NiceLabel 2017
User Guide for Designers

Product level: Designer Express, Rev-1801

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1 Contents

2 Typographical Conventions

Text that appears in **bold** refers to menu names and buttons.

Text that appears in *italic* refers to options, confirming actions like Read only and locations like Folder.

Text enclosed in <Less-Than and Greater-Than signs> refers to keys from the desktop PC keyboard such as `<Enter>`.

Variables are enclosed in [brackets].

NOTE: This is the style of a note.

EXAMPLE: This is the style of an example.

This is the style of a best practice.

WARNING: This is the style of a warning.

TIP: This is the style of a tip.

3 Introduction

3.1 Basic Designer Concepts

This section describes the Designer elements that enable you to efficiently design a simple label or to create and manage a complex labeling solution that includes multiple labels, dynamic data sources and automatically run actions.

Below listed are the essential Designer concepts. Being familiar with them gives a perfect starting point for successful labeling projects.

- Label
- Object
- Design Surface
- Data Sources

If you come across any other unfamiliar items while working with NiceLabel Designer, browse the Help tab.

3.1.1 Label

Label works as a template which allows adding label objects and can be printed using any kind of printing media.

Each object adds a different kind of content such as text, line, ellipse, barcode or rectangle to a label. The content can be fixed (manually entered by the user) or dynamic (defined automatically via connected data sources).

When done with creating and designing, a label can be printed using any of the installed printers.

DESIGNER PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Designing of a printable label belongs to basic Designer tasks. Designer allows creating and printing of standalone labels and labels that are included in a printing solution.

Read about how to create, design or edit a label here.

3.1.2 Object

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Object is the basic building block for designing labels and forms. To design a label or form means to select, add, and position the objects on the design surface.

EXAMPLE: Each object performs a different role. Text object is used for single-line textual content that does not need to adapt its font size to the label design. Barcode object adds a barcode whose type and content can be adapted to the needs of current document. Radio Group object to allow a user to select a single item from a set of mutually exclusive items.

Label object types and their purpose are listed here.

Form object types and their purpose are listed here.

3.1.3 Document

The term document is used for labels and forms – it can be used interchangeably.

NOTE: Be careful not to mistake document with solution. A solution is always a standalone file while a document – be it label or form – may be used as a standalone file or as a part of a solution.

3.1.4 Design Surface

Design surface is Designer's central field that serves as a place to create, add, position, and interconnect the label objects.

To make designing of labels as simple and efficient as possible, design surface follows the same usability and functional principles as Microsoft Windows applications.

TIP: Use View tab to customize design surface.

- Design surface elements are described here.
- Design surface editing actions are described here.
- Design surface visual aid elements are described here.

3.2 Keyboard And Mouse Support

To efficiently perform and complete the Designer tasks, follow the guidelines related to the use of keyboard and mouse:

- How to efficiently use keyboard and mouse
- Keyboard shortcuts
- Mouse wheel support

3.2.1 Efficient Use Of Keyboard And Mouse

Use the below listed tip to make your work with Designer easier and more efficient.

1. **Select object anchoring point.** Press `Ctrl` key and click the object placeholders to quickly define the anchoring point.

2. **Label scrolling and zooming.** Use mouse wheel to scroll the label. Holding `Ctrl` when rotating the wheel, adjusts zoom factor. `Shift` scrolls label left or right.
3. **Set label or form properties.** Double click the design surface to open the label or form properties dialog.
4. **Vertical or horizontal object moving.** Hold `Shift` while moving an object over the design surface. The object is moved in straight vertical and horizontal lines.
5. **Resize an object with arrow keys.** Holding `Shift` while pressing arrow keys resizes the object.
6. **Fine tune the object position.** Hold `Ctrl` while pressing arrow keys.
7. **Open contextual menus.** Right click the object or design surface to access the label, form or design surface contextual menus.
8. **Select multiple objects.** Hold `Shift` and click the objects to add them to the selected objects in a group.
9. **Quickly add an object with connected data source.** Click the object's shortcut handle in the object toolbar. A list of available data sources appears. Select a data source or add a new one, and click the design surface to add an object which already has a dynamic data source connected to it.

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

3.2.2 Mouse Wheel Support

Use mouse wheel to speed-up design object zooming and design surface scrolling.

- Turning the wheel scrolls the label vertical direction.
- Holding <SHIFT> and turning the wheel scrolls the label left or right.
- Holding <CTRL> and turning the wheel, zooms the label in or out.

3.2.3 Keyboard Shortcuts

Use keyboard shortcuts to reduce the time needed to accomplish frequent tasks with Designer. To complete these tasks, use a standard combination of keys.

TIP: Keyboard shortcuts are just a faster and more convenient way of choosing commands. The command itself is executed in the same way as if it was run from the menu or toolbar.

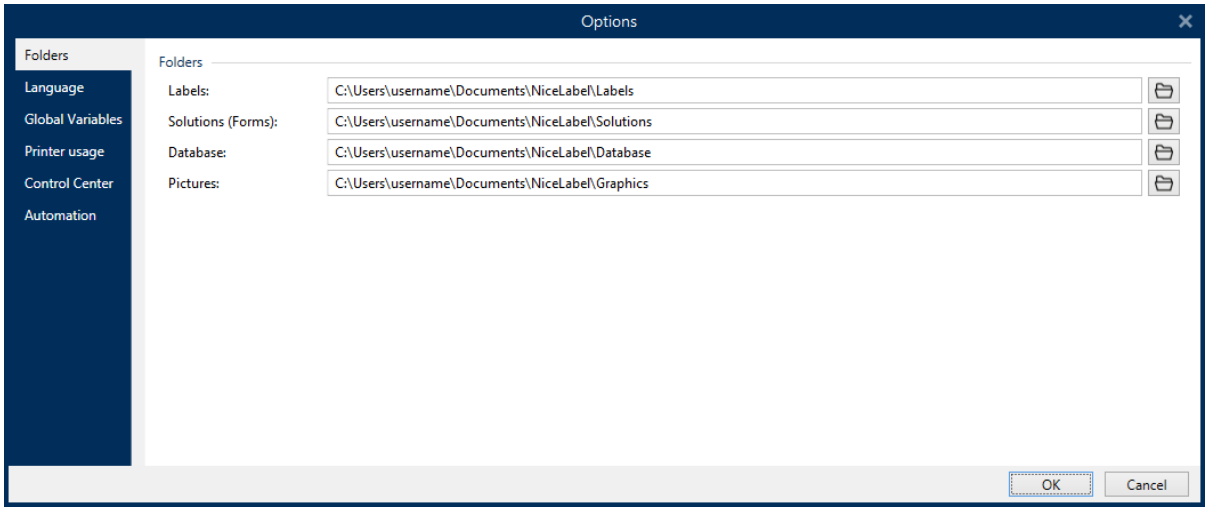
Action	Press
Open blank label connected to default printer	Ctrl+Shift+N
Open	Ctrl+O

Save	Ctrl+S
Close	Alt+F4
Cut	Ctrl+X
Copy	Ctrl+C
Paste	Ctrl+V
Select all	Ctrl+A
Bold	Ctrl+B
Italic	Ctrl+I
Close solution	Ctrl+L
Run form	Ctrl+R
Cancel	Esc
Undo	Ctrl+Z
Redo	CTRL+Y
Zoom In/Out	Ctrl+mouse scroll up/down
Zoom In	Ctrl+plus sign on numeric keypad
Zoom Out	Ctrl+minus sign on numeric keypad
Zoom to document	Ctrl+0
Move Focus	Tab or Shift+Tab
Print	Ctrl+P
Move left	←
Move right	→
Move up	↑
Move down	↓

3.3 Options (Configuring The Program)

DESIGNER PRODUCT LEVEL INFO: Solution building is available in PowerForms.

To customize the general program configuration of Designer, open the **Options** dialog which is accessible from the **File** tab.



Designer configuration options are grouped on the following tabs:

- Folders: allows you to set the default locations for storing the labels, forms (solutions), databases and picture files.
- Language: selects user interface language. Select the preferred language from the listed options. Designer interface language changes after the restart.
- Global Variables: storage location for global variables.
- Printer usage: locally logged usage of installed printers.
- Control Center: allows you to enable and configure the monitoring of events and print jobs.
- Automation: enables you to configure NiceLabel Automation settings.

3.4 Compatibility With Earlier Versions Of NiceLabel

NiceLabel Designer is the next-generation of NiceLabel software; built from the ground up on a .NET platform. NiceLabel Designer inherits a lot of the concepts and functionality from the NiceLabel 6 software, but is based on new technology. As such, some of the functionality that was available in NiceLabel 6 is either offered differently or no longer available.

While NiceLabel Designer remains highly compatible with the previous version of NiceLabel, there are differences in the product lines which are the result of platform and software components and product management decisions on.

Comparison and differences between NiceLabel Designer and NiceLabel 6 are explained in detail in knowledge base article number 282.

4 Workspace Overview

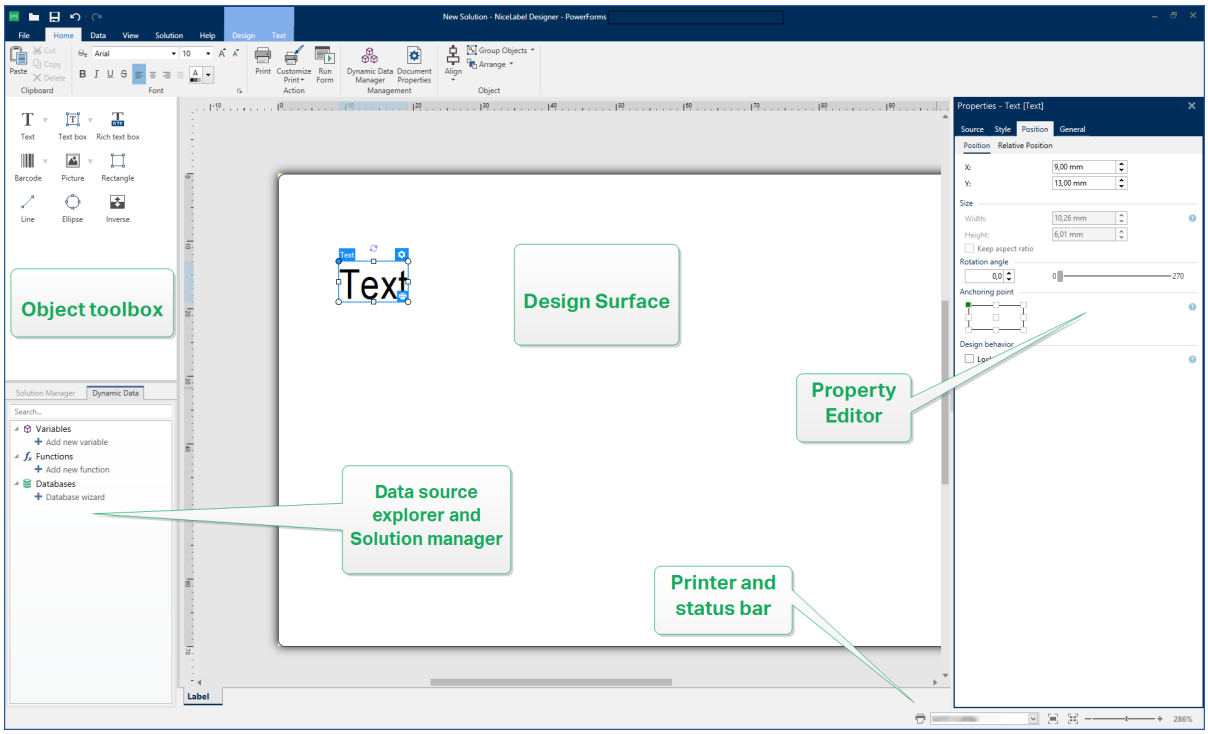
DESIGNER PRODUCT LEVEL INFO: Data source explorer and Solution manager are available in Designer Pro and PowerForms.

Designer's workspace offers a flexible and easy-to-use environment for both – simple label designing and complex solution building.

Designer workspace follows the widely used application interface guidelines and is therefore equipped with tools and interface elements are familiar to a majority of users.

Designer works space consists of the following segments:

- Landing page
- Tabs and Ribbons
- Object and Explorer Panels
- Design Surface
- Printer and Status bar



4.1 Landing Page

Designer's landing page is an introductory page which opens after NiceLabel 2017 completes loading. It consists of the following segments:

- **New document area:** creates new or opens existing Designer documents:
    - **New Label:** creates a new label.
- **Recent Files:** list of recently used Designer files.

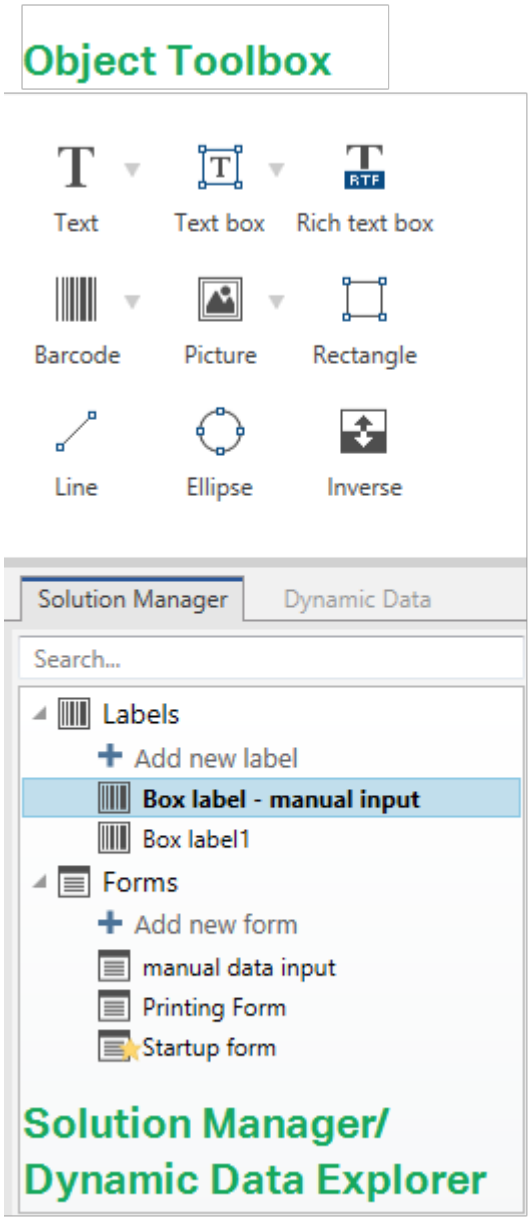
TIP: Appearance of landing page and its segments depends on the entered license or trial status if no license has been entered yet.

- **Learn:** access to useful resources that help you create labels and solutions, and learn more about NiceLabel 2017.
    - **Training Videos:** use this button to access to the collection of NiceLabel library with video tutorials. Video tutorials help you learn the basics of label design and solution building in just minutes.
    - **User Guides:** user guides offer the most comprehensive collection of helpful descriptions and instructions on how to use NiceLabel 2017. Use this button to access the entire online library of NiceLabel user guides.
    - **Sample Files:** use this button to access the collection of sample label and solution files. Use sample files to get familiar with NiceLabel 2017, to start building new documents, and to explore software capabilities. Samples help you create labels that are compliant with industry standards, such as GS1 and GHS, and labels that are equipped with mandatory objects, such as allergen or nutrition tables.
- **Printer Drivers:** access to the collection of NiceLabel printer drivers. These drivers enable you to optimize your labels for printing with a specific brand and model of printers.
- **Software Information:** group contains information about the installed copy of NiceLabel 2017 – license, license key, and installed version. If a newer version of NiceLabel 2017 is available, a notification link appears on the page automatically. Click on the link to download and install the latest version.

4.2 Object And Explorer Panels

Object and explorer panels are located at the left-most area of the Designer window. They provide access to objects.

- **Object Toolbox:** contains available label . These object are ready to be used on a label or form. Click the selected object and drag it to the design surface.



4.3 Printer And Status Bar

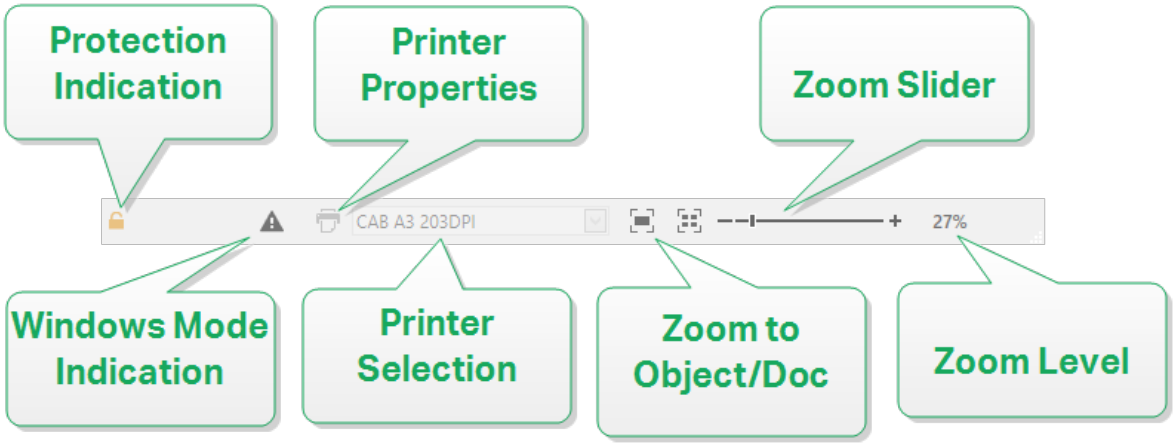
Printer and Status bar stretches over the bottom of the Designer window. It performs the following roles:

- **Printer Selection** for the current print job. Select from the drop-down list of installed printers.

TIP: When changing a printer, label and paper size adapt automatically to the dimensions that are defined by the printer driver.

- **Printer Properties** for the selected printer. Provides access to the selected printer's printer driver.
- Design surface zooming.
- Windows mode indication. Windows mode is reported if advanced printer driver interface has been disabled in Label Properties > Printer.

TIP: Windows mode disables printing optimization methods.



4.3.1 Status Bar Printer Selection

Status Bar Printer Selection drop-down list allows instant printer selection for label printing. The list is populated with printers which are installed on the system.

Design surface dimensions adapt to the selected printer automatically – as defined by the printer driver.

4.3.2 Windows Printing Mode

When designing and printing labels with NiceLabel Designer, it is recommended to use NiceLabel printer drivers to ensure optimal printing output.

If the NiceLabel printer is available for the selected printer, Designer indicates it using the windows printing mode icon. The label is going to be printed using a Windows printer driver.

4.4 Tabs And Ribbons

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

NiceLabel Designer uses a standard Windows based interface.

The Designer's top section interface segments are described below.

4.4.1 Tabs

Tabs represent subsets of Designer features. The tabs contain interrelated commands that are available to the user in an organized way – grouped, and labeled:

- File (background): opens the print form and document management panel.
- Home: offers commonly used commands such as copy/paste, print, and style commands.
- Data: offers data source related commands.
- View: gives you control over layout tools, zooming options and element markers visibility.
- Contextual tabs: appear after clicking an object. They allow you to define object-specific settings. The type of contextual tabs adapts to the selected object.
- **Help:** besides offering the access to F1 help, this tab leads you to multiple helpful resources that make yor work with Designer easier and more efficient.

4.4.2 Ribbon

Ribbon is a rectangular area that spreads across the top of an application window. Related commands are divided into ribbon groups. The ribbon changes along with the selected tabs and adapts to the currently used tools using the contextual tabs.

4.4.3 File Tab

File tab serves as document management panel. The below listed options are available:

- New: creates a new standalone label or a complete solution.
- Open: allows opening existing label and solution files.
- Save: saves the active label or solution.

Save as: allows saving the active label or solution file by defining its name and location.

- Print: opens the printing form.
- **Close:** closes the current Designer document.

  TIP: This note is applicable if you have Open or create documents in new instances option enabled.

  If a document is closed while another document is already open, its instance (NiceLabel 2017 window) is closed as well.

- Options: opens the dialog for configuring the program defaults.
- About: provides license and software version information.
- **Exit:** closes the application.

4.4.3.1 Start

Start panel takes you to application landing page. Use to create or open documents, access recently opened files, preview files and learn more about NiceLabel 2017.

4.4.3.2 New

DESIGNER PRODUCT LEVEL INFO: Solution building is available in PowerForms.

New Label creates a new standalone label. New Label Setup Wizard opens after clicking this button.

New from Sample Templates creates a document based on a selection of industry standard templates.

NOTE: Adding new labels or forms is also available in the **Solution explorer**. See section Solution explorer for more details.

TIP: There are two ways of opening new labels or solutions. You can decide to open each additional document in a separate instance (window) of NiceLabel 2017. An alternative way is to open additional documents within the already opened instance of NiceLabel 2017. To select the way that suits you better, go to **File > Options >** Designer.

TIP: When creating a new label based on a sample template, Designer creates a new folder inside the Solutions folder. The newly created folder is named after the sample. It is located at: `C:\Users\username\Documents\NiceLabel\Solutions\newly created folder`

4.4.3.3 Open

Open dialog allows opening existing label and solution files.

Browse allows selecting the label or solution files on local or connected network drives.

Recent Files field lists the latest files that have been edited. Click any of them to open the file.

4.4.3.4 Save

Save panel saves the active label or solution using the same file name that was used for opening it.

NOTE: If a file has been opened for the first time, **Save** directs you to the **Save as** background dialog.

4.4.3.5 Save As

Save as allows saving the active label or solution file by defining its name and location.

Recent folders field lists the folders that were recently used for saving the label or solution files.

4.4.3.6 Print

Print opens the print pane. In Designer, print pane hosts a powerful default printing form.

4.4.3.7 Options (Configuring The Program)

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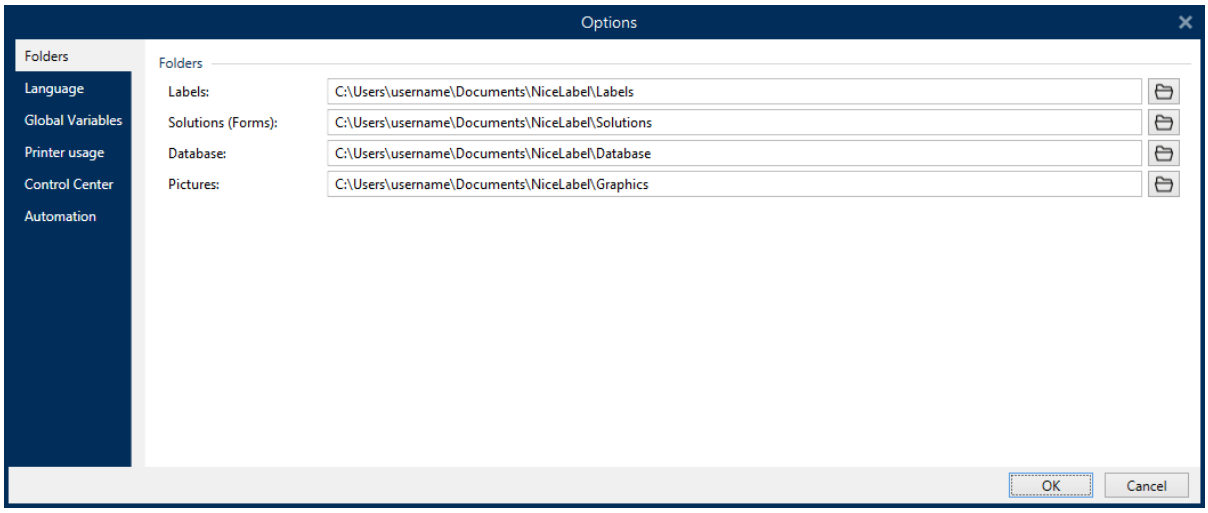

Designer configuration options are grouped on the following tabs:

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- Global Variables: storage location for global variables.
- Printer usage: locally logged usage of installed printers.
- Control Center: allows you to enable and configure the monitoring of events and print jobs.
- Automation: enables you to configure NiceLabel Automation settings.

4.4.3.7.1 Folders

Folders tab defines the default location for opening and storing the documents and files which are edited and used in Designer.

NOTE: Make sure read/write rights are granted to the account under which the Designer is running on the computer.

- **Labels:** location for opening and saving the label files.
- **Database:** location for file databases (Excel, Access, Text).
- **Picture:** location for opening the picture files.

Folders set in this tab serve as the default location when searching for a specific file in Designer.

TIP: Details about the check algorithm which is used to locate the label files is described in detail here.

4.4.3.7.2 Language

Language tab allows selecting the Designer interface language. Select the appropriate language and click **OK**.

NOTE: Restart is necessary to make the user interface appear in the selected language. Make sure you save your work before closing the program.

4.4.3.7.3 Global Variables

Global Variables tab allows defining which location with stored global variables should be used:

- **Use global variables stored on the server (Control Center):** sets the global variable storage location on the Control Center.

