same layer of the item
- **VIEWER:** In this section is possible to customize the viewer settings
- **DEFAULT SETTINGS:** In this section there are all the default settings for GCode generation. When the user has imported a draw file, these values are set in the settings of all layer presents in the import data. Is possible to customize these values to have always the same data.


5 COMMANDS DESCRIPTION

The commands available in the application are described in detail below

5.1 Creation of a new project


To create a new project press the button  (**NEW PROJECT**). When this command is executed, all data in the project will be deleted, and you can import a drawing, or open an existing project. The same command runs automatically when you open an existing project

5.2 Open project

To open an existing project press the button  (**LOAD PROJECT**). The file selection dialog will be displayed, so you can select the desired project


5.3 Import of a draw in the project

To import **DXF** o **HPGL** o **ISO** files, execute the next operations:

- Use the command to create a new project
- Press the button  (**IMPORT DRAW**)
- In the dialog that will be displayed, select the file to import
- Press **OK**
- The entities in the files will be converted for preview and save in the preview. For DXF and HPLG files, the items will be separated according to their membership layers. For ISO files and for files that do not have layers, a default layer will be created to assign the entities to the only layer present. If there are any unlinked layers, they will be deleted. For the DXF files, at the moment the entities imported are:
 - Lines
 - Arcs
 - Polylines
 - Circles

5.4 Generation of the GCode

To generate the GCode of the current project, execute the next operations:

- Open an existing project, or import a drawing. If you already have a project go to the next step
- Change the current settings if they need to be changed, otherwise go to the next operation
- Press the button  (**GENERATE CODE**)
- At this point, if the application is started with IsoUS, the code will be loaded directly to work, otherwise the file save dialog will be displayed, so you can save it to the desired path

5.5 Save project

To save the current project, press the button  (**SAVE PROJECT**). The file save dialog will be displayed, so you can save it to the desired path

5.6 Modify the default settings

To modify the default settings, press the button  **(MANAGE SETTINGS)**. A dialog box will appear that will allow you to change the default settings for code generation and preview appearance

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