  NOTE: Select the Control Center before selecting this option.

  NOTE: This option becomes available when using the NiceLabel Label Management Solution license.

- **Use global variables stored in a file (local or shared):** sets the global variable storage location in a local or shared folder. Enter the exact path or click **Open** to locate the file.

By default, global variables are stored in Globals.tdb file at: `C:\ProgramData\NiceLabel\Global Variables\`.

TIP: These two options become useful when designing solutions for multiple customers with their own sets of global variables.

4.4.3.7.4 Printer Usage

Printer usage tab displays printers which have been used with NiceLabel Designer.

NOTE: Printer usage logging is available with multi-seat license. Details about printer licensing is available in section Printer Licensing Mode.

Printer usage information group displays how many of the permitted printer ports are used by printing on multiple printers.

- **Number of printers allowed by license:** number of permitted printers to be used with the current Designer license.
- **Number of used printers in the last 7 days:** number of printers that have been used with Designer during the last 7 days.

WARNING: If the used printer count exceeds the permitted number of used printers, NiceLabel 2017 activates Grace Period. The software grants the end-user a 30-day time extension during which the number of licensed printers is doubled. If the doubled number is also exceeded, printing becomes disabled immediately.

Printing statuses are visible in multiple columns:

- **Printer:** name or model of the printer that was selected for the print job.

  NOTE: If the connected printer is shared, only printer model is displayed.

- **Location:** name of the computer from which the print job has been sent.
- **Port:** port used by the printer.
- **Last Used:** time passed since the last print job.
- **Reserved:** prevents the printer from being removed after being idle for more that 7 days.

  NOTE: If a printer remains unused for more then 7 days, it is removed automatically unless the **Reserved** option is enabled.

Permissions group allows you to lock printer usage on local workstation.

NOTE: Before activating this option, make sure at least one printer is reserved. With no printers reserved, an error is reported if you try to edit a label. Printing is disabled as well.

- **This workstation can only use reserved printers:** with this option enabled, only reserved printers are allowed for label editing and printing in NiceLabel 2017.

  TIP: Use this option to avoid exceeding the number of available licensed printer seats by printing on unwanted printers or print-to-file applications. Reserve dedicated thermal or laser labeling printers and limit printing only to them to ensure continuous printing of labels with a multi-user licence.

  This option can also be enabled using the `product.config` file:

  1. Navigate to the System folder.

     EXAMPLE: %PROGRAMDATA%\NiceLabel\NiceLabel 2017

  2. Make a backup copy of the `product.config` file.
  3. Open `product.config` in a text editor. The file has an XML structure.

4. Add the following lines:

```
<Configuration>
  <Activation>
    <ReservePrinters>Example Printer Name</ReservePrinters>
  </Activation>
  <Common>
    <General>
      <ShowOnlyReservedPrinters>True</ShowOnlyReservedPrinters>
    </General>
  </Common>
</Configuration>
```

5. Save the file. The `Example Printer` is reserved.

4.4.3.7.5 Control Center

Control Center tab allows you to enable and configure the monitoring of events and print jobs. The use of Control Center enables centralized event and print job reporting, and centralized storage of global variables.

DESIGNER PRODUCT LEVEL INFO: This tab is available only if LMS license is activated.

Address

Address group defines which Control Center server should be used.

- **Control Center server address:** URL of the connected Control Center server. You can select from the list of automatically discovered servers on the network, or enter a server address manually.

NOTE: The license keys on the Control Center server and on the workstation must match to enable the connection.

Event Monitoring

Event handling in the Control Center allows central management of labeling workstation activities. Activities like label printing, errors, alerts, middleware application triggering, etc. are reported and logged to Control Center.

Event Monitoring group defines what types of events should be logged by the connected Control Center:

- **Print Events:** logs the print related events from the workstation.
- **Error Events:** logs all reported errors.

  NOTE: By default, Print Events and Error Events are logged to Control Center.

- **Trigger Activity:** logs all fired triggers.
- **Trigger Status Change Events:** logs the trigger status changes which have been caused by the fired triggers.

Print Job Monitoring

Print Job Monitoring group enables you to log the completed and ongoing print jobs to the Control Center.

- **Enable Print Job Logging to Server:** activates print job logging.
- **Detailed printing control:** enables monitoring of statuses that are reported by the connected printer.

> NOTE: There are two requirements to make this option available:
> - The printer must support bidirectional communication.
> - NiceLabel printer driver must be used for printing.

4.4.3.7.6 Automation

Automation tab enables you to configure NiceLabel Automation settings.

> NOTE: This tab becomes visible with PowerForms Suite and LMS licenses.

Service Communication group defines the communication settings.

- **Service communication port:** number of the port which is used by the Automation service for communication.

Log group configures how the below listed messages reported by the Automation Manager are logged.

> NOTE: The default data retention time is 7 days. To minimize log database size on busy systems, reduce the retention period.

- **Clear log entries daily at:** selects the time at which the daily log entries are cleared.
- **Clear log entries when older than (days):** sets the log retention time in days.
- **Log messages:** selects the message types that are logged.
    - **All messages:** saves all message types in the log.
    - **Errors and warnings:** saves errors and warnings in the log.
    - **Errors:** saves errors in the log.
    - **No log:** no messages are logged.

Performance group enables improving the time-to-first label and general performance of the Automation service.

- **Cache remote files.** To improve the time-to-first label and performance in general, NiceLabel 2017 supports file caching. When you load the labels, images and database data from network shares, all required files must be fetched before the printing process can begin.

TIP: If you enable local caching, the effect of network latency is reduced as label and picture files are loaded from the local disk.

Automation service uses the following local folder to cache the remote files: `%PROGRAMDATA%\NiceLabel\NiceLabel 2017\FileCache`.

- **Refresh cache files (minutes):** defines the time interval within which the files in the cache are be synchronized with files in the original folder. This is the time limit for the system to use a version which may not be the latest.
- **Remove cache files when older than (days):** defines the time interval after which all files are removed from cache.

NOTE: File caching supports label and picture file formats. After you enable file caching, restart Automation service to make the changes take effect.

4.4.3.7.7 Designer

Designer tab enables you to configure opening behavior of NiceLabel 2017.

- **Open or create documents in new instances:** if enabled, additionally opened documents appear in separate instances (windows) of NiceLabel 2017. This applies to both – newly created and existing labels and solutions.

  If you decide to disable this option, additionally opened documents will appear within the currently active instance of NiceLabel 2017.

4.4.3.8 About

About dialog provides information about your NiceLabel product license, enables license purchasing (when in trial mode) and activation, provides software details, and enables you to change the Designer product level.

License information group includes:

- **Trial mode duration:** information about the remaining days for product evaluation. This segment is no longer visible after purchasing and activating the product license.
- **Purchase License:** button directs you to the NiceLabel online store.
- **Activate license:** button opens the Designer license activation dialog. See NiceLabel Designer installation guide for details about the license activation process. After activating the license, this button is renamed to Deactivate License – after clicking it and confirming the deactivation, your copy of Designer is no longer activated.
- **Change product level:** opens the product level selection dialog. When in trial mode, you can choose and evaluate all product levels. With an activated license, you can change your product level only to lower levels.

NOTE: Product level changes will take effect after restarting the application.

NOTE: If NiceLabel 2017 has been installed with predefined product level (i.e. the level has been defined by the entered license), product level selection is not required during first start.

- **Upgrade license:** opens the product level upgrade dialog. See NiceLabel Designer installation guide for details about the license upgrade process.

Software information group contains information about the installed copy of NiceLabel 2017 – license, license key, and installed version. If a newer version of NiceLabel 2017 is available, a notification link appears on the page automatically. Click on the link to download and install the latest version.

4.4.4 Home Tab

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Home Tab provides access to frequently used commands and settings in the following ribbon groups:

- Clipboard: temporarily stores the selected elements, objects or groups of objects.
- Font: group lets you define the font properties.
- Action: group contains the **Print** button which starts the printing procedure or runs a form.
- **Management:** group provides direct access to the Dynamic Data Manager and Document properties
- **Object:** group allows you to align, group or arrange label objects.

4.4.4.1 Clipboard

Clipboard group temporarily stores the selected elements, objects or groups of objects. Use the selected and stored objects to transfer them from one label or solution to another.

TIP: Copying and pasting of textual (plaint text, RTF) and graphical (bitmaps) content between multiple applications is supported.

- **Paste:** pastes the clipboard contents on the design surface. Multiple reuse of a single clipboard item is allowed.
- **Cut:** removes the selected element(s) from the design surface and adds it to the clipboard to be pasted elsewhere. Note that the first element is selected by clicking it. When selecting additional elements, press and hold `Shift` key while clicking these elements.
- **Copy:** copies the selected content to the clipboard. Multiple objects can be copied at once – select them and click **Copy**.
- **Delete:** deletes the selected elements or objects. They are not stored in the clipboard.

4.4.4.2 Font

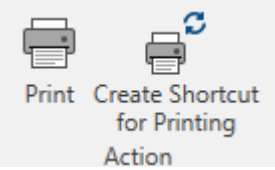
Font group defines font properties:

- **Show/hide printer fonts:** button allows you to exclusively display internal printer fonts on the list of available fonts. Graphical fonts are hidden in this case. After pressing this button again, all available fonts are visible on the list once more.
- **Font:** defines the font family to be used in a selected object.
- **Font Size:** defines the text size in an object. Select the desired point size from the drop-down selector or enter it manually.
- **Font Style:** defines the object text stylistic characteristics of text, such as bold or italic.
- **Alignment:** defines horizontal text positioning in an object: **Left**, **Center** or **Right**.
- **Justify:** makes a paragraph aligned along the left and right object margins.
- **Show/hide printer fonts only:** lets you toggle the visibility of fonts that are installed on the connected printers.

TIP: When changing a font during the design process, Designer remembers the last used font type and size.

4.4.4.3 Action

Action group creates a printing shortcut, or starts the printing.



Create Shortcut for Printing allows you to create a printing shortcut to a label.

NOTE: When creating shortcut to a label, the shortcut is named **Print [label name]**. After double-clicking it, the label print dialog appears.

Print button opens the Designer**Print pane** as defined by the Default Printing Form.

Customize Print opens multiple options to adapt the printing options.

4.4.4.4 Management

Management ribbon group provides direct access to:

- **Document Properties** opens current label or form properties.

4.4.4.5 Object

Object group allows you to set:

- Object alignment: positioning of object according to the design surface and other existing objects.
- Object grouping and arranging.

4.4.4.5.1 Align

Align group options define relative horizontal and vertical positioning for the object content:

- **Align Objects Left:** aligns objects with the left border of the first selected object or with the leftmost object.
- **Align Objects Center:** aligns objects with the horizontal center of the first selected object or with horizontal center of the largest object.
- **Align Objects Right:** aligns objects with the right border of the first selected object or with the rightmost object.
- **Distribute Horizontally:** distributes objects using equal horizontal spacing.
- **Align Objects Top:** aligns objects with the upper border of the first selected object or with the highest object.
- **Align Objects Middle:** aligns objects with the vertical center of the first selected object or with vertical center of the largest object.
- **Align Objects Bottom:** aligns objects with the bottom border of the first selected object or with the lowest object.
- **Distribute Vertically:** distributes objects using equal vertical spacing.

4.4.4.5.2 Group/Arrange

Group objects unites the selected objects and make them behave as a single element.

- **Group Objects:** unites the selected objects and make them behave as a single element.
- **Ungroup objects:** separates the grouped objects.

Arrange positions the objects so that they appear either in front of or behind each other:

- **Send Backward:** sends the element back for one level.
- **Send to Back:** sends the element behind all other elements on the label.
- **Bring Forward:** sends the element forward for one level.
- **Send to Front:** sends the element in front of all other elements on the label.

4.4.5 Data Tab

Data tab displays the Designer ribbon with groups that enable you to instantly connect an object with commonly used data sources, or to define data connections in more detail:

- Step-by-Step Database Wizard ribbon group opens database wizard for typical database types.
- **Data Source Management** ribbon group gives direct access to Prompt Order dialog.

4.4.5.1 Step-by-Step Database Wizard

Database wizard is a guided process that allows the user to configure a connection to a database and to select which tables and fields will be used. Dedicated buttons provide instant access to the most commonly used database types. Use the **All Databases** button to start the wizard in general mode and to select the database type during the next step.

Edit Database allows you to edit all existing connected databases using a wizard.

The wizard additionally allows you to sort, filter records, and to define how many label copies will be printed per database record.

4.4.5.2 Data Source Management

Data Source Management ribbon group provides access to:

- Prompt Order**:** dialog for defining the order of prompted variables on the print form.

4.4.5.2.1 Variable Prompt Order Dialog

Variable Prompt order dialog defines the order in which the variable values are prompted at print time.

The dialog displays the entire range of currently defined variables.

To change the prompt order, select a variable from the list and change its position using drag and drop or **Move up** and **Move down** buttons. Repeat this step for each variable, whose prompting position needs to be changed.

4.4.6 View Tab

View Tab gives you control over document zooming, marker visibility, visual aids and design surface rotation. It makes the following ribbon groups available:

- Zoom: defines design surface zoom level and Designer window zoom behavior.
- Object Markers Visibility: defines visibility settings for object properties.
- Alignment and Gridlines: sets object positioning behavior and defines properties for design surface gridlines.
- Rotation: rotates the design surface clockwise for 90° per click.

4.4.6.1 Zoom

Zoom group defines the design surface zoom level.

- **Zoom to Document:** displays the entire label in the Designer window.
- **Zoom to Objects:** displays all objects in the Designer window.
- **Zoom In:** magnifies the design surface for a percentage of the currently defined zoom level.
- **Zoom Out:** decreases the design surface for a percentage of the currently defined zoom level.

4.4.6.2 Alignment And Gridline Guides

Alignment and Gridlines group sets object positioning behavior and defines properties for design surface gridlines.

- **Display gridline guides:** makes the design surface grid dots visible.
- **Grid Size X:** defines horizontal distance between the grid dots.
- **Grid Size Y:** defines vertical distance between the grid dots.
- **Grid Offset X:** defines the horizontal offset of the grid from the design surface center.
- **Grid Offset Y:** defines the vertical offset of the grid from the design surface center.
- **Align to Objects:** makes an object align with other object on the design surface. When an object is aligned, a line which marks the object alignment appears.
- **Align to Gridlines:** aligns the selected objects with gridlines.

  NOTE: Certain continuous inkjet (CIJ) printer models only print on predefined label surface positions. If such printer is currently selected, grid settings are defined by the printer driver and grayed out for this label. The **Align to Gridlines** option is automatically enabled.

- **Do Not Align:** makes the object position independent of gridlines and position of other object(s).

4.4.6.3 Rotation

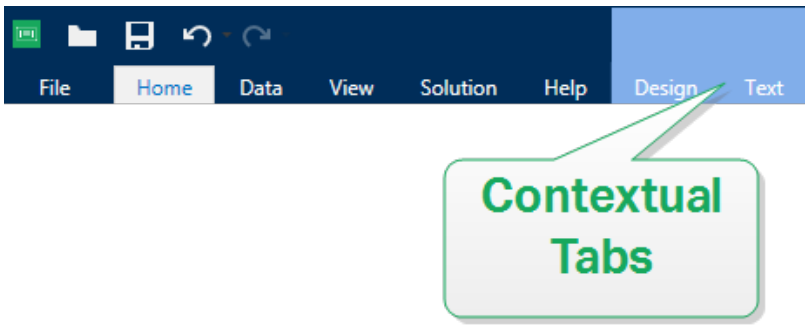
Rotate view button rotates the design surface clockwise. Horizontal and vertical rulers adapt to the current position of the design surface.

TIP: Rotation type is defined by the printer driver. Certain drivers support complete 360° rotation (90° per click), while others allow 90° rotation clockwise (portrait/landscape).

4.4.7 Contextual Tabs

Contextual tab is a hidden tab that becomes visible the tab row when a specific label object is selected on the design surface. Contextual tabs appear on the right side of the standard Designer tab. The selection of displayed tabs depends on the object that you are currently editing.

- Label-specific contextual tabs are described here.



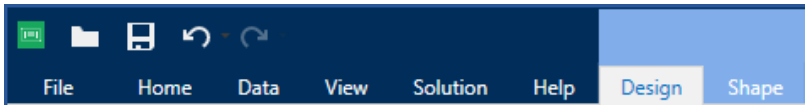
4.4.7.1 Label-specific Contextual Tabs

When editing various label objects, the following contextual tabs appear depending on the selected object:

- Design tab
- Barcode tab
- Shape tab
- Picture tab
- Text tab

4.4.7.1.1 Design Contextual Tab

Design tab serves as a contextual tab that defines the layout and positioning of the selected label object.



The following groups of settings are available on the **Design** tab:

- General: defines object's visibility and printability on a label.
- Positioning: defines the object's position on the design surface.
- Arrange: positions the object relative to neighboring objects on a label.

General

General group defines the object's visibility and printability on a label.

- **Not printable:** when enabled, this option prevent the object from being printed on the label. The object remains visible on the label preview.
- **Visible:** when disabled, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Conditions:** group defines the object behavior during editing and printing.
- **Visibility settings:** define if the selected object is going to appear on the printed label or not.

    - **Condition:** an object is enabled and/or visible if the result of the given condition is "True".
- **Printing Optimization:** allows activating the use of printer elements (available with rectangle, barcode, line, ellipse and inverse objects).
    - **Use printer elements if supported:** speeds up the printing process.

      TIP: If enabled by the printer model, a share of label element processing is handled directly by the printer: internal fonts, shapes, barcodes, etc.
    - **Always print as graphics:** sends and prints the objects as graphic files.
- **Name:** allows you to enter object name and its description.

Positioning

Positioning group sets the object location and size on a label.

Position button opens:

- **X** and **Y:** coordinates set the exact position on the design surface (in px).
- **Width** and **Height:** object dimensions.
- **Keep aspect ratio:** makes sure both object dimensions change simultaneously while resizing.
- **Rotation angle:** rotates the object clockwise.

Anchoring Point button defines the spot where an object is pinned to the design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Keep aspect ratio: makes sure the object is resized proportionally.

Lock prevents the selected object from being moved during the design process.

Arrange

Arrange group defines object layering and grouping settings.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Group objects:** adds selected objects to a group.
    - **Group objects:** unites the selected objects and makes them behave as a single object.
    - **Ungroup objects** separates previously grouped objects.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

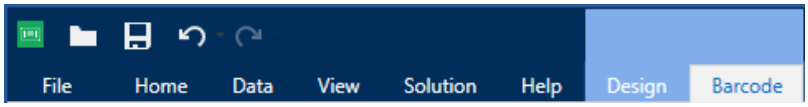
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `Ctrl` key and clicking the above listed align icons.

4.4.7.1.2 Barcode Contextual Tab

Barcode tab serves as a contextual tab that defines the type, layout and positioning of barcode object.



The following groups of settings are available on the Barcode tab:

- Barcode: defines basic barcode symbol type and its dimensions.
- Settings: defines barcode details.
- Arrange: positions the object relative to neighboring objects on a label.

Barcode Tab

Barcode group defines basic barcode related settings.

NOTE: Settings in Barcode group depend on the selected barcode type.

- **Barcode Type:** defines type of the barcode symbol to be used on a label.

  TIP: By default, Code128 barcode type is selected. For more details about the available barcode types, see section Barcode Types and Available Settings.

- **DataBar Type:** if one of the DataBar barcode types is selected, **DataBar Type** defins its specific subtype to be used on the label.
- **X dimension:** width of the narrowest barcode element in the selected **Unit of measurement**.
- **Height:** barcode Y dimension in the selected **Unit of measurement**.
- **Ratio:** the ratio between **X dimension** and **Height**.

  TIP: Each barcode type has the range of permitted ratios limited by the standard. Designer only permits using valid ratios.

- **Height** defines the height of a single data row in 2D barcodes. Row height is specified as a multiple over the **X dimension**.

Settings

Settings group allows you to configure barcode details.

Human Readable button defines the human readable content's layout:

- **No human readable:** makes the barcode appear without the human readable text.
- **Above barcode:** locates human readable text above the barcode.
- **Below barcode:** locates human readable text below the barcode.
- **Content mask:** enables the user to re-format the input data before passing it to the human readable part.

  TIP: If the data contains an asterisk "*", change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

- **Barcode Details** button opens advanced 1D and 2D barcode settings:
  - **Include quiet zones:** adds blank space around the printed barcode to ensure the highest level of scanning reliability.
  - **Space correction:** adds white pixels to increase the gap width (in dots) between the bars.
  - **Check digit** is used by any scanning system to verify that the number scanned from a barcode is read correctly.

TIP: Check digit is derived from the preceding barcode digits and is placed as the final digit of a barcode.

- **Color:** sets the barcode's line and human readable content color on the printed label.

Arrange

Arrange group defines object layering and grouping settings.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Group objects:** adds selected objects to a group.
    - **Group objects:** unites the selected objects and makes them behave as a single object.
    - **Ungroup objects** separates previously grouped objects.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

Vertical alignment options are:

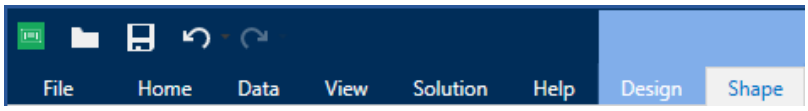
- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.

- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `Ctrl` key and clicking the above listed align icons.

4.4.7.1.3 Shape Contextual Tab

Shape tab serves as a contextual tab that defines the appearance of ellipse, rectangle and line objects.



The following groups of settings are available on the Shape tab:

- Outline: defines how the line of the selected shape should appear
- Fill: group defines the shape's fill style and color
- Arrange: positions the object relative to neighboring objects on a label.

Outline
Outline group defines how the line of the selected shape should appear.

Outline Style button options are:

- **None:** makes the object line invisible.
- **Solid:** makes the object line solid.
- **Dot:** makes the object line dotted.
- **Dash:** makes the object line dashed.
- **Clear:** makes parts of other objects underneath the line invisible.

Outline Color defines the color of the shape's line.

Thickness defines the object line's width.

Corner radius: makes the rectangle corners round. Higher values make the curve broader.

Fill
Fill group defines the shape's fill style and color:

Fill Style options are:

- **None:** makes the object completely transparent.
- **Erase:** makes other objects beneath the active one invisible.
- **Solid:** fills the object with solid color.

- **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
- **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
- **Vertical:** fills the object with vertical lines.
- **Horizontal:** fills the object with horizontal lines.
- **Cross:** fills the object with crossed lines.
- **Cross Diagonal:** fills the object with diagonally crossed lines.
- **25% of color:** sets fill color opacity to 25 %.
- **50% of color:** sets fill color opacity to 50 %.
- **75% of color:** sets fill color opacity to 75 %.

Background Color defines the color of the shape's fill.

Arrange
Arrange group defines object layering and grouping settings.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Group objects:** adds selected objects to a group.
    - **Group objects:** unites the selected objects and makes them behave as a single object.
    - **Ungroup objects** separates previously grouped objects.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `Ctrl` key and clicking the above listed align icons.

4.4.7.1.4 Picture Contextual Tab

Picture tab serves as a contextual tab that defines picture resizing options and object arranging.

The following groups of settings are available on the Picture tab:

- Resize: positions the object relative to neighboring objects on a label.
- Arrange: positions the object relative to neighboring objects on a label.

Resize

Resize group defines if the picture adapts to the label size at print time or not.

Picture Fit button opens the picture sizing options:

- **Resize options:** define how the source file dimensions adapt to the size of object at print time.
  - **Keep original picture size:** disables resizing. The source file is displayed in object with its original dimensions.
  - **Resize proportionally:** makes the source file resize proportionally. The aspect ratio of source file dimensions is preserved.
  - **Resize to the designed size:** resizes the picture horizontally and vertically to make it fit into the bounding box. Using this option will most likely make the picture distorted.
- **Original size:** displays the picture's **Width** and **Height** before resizing.
- **Revert to original picture size** undos resizing actions.

Keep aspect ratio makes sure both object dimensions change simultaneously while resizing.

Arrange

Arrange group defines object layering and grouping settings.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Group objects:** adds selected objects to a group.
    - **Group objects:** unites the selected objects and makes them behave as a single object.
    - **Ungroup objects** separates previously grouped objects.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

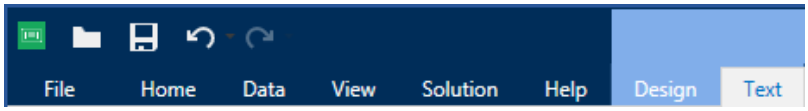
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `Ctrl` key and clicking the above listed align icons.

4.4.7.1.5 Text Contextual Tab

Text tab serves as a contextual tab that defines formatting of Text and Text box objects.



The following groups of settings are available on the Text tab:

- Format: lets you define the text format.
- Text Settings: lets you define the layout of any textual content that is added to label object.
- Arrange: positions the object relative to neighboring objects on a label.

Format

Format group lets you define the text format.

- **Show/hide printer fonts:** button turns visibility of printer fonts on the font list on/off.
- **Font:** allows specifying the typeface and its size. Fonts fall into two groups, OpenType fonts and Printer fonts.

  NOTE: If the currently selected printer is a thermal printer, additional fonts will be available on the list of available fonts. They are **Printer fonts** identified by the printer icon in front of their names.

- The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.
- **Scaling:** factor that defines how much the font is stretched from its original proportions.

  TIP: If the stretch factor is set to 100 %, the font has a normal look. If factor is 200 %, it means that font is twice as wide as normal. If it is 50 %, the font is stretched.

- **Font color:** specifies font and underscore color.

Text Settings

Text Setting group allows defining the layout of any textual content that is added to the object.

Character and Paragraph button opens line and character spacing options:

- **Line spacing:** distance between each line in a paragraph.
- **Character spacing:** distance between individual characters.

Effects button displays the available text effects:

- **Inverse:** inverts the colors of text and background.
- **Mirror:** mirrors the text.
- **RTL printing:** prints the text from right to left.

TIP: Most thermal printers automatically print Arabic and Hebrew text from right-to-left. Enable this option it if the operating system does not provide native RTL support.

Text Fit button opens the automatic text sizing options:

- **None:** disables the resizing. In this case, text field dimensions and font size do not adapt to the amount of inserted content in a text box.
- **Ignore excessive content:** removes the text content that does not fit into the object.

TIP: When enabled, the object only uses the amount of text that can be contained in the box. The remaining text is discarded.

- **Adjust height to fit content:** adapts the text box height to fit the content.
- **Fit content by adjusting font size:** sets the acceptable label object font size range. Font size adapts to the text box size automatically.

NOTE: **Text Fit** button is available when configuring the Rich text box object.

Arrange

Arrange group defines object layering and grouping settings.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Group objects:** adds selected objects to a group.
    - **Group objects:** unites the selected objects and makes them behave as a single object.
    - **Ungroup objects** separates previously grouped objects.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.

- **Align Objects Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

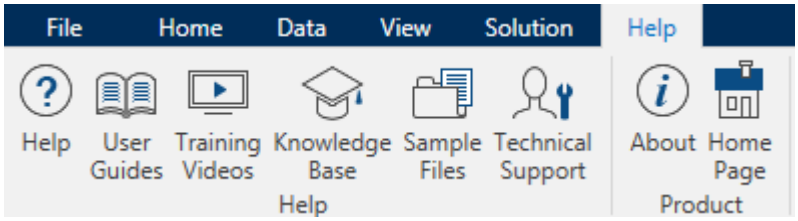
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `Ctrl` key and clicking the above listed align icons.

4.4.8 Help Tab

Help tab provides direct access to various resources that help you design and use labels quickly and efficiently.



Help ribbon group includes buttons with links to the following resources:

- **Help:** Designer online help
- **User Guides:** online collection of NiceLabel user guides. The collection includes user guides for the entire product portfolio.
- **Training Videos:** NiceLabel collection of training videos.
- **Knowledge base:** online library of articles that describe many technical solutions, tips and solved issues for labels and printing solutions.
- **Sample files:** access to the collection of sample label files. Use them to get familiar with Designer and to explore software capabilities.
- **Technical support:** connects you with NiceLabel technical support department.

Product ribbon group includes links to:

- Software **About** page
- NiceLabel web page

4.5 Design Surface

Design surface is Designer's central field that serves as a place to create, add, position, and interconnect the label objects.

To make designing of labels as simple and efficient as possible, design surface follows the same usability and functional principles as Microsoft Windows applications.

TIP: Use View tab to customize design surface.

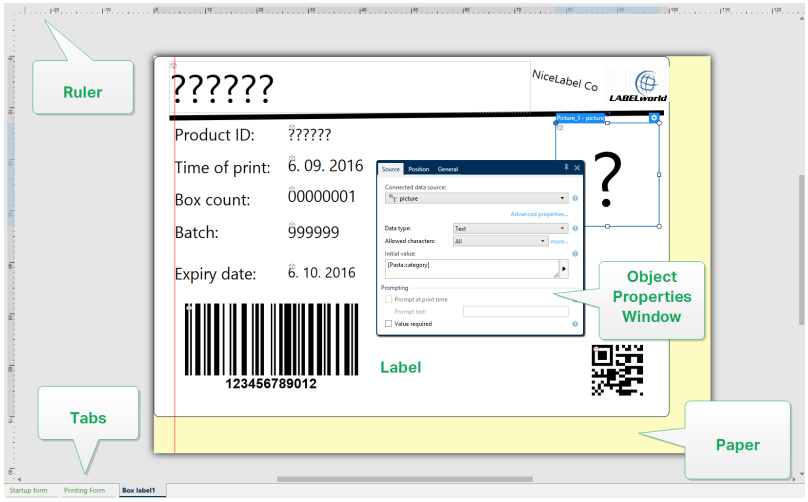
- Design surface elements are described here.
- Design surface editing actions are described here.
- Design surface visual aid elements are described here.

4.5.1 Design Surface Elements

Design surface consists of the following elements:

- **Ruler.** Design surface is equipped with horizontal and vertical ruler. Use it to line up the objects or to properly position the label and its content. Change the unit measurements displayed on the ruler in document properties.
- **Paper.** Yellow area of the design surface displays the current size of paper. The information about supported paper format is acquired from the printer driver, but you also have the option to define user-defined format. Manual paper size has to be defined when printing on regular office sheets of paper. See section Paper for more details.
- **Label.** White area represents the area that can be used for label designing. Red line displays limit of the currently printable area.
- **Object Properties Window.** Defines the selected label object's properties. Double-click an object to open the dialog.
- **Tabs.** Currently active label(s) are accessible on separate tabs.

DESIGNER PRODUCT LEVEL INFO: Tabs appear in PowerForms only.



4.5.2 Design Surface Editing Actions

Below listed are the most relevant common actions for editing the objects on design surface:

- **Object layering:** allows the objects to be located in multiple layers. An object can be placed above or under the neighboring object. Layering options are described here.
- **Objects aligning:** allows the objects to be aligned among each other. Aligning options are described here.
- **Zooming:** enables the entire design surface to be zoomed in or out. Zooming options are described here.
- **Scrolling:** enables sliding the design surface up and down.
- **Selecting:** enables the objects on design surface to be selected for editing individually or in a group. Group selection allows any actions to be applied to multiple object sim-ultaneously.
- **Rotating:** enables object rotation.

4.5.3 Visual Aid Elements

Below listed are visual aid elements that enable the user to interact when working with NiceLabel Designer.

- **Gridlines** serve as a visual aid during the design process. They can be either visible or hidden. Their density is customizable. Gridline options are available in Designer's Visual aids ribbon group.
- **Snaplines** are non-visible alignment lines that help the user align the objects during the design process. Snap options are available in Designer's Align ribbon group.
- **Ruler** shows the available design area for label (white colored field) and file page (gray colored field).
- **Resize handles** appear on the selected (active) objects. They enable you to resize the object dimensions. X and X dimensions can be resized simultaneously or separately.

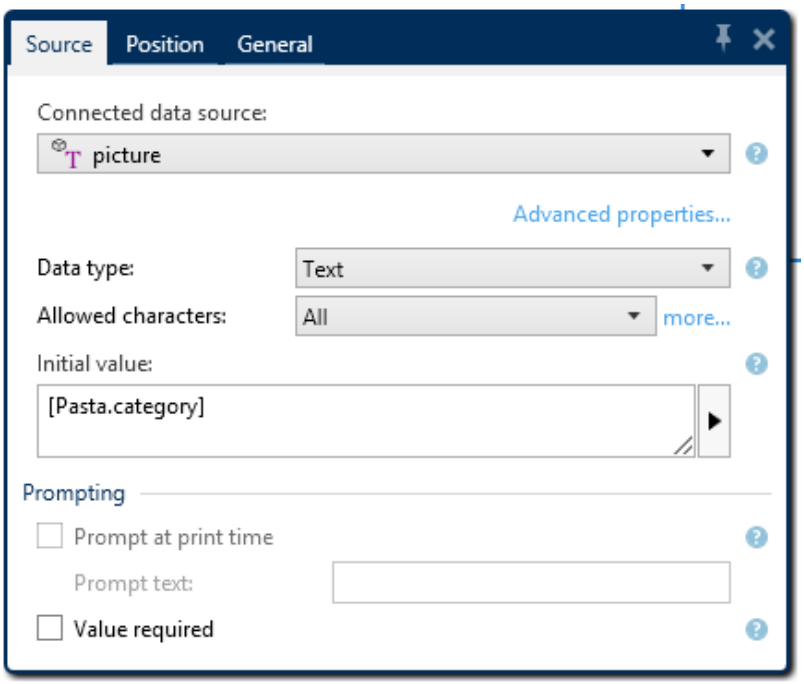
- **Margins** are the amount of fixed space between the edge of an object and the edge of a label.

4.5.4 Object Properties Window

When designing a label object, double-click an object to set its properties.

Double-click opens the object properties window. Available object properties window options adapt to each selected object and its properties:

- Available label objects and their properties are listed and described in detail here.



4.6 Document Properties And Management Dialogs

Designer offers multiple dialogs that help you configure and manage the active document and connected data sources. Read the listed topics below for detailed instructions:

- Label Properties

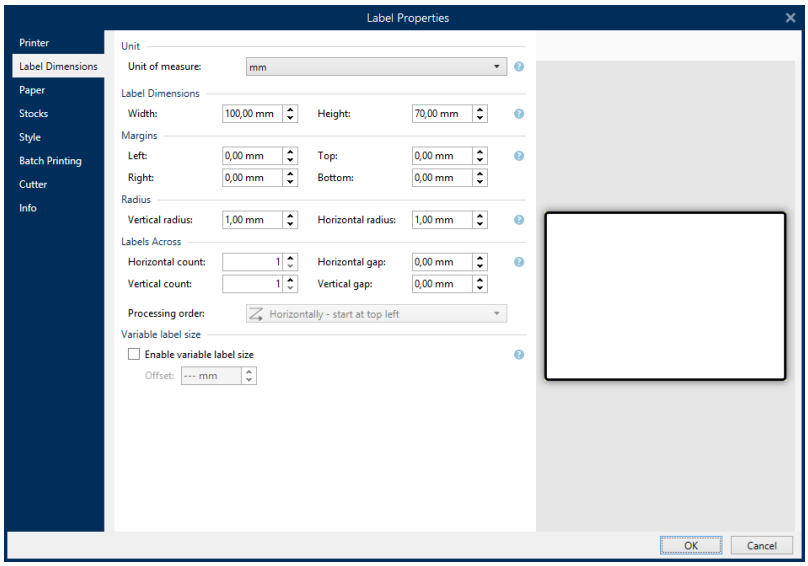
4.6.1 Label Properties

Label Properties editor selects the printer, sets label dimensions and defines the printing paper properties.

The settings are available on the below listed dialog tabs.

Label Property	Description
Printer	Selects the preferred printer.

Label Property	Description
Label Dimensions	Defines the Unit of measure and label dimensions.
Paper	Defines the printing paper properties.
Stocks	Selects the stock type.
Style	Defines the label style parameters.
Info	Inserts the label description.



TIP: To open the **Label Properties Editor**, double click the design surface.

4.7 Context Menus

In Designer, right mouse click displays various context menus that contain commonly used commands. The availability of commands depends on the selected items – design surface or object.

- Design surface context menu commands are described here.
- Object context menu commands are described here.

4.7.1 Design Surface Context Menu

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When right-clicking the design surface, a context menu appears. The context menu includes commonly used commands:

- **Document Properties:** opens the label properties or form properties dialog.
- **Paste:** pastes clipboard contents on the design surface. Multiple reuse of a single clip-board item is allowed.

- **Cut:** removes the selected element(s) from the design surface and adds it to the clipboard to be pasted elsewhere.
- **Copy:** copies the selected object to the clipboard.
- **Align with objects:** makes the object on the design surface align with other objects. When two objects are aligned, a leading line appears linking the edges of the two aligned objects.
- **Align with gridlines:** makes the object on the design surface align with gridlines. When moving the object, it always snaps to the gridline.
- **Display gridline:** makes the gridlines visible.
- **Select all:** selects all object on the design surface.
- **Objects markers visibility:** toggles visibility for the below listed object properties. Markers become visible when moving the mouse pointer over the object:
  - **Object name:** marker shows the name of an object.
  - **Internal element:** marker shows if the selected object belongs to the internal printer elements.
  - **Counter:** marker shows that the connected variable is Counter.
  - **Locked object:** marker shows that an object's position is locked.
  - **Events:** marker shows that the form object runs assigned Action(s).
- **Zoom:** defines zooming behavior:
  - **Zoom to Document:** shows the entire label in the Designer window.
  - **Zoom to Objects:** shows all objects in the Designer window.

4.7.2 Object Context Menu

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When right-clicking an object, a context menu appears. The context menu includes the below described commands:

- **Properties:** opens the label properties or form properties dialog.
- **Copy:** copies the selected content to the clipboard
- **Cut:** removes the selected element(s) from the design surface and adds it to the clipboard to be pasted elsewhere. Note that the first element is selected by clicking it.
- **Delete:** removes the selected object from the design surface.
- **Lock position:** prevents the selected object from being moved.
- **Arrange:** positions the objects so that they appear either in front of or behind each other:

- **Bring Forward:** sends the element forward for one level.
- **Send backward:** sends the element back for one level.
- **Send to Front:** sends the element in front of all other elements on the label.
- **Send to Back:** sends the element behind all other elements on the label.

4.7.3 Group Context Menu

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When right-clicking an object, a context menu appears. The context menu includes the below described commands:

- **Document Properties:** opens the label properties or form properties dialog.
- **Copy:** copies the selected content to the clipboard
- **Cut:** removes the selected element(s) from the design surface and adds it to the clip-board to be pasted elsewhere. Note that the first element is selected by clicking it.
- **Delete:** removes the selected object from the design surface.
- **Select All:** selects all added objects on a label or form.
- **Alignment and Gridlines**
  - **Align to Objects:** makes an object align with other object on the design surface. When an object is aligned, a line which marks the object alignment appears.
  - **Align to Guides:** aligns the selected objects with gridlines.
  - **Do Not Align:** makes the object position independent of gridlines and position of other object(s).
  - **Display grid line guides:** makes the design surface grid dots visible.

  Objects markers visibility group toggles the visibility for the following object properties:
  - **Object Name:** displays the name of an object.
  - **Printer Element:** indicates that the object will be printed using a printer built-in function. This options serves as an alternative to sending the object to printer as a graphic.
  - **Data Source:** indicates that the object is connected to a dynamic data source.
- **Zoom:** defines zooming behavior:
  - **Zoom to Document:** shows the entire label in the Designer window.
  - **Zoom to Objects:** shows all objects in the Designer window.
- **Group Objects:** unites the selected objects and make them behave as a single element.

5 Label

Label works as a template which allows adding label objects and can be printed using any kind of printing media.

Each object adds a different kind of content such as text, line, ellipse, barcode or rectangle to a label. The content can be fixed (manually entered by the user) or dynamic (defined automatically via connected data sources).

When done with creating and designing, a label can be printed using any of the installed printers.

DESIGNER PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Designing of a printable label belongs to basic Designer tasks. Designer allows creating and printing of standalone labels and labels that are included in a printing solution.

Read about how to create, design or edit a label here.

5.1 Label Setup Wizard

Label Setup Wizard guides you through the process of creating a new label. The wizard consists of four configuration steps and a summary:

- Step 1: Select Printer
- Step 2: Set Page Size
- Step 3: Label Layout
- Step 4: Label Dimensions
- Step 5: Summary

After finishing these steps, the label is ready for editing and printing.

NOTE: To quit the Label Setup Wizard during any step, press escape. The new label properties are set to default.

5.1.1 Label Setup Wizard

5.1.1.1 Step 1: Select Printer

This step selects the printer to be used for printing the newly created label. It also provides direct access to printer driver properties.

Select the printer from the drop-down list. To set the printer settings, select a printer from the list of installed printers and click **Printer properties**. This button gives you direct access to the selected printer driver and its settings.

Label setup wizard remembers the last selected printer. When creating another new label, the wizard will automatically select the printer that was defined for the previously created label. If this printer is missing, the default printer is selected instead.

NOTE: If you change the printer while designing the label in Label Properties dialog, this does not change the primary printer selection in label setup wizard for the newly created label.

- **Always use the default printer:** sets the default system printer to be used for the current print job.

DESIGNER PRODUCT LEVEL INFO: Double-sided printing option is available in Designer Pro and PowerForms.

- **Double-sided printing:** enables double-sided printing for the new label.
- **Preview field:** displays the label layout according to the currently set properties.

NOTE: When changing the printer, Page Size settings always go to default (automatic).

NOTE: For additional information on the installed printer drivers and their settings, read the NiceLabel Driver Installation Manual.

5.1.2 Step 2: Set Page Size

This step defines how the page size is selected. When using a thermal printer, it is recommended to set the size automatically. Manual selection proves to be useful if you know the exact stock code or label format.

Print on a roll of labels option prints on the installed roll of labels. Page size for thermal printers is detected automatically.

NOTE: If a thermal printer is selected in the preceding Select the Printer wizard step, this option is enabled by default.

Print on a sheet of paper option prints labels on sheets of paper. It lets you manually define the label page size to fit the printer.

With this option selected, additional settings appear:

- **Unit of measure:** defines the unit of measure to be used while designing the label.
- **Paper:** defines the label page **Width** and **Height**.

NOTE: If a regular home/office printer is selected in the preceding Select Printer wizard step, this option is enabled by default.

Load settings from a predefined stock option sets the page to be defined by the selected stock type.

With this option selected, additional settings appear:

- **Stock:** defines which stock type should be used when designing and printing the newly created label. Stock types are usually associated with printer vendors or stationery suppliers. Select the exact stock from the drop-down menu.

  NOTE: If the selected stock is not compatible with printer, a warning appears. Label designing and printing becomes impossible.

- **Stock information:** displays the selected stock's properties.

5.1.3 Step 3: Select Label Layout

This step defines the label orientation and rotation on a printer:

- **Orientation:** sets the new label layout as **Portrait** or **Landscape**.
- **Rotation:** rotates the **Printer Layout** of a label for 180 degrees if the selected printer supports it.
- **Preview field:** displays the label layout according to the currently set properties.

5.1.4 Step 4: Specify Label Dimensions

This step defines the dimensions of the newly created label, its margins, measurement unit, and labels across positioning settings:

- **Unit of measure:** defines the unit to be used while designing the label.
- **Label Dimensions:** define the new label's **Width** and **Height**.
- **Margins:** define the distance between the edge of the printing surface and the edge of the label (left/right, top/bottom).
- **Labels Across:** defines the number of labels to be printed on a single label sheet.
  - **Horizontal count:** number of labels in a row.
  - **Vertical count:** number of labels in a column.
  - **Horizontal gap:** sets horizontal distance between the labels on a sheet.
  - **Vertical gap:** sets vertical distance between the labels on a sheet.
- **Processing order:** defines the direction in which the labels are printed. Set the starting corner where the printing starts and define the horizontal and vertical direction of label positioning.

5.1.5 Step 5: Summary

This step summarizes the new label properties as defined using the **Label Setup Wizard**.

Before clicking **Finish** to enter the label editing and printing phases, check the displayed settings:

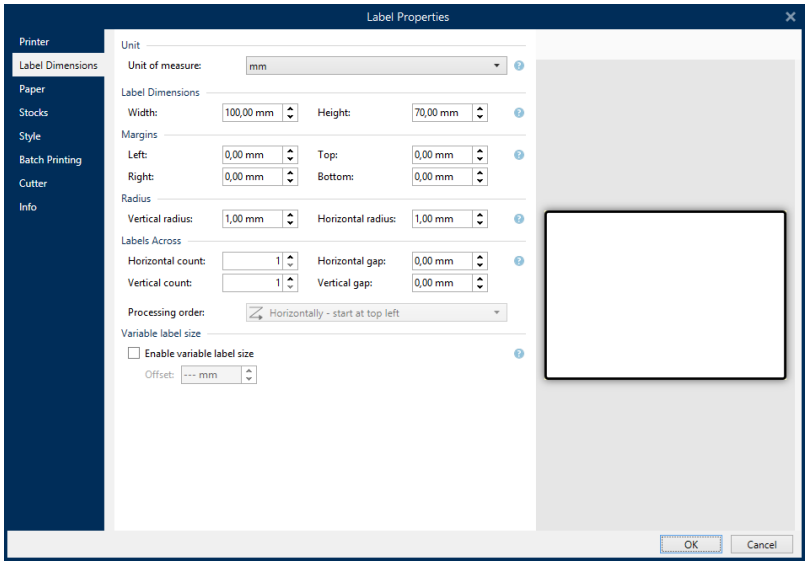
- **Printer:** selected printer for label printing.
- **Label dimensions:** dimensions of newly created label.
- **Paper dimensions:** dimensions of newly created label.

5.2 Label Properties

Label Properties editor selects the printer, sets label dimensions and defines the printing paper properties.

The settings are available on the below listed dialog tabs.

Label Property	Description
Printer	Selects the preferred printer.
Label Dimensions	Defines the Unit of measure and label dimensions.
Paper	Defines the printing paper properties.
Stocks	Selects the stock type.
Style	Defines the label style parameters.
Info	Inserts the label description.



TIP: To open the **Label Properties Editor**, double click the design surface.

5.2.1 Printer

Printer tab lets you define the printer to print the labels on, and to set printing behavior.

Printer drop-down menu selects a printer from the currently installed printers.

TIP: To set the printer settings, select a printer and click **Printer properties**. This button gives direct access to the selected printer's driver and its settings.

NOTE: For additional information on the installed printer drivers and their settings, read the NiceLabel Driver Installation Manual.

- **Always use the default printer:** selects the default system printer to be used for the current print job.

5.2.2 Label Dimensions

Label Dimensions tab specifies label dimensions and defines whether its size should adapt to the changing size of the objects or not.

Unit of measure defines the unit to be used while designing the label. There are four available units: cm, in, mm, and dot.

Label Dimensions group defines the label's **Width** and **Height**. Label dimension settings become active if manual label dimensions are enabled.

NOTE: When manually inserting the unit of measure, this also changes the currently defined **Unit**.

Margins group sets the distance between the edge of the printing surface and the edge of the label (left/right, top/bottom).

TIP: Most laser and other non-thermal printers cannot print over the entire label surface. There is usually a non-printable label area of about 5 mm from the border of a page. In Designer, this area is marked by a red line. Any object on or beyond the red line is not printed entirely.

Radius group enables you to make the label corners rounded.

- **Vertical radius:** adjusts corner roundness value in vertical direction.
- **Horizontal radius:** adjusts corner roundness value in horizontal direction.

Labels Across defines the number of labels to be printed on a single label sheet.

- **Horizontal count:** number of labels in a row.
- **Vertical count:** number of labels in a column.
- **Horizontal gap:** horizontal distance between labels on a sheet.
- **Vertical gap:** vertical distance between labels on a sheet.
- **Processing order:** defines the direction in which labels are printed. Set the starting corner in which printing starts, and the horizontal/ vertical directions of label positioning.

5.2.3 Paper

Paper tab sets printing paper properties.

Unit selects the **Unit of measure** to be used in a label.

Paper Type group defines paper dimensioning type – automatic or manual.

- **Automatically set page size based on the label dimensions (labels on a roll):** page size is defined by the printer driver.

  NOTE: If a thermal printer is selected in the previous wizard step, this option is enabled by default.

- **Manually set page size (sheets of paper):** page size is set manually.

  NOTE: If a regular office laser printer is selected in the previous wizard step, this option is enabled by default.

In case the page size is defined manually, additional options appear:

- **Paper:** selection of standard paper formats.
- **Width** and **Height:** custom paper dimensions.

Orientation group sets the new label layout as **Portrait** or **Landscape**.

- **Rotated: Printer Layout** rotation for 180 degrees.

Preview displays current label screen and print layouts.

5.2.4 Stocks

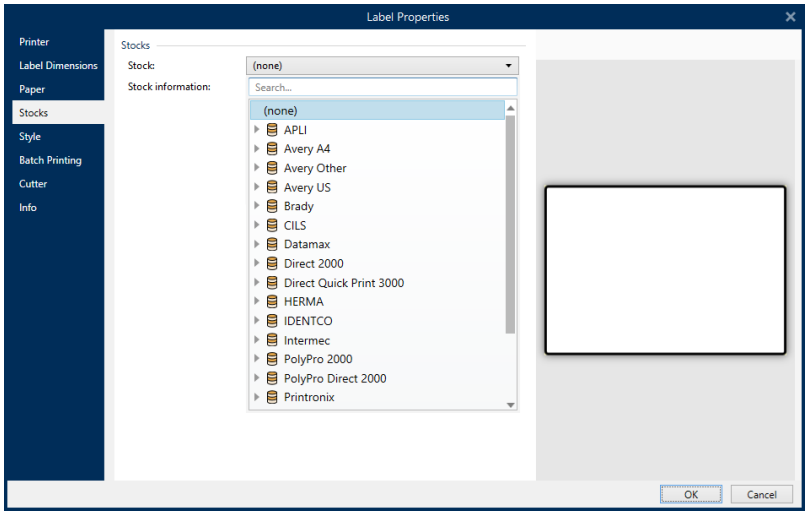
Label stocks are a time-saving alternative to designing labels from scratch. Use stock templates when designing labels for a specific printer type and when optimizing the label designing process.

Stocks group defines which stock type should be used when designing and printing a label. Stock types are usually associated with printer vendors or stationery suppliers.

NOTE: Here defined stock properties override the manually set label properties.

Stock defines the exact stock to be used for label designing and printing. Stocks are sorted by vendors and media formats. Expand stock provider and select a specific stock type.

TIP: Use **Search...** to easily find the requested stock. Partial search is available – enter a sequence of characters and all stocks which contain it will be listed.



NOTE: If the selected stock is not compatible with the selected printer, a warning appears. Previously selected stock becomes active again (if it was defined) allowing the printing to continue.

Stock information displays the selected stock's properties:

- **Label dimensions**
- **Labels across**
- **Description**
- **Author**

5.2.5 Style

Style tab is used for defining label style properties.

Background color: sets the color of label background.

Background picture sets the label background picture.

- **Picture file name:** defines the image file to be used as background picture.
- **Embed picture in a document:** saves picture into the label file.
- **Save embedded picture to file:** the embedded label picture is saved to a separate file.
- **Remove embedded picture:** embedded picture is removed from the label file.
- **Picture position:** sets picture position on the label:
  - **Center:** centers the picture on the label with its original dimensions. Picture which are larger than label will display only central part leaving the rest out of view.
  - **Fit:** resizes the picture to fill the label while keeping the original aspect ratio.
  - **Stretch:** stretches picture to make it fill the entire label without keeping the aspect ratio.

NOTE: This option ignores original aspect ratio of the picture. The picture might appear distorted on the label.

- **Rotation:** background picture rotation by 90 degrees.
- **Print background picture:** background picture is printed.

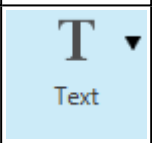
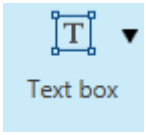
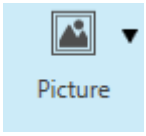
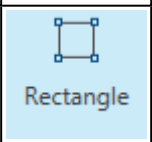
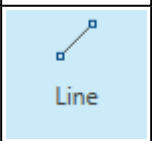
5.2.6 Info

Info tab includes a **Description** that serves as a hint or as a guidance for the user that is going to work with the label.

Define label **Description** by entering text into the field.

5.3 Label Objects

After setting the label properties, it's time to start adding content to the label. Label objects are basic design items that are used for adding and editing various content types. Each object has its own function as described in the table below.

Label Object	Icon	Description
Text		Container for textual content. It adapts its dimensions to fit the amount of entered characters. When typing, text object grows horizontally and/or vertically.
Text box		Container for textual content. It can either adapt its height to the content or make the font increase or decrease to fit into the object frame.
Barcode		Object for adding and editing various types of barcodes on a label.
Picture		Object for adding graphic content to a label.
Rectangle		Object for creating rectangle shaped frames on a label
Line		Object for creating lines on a label.

Label Object	Icon	Description
Ellipse		Object for creating circular shapes on a label.
Inverse		Object for inverting the color of the underlying object.

5.3.1 Text

Text object is a container for textual content which adapts its dimensions to fit the amount of entered characters. When typing, text object grows horizontally and/or vertically.

TIP: Text box object serves an alternative when designing a label on which the textual content must fit into a field with predefined dimensions.

5.3.1.1 Source

Connected data source defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- Variable keyboard input: type of variable that enables the content of a prompted field to be different for every print job.
- Current date: displays current date value on the label.
- Current time: displays current date value on the label.
- Counter: displays counter value on the label.

Content field is used for entering the object content.

Content Mask sets the format of the input data before it is displayed on a label.

Mask character is a character used in the mask that is replaced with actual data on the printed label.

EXAMPLE

A user needs to format a phone number to be more readable on the label. Data input is not formatted since it is read from a database.

If the input value read from a database is:

```
+38642805090
```

and the content mask is:

```
(****) **** – ****
```

the resulting output is:

```
(+386) 4280 - 5090
```

If the data contains the asterisk "*" character, change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

5.3.1.2 Style

Font color sets text font and underline color.

Font selects the typeface. Fonts are divided into two groups: OpenType fonts and Printer fonts.

NOTE: If the currently selected printer is a thermal printer, additional fonts become available. These are the internal **Printer fonts** that are installed on the printer. Printer fonts are identified by the printer icon in front of their names.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Font Scaling sets the font stretch factor. If the factor is set to 100 %, font appears in normal scale. If the factor is set to 200 %, font appears twice as wide as normally. If set to 50 %, font width is shrunk to half its size.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.
- **Justified:** distributes text evenly along both sides.

  NOTE: Justified is enabled in Text box only.

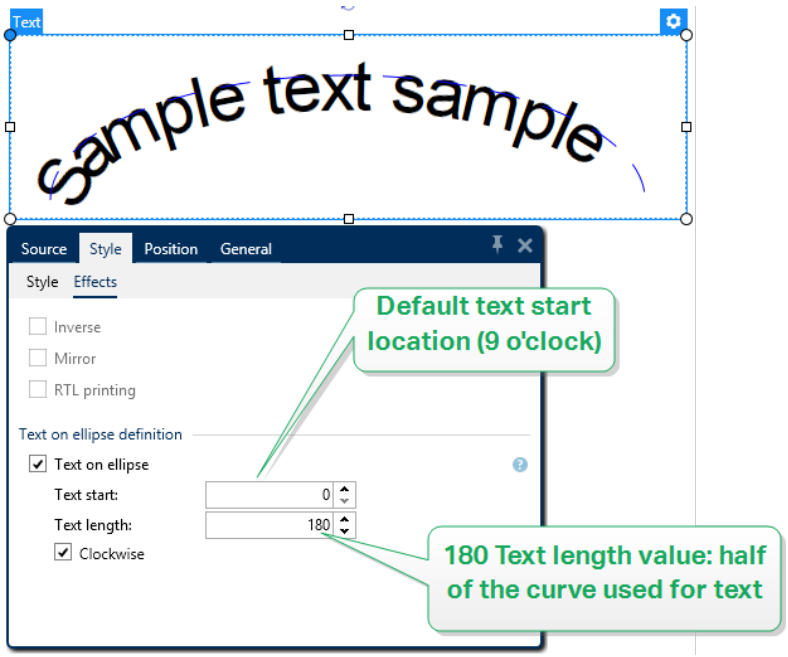
Spacing sets the space between text characters and lines.

- **Line spacing:** space between each line in a paragraph.
- **Character spacing:** space between individual characters.

5.3.1.3 Effects

Inverse: inverted text and object background colors.

DESIGNER PRODUCT LEVEL INFO: This segment is applicable to Designer Pro and PowerForms.



5.3.1.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group gives an information about the object's dimensions.

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

> **TIP:** In Text object, the size of text is determined by the font size. Object dimensions and aspect ratio cannot be changed manually and only serve as an information about its current size.

Rotation angle is the object angle according to the design surface.

> **TIP:** There are multiple ways to set the object's angle: enter the angle manually , drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process, select under the **Design behavior** group.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

5.3.1.5 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

5.3.2 Text Box

Text box object is a container for textual content on a label. Text box object is very similar to the standard Designer Text object. The difference between these two is the presentation of textual content with variable length. Text object is always expanding or shrinking to adapt its size to the amount of entered characters. Text Box in opposite can either adapt (expand/shrink) ist height to the content or make the font increase or decrease its size to fit into the object frame.

TIP: To make sure the content fits the predefined box is especially useful when working with variable data. No matter how long the text value is, it is always placed and displayed on a label within the pre-designed frame.

5.3.2.1 Source

Connected data source defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- Variable keyboard input: type of variable that enables the content of a prompted field to be different for every print job.
- Current date: displays current date value on the label.
- Current time: displays current date value on the label.
- Counter: displays counter value on the label.

Content field is used for entering the object content.

Mask group sets the format of the input data before it is displayed on a label.

Content mask sets the format of the input data before it is displayed on a label.

Mask character is a character used in the mask that is replaced with actual data on the printed label.

EXAMPLE

A user needs to format a phone number to be more readable on the label. Data input is not formatted since it is read from a database.

If the input value read from a database is:

```
+38642805090
```

and the content mask is:

```
(****) **** – ****
```

the resulting output is:

```
(+386) 4280 – 5090
```

If the data contains the asterisk "*" character, change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

5.3.2.2 Style

Font color sets text font and underline color.

Font selects the typeface. Fonts are divided into two groups: OpenType fonts and Printer fonts.

NOTE: If the currently selected printer is a thermal printer, additional fonts become available. These are the internal **Printer fonts** that are installed on the printer. Printer fonts are identified by the printer icon in front of their names.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Font Scaling sets the font stretch factor. If the factor is set to 100 %, font appears in normal scale. If the factor is set to 200 %, font appears twice as wide as normally. If set to 50 %, font width is shrunk to half its size.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.
- **Justified:** distributes text evenly along both sides.

> NOTE: Justified is enabled in Text box only.

Spacing sets the space between text characters and lines.

- **Line spacing:** space between each line in a paragraph.
- **Character spacing:** space between individual characters.

Inverse: inverted text and object background colors.

5.3.2.3 Boundaries

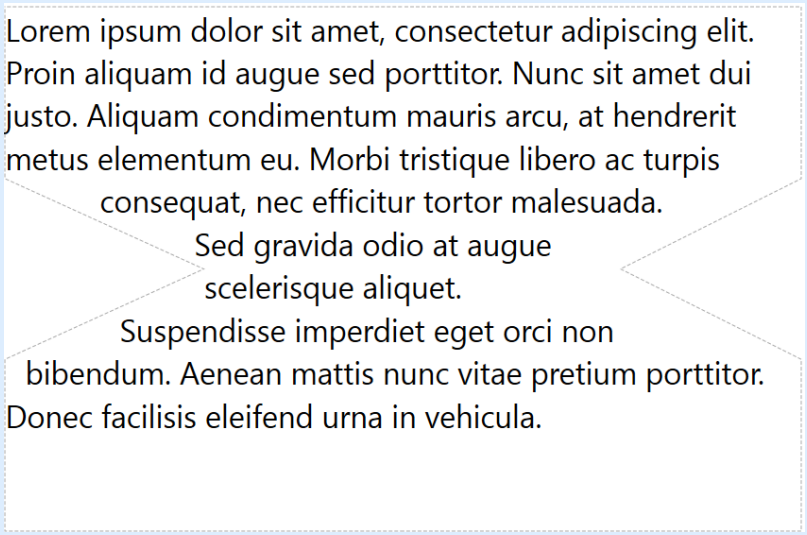
Left border group defines the text boundary along the object's left border.

- **Shape:** selects a customizable basic shape of text boundary.
- **Width:** extends or shrinks the selected basic left boundary horizontally.
- **Height** extends or shrinks the selected basic left boundary vertically.

Right border group defines the text boundary along the object's right border.

- **Right shape** selects the basic shape of the object's right boundary.
- **Width** extends or shrinks the selected basic right boundary horizontally.
- **Height** extends or shrinks the selected basic right boundary vertically.

EXAMPLE: Boundary defines how the text flows inside the object.



5.3.2.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

NOTE: If the measurement unit is changed, the value transforms automatically.

5.3.2.5 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

> NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

> **TIP:** Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

5.3.3 Barcode

Barcode object is used for adding various types of barcodes with encoded data to a label.

Details on barcode properties, types and data encoding methods are available in the dedicated Barcode section.

5.3.4 Picture

Picture object is used for adding graphic content to a label. The following file formats are supported:

- Portable Network Graphic (*.png)
- PDF (*.pdf)
- Adobe Photoshop (*.psd)

- Scalable Vector graphics (*.svg)
- Paintbrush (*.pcx)
- JPEG bitmaps (*.jpg, *.jpeg, *.jpe)
- TIFF bitmaps (*.tif, *.tiff)
- Enhanced Windows Metafile (*.emf)
- Windows Metafile (*.wmf)
- Windows bitmap (*.bmp)

5.3.4.1 Source

Connected data source defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- Variable keyboard input: type of variable that enables the content of a prompted field to be different for every print job.
- Current date: displays current date value on the label.
- Current time: displays current date value on the label.
- Counter: displays counter value on the label.

Content field is used for entering the object content.

To (re)define the Picture object **Content**, click **Browse** and locate the file to be displayed on the label.

Embed picture in a document stores the picture in the label file. Link to the original picture file is discarded.

> **TIP:** Picture embedding makes the label file more portable as the user does not have to re-include the picture file in case of repeated use.

Save embedded picture to file: the embedded label picture is saved to a separate file.

5.3.4.2 Style

Dithering group allows you to select the most appropriate dithering method to print pictures on labels in black & white.

> **TIP:** When printing pictures in black & white technique, dithering creates the illusion of new colors and shades by varying the pattern of black-only dots.

Dithering type selects the dithering method:

- **Printer driver default:** no dithering method is selected for the picture object. When printing in black & white, printer driver uses its own dithering method.

NOTE: If no dithering is set for the picture object, the algorithm can also be selected using the printer properties dialog. The selected dithering algorithm for object in Designer overrides the algorithm selected using printer properties dialog.

- **Ordered:** achieves dithering by applying a threshold map (matrix with cells) on the pixels displayed. If the value of the pixel (scaled into the 0-9 range) is less than the number in the corresponding cell of the matrix, the algorithm plots the pixel black, otherwise, is plots it white. Details about ordered dithering are available here.
- **Threshold:** sets a threshold to which every pixel is compared. If the original pixel value is higher than the threshold, it renders white. The lower the threshold value, the higher the share of pixels turned to white.
- **Floyd Steinberg:** achieves dithering using error dispersion. This algorithm generates the closest result to the original, but presents the slowest option. Details about Floyd Steinberg dithering are available here.

Color group allows you to customize the color of a graphic object.

- **Force picture color:** recolors the graphic object. Use the drop-down **Picture color** palette to pick the appropriate color to be used for the object on the printed label.

NOTE: This option can be used with color printers using advanced printer driver interface or Windows printing mode.

5.3.4.3 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

NOTE: If the measurement unit is changed, the value converts automatically.

Graphic Resizing tab is available if the picture object is connected to a variable. These settings define how the Picture object adapts its size to the source file at print time.

- **Keep original picture size:** disabled picture resizing. Picture size remains unchanged.
- **Resize proportionally:** proportional picture resizing. Aspect ratio of picture dimension remains fixed.
- **Resize to the designed size:** horizontal and vertical picture resizing to make it fit into the bounding box. This option will most likely make the picture distorted.

Original size displays the picture's **Width** and **Height** before resizing. **Revert to original picture size** undos the resizing actions.

5.3.4.4 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

  TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

5.3.5 Rectangle

Rectangle object creates a rectangle shaped frame on a label.

5.3.5.1 Style

Outline group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style:
  - **None:** line invisible.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath the Rectangle line.
- **Outline color:** color of the line.
- **Corner radius:** makes the rectangle corners round. Higher values make the curve broader.

Fill defines the object fill settings and color.

- **Fill style:** object fill properties definition:
  - **None:** completely transparent object.
  - **Erase:** invisible objects beneath the active one.
  - **Solid:** fills the object with solid color.
  - **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
  - **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
  - **Vertical:** fills the object with vertical lines.
  - **Horizontal:** fills the object with horizontal lines.
  - **Cross:** fills the object with crossed lines.
  - **Cross Diagonal:** fills the object with diagonally crossed lines.
  - **25% of color:** fill color opacity 25 %.
  - **50% of color:** fill color opacity 50 %.
  - **75% of color:** fill color opacity 75 %.
- **Fill color:** object fill color definition.

NOTE: The system does not allow the **Outline style** and **Fill style** to be set to **None** at the same time.

TIP: Shape objects (Rectangle, Line and Ellipse) in NiceLabel 2017 remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

5.3.5.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

NOTE: If the measurement unit is changed, the value converts automatically.

5.3.5.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

> **TIP:** Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

> **TIP:** If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g. internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

5.3.6 Line

Line object is used to create a line on a label.

5.3.6.1 Style

Outline group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style:
  - **None:** line invisible.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath the Rectangle line.
- **Outline color:** color of the line.

TIP: Shape objects (Rectangle, Line and Ellipse) in NiceLabel 2017 remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

5.3.6.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

5.3.6.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

  TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g. internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

5.3.7 Ellipse

Ellipse object is used for creating a circular shaped object on a label.

5.3.7.1 Style

Outline group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style:
  - **None:** line invisible.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath the Rectangle line.
- **Outline color:** color of the line.

Fill defines the object fill settings and color.

- **Fill style:** object fill properties definition:
  - **None:** completely transparent object.
  - **Erase:** invisible objects beneath the active one.
  - **Solid:** fills the object with solid color.
  - **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
  - **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
  - **Vertical:** fills the object with vertical lines.
  - **Horizontal:** fills the object with horizontal lines.
  - **Cross:** fills the object with crossed lines.
  - **Cross Diagonal:** fills the object with diagonally crossed lines.
  - **25% of color:** fill color opacity 25 %.
  - **50% of color:** fill color opacity 50 %.
  - **75% of color:** fill color opacity 75 %.
- **Fill color:** object fill color definition.

NOTE: The system does not allow the **Outline style** and **Fill style** to be set to **None** at the same time.

TIP: TIP: Shape objects (Rectangle, Line and Ellipse) in NiceLabel 2017 remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

5.3.7.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
    - **Object:** selects the reference object for horizontal relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no

other objects on the label) for horizontal relative positioning.

- **Offset:** horizontal distance from label border or reference object's anchoring point.

- **Enable vertical relative position:** activates vertical relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
  - **Object:** selects the reference object for vertical relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
  - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed, the value transforms automatically.

5.3.7.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.

- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

> **TIP:** Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

> **TIP:** If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g. internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

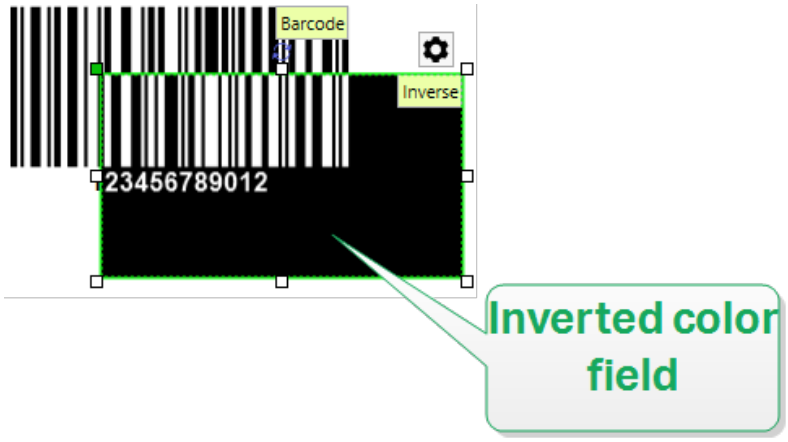
- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

5.3.8 Inverse

5.3.8.1 About

Inverse object inverts the underlying object's color.



5.3.8.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
  - **Object:** selects the reference object for horizontal relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
  - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.

- **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
- **Object:** selects the reference object for vertical relative positioning.
- **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
- **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed, the value transforms automatically.

5.3.8.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g. internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Inverse object can only be printed as graphics if advanced printer driver interface is disabled. Make sure Windows printing mode is on before printing. Double click the design surface to open **Label Properties** dialog and go to **Printer** panel **> Printing >** disable option **Use advanced printer driver interface**.

5.4 Working With Objects

This section describes how to work with objects to make them blend with the design of a label or form.

Object is a basic building block of any label or solution. Each object is dedicated to a specific type of content. See the related topics for style and content related object properties.

The below listed actions describe which actions are common for multiple object types:

- Adding an object: adds an object to the design surface.
- Adding an object with connected data source: click the down arrow next to the object button and select an existing or new data source to make the newly added object instantly connected to a dynamic data source.
- Grouping: makes multiple object behave as a single object.
- Rotating: changes the angle of a selected object. Details on how to rotate the objects are available here.
- Resizing: sets the size of an object.
- Aligning: make the object positions.

5.4.1 Adding Objects

There are multiple methods to add an object to a label or form. Use the most convenient one:

- **Click and Click:** click the object in the object toolbox. Mouse cursor transforms. Click on the design surface – the selected object appears where clicked.
- **Click and Drag:** click the object in object toolbox. Mouse cursor transforms. Click on the design surface and drag to define the size of the added object.

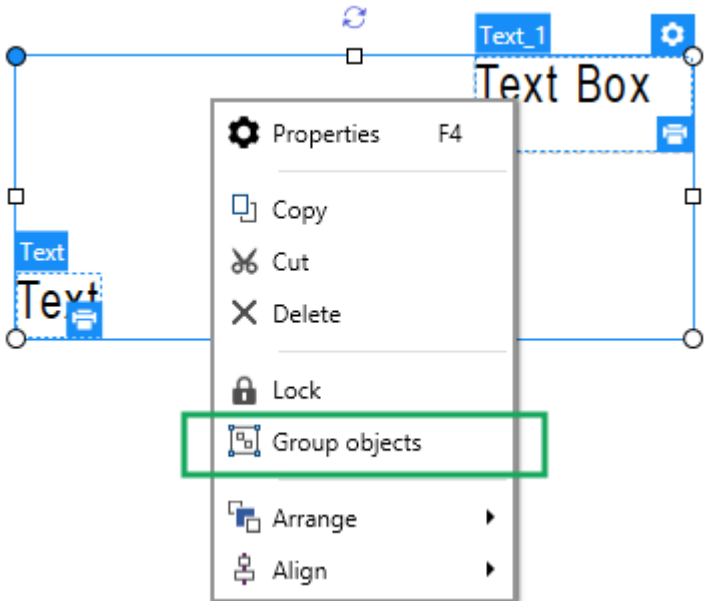
  NOTE: Text object's size cannot be defined using this method – its size is defined dynamically.

- **Drag and Drop:** click the object in the object toolbox and drag it to the design surface. The selected object appears where the mouse button is released.
- **Copy and Paste:** graphical and textual content can be pasted directly to the design surface. The following rules apply when copying items and pasting them directly to a label
  - Graphical content from clipboard is pasted as embedded Picture object.
  - Single line text is pasted as Text object.
  - Multiple line text is pasted as Text box object.

5.4.2 Object Grouping

To make multiple object on a label behave as a single object, add them to a group. To group objects:

- Surround the objects you wish to group using mouse. A rectangle appears marking the selected objects. Use right mouse click and select **Group objects** to create a group of objects.
- Hold `Shift` key and click the objects you wish to group. This select multiple objects – use right mouse click and select **Group objects** to create a group of objects.



5.4.3 Object Rotating

There are two ways to set the angle of an object:

- Enter the angle manually in degrees or drag the slider. The object rotates around its anchoring point. Rotation commands are accessible in two ways:
  - Click **Position** in the Positioning group of the Design tab
  - Go to **Object properties -> Position -> Rotation angle**.
- Click and drag the icon next to the selected object. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

6 Barcode

Designer supports a wide variety of 1D and 2D barcode types to be printed on labels. Each barcode type is configurable according to specific standards.

TIP: When encoding the barcode content, make sure the used characters, length and identifiers comply with the barcode standard guidelines.

The following barcode types are available in Designer:

- 1D and 2D Barcodes
- GS1 DataBar Barcode Subtypes

In Designer, barcodes are added to a label using the barcode object. To properly encode the data and to set the barcode object properties, read the sections below. Each of these sections describes barcode object properties. To start editing them, double click the object to open the object properties window.

6.1 Source

Connected data source defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- Variable keyboard input: type of variable that enables the content of a prompted field to be different for every print job.
- Current date: displays current date value on the label.
- Current time: displays current date value on the label.
- Counter: displays counter value on the label.

Content field is used for entering the object content.

6.2 Barcode

Barcode Type defines the specific barcode type which should be used to encode the data.

TIP: Code128 barcode type is selected by default. For more details about the available barcode types, see section Barcode Types and Available Settings.

- **X dimension:** width of the narrowest bar in the barcode.
- **Height:** barcode's vertical dimension.
- **Ratio:** the ratio between **X dimension** and **Height**.

TIP: Each barcode type has the range of permitted ratios limited by the standard. Designer only permits using valid ratios.

- **Row height** defines the height of a single data row in 2D barcodes. Row height is specified as a multiple over the **X dimension**. For example, "3x" means that the row is 3 times the **X dimension**.

Actual properties based on selected printerdisplays the X dimension as it would appear printed on a label using the currently selected printer.

Color defines the color of the barcode.

6.3 Check Digit

Check digit is used by any scanning system to verify that the number scanned from a barcode is read correctly.

TIP: Check digit is derived from the preceding barcode digits and is placed as the final digit of a barcode.

Include check digit defines if check digit is included in a barcode or not.

- **Auto-generate check digit:** automatic check digit calculation.

  NOTE: If the data already includes invalid check digit, Designer replaces it with a proper value.

- **Verify the provided check digit:** verification of the manually provided check digit. An error message appears if the check digit proves to be incorrect.
- **Display in human readable:** check digit included in the human readable barcode text.

6.4 Human Readable

Human Readable text displays readable barcode data content located beneath or above the barcode. Its role is to provide backup in case the barcode is damaged or of poor quality.

NOTE: **Human Readable** tab is visible with supported barcode types.

- **No human readable:** barcode is rendered without human readable text.
- **Above barcode:** human readable text is located above the barcode.
- **Below barcode:** human readable text is located below the barcode.

Style group allows you to set custom properties for human readable text.

NOTE: If you decide to customize human readable text, barcode can no longer be used as internal printer element. It is going to be sent to printer and printed as a graphic element.

- **Custom font:** enables font and font size selection. Internal printer fonts cannot be used as custom human readable font.
- **Auto font scaling:** If enabled (default setting), human readable text grows or shrinks proportionally along with the changing size of the barcode. To set a custom size for human readable text, disable this option and select the appropriate font size.
- **Bold:** makes human readable text appear bold.
- **Italic:** makes human readable text appear italic.

Mask group sets the format of the input data before it is displayed on a label.

Content mask sets the format of the input data before it is displayed on a label.

Mask character is a character used in the mask that is replaced with actual data on the printed label.

EXAMPLE

A user needs to format a phone number to be more readable on the label. Data input is not formatted since it is read from a database.

If the input value read from a database is:

```
+38642805090
```

and the content mask is:

```
(****) **** – ****
```

the resulting output is:

```
(+386) 4280 – 5090
```

If the data contains the asterisk "*" character, change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

6.5 Bearer Bar

Bearer bar is a border that surrounds the barcode. Its purpose is to protect the barcode image and to enhance reading reliability.

- **Fixed thickness:** automatically defined bearer bar width.
- **Variable thickness:** user-defined bearer bar width.
- **Thickness multiplier:** bearer bar width factor.
- **Show vertical bar:** vertical bearer bars displayed or hidden.

6.6 Details

Details differ according to the barcode standards. Define the options that are given with regard to the currently selected barcode type. Details for 1D and 2D barcodes are described in dedicated sections:

- 1D barcode details
- 2D barcode details

6.7 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the  icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The  icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

6.8 Relative Position

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
    - **Object:** selects the reference object for horizontal relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
    - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
    - **Object:** selects the reference object for vertical relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
    - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

6.9 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: NiceLabel recommends avoiding spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the check box is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist at all.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g. internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

6.10 Barcode Types And Available Settings

6.10.1 1D Barcodes

Barcode	Example	Info	Available Settings
Anker		Variation of Plessey Code. Used for point of sale systems prior to the advent of EAN code.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Bookland		EAN-13 barcode used exclusively for books.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Codabar		A self-checking and binary level linear barcode symbology with no check sum digit appended. Widely used in libraries and package delivery systems	Basic Barcode Settings Human Readable Details tab: Include quiet zones
Code93		43 characters allowed. ASCII character set supported by using combinations of 2 characters.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code128		Double density data encoding, ASCII character set supported.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction

Barcode	Example	Info	Available Settings
Code128-A		ASCII characters 00 to 95 (0-9, A-Z and control codes), special characters, and FNC 1-4 supported.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code128-B		ASCII characters 32 to 127 (0-9, A-Z, a-z), special characters, and FNC 1-4 supported.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code128C		00-99 (encodes each two digits with one code) and FNC1	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code-39		Fully alphanumeric barcode for use with data-entry systems.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction
Code-39 full ASCII		28 ASCII character set including asterisks supported	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction

Barcode	Example	Info	Available Settings
Code-39 Tri Optic		Computer tape cartridge marking	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction
Dun-14		Numbering system for shipping containers that uses other barcode types.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction
Ean-13		European Article Number, used for global retail.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space
Ean-13 + 2		Often used on newspapers and magazines.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space

Barcode	Example	Info	Available Settings
Ean-13 + 5		For books in English language: the first digit of the EAN-5 is the currency indicator. The four following digits represent the price multiplied by 100.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space
Ean-14		Traded goods.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
Ean-8		Small package marking where an EAN-13 barcode would be too large.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space Space correction
Ean-8 + 2		Only used if the article is too small for an EAN-13 code.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space

Barcode	Example	Info	Available Settings
Ean-8 + 5		Only used if the article is too small for an EAN-13 code.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space
GS1-128		A variant of Code 128 - it automatically inserts a FNC1 character after the initial character.	Basic Barcode Settings Details tab: Include quiet zones Space correction
Interleaved 2 of 5		Used on 135 film, for ITF-14 barcodes, and on packaging.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
ITF 14		Higher level packaging. GTIN included.	Basic Barcode Settings Check Digit Human Readable Bearer Bar Details tab: Space correction
ITF 16		Higher level packaging. GTIN included.	Basic Barcode Settings Check Digit Human Readable Bearer Bar Details tab: Space correction

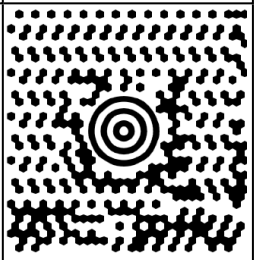
Barcode	Example	Info	Available Settings
MSI		Used primarily for inventory control, marking storage containers and shelves in warehouse environments.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
SSCC		Identification in logistics. The code includes an extension digit, a GS1 company prefix, a serial reference, and a check digit.	Details tab: Space correction
Plessey		One of the first barcode symbologies. Still used in libraries and for shelf tags in retail stores.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
SSCC-18		Identification in logistics. The code includes an extension digit, a GS1 company prefix, a serial reference, and a check digit.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
Upc Case Code		Used for cartons, cases, or pallets that contain products with UPC or EAN product identification number.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction

Barcode	Example	Info	Available Settings
Upc-A		Product identifying at retail checkout. GTIN included.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Space correction
Upc-A + 2		Product identifying at retail checkout. GTIN included. Used with magazines and periodicals.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Space correction
Upc-A + 5		Product identifying at retail checkout. GTIN included. Used for book pricing.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar
Upc-E		Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Symbology

Barcode	Example	Info	Available Settings
Upc-E + 2		Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar
Upc-E + 5		Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar
USPS Intelligent Mail Barcode		Tracking and sorting of letters and flat packages in the United States.	USPS Intelligent Mail Barcode Content Details tab: Include quiet zones

6.10.2 2D Barcodes

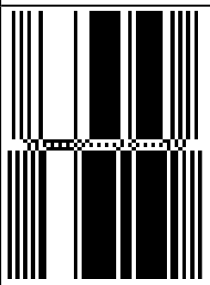
Barcode	Example	Info	Available Settings
Aztec		High capacity, symbol size adjusts automatically depending on the amount of input data.	Basic Barcode Settings Details tab: Code page Data layer Error correction level
Datamatrix		High capacity, optimal for small packages.	Basic Barcode Settings Details tab: Code page Encoding Format
GS1 DataBar		Marking products tha cross POS applications. GS1 identification (AIs) included.	Available settings change according to the selected GS1 DataBar type.

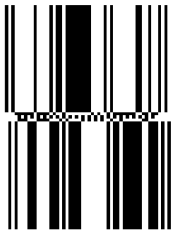
Barcode	Example	Info	Available Settings
GS1 Datamatrix		Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.	Basic Barcode Settings Details tab: Format Encoding Code page
GS1 QR Code		Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.	Basic Barcode Settings Details tab: Code page Encoding Error correction level Symbol version
MaxiCode		Used by UPS on shipping labels for world-wide addressing and package sortation.	MaxiCode Content Basic Barcode Settings
Micro QR		Reduced size and capacity of a normal QR code. Optimal when the barcode size needs to be minimized.	Basic Barcode Settings Details tab: Code page Encoding Error correction level Symbol version
MicroPDF		Compact version of PDF-417.	Basic Barcode Settings Details tab: Code page Compaction mode Version

Barcode	Example	Info	Available Settings
PDF-417		Commonly used in transport, inventory management, etc. The code is both self-checking and bi-directionally decodable.	Basic Barcode Settings Details tab: Code page Compaction mode Columns Error correction level Rows Truncated
QR		A matrix barcode readable by QR scanners and smartphones. Adaptable size to the amount of encoded data.	Basic Barcode Settings Details tab: Code page Encoding Error correction level Symbol version

6.10.3 GS1 DataBar Subtypes

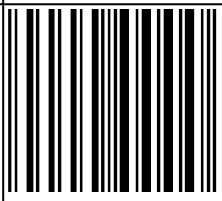
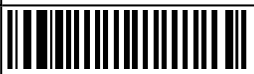
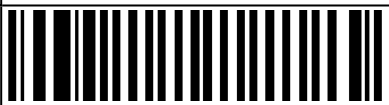
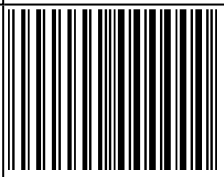
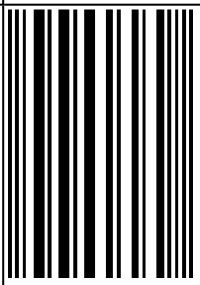
6.10.3.1 Linear Symbol Types

GS1 DataBar Subtype	Example	Info
Omnidirectional		Omnidirectional scanning, up to 20 trillions of values encodable.
Stacked		Stacked truncated symbol for omnidirectional scanning with reduced symbol length.
Stacked Omnidirectional		Full height symbol stacked in two rows separated by a delimiter.
Truncated		Height reduced to 13 times the X dimension. For hand held scanners.

GS1 DataBar Subtype	Example	Info
Expanded		Omnidirectional scanning, variable content length.
Expanded Stacked		Omnidirectional scanning, variable content length, reduced length due to stacking (2 to 11 rows). See section Segments per row.
Limited		Limited range of values, for hand held scanners.

6.10.3.2 Composite Symbol Types

GS1 DataBar Subtype	Example	Info
Omnidirectional		A linear symbology that supports omnidirectional scanning of packages. It encodes 14 digits of numerical data used to identify GTIN for scanning in the supply chain
Stacked Omnidirectional		Represents the encoded data separately in linear and composite part of the code. Advantage is reduced symbol length. For hand held scanners.
Truncated		Intended for very small items in healthcare, not intended for POS scanners.
Expanded		Omnidirectional scanning, variable content length. Used for variable-measure food, coupons.

GS1 DataBar Subtype	Example	Info
Expanded Stacked		Omnidirectional scanning, variable content length, reduced length due to stacking (2 to 11 rows). See section Segments per row.
Limited		Limited range of values, for hand held scanners.
EAN-8		A smaller and shortened version of the EAN code.
EAN-13		EAN codes require 13 digits (12 if the check digit is calculated automatically.
EAN.UCC 128 & CC-A		GS1-128 linear bar-code linked to a 2D bar-code called CC-A.
EAN.UCC 128 & CC-C		GS1-128 linear bar-code linked to a 2D bar-code called CC-C.
UPC-A		The linear component encodes the item's primary identification. The adjacent 2D Composite Component encodes supplementary data, such as a batch number and expiration date.
UPC-E		PC-E compresses a normal UPC-A code into a six digit code by "suppressing" the number system digit, trailing zeros in the manufacturers code and leading zeros in the product number.

6.11 1D Barcode Details

Details tab settings vary along with the specific barcode standards.

TIP: Define the available barcode settings with regard to the currently selected barcode type.

Designer allows setting the following 1D barcode details:

- **Include quiet zones:** blank space around the printed barcode. Quiet zone ensures the highest level of scanning reliability.
- **Inter character gap:** distance between the last bar of a character and the first bar of the next character in a barcode.
- **Descender bars:** makes the bars at the beginning, in the middle, and at the end of certain barcode types (EAN and UPC) longer.
- **Include EAN white space:** inserts a special character (< or >) to indicate the EAN barcode width.

  TIP: This option ensures optimum readability in case a neighboring object on a label is located right next to the barcode.
- **Space correction:** adds white pixels to increase the gap width between the bars.
- **Symbology:** UPC barcode **Number system**:
  - 0, 1 , 6, 7 and 8 are for regular UPC codes.
  - 2 is for random weight items, e.g. meat, marked in-store.
  - 3 is for National Drug Code and National Health related Items.
  - 4 is for in-store marking of non-food items.
  - 5 and 9 are for coupon use.

6.12 2D Barcode Details

2D barcodes enable multiple type-specific settings under the **Details** tab. When defining these settings manually, the drop-down lists offers specific standard-compliant options.

TIP: Designer defines the **Details** tab settings automatically if the user chooses not to manually define them.

6.12.1 Code Page

Code page defines how the mapping of code characters with scanned characters is done. To display the scanned data accurately, the correct code page must be selected. If none of the

code pages is selected by the user, Designer uses system character encoding.

6.12.2 Columns

Columns are basic vertical elements of a PDF 417 barcode. A maximum of 30 columns may be included in a single PDF 417 symbol. Each column is 10 modules wide, which means a single barcode is capable of encoding up to 929 symbol characters. Theoretically, a single PDF417 barcode can store up to 1850 alphanumeric characters, 2710 digits or 1108 bytes.

6.12.3 Compaction Mode

Compaction mode compacts a number of data characters into codewords. The decoding algorithm uses the individual codewords to place then into a meaningful matrix.

- **Text:** all printable ASCII characters 32–126 and ASCII 9, 10 and 13 (up to 1800 characters) are allowed.
- **Binary:** all 256 ASCII values (up to 1100 bytes) are allowed.
- **Numeric:** encoding of numeric data (up to 2700 digits).

6.12.4 Data Layer

Data layer defines the number of data layers that encode data in an Aztec barcode. The number of data layers correlates directly with the barcode data capacity. If the value exceeds the data capacity provided by the selected Data layer, an error is reported. 1 to 4 data layers are allowed.

6.12.5 Encoding

Encoding defines character encoding scheme for the active barcode.

6.12.6 Error Correction Level

Error correction level defines the symbol security level. It adds a series of error correction codewords to the encoded data. These codewords enable the printed symbol to withstand damage without data loss. The higher the security level, the greater the number of data layers required to contain the symbol – and hence its overall size. If none of the Error correction levels is selected, Designer defines it automatically.

6.12.7 Format

Format defines the symbol size and its capacity using the number of column and row elements.

If using Data Matrix barcode on your labels, DMRE (Data Matrix Rectangular Extension) allows you to use multiple rectangular formats. These additional rectangular sizes increase data encoding capacity of the barcode.

> NOTE: For printers without internal DMRE support, enable **Always print as graphics** under **General** properties to print the Data Matrix barcode successfully.

6.12.8 Rows

Rows – PDF417 barcode symbol is made of stacks of vertically aligned rows. Such barcode adapts its size to the amount of the encoded data and may contain from 3 to 90 rows.

6.12.9 Symbol Version

Symbol version defines the symbol data capacity. As the amount of data increases, additional modules are required to build a QR code. This makes the symbol larger on the printed label.

6.12.10 Truncated

Truncated reduces the PDF417 barcode size by removing a single codeword and a stop bar from each symbol row.

6.12.11 Version

Version defines the symbol size based on the number of columns. One-, two-, three-, and four-column version of Micro PDF417 barcode are available.

6.13 GS1 DataBar Specifics

In addition to the common barcode properties, the below described specifics are available for GS1 DataBar.

6.13.1 GS1 DataBar Source

General groups specifies how the databar content is going to be formatted before encoding.

- **Structured data** sets the standard GS1 system data structure as a model for inserting the barcode data. Use GS1 function to encode the data correctly (for more on GS1 and other functions, see topic Functions). Composite GS1 barcodes represent structured data in the composite part of the code.
- **Unstructured data** allows inserting the data without a model – only character type and number must comply with the selected barcode type.

Data

- **Linear data** is the part of the data that is encoded in the linear part of the barcode. The data is either manually inserted or defined by a predefined **Data source**.
- **Composite data** is the part of the data that is encoded in the composite part of the bar-code. This part of data is always structured and follows one of the standard system data structures as defined by the GS1. The data is either manually inserted or defined by a pre-defined **Data source**.

6.13.2 GS1 DataBar Properties

GS1 DataBar Expanded Stacked subtype encodes the data in form of a symbol segments sequence. Symbol width is defined by the number of symbol segments in each stacked row. Symbol height is defined by the number of stacked rows and their height.

- **Segments per Row** defines the number of segments for each row of a symbol. Up to 22 segments are allowed per symbol. A higher number makes the symbol longer. A lower number increases the symbol in height.

6.14 Maxicode Barcode Content

Symbology Definition defines the barcode mode of operation (data structuring type).

Designer supports the following modes:

- **Mode 2:** US carriers with postal codes up to 9 digits in length.
  - **Postal Code:** US Zip Codes using a single field with 5 or 9 digits, or two fields with 4 or 5 digits.
- **Mode 3:** international carrier with alpha-numeric postal codes with up to 6 digits.

There are two additional options under **Symbology Definition**:

- **Structured data:** automatically selected **Mode 2** or **Mode 3** modes based on the entered data.
- **Unstructured data:** barcode mode of operation is set to **Mode 4**.

> **TIP:** This mode encodes general data for purposes other than shipping industry (e. g. purchase order number, customer reference, invoice number).

Data Contents

Field	Description
SHIP TO Postal Code	Mandatory. 5 or 9 alphanumeric characters. Alpha characters must be upper case.
4 Digit Extension (enabled with **Postal code field: Two Fields (5 and 4 digits)** type).	Mandatory. 4 numeric digits defining micro location.
SHIP TO ISO Country Code (Mode 3 only)	Mandatory. 3 numeric digits.
Class of Service	Mandatory. 3 numeric digits, a comma must be included to mark the end of field.
Transportation Data	Mandatory. The 5 characters, including the GS code.
Tracking number	Mandatory. 10 or 11 alphanumeric characters. Alpha characters must be upper case.

UPS SCAC	Mandatory. 4 characters followed by the GS code.
Julian Day of Puckup	Mandatory. 3 numeric digits.
Shipment ID Number	Optional. 0-30 alphanumeric characters. Alpha characters must be upper case. GS code must always be sent even if no data is specified.
Package in Shipment	Mandatory. 1-3 numeric digits for package number. 1-3 numeric digits for number of shipped items. Forward slash must separate these two numbers.
Package in Weight	Mandatory. 1-3 numeric digits.
Address Validation	Mandatory. Single character "Y" or "N". Upper case characters.
SHIP TO Address	Optional. 0-35 alphanumeric characters. Alpha characters in upper case. GS code must always be sent even if no data is specified.
SHIP TO City	Mandatory. 1-20 alphanumeric characters. Alpha characters must be upper case.
SHIP TO State	Mandatory. 2 alpha characters. Both characters must be upper case. RS code marks the end of this field and the end of the secondary message data.

6.15 USPS Intelligent Mail Barcode Content

Data Contents group defines the input mode for the encoded data.

Input mode defines the structure of the encoded data.

- **Structured data:** to ensure proper intelligent mail tracing, a string of numbers must be obtained. This string is referred to as the DataToEncode. The DataToEncode consists of the **Intelligent Mail Data Fields**.
- **Unstructured data:** encoded data follows no predefined structure.

Intelligent Mail Data Fields group allows you to encode the barcode data in accordance with the standard.

Field	Description
Barcode Identifier	Specific two-digit identifier assigned by the Postal Service.
Service Type Identifier	Three-digit identifier defines the mailpiece as full-service or basic (Non-automation) and is also used to determine the disposition of undeliverable-as-addressed (UAA) mail and the form of address correction that a mailer desires.
Mailer Identifier	Unique 6-or 9- digit number that identifies a business entity or customer.
Serial Number	A serial or sequence number which enables unique identification and tracking. Depending on the specific barcode construct, this field can vary in length from 5-10 digits.
Delivery Point ZIP Code	Routes the mail to its final delivery point (length variations: none, 5, 9, or 11 digits).

7 Printing

When a label is ready to be printed, Designer helps you print it using a print dialog. It allows you to:

- Preview the label during the design process.
- Enter values for or variable keyboard input.
- Filter and select which records should be printed
- Define printer settings.
- Control print quantity.
- Define additional quantity settings.

DESIGNER PRODUCT LEVEL INFO: This section is applicable to PowerForms.

The Designer print dialog serves as a customizable printing form. It consists of predefined form objects that can be configured, moved, added or removed. More details on how to use the printing form is available here.

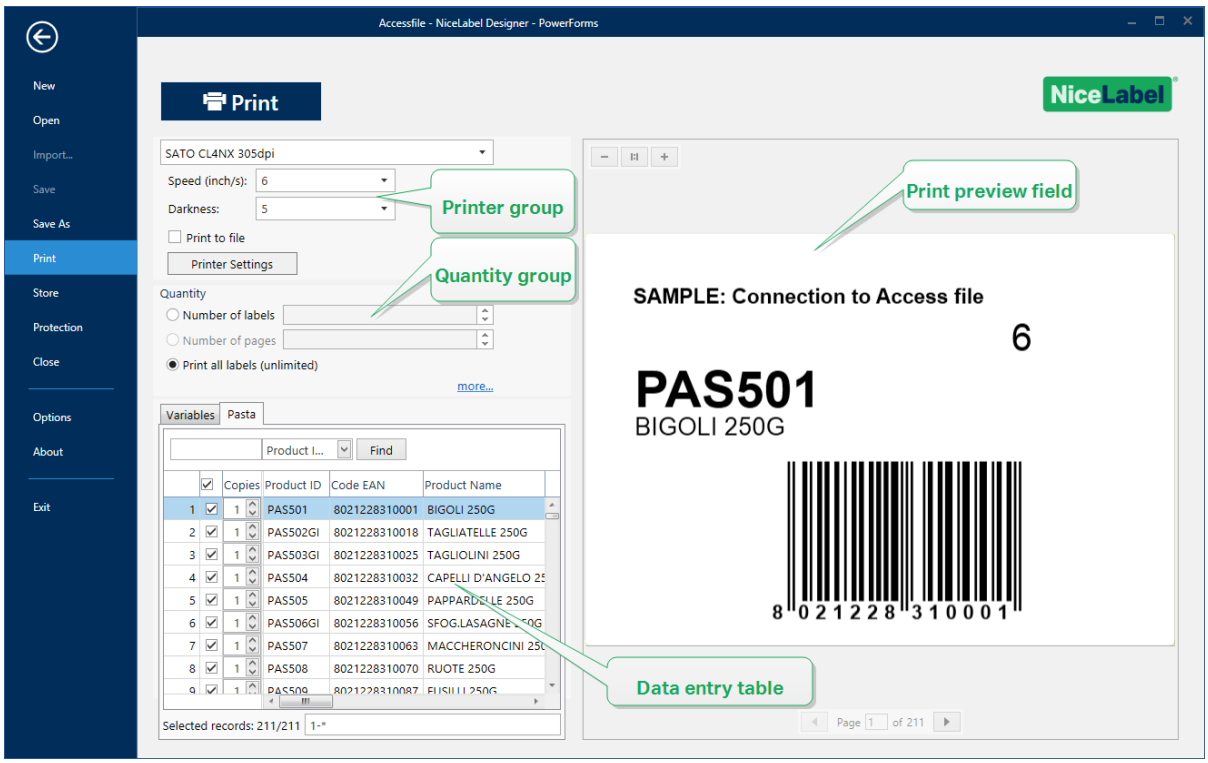
To open the print dialog, click the **Print** button in the Action group of the Home tab ribbon or press `Ctrl+P`.

Step-by-step printing procedure is described here.

TIP: NiceLabel Designer also allows you to print without opening the Designer application. If no label editing is required, use Designer NiceLabel Printto open and print label files directly.

7.1 Print Pane (Default Printing Form)

File (background) tab opens the default printing form. In Designer, it serves as the primary print dialog.



DESIGNER PRODUCT LEVEL INFO: Availability of default printing form functions depends on the selected product level.

Print button starts the printing procedure. It sends the print job to the selected printer.

Printer group of settings includes:

- **Print button:** starts the print label action.
- **Printer selection combo box:** lists the installed printers.
- **Printer settings combo boxes:** define printing speed and darkness. The selectable values are provided by the selected printer driver.
    - **Speed:** speed of printing. Available options are defined by the active printer driver.
    - **Darkness:** sets the intensity of printing. Available options are defined by the active printer driver.
- **Print to file check box:** redirects the printing to a file.
- **Printer Settings button:** opens properties dialog for the currently selected printer driver.

Quantity group of settings includes:

- **Print quantity object:** defines the number of labels to be printed.
    - **Number of labels:** number of printed labels.
    - **Number of pages:** number of printed pages with labels.

NOTE: **Number of pages** option becomes active if more than 1 label per page is set under label properties > label dimensions.

- **Print all labels (unlimited):** prints all labels as defined by the label design. More details about this option are available here.

more... link opens the **Additional Quantity Settings** window.

- **Number of labels skipped on first page:** defines how many labels should be left unprinted on the first page.

EXAMPLE: 1 page includes 5 labels. **Number of labels skipped on first page** is set to three. 2 labels are printed on the first page.

- **Identical copies per label:** number of identical label copies to be printed.

EXAMPLE: 1 page includes 5 labels. **Identical copies per label** is set to 3. There are 3 copies of each label printed.

- **Number of label sets:** defines the number of print jobs to be sent to the printer.

EXAMPLE: A set of printed labels contains 3 labels: A, B and C.
Number of labels:
Identical copies per label: 2.
Number of label sets: 3.
Print result: [A, A; B, B; C, C] [A, A; B, B; C, C] [A, A; B, B; C, C]

Print preview field displays the current label design and content.

Variable keyboard input field (data entry table) allows inserting prompted variable values at print time.

7.2 Printing Procedure

DESIGNER PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Use the below listed steps to successfully print a label using the NiceLabel Designer.

7.2.1 Step 1: Create

Create a new or edit an existing standalone label or label in a solution.

7.2.2 Step 2: Preview

Label preview field is a part of default Designer Print dialog. To make the print form appear on screen, select one of the following options:

- Go to Home tab > Action group and click **Print**.
- Press **Ctrl+P**.

Label preview field displays the current label design. If you decide to customize the default print form or to make a new one, make sure you add the Label Preview object to the form. The print form will offer label preview only if the Label Preview object is present.

DESIGNER PRODUCT LEVEL INFO: This segment is applicable to Designer Pro and PowerForms.

TIP: The default printing form is customizable. To adapt it and to create a custom print dialog, go to **Home** tab > **Action** group and click **Customize Printing Form**. Read more about printing form customization here.

7.2.3 Step 3: Select Printer

Choose the preferred printer from the **Printer** tab drop-down menu. All currently installed printers are listed. More details on defining the printer are available here.

During this step, printing speed and darkness can be set as well. These two parameters depend on the selected printer's driver.

7.2.4 Step 4: Set Print Quantity

Number of labels sets the number of printed labels.

Number of pages sets the number of printed pages. This option becomes active if the labels are positioned across at least two pages.

Print all labels (unlimited) prints all labels as defined by the label design. More details about this option are available here.

Click **more...** to open the Additional Quantity Settings dialog.

- **Identical copies per label** defines the number of identical label copies in a print job.
- **Number of label sets** defines how many times the entire label printing process should repeat.

7.2.5 Step 5. Start Printing

Click the **Print** button.

7.3 Optimize Printing Speed

There are many factors that affect the speed of label printing in Designer. Follow the guidelines below to dramatically increase the speed of printing.

NOTE: When implementing the below listed guidelines, check if they are supported by the selected printer.

- If the selected printer supports parallel and serial port, use the parallel port. Computer sends the data to printer over parallel port much faster than over serial port.
- When designing a label, use internal printer fonts instead of Windows true-type fonts. True-type fonts are sent to the printer as graphics. This vastly increases the size of data sent to printer (couple of kilobytes). With internal printer fonts, only the text is sent to printer (couple of bytes).
- Avoid using graphics on labels.
- When using barcodes, make sure the barcodes are used as internal printer elements.
- When using counters, the printer internally increments the numbers if the internal printer fonts are used. This means, that the printer only needs to receive the first object number. The printer later increments this number while printing additional labels. This option also reduces the amount of data transferred between computer and printer.

  TIP: With internal printer counter, the printing speed difference becomes noticeable with high quantity of labels.

- Set the printing speed to a higher value. Increasing the printing speed usually affects the quality of printing. The higher the speed, the lower the quality. Find an acceptable compromise.
- Don't print excessive amount of data on labels. If the speed of printing is an important factor, consider using preprinted labels, and only print the data, that changes with each label.

7.4 Changing Common Printer Settings

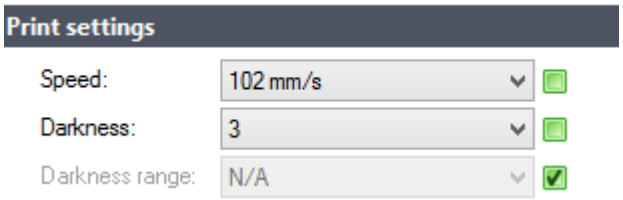
When designing a label, you also define which printer should be used for printing it. Each label file stores its own printer settings for the selected printer driver.

Changes made in the printer settings dialog box are saved to the label and will be used in future print actions.

NOTE: Make sure **Use custom printer settings saved in the label option** is enabled in **Label properties > Printer**. If not, default printer settings are going to be used.

Complete the following steps to change and save common printer settings for a label:

1. Open the label properties dialog.
2. Click **Printer properties**button on **Printer** tab. The dialog window with printer driver settings opens.
3. Open the **Printer Options** tab.
4. Adjust the **Speed** and **Darkness** settings.



NOTE: These settings depend on the selected printer.

5. Click **OK**.
6. Save the label.

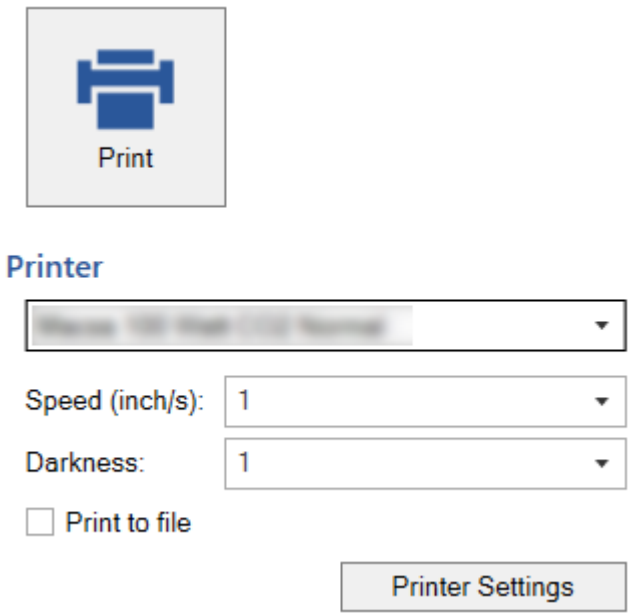
NOTE: Any changes in the printer settings dialog box will be saved to the label and applied to future print actions.

Changes in label printing speed and darkness can also be done at print time. These settings are only valid until the file remains open. After reopening the file, the settings are again reset to those defined in **Printer properties** dialog.

Complete the following steps:

1. Open Print dialog.
2. Click **Print**.
3. Adjust **Speed** and **Darkness** values under **Printer** group.

4. Save the label.



NOTE: Changes to the settings in the **Printer** tab will not be saved in the label but used only at print time.

7.5 Changing Dithering Options

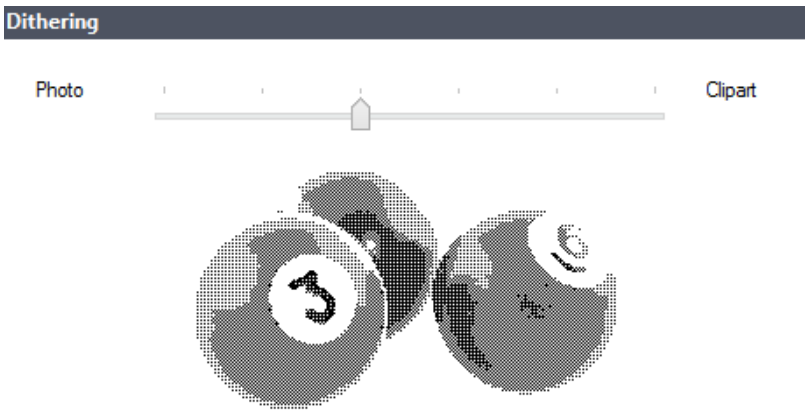
NOTE: This options is applicable only if a NiceLabel printer driver is used for label printing.

Dithering is a process of converting color or gray scale pictures to black and white pictures that can be printed on thermal printers. Thermal printers normally cannot print color images and can either print a dot on the label or leave the area blank. There are no intermediate shades of gray.

During the dithering process, all colors and shades of gray in the picture are converted to black and white dots, creating an illusion of new colors and shades by varying the pattern of dots. Different shades of gray are produced by varying the patterns of black and white dots. There are no gray dots at all. In printing, dithering is usually called half-toning, and shades of gray are called halftones.

To change the dithering settings, do the following:

1. Open label properties dialog.
2. Click **Printer properties** button on **Printer** tab. The dialog window with printer driver settings opens.
3. Open **Graphic Options** tab and use **Photo** slider to select the preferred dithering type.



NOTE: These settings depend on the selected printer.

4. Change the dithering type option to suit your needs. Look at the preview on the right side how you can expect the selected type to be applied on the label.
5. Click **OK**.
6. Save the label.

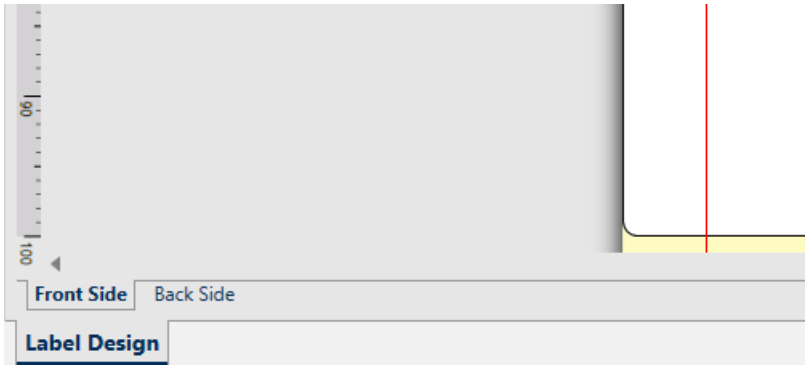
7.6 Double-Sided Printing

NiceLabel Designer supports double-sided printing for office and thermal printers.

To enable double-sided printing, open Label properties dialog and enable **Double-sided printing** option on the **Printing** tab.

NOTE: The option is available only when the used selected printer driver supports double-sided printing.

As soon as you enable this option, label sides become visible by clicking the tabs under the design surface.



When printing to an office printer, these two pages are always printed one after another. They are sent to the printer in the same order.

TIP: Make sure you enable duplex functionality in the printer driver settings.

When printing with a thermal printer, NiceLabel printer driver takes care of proper label processing and printing. Use an appropriate NiceLabel printer driver to enable double-sided printing functionality.

7.7 Defining Unprintable Area

Unprintable area is the part of the label where the printer cannot print. Enabling the unprintable area option in printer driver allows you to virtually increase the label size.

Thermal printers can only print labels that are placed below the print head. If you have wider labels and if the print head does not completely cover the label, the label part which juts out of the print head cannot be printed.

TIP: Unprintable area is usually the label area left and right of the printer head.

By setting an unprintable area, you inform the Designer that there is an unusually wide label inserted into the printer. The software will draw vertical red lines identifying the unprintable area.

NOTE: Do not mix the unprintable area with label margins! Unprintable area does not shift the label objects on the design surface.

To define the unprintable area, do the following:

1. Open the label properties dialog.
2. Click **Printer properties** button on **Printer** tab. The dialog window with printer driver settings opens.
3. Go to **Printer options** tab.
4. Enter the values for **Unprintable Area**.

EXAMPLE: You have a printer with 10 cm (4") printer head and a 12 cm wide label. You insert the label centrally in the printer, so it sticks out of the print head evenly on both sides. You define a new label in the labeling software with 12 cm width. By setting the unprintable area to 1 cm on the left and 1 cm on the right side you let the labeling software know that the actual label width is 10 cm. There will be two vertical red lines on the design surface identifying the unprintable area.

TIP: Vertical red lines are also visible when you switch to another printer for the same label. The original printer might had wider print head than the new printer. Maximum widths of the labels are not the same for both printers. Designer will try to preserve the original label dimension and automatically define the unprintable area for the new printer.

8 Dynamic Data Sources

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Dynamic data sources form an essential part of working with the NiceLabel Designer. They enable the use of label and form objects that dynamically change their content with each printed label if necessary.

EXAMPLE: Typical dynamic content examples that need to be automatically updated are counters, serial numbers, date, time, weight, and article images.

To display and print the dynamic object content properly, Designer uses the following dynamic data types:

- Variable keyboard input: content of an object is defined before each printing.
- Current Date: current date taken as a variable value.
- Current Time: current time taken as a variable value.
- Link to another object**:** content of an object is defined by the content of another (linked) object on a label.

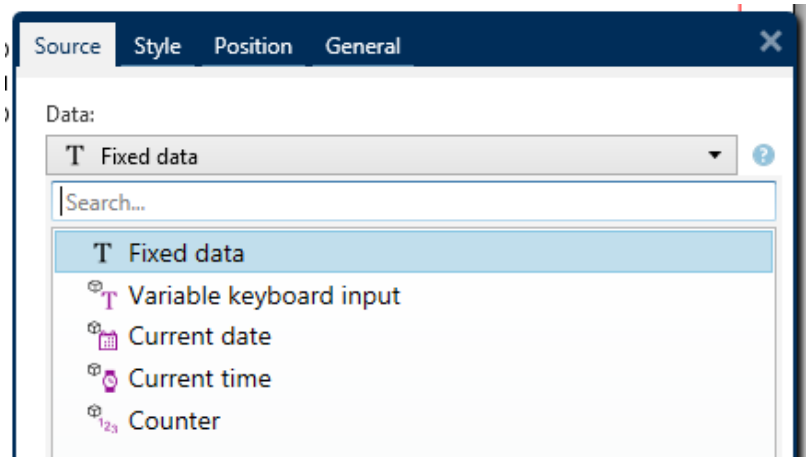
8.1 Variables

Variables serve as containers for storing and passing the data between objects, scripts, external applications, printers, and user inputs. You may want to print labels on which data changes for each label (e.g. counters, serial numbers, date and time, weight, article pictures).

To accommodate the changing data, the Designer can easily be used to format labels using variable data.

Designer offers multiple types of variables:

- Variable Keyboard Input: type of variable that enables the content of a prompted field to be different for every print job. Its value is defined right before label printing.
- Current Date: current date taken as a variable value.
- Current Time: current time taken as a variable value.
- Counter: variable that changes its value incrementally or decrementally with each label print.



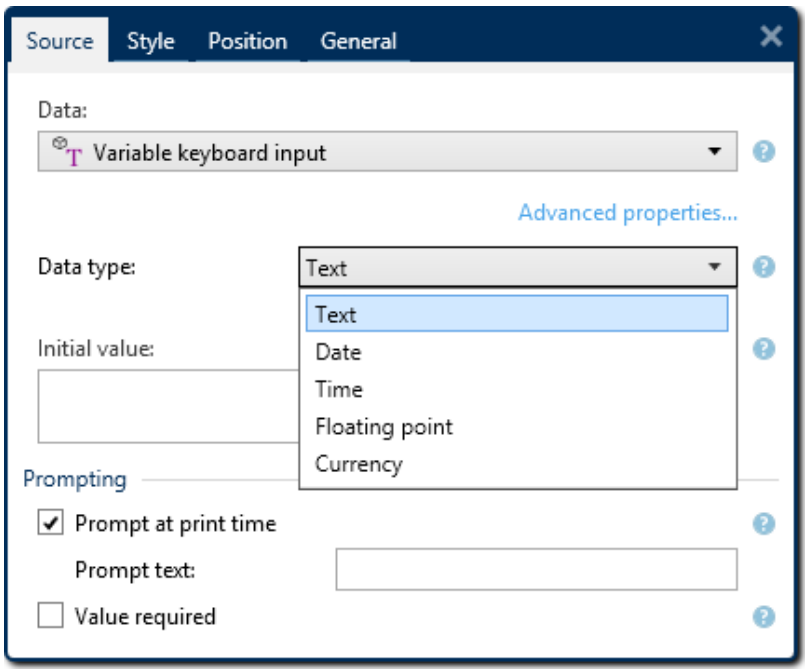
8.1.1 Variable Keyboard Input

Variable Keyboard Input is a type of variable that enables the content of a prompted field to be different for every print job. Its value is defined before each printing.

8.1.1.1 General

Definition group of settings defines which input data types are valid for a variable.

- **Data type** defines what type of data is stored in a variable.
  - Text: keyboard input that contains text.
  - Date: keyboard input that contains date values.
  - Time: keyboard input that contains time values.
  - Floating point: representation of real numbers in a variable.
  - Currency: variables that contain monetary values.



- **Initial value:** starting value that is assigned to a variable keyboard input when created. It is defined using one of the following methods:
  - Manually entering a fixed value. Characters from any group of allowed characters are permitted.
  - Using a dynamic value – **Insert database field.** Select a database field from the previously added database(s). Read about how to add a database here.
  - Using a special character:
    - Special character can be entered manually using the less than/greater than signs, e.g. <CR>, <LF> ...
    - Special character can be selected from the drop-down list.

    NOTE: Designer supports combined values as the initial value. Read more about combining the values here.

EXAMPLE: A combined initial value of a variable may contain a fixed value, a dynamic data source and special characters. The order of inserted items can be set randomly. Three options:
1. aaa123[Variable]<CR>
2. <CR>aaa123[Variable]
3. [Variable]<CR>aaa123

TIP: Make sure the inserted initial value meets the criteria defined with **Output Rules** for each data type.

Prompting group of settings defines the print time behavior of a data source. Read more about

prompting here.

Dynamic value group defines how the last used dynamic value of a variable is handled.

- **Remember the last used value (dynamic value):** Designer stores the last used value of a variable. The last used value is stored in an external text file at the same location as the label or solution file. Files that store the last used values have the same filename as the label or solution, followed by .dvv extension.

  NOTE: When sharing labels with dynamic values, make sure not to share only label or solution files (.nlbl), but also files that store last used dynamic values (.dvv).

  NOTE: Label must be saved before enabling this option.

EXAMPLE: The last used value is useful when the continuation of numbering from the last printed label is required (e.g. serial number). Counter's last value is stored and the numbering is continued from this point at next use.

8.1.2 Current Date

Current Date is a type of variable that displays the current date value. The value is obtained from system or printer clock.

8.1.2.1 General

About group identifies the variable and defines date output format and language.

- **Name:** unique variable name. This name is used a s variable reference during its use.
- **Description:** is a field that allows adding additional information and suggestions.

Definition group sets output formatting and displays its preview.

- **Output format:** format in which the date is displayed. Available date formats are listed here.

  NOTE: The selected clock source option (see below) defines the range of allowed date **Formats**. Printer clock option only allows the use of printer supported date formats. An error is reported if a non-valid format is used. Computer (system) clock option allows using a range of preloaded or customized date formats.

- **Output language:** language selection and regional formatting for days and months.

EXAMPLE: Output Language becomes relevant when the dates that include months or dates are written in words. In some cases, data calculations may be affected as well. For example, in US, a new week begins on Sunday whereas in EU and other countries, a new week begins on Monday.

- **Output preview:** displays how the printed current date looks like. The range of used characters adapts to the selected **Output language** and printer.

Date offset group enables adding a certain number of days, months or years to the current date. The offset date is displayed in the object instead of the present date.

- **Days:** date offset in days.
- **Months:** date offset in months.
- **Years:** date offset in years.

TIP: To set negative date offset, use the Date Offset function.

Printer Clock group defines which clock should be used as the date value source.

- **Always use computer clock:** computer (system) clock set as the exclusive **Current Date** value source.
- **Always use printer clock:** printer clock set as the exclusive **Current Date** value source. An error is reported if the printer clock is unavailable.
- **Use printer clock if supported:** printer clock set as the preferred **Current Date** value source. If the printer clock is not supported, the computer (system) clock value is used instead.

8.1.2.2 Output Rules

Prefix and Suffix values may be added to a variable value if required.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

8.1.2.3 Date Formats

Designer enables flexible use of date fields. When defining the formats, the following notations are used:

Notation	Description
d	The number of day in a month. Occupies one or two characters.
dd	The number of day in a month. Always occupies two characters – leading zeros are added if necessary.
M	M is the number of month. Occupies one or two characters.
MM	MM is the number of month. Always occupies two characters.
yy or yyyy	The year represented with 2 or 4 digit numbers.
ddd	Abbreviation of the day of week name.
dddd	The full day of week name.
MMMM	The full name of month.
MMM	The abbreviation of the name of month.

J	The number of days since 1. January. Occupies from one to three characters.
JJJ	The number of days since 1. January. Always occupies three characters.
W	The week number in current year. Occupies one or two characters.
WW	The week number in current year. Always occupies two characters.
N	The weekday number. The value range takes 1–7 characters, where 1 represents Monday and 7 represents Sunday.
Custom text	Any sequence of characters is displayed unchanged. Insert dots, commas and other characters to present the date as required.

8.1.2.3.1 Date Format Examples

Format	Printed Date (English)
d.M.yyyy	10.3.2016
dd/MM/yy	10/03/16
dddd, d.MMMM yyyy	Thursday, 10.March 2016
JJJWWyyyy	069102005
textd/M/yyyytext	text10/3/2016text

8.1.3 Current Time

Current Time is a type of variable that displays the current time value. The value is obtained from system or printer clock.

8.1.3.1 General

About group of settings identifies the variable and defines time output format and language.

- **Name:** unique variable name. This name is used a s variable reference during its use.
- **Description:** is a field that allows adding additional information and suggestions.

Definition group sets output formatting and displays its preview.

- **Output format:** format in which the time is displayed. Available time formats are listed here.

  NOTE: The selected clock source option defines the range of supported time **Formats**. Printer clock option only allows the use of printer supported time formats. An error is reported if a non-valid format is used. Computer (system) clock option allows using a range of preloaded and customized time formats.

- **Output preview** displays how the printed current time format looks like.

Time offset enables adding or subtracting a certain number of seconds, minutes or hours from the current time.

- **Seconds:** time offset in seconds.
- **Minutes:** time offset in minutes.
- **Hours:** time offset in hours.

Printer Clock group defines which clock should be used as the time value source.

- **Use printer clock if supported:** printer clock set as the preferred current time value source. If the printer clock is not supported, the system clock value is used instead.
- **Always use printer clock:** printer clock set as the exclusive **Current Time** value source. An error is reported if the printer clock is unavailable.
- **Always use computer clock** computer (system) clock set as the exclusive **Current Time** value source.

8.1.3.2 Output Rules

Prefix and Suffix values may be added to a variable value if required.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

8.1.3.3 Time Formats

Designer enables flexible use of time fields. Select a predefined time format or create a customized one. When defining the formats, the following notations are used.

Notation	Description
h	Hours in 12-hour format. AM/PM is added if selected. Occupies one or two characters.
hh	Hours in 12-hour format. AM/PM is added if selected. Always occupies two characters. Leading zeros are added if necessary.
H	Hours in 24-hour format. Occupies one or two characters.
HH	Hours in 24-hour format. Always occupies two characters.
mm	Used for minutes.
ss	Used for seconds.

8.1.3.3.1 Time Format Examples

Format	Printed Date
h:mm {AM/PM}	8:25PM
H:mm	20:25
hh:mm:ss	08:25:36

8.1.4 Counter

Counter is a type of variable whose value increments or decrements along with the changing value of system or printer counter.

Thermal printers are usually equipped with an internal incremental counter. This is a dedicated counter that counts the printed labels internally. The printer only receives the first value and automatically increases or decreases it on the subsequent labels. This option reduces the amount of data transferred between computer and printer as only initial value is sent to the printer. Internal counter speeds up the label production significantly.

8.1.4.1 General Tab

About group of settings identifies the variable and defines serialization details.

- **Name:** unique variable name. This name is used as variable reference during its use.
- **Description:** is a field that allows adding additional information and suggestions.

Definition group of settings defines the counter behavior.

- **Counter type:** counter value increasing or decreasing:
  - **Incremental:** value increases along with the printed labels.
  - **Decremental:** variable value decreases along with the printed labels.
- **Step:** amount of units that represent the next state of counter value.
- **Repetition:** number of repetitions for each counter value.
- **Initial value:** value that is used when the counter starts.
- **Preview:** displays the counter value sequence as defined by the current **Step**, **Repetition** and **Initial value**.

EXAMPLE: Counter Step = 3, Repetition = 3 and Initial value = 1 are: 1, 1, 1, 4, 4, 4, 7, 7, 7, 10, 10, 10, 13, 13, 13, ...

Prompting group of settings defines the print time behavior of a data source. Read more about prompting here.

Dynamic value group defines how the last used dynamic value of a variable is handled.

- **Remember the last used value (dynamic value):** Designer stores the last used value of a variable. The last used value is stored in an external text file at the same location as the label or solution file. Files that store the last used values have the same filename as the label or solution, followed by .dvv extension.

  NOTE: When sharing labels with dynamic values, make sure not to share only label or solution files (.nlbl), but also files that store last used dynamic values (.dvv).

  NOTE: Label must be saved before enabling this option.

EXAMPLE: The last used value is useful when the continuation of numbering from the last printed label is required (e.g. serial number). Counter's last value is stored and the numbering is continued from this point at next use.

Printer Counter defines which counter should be used as counter variable value source.

- **Use printer counter if supported:** printer counter is set as the counter of choice if supported by the active printer. If the printer counter is not supported, system counter is used instead.
- **Always use printer counter:** printer counter set as the exclusive counter value source. If the printer counter value is not available, the default (system counter) value is used.

  NOTE: An error is reported if the selected printer has no support for internal printer counter. Printing cannot continue.

- **Always use computer counter:** computer counter set as the only counter value source.

TIP: Input rules help the user when inserting the variable data. They act as a filter that defines the type, length and other input data properties.
Output rules set the final variable formatting – they define how the variable value is going to be presented in an object.

To use internal printer counter, follow the below listed rules:

The variable's maximum length is limited by the printer. The value should be included in the printer user guide.

TIP: If the exact maximum variable length value is not available, NiceLabel recommends making a few test prints for determining the value.

- Set variable length to fixed.
- Set variable format to numeric.
- Text object that is linked to the variable must be formatted using an internal printer font.
- Enable **Always use printer counter** option.
- Make sure the Internal Element icon is visible next to the counter text box.
- Make sure an internal printer font is used for the counter text box.

8.1.4.2 Input Rules

Data defines the counter input criteria.

- **Allowed characters:** permitted characters for variable values. Groups of allowed characters for data input filtering are described in section Groups of Allowed Characters.

EXAMPLE: Non-numeric characters can also be used as counter values. **Alphanumeric** sets the sequence with Step = 3 and Initial value = 1 as 1, 4, 7, A, D, G, J, M, P, S, V, Y, b, e, h, ...

- **Limit variable length:** maximum length of a variable value.
    - **Length (characters):** specifies the exact permitted number of characters.
- **Fixed length:** variable must contain the exact given number of characters as defined in the **Limit variable length**.

Check range group defines minimum and maximum counter values.

- **Minimum value:** minimum counter value.
- **Maximum value:** maximum counter value.

Rollover settings group defines the condition at which the counter automatically resets its value to default.

- **Using min/max:** minimum and maximum counter values activate the rollover.
- **When the selected data source changes:** data source value change activate the rollover.
- **When date or time changes:** date or time value change activate the rollover.

> NOTE: Date/time change is defined by computer clock.

8.1.4.3 Output Rules

Prefix and Suffix are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

8.1.5 Prompting

When designing labels with connected dynamic data sources, a value has to be assigned to them before printing. Prompted variables have their values manually assigned at print time. The user is asked for the value of every variable before each print job.

The values are entered manually. The order in which they are entered may be specified using the Prompt order dialog.

Prompting group asks the user for manual data input – this is done after the print dialog opens.

- **Prompt at print time:** enabled or disabled prompting form variable value.

> NOTE: If a dynamic data source is included in the **Initial value**, prompting becomes disabled.

- **Prompt text:** contains text that prompts the user for value input. This text serves as an instruction on what kind of values should be entered before printing.

- **Value required:** variable value status – mandatory or optional. If the prompt text is left empty in case the value is set as mandatory, printing cannot start. An error message appears.

8.2 Link To Another Object

DESIGNER PRODUCT LEVEL INFO: This segment is applicable to Designer Express

Link to other object makes the content of a label object (re)appear in another object on the same label.

To fill an object with linked content, open the label object properties and click **Link to other object** on the **Source** tab of the dialog.

Label objects that can be linked to the selected object are listed as a possible Data source. Select the appropriate object and link to it.

8.3 Databases

DESIGNER PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Databases can be used as dynamic data source for label or form objects. To make the database content accessible and retrievable from the selected object, the database connection must be properly established and configured.

The most time efficient and user friendly way of adding a database to your label or solution data sources is to use the Step-by-Step Database Wizard.

Designer also allows the database connections to be established and configured manually. This way, the entire range of connection settings becomes configurable. It is recommended that only experienced users choose this option.

All label or solution databases are listed in the Dynamic Data Explorer.

Designer supports a wide selection of database types. The supported database types are listed here.

Read about how to connect to the supported database types here.

Read about other available object data sources and how to use the Dynamic Data Manager here.

8.3.1 Supported Database Types

Designer supports multiple types of databases:

- Microsoft Excel
- Text File databases

8.3.2 Step-by-Step Database Wizard

Database wizard is a guided process that allows the user to configure a connection to a database and to select which tables and fields will be used. Dedicated buttons provide instant access to the most commonly used database types. Use the **All Databases** button to start the wizard in general mode and to select the database type during the next step.

Edit Database allows you to edit all existing connected databases using a wizard.

The wizard additionally allows you to sort, filter records, and to define how many label copies will be printed per database record.

8.3.2.1 Adding A Database

To add a database using the **Database Wizard**, click the preferred database button in **Designer Data tab ribbon > Step-by-step Database Wizard** group.

Below listed are the available wizard options. To successfully add a database, follow the steps for each database type:

- Adding an Excel database
- Adding a Text File database

8.3.2.2 Database Wizard For Excel Files

This section describes how to connect Excel database to an object using the Designer Step-by-Step Database Wizard.

8.3.2.2.1 Step 1: Connection Settings

This step defines the database connection parameters.

> NOTE: The available parameters depend on the selected database type.

File name defines the database file location.

Advanced Setup opens the system configuration dialog. *Data Link Properties* window allows you to set the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.

Test Connection button starts a connection testing procedure. It checks if the Designer can successfully connect to the database or not.

Click **Next**.

8.3.2.2.2 Step 2: Tables And Fields

This step defines which database table and which fields of this table should be used as dynamic data source.

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Refresh Tables button makes sure the data in connected database is up-to-date.

Click **Next**.

8.3.2.2.3 Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is going to be printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

8.3.2.2.4 Step 4: Create Objects

This step decides whether new Text objects that display the content retrieved from database fields should be added to a label or not.

Create Objects step is visible when:

- starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button
- starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

8.3.2.2.5 Step 5: Data Preview And Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**. The database is ready to be used as label or form object data source.

8.3.2.3 Database Wizard For Text Files

This section describes how to use a text file as data source in label or form objects. A text file is connected to an object using the Designer Step-by-Step Database Wizard.

8.3.2.3.1 Step 0: Text File Structure Wizard

Text File Structure Wizard window opens if a structure for a text file you are connecting hasn't been defined previously.

The steps for completing the **Text File Structure Wizard** are described in a dedicated section.

NOTE: After finishing this procedure, a text definition .sch file with the same name as the text database file and is created in the same folder. Next time the wizard is used on the same file, this procedure is no longer required.

8.3.2.3.2 Step 1: Connection Settings

This step defines the text file path.

File name defines the location of the Text file to be used. Enter the location manually or click **Browse** to locate it in the system.

Test Connection button starts a connection testing procedure. It checks if the Designer can successfully connect to the database or not.

Click **Next**.

8.3.2.3.3 Step 2: Tables And Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Refresh Tables button makes sure the data in connected database is up-to-date.

NOTE: Table selection is not available when adding a text file as a database. The entire text file is treated as a single database table.

8.3.2.3.4 Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is going to be printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

8.3.2.3.5 Step 4: Create Objects

This step decides whether new Text objects that display the content retrieved from database fields should be added to a label or not.

Create Objects step is visible when:

- starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button
- starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

8.3.2.3.6 Step 5: Data Preview And Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

NOTE: Data preview shows up to 1000 rows.

Fields tab displays available and selected database fields. Step 3 settings of this section can be redone on this tab.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Read more about data retrieving here.

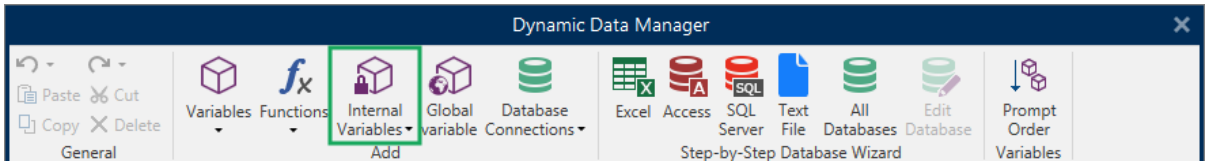
Click **Finish**. The database is ready to be used as label or form object data source.

8.4 Internal Variables

DESIGNER PRODUCT LEVEL INFO: This segment is applicable to Pro and PowerForms.

An internal variable performs as a dynamic data source which holds a value that is automatically retrieved from a running application and system environment.

Select internal variables by clicking the **Internal Variables** button in the **Data Sources** ribbon. Select the appropriate variable check boxes.



NOTE: The variables in this set can neither be edited nor modified. Their value is updated with every printed label.

List of available internal variables with description:

LabelFileName	The path and file name of the currently opened label file.
ShortLabelName	The file name of the currently opened label file.
RequestedQuantity	The quantity of labels requested for printing. This is the number of labels printed.
TotalQuantityPrinted	Total quantity of the printed labels. The number is the sum of label quantities from all label batches.
CurrentBatchQuantity	The number of labels reached in the current label batch. The value is reset at beginning of each label batch in the printing process.
LabelPrinterName	The name of the printer driver currently selected for printing.
DefaultPrinterName	The name of the default printer driver.
UserName	The application use rname of the currently logged-in user. It will have a value only if in-application authentication is enabled.
SystemUserName	The Windows user name of the currently logged-in user.
ComputerName	The name of the computer on which the application is running.

SolutionFileName	Current solution file name.
ShortSolutionFileName	Current short solution file name.
SolutionFilePath	Path to solution file name.
FormName	The path and name of the form application used for label printing instead of Print dialog box.
ShortFormName	Short name of the form application used for label printing instead of Print dialog box.
EPCData	EPCData as read from the RFID tag.
LabelRevision	Label Revision Description.

8.5 Global Variables

DESIGNER PRODUCT LEVEL INFO: the use of Control Center is applicable to LMS Pro and LMS Enterprise only.

Global variable is a type of variable that can be shared among multiple NiceLabel 2017 documents. Once defined, it is stored outside the current label.

The global variable's last value is stored after each confirmation and with each print action. The stored values are useful if continued numbering from preceding print jobs is required. Global variable values are stored in a separate file on a disk or on a Control Center.

TIP: By default, global variable storage location is set to `C:\ProgramData\NiceLabel\Global Variables\`. File name is `Globals.tdb`.

Global variables are created manually in Dynamic Data Manager or using a Control Center.

- Add and manage global variables.
- Configure global variables.

When creating a copy of the label file that uses global variables and using it on another computer, make sure the global variable source is accessible (file or Control Center).

NOTE: If you skip this step, the labeling application won't find the corresponding global variable. A warning message will appear.

TIP: All label or solution global variables are managed in Dynamic Data Explorer.

8.6 Special Character Shortcuts

Designer includes several predefined control characters – selected them from the drop-down menu in any dialog with enabled text input is enabled. An arrow button on the right side of the edit field lists the shortcuts.

EXAMPLE: FNC1 character can simply be encoded as <FNC1>.

If specific special character is not available on the list of shortcuts, see section Additional Input Options.

ASCII code	Abbreviation used in the application	Description of the character
1	SOH	Start of Heading
2	STX	Start of Text
3	ETX	End of Text
4	EOT	End of Transmission
23	ETB	End Transmission Block
25	EM	End of Medium
5	ENQ	Enquiry
6	ACK	Acknowledgment
7	BEL	Bell
8	BS	Back Space
9	HT	Horizontal Tab
11	VT	Vertical Tab
13	CR	Carriage Return
10	LF	Line Feed
12	FF	Form Feed
14	SO	Shift Out
15	SI	Shift In
16	DLE	Data Link Escape
17	DC1	XON - Device Control 1
18	DC2	Device Control 2
19	DC3	XOFF - Device Control 3
20	DC4	Device Control 4
28	FS	File Separator
29	GS	Group Separator
30	RS	Record Separator
31	US	Unit Separator
21	NAK	Negative Acknowledgment
22	SYN	Synchronous Idle
24	CAN	Cancel
26	SUB	Substitute
27	ESC	Escape
188	FNC	Function Code 1
189	FNC	Function Code 2
190	FNC	Function Code 3

191	FNC	Function Code 4

9 NiceLabel Print

NiceLabel Print is a standalone application for fast and easy printing. It eliminates the need for opening label and solution documents in Designer.

NiceLabel Print window consists of:

- **File location selector:** drop-down list lets you select and manage the locations that store labels or solutions.

  TIP: See section below for more details on files and locations.

- **Search:** finds the requested document.
- **Location folder structure:** displays the folders that are selected in the **File location selector**.
- **Document display area:** presents the documents which are stored in the selected folder.

9.1 Managing Document Locations

When using the NiceLabel Print for the first time, a blank NiceLabel Print window appears. Click **Manage Locations** in the **File location selector**. **Manage Locations** dialog opens.

Use **Manage Locations** dialog to browse for document locations on your system or network.

- **Add:** button for adding the label files:
  - **Folder Location:** browses for files on your system or network.
  - **PowerForms Web/Cloud location:** opens an additional window for specifying the server that hosts the label or solution files.
    - **Server URL:** server location.

      EXAMPLE: PowerForms Web server location – http://server/PowerFormsWeb

    - Insert **User name** and **Password** to connect to a protected server.

    NOTE: User name and password are optional. With enabled authentication, the user is prompted for credentials if the user name and password fields are left empty before opening a solution from server.
- **Move up** and **Move down:** change the order of selected label locations.
- **Delete:** removes the location from NiceLabel Print.

9.2 Opening The Documents

After defining the local or remote location that stores the documents, start with printing. Follow the steps in this section to successfully print the labels.

10 Tracing Mode

By default, NiceLabel 2017 logs events into the log database. This includes higher-level information, such as logging of action execution, logging of filter execution and logging of trigger status updates. For more information, see section Event Monitoring.

However, the default logging doesn't log the deep under-the-hood executions. When troubleshooting is needed on the lower-level of the code execution, tracing mode must be enabled. In this mode, NiceLabel 2017 logs the details about all internal executions that take place during event processing.

NOTE: Tracing mode should only be enabled during troubleshooting to collect logs and then disabled to enable normal operation.

WARNING: Tracing mode slows down processing and should only be used when instructed so by the technical support team.

To enable the tracing mode, do the following:

1. Navigate to the System folder.

   EXAMPLE: %PROGRAMDATA%\NiceLabel\NiceLabel 2017

2. Make a backup copy of the `product.config` file
3. Open `product.config` in a text editor. The file has an XML structure.
4. Add the element `Common/Diagnostics/Tracing/Enabled` and assign value **True** to it.

   The file includes the following contents:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
    <Common>
        <Diagnostics>
            <Tracing>
                <Enabled>True</Enabled>
                <Folder>c:\Troubleshooting\TracingLogs</Folder>
            </Tracing>
        </Diagnostics>
    </Common>
...
</configuration>
```

5. After you save the file, NiceLabel Designer Service will automatically apply the setting.
6. By default, tracing files (*.LOG) will appear in the same System folder.

   NOTE: You can override the log folder by specifying it in the element `Folder`. This element is optional.

10.1 Command File Types

Command files are plain text file that contain instructions for the printing process – these instructions are expressed using NiceLabel commands. Commands are executed one at a time from the beginning until the end of the file.

NiceLabel 2017 supports the following command file types:

- JOB command files
- XML command files
- CSV command files

NOTE: The files support Unicode formatting. This allows you to include multi-lingual content.

10.1.1 JOB Command File

JOB command file is text file that contains native NiceLabel printing commands. The commands execute in order from top to bottom. The sequence of commands usually starts with LABEL (open label). LABEL command is followed by SET (to set variable value), and finally by PRINT (print label).

JOB command file can be executed using the following actions:

- Run Command File
- Send Custom Commands

10.1.1.1 JOB Command File Definition

NiceLabel commands are used in command files to control label printing. NiceLabel 2017 executes the commands within command files from top to bottom.

COMMENT

```
;
```

If developing a command file, it is a good practice to document your commands. This helps you decode what the script really performs, when you check the code after some time. Use a semicolon (`;`) at the beginning of the line. Everything that follows the semicolon is treated as a comment and is not processed.

CLEARVARIABLEVALUES

```
CLEARVARIABLEVALUES
```

This command resets variable values to their default values.

CREATEFILE

```
CREATEFILE <file name> [, <contents>]
```

This command creates a text file. You can use it to signal a third party application that the printing process has begun or ended, depending on the location where command is put. Use the UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

DELETEFILE

```
DELETEFILE <file name>
```

Deletes the specified file. Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

EXPORTLABEL

```
EXPORTLABEL ExportFileName [, ExportVariant]
```

This command is implemented to automate the "Export to printer" command that is available in the label designer. The label is exported directly to the printer and stored in the memory for off-line printing. The user can recall the label using the keyboard on the printer or by sending a command file to the printer. The same functionality is available also with Store Label to Printer action.

NOTE: To specify the label for exporting, use the **LABEL**command first.

- **ExportFileName.** This parameter is mandatory and defines the file name of generated printer commands.
- **ExportVariant.** Some printers support multiple export variants. If exporting them manually, the user can select the export variant in the dialog. With the EXPORTLABEL command, you must specify which export variant you want to use. The variants are visible in the label designer after you enable the Store/Recall printing mode.

  The first variant in the list holds the value 0. The second variant has the value 1, etc.

  If you do not specify any variant type, value 0 is used as default.

For more information about off-line printing, see topic Using Store/Recall Printing Mode.

IGNOREERROR

```
IGNOREERROR <on> [,<off>]
```

Specifies that the below listed JOB file errors do not terminate the printing process:

- Incorrect variable name is used.
- Incorrect value is sent to a variable.
- Label does not exist / is not accessible.
- Printer does not exist / is not accessible.

LABEL

```
LABEL <label name> [,<printer_name>]
```

The command opens a label to be printed. If the label is already loaded, it will not be re-opened. You can include the path name. Enclose the label name in double quotes, if the name or path contains spaces. Use UNC syntax for network resources. For more information, see topic Access to Network Shared Resources in NiceLabel Automation User Guide.

The optional parameter `printer_name` specifies the printer, for which the label will be opened. Use this setting if you want to override the printer name that is saved in the label template. If the driver for the provided printer name is not installed or not available, the command raises an error.

MESSAGEBOX

```
MESSAGEBOX <message> [,<caption>]
```

Logs the custom `message` into the trigger log. If the message contains space characters or commas, you have to enclose the text in double quotes (`"`).

PORT

```
PORT <file name> [, APPEND]
```

This command overrides port as defined in the printer driver and redirects printing to a file. If file path or file name contain spaces, enclose the value in double quotes (`"`). Use UNC syntax for network resources. For more information, see topic Access to Network Shared Resources in NiceLabel Automation User Guide.

The parameter `APPEND` is optional. By default, the file is overwritten. Use this parameter to append data into the existing file.

Once you use a PORT command in the JOB file, it remains valid until the next PORT command, or until the end of file (whichever comes first). If you use PRINTER command after the PORT command has been executed, the PORT setting overwrites the port defined for the selected printer. If you want to use the actual port that is defined for the selected printer, you have to use another PORT command with an empty value, such as `PORT = ""`.

PRINT

```
PRINT <quantity> [,<skip> [,<identical label copies> [,number of label sets]]]
```

This command starts the print process.

- **Quantity.** Specifies the number of labels to print.
  - **<number>.** Specified number of labels will print.
  - **VARIABLE.** Specifies that some label variable is defined as *variable quantity* and will contain the number labels to print. The label will determine how many labels to print.

- **UNLIMITED.** If you use a database to acquire values for objects, unlimited printing will print as many labels as there are record in the database. If you do not use a database, the maximum number of labels that thermal printer internally supports will be printed.

- **Skip.** Specifies the number of labels you want to skip on the first page. The parameter is used for printing labels on sheets of paper. When the part of the page has already been used, you can reuse the same sheet by shifting the start location of the first label.
- **Identical label copies.** Specifies how many copies of the same label must print.
- **Number of label sets.** Specifies the number of times the whole printing process should repeat itself.

NOTE: Make sure the quantity values are provided as the numeric value, not string value. Do not enclose the value in the double quotes.

PRINTER

```
PRINTER <printer name>
```

This command overrides the printer defined in the label file. If the printer name contains space characters, enclose it in double quotes (").

Use the printer name as displayed in the status line in the label design application. Printer names are usually the same as the printer names in Printers and Faxes from Control Panel, but not always. If using network printers, you might see the name displayed using syntax `\\server\share`.

PRINTJOBNAME

```
PRINTJOBNAME
```

This command specifies the print job name to be seen in Windows Spooler. If the name contains space characters or commas, you have to enclose the value in double quotes (").

SESSIONEND

```
SESSIONEND
```

This command closes the print stream. Also see **SESSIONSTART**.

NOTE: `SESSIONEND` must be sent as the only item in Send Custom Command action. If you would like to send additional commands, use separate Send Custom Command actions.

SESSIONPRINT

```
SESSIONPRINT <quantity> [,<skip>]
```

This command prints the currently referenced label and adds it into the currently open session-print stream. You can use multiple SESSIONPRINT commands one after another and join the referenced labels in a single print stream. The stream does not close until you close it using the SESSIONEND command. The meaning of quantity and skip parameters is the same as with NiceLabel command PRINT. Also see **SESSIONSTART**.

- **Quantity.** Specifies the number of labels to be printed.
- **Skip.** Specifies the number of labels you want to skip on the first page. The parameter is used for printing labels on sheets of paper. If a part of the page has already been used, you can reuse the same sheet by shifting the start location of the first label.

SESSIONSTART

```
SESSIONSTART
```

This command initiates the session-print type of printing.

The three session-print-related commands (**SESSIONSTART**, **SESSIONPRINT**, **SESSIONEND**) are used together. When you use command PRINT, every label data will be sent to the printer in a separate print job. If you want to join label data for multiple labels into print stream, you should use the session print commands. You must start with the command SESSIONSTART, followed with any number of SESSIONPRINT commands and in the end the command SESSIONEND.

Use these commands to optimize label printing process. Printing labels coming from one print job is much faster than printing labels from a bunch of print jobs.

There some rules you have to follow so the session print will not break.

- You cannot change the label within a session.
- You cannot change the printer within a session
- You must set values for all variables from the label within a session, even if some of the variables will have empty values

SET

```
SET <name>=<value> [,<step> [,<number or repetitions>]]
```

This command assigns a `value` to the `name` variable. The variable must be defined on the label, or an error is raised. If the variable isn't on the label, an error occurs. `Step` and `number of repetitions` are parameters for counter variables. These parameters specify the counter increment and the number labels before the counter changes value.

If value contains spaces or comma characters, you must enclose the text in double quotes (`"`). Also see **TEXTQUALIFIER**.

If you want to assign multi-line value, use `\r\n` to encode newline character. `\r` is replaced with CR (Carriage Return) and `\n` is replaced with LF (Line Feed).

Be careful when setting values to variables that provide data for pictures on the label, as backslash characters might be replaced with some other characters.

EXAMPLE: If you assign a value "c:\My Pictures\raw.jpg" to the variable, the "\r" will be replaced with CR character.

SETPRINTPARAM

```
SETPRINTPARAM <paramname> = <value>
```

This command allows you to set fine-tune printer settings just before printing. The supported parameter for printer settings (`paramname`) are:

- **PAPERBIN.** Specifies the tray that contains label media. If the printer is equipped with more than just one paper / label tray, you can control which is used for printing. The name of the tray should be acquired from the printer driver.
- **PRINTSPEED.** Specifies the printing speed. The acceptable values vary from one printer to the other. See printer's manuals for exact range of values.
- **PRINTDARKNESS.** Specifies the printing darkness / contrast. The acceptable values vary from one printer to the other. See printer's manuals for exact range of values.
- **PRINTOFFSETX.** Specifies the left offset for all printing objects. The value for parameter must be numeric, positive or negative, in dots.
- **PRINTOFFSETY.** Specifies the top offset for all printing objects. The value for parameter must be numeric, positive or negative, in dots.
- **PRINTERSETTINGS.**Specifies the custom printer settings to be applied to the print job. The parameter requires the entire DEVMODE for the target printer, provided in a Base64-encoded string. The DEVMODE contains all parameters from the printer driver at once (speed, darkness, offsets and other). For more information, see topic Understanding printer settings and DEVMODE in NiceLabel Automation User Guide.

  NOTE: The Base64-encoded string must be provided inside double quotes (").

TEXTQUALIFIER

```
TEXTQUALIFIER <character>
```

Text-qualifier is the character that embeds data value that is assigned to a variable. Whenever data value includes space characters, it must be included with text-qualifiers. The default text qualifier is a double quote character (`"`). Because double quote character is used as shortcut for inch unit of measure, sometimes it is difficult to pass the data with inch marks in the JOB files. You can use two double quotes to encode one double quote, or use TEXTQUALIFIER.

Example

```
TEXTQUALIFIER %
SET Variable = %EPAK 12"X10 7/32"%
```

10.1.1.2 JOB Command File Example

This JOB file opens the `label2.nlbl` label, sets variable values and prints a single label. Because no PRINTER command is used to redirect printing, the label will be printed using the printer name as defined in the label.

```
LABEL "label2.nlbl"
SET code="12345"
SET article="FUSILLI"
SET ean="383860026501"
SET weight="1,0 kg"
PRINT 1
```

10.1.2 XML Command File

The commands available in the XML Command Files form a subset of NiceLabel commands. You can use the following commands: **LOGIN**, **LABEL**, **SET**, **PORT**, **PRINTER**, **SESSIONEND**, **SESSIONSTART**, and **SESSIONPRINT**. The syntax requires minor adaptation if used in an XML file.

XML command file can be executed using the following actions:

- Run Command File
- Send Custom Commands

The root element in the XML Command file is `<Nice_Commands>`. The next element that must follow is `<Label>`– it specifies the label to be used.

Two methods are available to start the label printing:

- Print the labels normally using the `<Print_Job>` element.
- Print the labels in a session using the `<Session_Print_Job>` element.

You can also change the printer using which the labels are going to be printed, and set the variable value.

10.1.2.1 XML Command File Definition

This section defines the XML Command file structure. There are several elements that contain attributes. Some attributes are required, while the others are optional. Some attributes can occupy pre-defined values only. For others, you can specify custom values.

- **<Nice_Commands>.** This is a root element.
- **<Label>.** Specifies the label file to be opened. If the label is already open, it won't be re-opened. The label file must be accessible from this computer. For more information, see the topic Access to Network Shared Resources in NiceLabel Automation user guide. This element can occur several times within the command file.
    - **Name.** This attribute contains label name. You can include the path to the label name. Mandatory element.

- **<Print_Job>.** The element that contains data for one label job. This element can occur several times within the command file.
    - **Printer.** Use this attribute to override the printer defined in the label. The printer must be accessible from this computer. For more information, see the topic Access to Network Shared Resources. Optional element.
    - **Quantity.** Use this attribute to specify the number of labels to print. Possible values: numeric value, VARIABLE or UNLIMITED. For more information on parameters, see the topic Print Label. Mandatory element.
    - **Skip.** Use this attribute to specify the number of skipped labels at the beginning. This feature is useful if you print sheet of labels to laser printer, but the sheet is partial already printed. For more information, see the topic Print Label. Optional element.
    - **Job_name.** Use this attribute to specify the name of your job file. The specified name is visible in the print spooler. For more information, see the topic Set Print Job Name. Optional element.
    - **Print_to_file.** Use this attribute to specify the file name where you want to save the printer commands. For more information, see the topic Redirect Printing to File. Optional element.
    - **Identical_copies.** use this attribute to specify the number of copies you need for each label. For more information, see the topic Print Label. Optional element.
- **<Session_Print_Job>.** The element that contains commands and data for one or more sessions. The element can contain one or more `<Session>` elements. It considers session print rules. You can use this element several times within the command file. For available attributes look up the attributes for the element `<Print_Job>`. All of them are valid, you just cannot use the quantity attribute. See the description of the element `<Session>` to find out how to specify label quantity in session printing.
- **<Session>.** The element that contains data for a single session. When printing in session, all labels are encoded into a single print job and are sent to the printer as one job.
    - **Quantity.** Use this attribute to specify the number of labels to print. Possible values: numeric value, string VARIABLE, or string UNLIMITED. For more information on parameters, see the topic Print Label. Required.
- **<Variable>.** The element that sets the value of variables on the label. This element can occur several times within the command file.
    - **Name.** The attribute contains the variable name. Required.

XML Schema Definition (XSD) for XML Command File

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema targetNamespace="http://tempuri.org/XMLSchema.xsd"
elementFormDefault="qualified" xmlns="http://tempuri.org/XMLSchema.xsd"
xmlns:mstns="http://tempuri.org/XMLSchema.xsd" xmlns:xs="http://www.w3.org/2001/X
MLSchema">
  <xs:element name="nice_commands">
    <xs:complexType>
```

```
      <xs:sequence>
        <xs:element name="label" maxOccurs="unbounded" minOccurs="1">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="print_job" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="database" maxOccurs="unbounded" minOccurs="
0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="table" maxOccurs="unbounded" minOccurs="0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="variable" maxOccurs="unbounded" minOccurs="
0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                  <xs:attribute name="quantity" type="xs:string" use="required"
 />
                  <xs:attribute name="printer" type="xs:string" use="optional" />
                  <xs:attribute name="skip" type="xs:integer" use="optional" />
                  <xs:attribute name="identical_
copies" type="xs:integer" use="optional" />
                  <xs:attribute name="number_of_
sets" type="xs:integer" use="optional" />
                  <xs:attribute name="job_
name" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_
file" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_file_
append" type="xs:boolean" use="optional" />
                  <xs:attribute name="clear_variable_
values" type="xs:boolean" use="optional" />
                </xs:complexType>
              </xs:element>
              <xs:element name="session_print_
```

```
job" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="database" maxOccurs="unbounded" minOccurs="
0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="table" maxOccurs="unbounded" minOccurs="0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="session" minOccurs="1" maxOccurs="unbounde
d">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="variable" minOccurs="0" maxOccurs="un
bounded">
                            <xs:complexType>
                              <xs:simpleContent>
                                <xs:extension base="xs:string">
                                  <xs:attribute name="name" type="xs:string" use=
"required" />
                                </xs:extension>
                              </xs:simpleContent>
                            </xs:complexType>
                          </xs:element>
                        </xs:sequence>
                        <xs:attribute name="quantity" type="xs:string" use="requi
red" />
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                  <xs:attribute name="printer" type="xs:string" use="optional" />
                  <xs:attribute name="skip" type="xs:integer" use="optional" />
                  <xs:attribute name="job_
name" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_
file" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_file_
append" type="xs:boolean" use="optional" />
                  <xs:attribute name="clear_variable_
values" type="xs:boolean" use="optional" />
                </xs:complexType>
              </xs:element>
            </xs:sequence>
            <xs:attribute name="name" type="xs:string" use="required" />
```

```
            <xs:attribute name="close" type="xs:boolean" use="optional" />
            <xs:attribute name="clear_variable_
values" type="xs:boolean" use="optional" />
          </xs:complexType>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="quit" type="xs:boolean" use="required" />
    </xs:complexType>
  </xs:element>
</xs:schema>
```

10.1.2.2 XML Command File Example

The sample below presents the structural view on the elements and their attributes as you can use them in an XML command file.

```
<nice_commands>
  <label name="label1.nlbl">

    <session_print_job printer="CAB A3 203DPI" skip=0 job_
name="job name 1" print_to_file="filename 1">
      <session quantity="10">
        <variable name="variable name 1" >variable value 1</variable>
      </session>
    </session_print_job>

    <print_job printer="Zebra R-402” quantity="10" skip=0 identical_
copies=1 number_of_sets=1 job_name="job name 2" print_to_file="filename 2">
      <variable name="variable1" >1</variable>
      <variable name="variable2" >2</variable>
      <variable name="variable3" >3</variable>
    </print_job>
  </label>
</nice_commands>
```

10.1.3 CSV Command File

The commands available in CSV command files form a subset of NiceLabel commands. You can use the following commands: **LABEL**, **SET**, **PORT**, **PRINTER** and **PRINT**.

CSV command file can be executed using the following actions:

- Run Command File
- Send Custom Commands

CSV command file is a text file in which the values are delimited by comma (`,`) character. The text file can contain Unicode value (important for multi-language data). Each line in the CSV command file contains commands for a single label print action.

The first row of CSV command file must contain commands and variable names. The order of commands and names is not important, but all records in the same data stream must follow the same structure. Variable `name-value` pairs are extracted automatically and sent to the label that is referred to them.

NOTE: No error is raised if the variable with its name included in the CSV does not exist on the label.

10.1.3.1 CSV Command File Definition

The commands in the first line of data must be expressed with at (`@`) character. The fields without @ at the beginning are names of variables, and they will be extracted with their values as `name-value` pairs.

- **@Label.** Specifies the label name to be used. It's a good practice to include label path and filename. Make sure the service user can access file. For more information, see the topic Access to Network Shared Resources in NiceLabel Automation user guide. Mandatory field.
- **@Printer.** Specifies the printer to use. It overrides the printer defined in the label. Make sure the service user can access the printer. For more information, see the topic Access to Network Shared Resources in NiceLabel Automation user guide. Optional field.
- **@Quantity.** Specifies the number of labels to print. Possible values: numeric value, VARIABLE or UNLIMITED. For more information, see the topic in NiceLabel Automation user guide. Mandatory field.
- **@Skip.** Specifies the number of labels to skip at the beginning of the first printed page. This feature is useful if you want to re-use the partially printed sheet of labels. Optional field.
- **@IdenticalCopies.** Specifies the number of label copies that should be printed for each unique label. This feature is useful when printing labels with data from database or when you use counters, and you need label copies. Optional field.
- **@NumberOfSets.** specifies the number of times the printing process should repeat. Each label set defines the occurrence of the printing process. Optional field.
- **@Port.** Specified the port name for the printer. You can override the default port as specified in the printer driver. You can also use it to redirect printing to file. Optional field.
- **Other field names.** All other fields define names of variables from the label. The field contents will be saved to the variable of the same name as its value.

10.1.3.2 CSV Command File Example

The sample below presents a structural overview of fields that you can use in a CSV command file.

```
@Label,@Printer,@Quantity,@Skip,@IdenticalCopies,NumberOfSets,@Port,Product_ID,
Product_Name
label1.nlbl, CAB A3 203 DPI, 100, , , , , 100A, Product 1
label2.nlbl, Zebra R-402, 20, , , , , 200A, Product 2
```

10.2 Variables Export File Definition

This section gives a structural overview of the elements and their attributes in a .NLVR variables export file. To understand the role of individual elements, see their definitions below.

10.2.1 .NLVR File Definition

<Variables> and <Variable>: list of all prompt label variables, each defined in a separate `Variable` element. Prompt variables are listed in the data entry table of the printing form. If there are no prompt variables defined in the label, the element `Variables` is empty.

- **Name:** variable name.
- **Description:** variable description.
- **Data Type:** defines what type of data is stored in a variable.
- **Initial value:** starting value that is assigned to a variable when created.
- **Initial value:** starting value that is assigned to a variable when created.
- **Provisional value:** defines a custom placeholder variable value in an object while designing labels or forms.
- **IsProvisionalValueAutoGenerated:** provisional value is auto-generated by the application.
- **IncrementType:** information if the variable is defined as counter, and if it is, what kind of counter it is.
- **IncrementStep:** information about the counter step. Counter value increments/decrements using this value on the next label.
- **IncrementCount:** information about the point of incrementing/decrementing the counter value. Usually, the counter changes its value on every label, but that can be changed.
- **Format:** type of content (characters) that can be accepted by the variable.
- **IsPrompted:** defines is the variable is prompted at print time or not.
- **PromptText:** text that is displayed to the print operator at print time.
- **IsValueRequired:** defines if the variable value should be defined or not.
- **IsDynamicValue:** information if the value is dynamically defined.
- **PrinterCounterType:** defines the counter type if enabled.
- **AllowedCharactersForCustomFormat:** defines if there is a specific character format allowed for the variable.
- **Length:** maximum number of characters a variable can contain.
- **MinLength:** minimum number of characters a variable can contain.
- **IsFixedLength:** the variable must contain the exact given number of characters.

- **HasMinimumValue:** defines if the minimum value is set for the variable.
- **MinimumValue:** minimum variable value.
- **HasMaximumValue:** defines if the maximum value is set for the variable.
- **MaximumValue:** maximum variable value.
- **InputFormat:** allowed input value format.
- **OutputFormat:** allowed output value format.
- **OutputLanguage:** language selection and regional variable value formatting.
- **InputFormatDecimalDelimiter:** data input format of character that separates the integer part from the fractional part of a number written in decimal form.
- **InputFormatDecimalPlaces:** data input definition for number of decimal places to be included in the variable value.
- **InputFormatDecimalSeparator:** data input format of separator (character) that groups the thousands into groups.
- **InputFormatCurrencySymbol:** data input symbol that represents the selected currency.
- **InputFormatCurrencySymbolPosition:** specifies data input position of the currency symbol.
- **OutputFormatDecimalDelimiter:** number of decimal places to be included in the variable value on the printed label.
- **OutputFormatDecimalPlaces:** number of decimal places to be included in the variable value on the printed label.
- **OutputFormatDecimalSeparator:** separator (character) that groups the thousands into groups on the printed label.
- **OutputFormatCurrencySymbol:** symbol that represents the selected currency on the printed label.
- **OutputFormatCurrencySymbolPosition:** specifies position of the currency symbol on the printed label.
- **HasPickList:** defines if pick list is enabled or not.
- **PickListValues:** the selection of pick list values.
- **HasRolloverOnMinimumMaximumValue:** defines if the counter is reset after the minimum or maximum value is reached.
- **Prefix:** prefix value that is added to the variable.
- **Suffix:** suffix value that is added to the variable.
- **PaddingType:** defines if the variable has padding characters added or not.
- **PaddingValue:** padding character.
- **HasMultilineEnabled:** divides text into multiple lines.

- **MultilineNumberOfLines:** maximum number of lines for a variable value.
- **MultilineLineLength:** maximum number of characters in a single line.
- **HasMultilineWordWrap:** divides the text into multiple lines at space character locations

NOTE: All measurement values are expressed in 1/1000 mm units.

10.2.2 XML Schema Definition (XSD) For Label Specification XML

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="Variables">
    <xs:complexType>
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Variable" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Name" type="xs:string" minOccurs="1" maxOccurs="1"></xs:element>
              <xs:choice minOccurs="0" maxOccurs="unbounded">
                <xs:element name="Description" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="DataType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -Text variable type.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Date variable type.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Time variable type.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Floating point variable type.-->
                      <xs:enumeration value="3"/>
                      <!--4 -Currency variable type.-->
                      <xs:enumeration value="4"/>
                      <!--1 -Current date variable type.-->
                      <xs:enumeration value="5"/>
                      <!--2 -Current time variable type.-->
                      <xs:enumeration value="6"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="InitialValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="ProvisionalValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="IsProvisionalValueAutoGenerated" type="xs:boolean" minOc-
curs="0"></xs:element>
                <xs:element name="IncrementType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -None of the types used.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Incremental type.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Decremental type.-->
                      <xs:enumeration value="2"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="IncrementStep" type="xs:integer" minOccurs="0"></xs:element>
                <xs:element name="IncrementCount" type="xs:integer" minOccurs="0"></xs:element>
```

```
                <xs:element name="Format" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -All characters are allowed.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Numeric characters are allowed.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Alphanumeric characters are allowed.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Letters characters are allowed.-->
                      <xs:enumeration value="3"/>
                      <!--4 -7 bit ASCI characters are allowed.-->
                      <xs:enumeration value="4"/>
                      <!--5 -Hex characters are allowed.-->
                      <xs:enumeration value="5"/>
                      <!--7 -Digits & capitals characters are allowed.-->
                      <xs:enumeration value="7"/>
                      <!--8 -Custom characters are allowed.-->
                      <xs:enumeration value="8"/>
                      <!--9 -Code 39 characters are allowed.-->
                      <xs:enumeration value="9"/>
                      <!--10 -Code 128A characters are allowed.-->
                      <xs:enumeration value="10"/>
                      <!--11 -Code 128B characters are allowed.-->
                      <xs:enumeration value="11"/>
                      <!--12 -Code 128C characters are allowed.-->
                      <xs:enumeration value="12"/>
                      <!--13 -Code 128 characters are allowed.-->
                      <xs:enumeration value="13"/>
                      <!--14 -Codabar characters are allowed.-->
                      <xs:enumeration value="14"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="IsPrompted" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="PromptText" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="IsValueRequired" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="IsDynamicValue" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="PrinterCounterType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -Printer counter unknown.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Do not use printer counter.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Always use printer count.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Use printer counter if possible.-->
                      <xs:enumeration value="3"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="AllowedCharactersForCustomFormat" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="Length" type="xs:integer" minOccurs="0"></xs:element>
                <xs:element name="MinLength" type="xs:integer" minOccurs="0"></xs:element>
                <xs:element name="IsFixedLength" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="HasMinimumValue" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="MinimumValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="HasMaximumValue" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="MaximumValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="InputFormat" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="OutputFormat" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="OutputLanguage" type="xs:integer" minOccurs="0"></xs:element>
```

```
                <xs:element name="InputFormatDecimalDelimiter" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="InputFormatDecimalPlaces" type="xs:integer"
minOccurs="0"></xs:element>
                <xs:element name="InputFormatDecimalSeparator" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="InputFormatCurrencySymbol" type="xs:string"
minOccurs="0"></xs:element>
                <xs:element name="InputFormatCurrencySymbolPosition" type="xs:integer" minOc-
curs="0"></xs:element>
                <xs:element name="OutputFormatDecimalDelimiter" type="xs:string"
minOccurs="0"></xs:element>
                <xs:element name="OutputFormatDecimalPlaces" type="xs:integer" minOc-
curs="0"></xs:element>
                <xs:element name="OutputFormatDecimalSeparator" type="xs:string"
minOccurs="0"></xs:element>
                <xs:element name="OutputFormatCurrencySymbol" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="OutputFormatCurrencySymbolPosition" type="xs:integer"
minOccurs="0"></xs:element>
                <xs:element name="HasPickList" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="PickListValues" minOccurs="0">
                  <xs:complexType>
                    <xs:sequence minOccurs="0" maxOccurs="unbounded">
                      <xs:element name="Value" type="xs:string" minOccurs="0"></xs:element>
                    </xs:sequence>
                  </xs:complexType>
                </xs:element>
                <xs:element name="HasRolloverOnMinimumMaximumValue" type="xs:boolean" minOc-
curs="0"></xs:element>
                <xs:element name="Prefix" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="Suffix" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="PaddingType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -Padding not used.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Padding on left.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Padding on right.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Padding surrounding-->
                      <xs:enumeration value="3"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="PaddingValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="HasMultilineEnabled" type="xs:boolean" minOc-
curs="0"></xs:element>
                <xs:element name="MultilineNumberOfLines" type="xs:integer"
minOccurs="0"></xs:element>
                <xs:element name="MultilineLineLength" type="xs:integer" minOc-
curs="0"></xs:element>
                <xs:element name="HasMultilineWordWrap" type="xs:boolean"
minOccurs="0"></xs:element>
              </xs:choice>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

NOTE: XML Schema Definition (XSD) for Label Specification XML is by default accessible at: `c:\Program Files\NiceLabel\NiceLabel 2017\bin.net\Configuration\Variables.xsd`.

10.2.3 .NLVR File Example

```
Variables>
  <Variable>
    <Name>Sample variable</Name>
    <Description>Describes the variable</Description>
    <DataType>0</DataType>
    <InitialValue>1</InitialValue>
    <ProvisionalValue>1</ProvisionalValue>
    <IsProvisionalValueAutoGenerated>1</IsProvisionalValueAutoGenerated>
    <IncrementType>0</IncrementType>
    <IncrementStep>1</IncrementStep>
    <IncrementCount>1</IncrementCount>
    <Format>0</Format>
    <IsPrompted>1</IsPrompted>
    <PromptText>Enter the required value.</PromptText>
    <IsValueRequired>1</IsValueRequired>
    <IsDynamicValue>0</IsDynamicValue>
    <PrinterCounterType>3</PrinterCounterType>
    <AllowedCharactersForCustomFormat />
    <Length>20</Length>
    <MinLength>0</MinLength>
    <IsFixedLength>0</IsFixedLength>
    <HasMinimumValue>0</HasMinimumValue>
    <MinimumValue />
    <HasMaximumValue>0</HasMaximumValue>
    <MaximumValue />
    <HasPickList>1</HasPickList>
    <PickListValues>
      <Value>1</Value>
      <Value>2</Value>
      <Value>3</Value>
    </PickListValues>
    <HasRolloverOnMinimumMaximumValue>0</HasRolloverOnMinimumMaximumValue>
    <Prefix>pre</Prefix>
    <Suffix>post</Suffix>
    <PaddingType>1</PaddingType>
    <PaddingValue>_</PaddingValue>
  </Variable>
</Variables>
```

10.3 Oracle WMS File Definition

This section describes the content of Oracle WMS file. Oracle defines the XML format so that the XML contents can be understood, parsed and then printed as a label.

The XML Document Type Definition (DTD) defines its XML tags to be used in an XML file. Oracle generates XML files according to this DTD and so does the 3rd party software translates the XML according to this DTD.

10.3.1 XML DTD

The below shown example is the XML DTD that is used in forming the XML for both the synchronous and asynchronous XML formats. DTD defines the elements that are used in the XML file, a list of their attributes, and the next level elements.

```
<!ELEMENT labels (label)*>
<!ATTLIST labels _FORMAT CDATA #IMPLIED>
<!ATTLIST labels _JOBNAME CDATA #IMPLIED>
<!ATTLIST labels _QUANTITY CDATA #IMPLIED>
<!ATTLIST labels _PRINTERNAME CDATA #IMPLIED>
<!ELEMENT label (variable)*>
<!ATTLIST label _FORMAT CDATA #IMPLIED>
<!ATTLIST label _JOBNAME CDATA #IMPLIED>
<!ATTLIST label _QUANTITY CDATA #IMPLIED>
<!ATTLIST label _PRINTERNAME CDATA #IMPLIED>
<!ELEMENT variable (#PCDATA)>
<!ATTLIST variable name CDATA #IMPLIED>
```

10.3.2 Sample Oracle XML

This is the Oracle XML providing data for a single label (there is just one `<label>` element).

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE labels SYSTEM "label.dtd">
<labels _FORMAT ="Serial.nlbl" _QUANTITY="1" _PRINTERNAME="" _JOBNAME="Serial">
    <label>
        <variable name= "item">O Ring</variable>
        <variable name= "revision">V1</variable>
        <variable name= "lot">123</variable>
        <variable name= "serial_number">12345</variable>
        <variable name= "lot_status">123</variable>
        <variable name= "serial_number_status">Active</variable>
        <variable name= "organization">A1</variable>
    </label>
</labels>
```

When executing this sample Oracle XML file, the label `serial.nlbl` is printed with the following variable values.

Variable Name	Variable Value
item	O Ring
revision	V1
lot	123
serial_number	12345
lot_status	123
serial_number_status	Active
organization	A1

The label will be printed in a single `1` copy, with the spooler job name `Serial`. Printer name is not specified in the XML file, so the label will print to the printer as defined in the label template.

10.4 Importing Variables From Legacy Labels

Legacy NiceLabel label format (.LBL) is supported by NiceLabel 2017. This means that labels which have been created using NiceLabel Designer Express V6 can be imported into NiceLabel 2017 along with their variables.

Generally speaking, imported variables with matching names from legacy label files are merged with variables on labels created using NiceLabel 2017. Because you might come across issues with variable importing, please read the below listed rules under which the variables are imported and integrated into a .NLBL label file.

TIP:
Merged variable is a variable that displays the value after the import from Designer V6 to NiceLabel 2017 label file.
Merging variable is a variable that is imported to NiceLabel 2017 label file.
Original variable is a variable in NiceLabel 2017 label file.

1. **Variables** with matching names are merged in a NiceLabel 2017 label file in the following cases:
    - **Data Type** of variables (Text, date, Time, etc.) is the same.
    - Variable values are equal.
    - One of the variables is a Counter.
    - Variables have either defined fixed length or not.
2. **Variables** with matching names are merged with a reported conflict in the following cases:
    - Input formats, dynamic values, prefix/suffix, or padding types/values of variables are different.
    - Length of variable values is defined as fixed. In case of non-matching lengths of values, merged variables report a conflict.
    - Variables have multiline values. With non-matching number of lines, line length, or word wrap, merged variables report a conflict.
    - Min and max values of merged variables do not match.
3. **Counters** with matching names are merged with a reported conflict in the following cases:
    - Step, count, and increment type do not match. Merged variables report a conflict.
    - Differences in rollover settings: min/max value, counter type, rollover on variable change, variable reference, date/week rollover type, day rollover time. In case of non-matching values, merged variables report a conflict.

- Printer counter is enabled. If the internal counter types do not match, merged variables report a conflict.

4. General rules for conflicting values of merged variables.
    - Value of the original variable is used for prefix, suffix and padding. If these values are empty, the value of merging variable is used instead.
    - If one of the variable values is dynamic, the merged variable displays the dynamic value.
    - If the variables have values with fixed lengths, the higher value is assigned to the merged variable.
    - If one of the variables has enabled multiline value, its value is assigned to the merged variable.
    - If the variables have defined line length and number of lines, the higher value is assigned to the merged variable.
    - If one of the variables has enabled word wrap, its value is assigned to the merged variable.
    - If the both variables have defined min and max values, the merging variable value is assigned to the merged variable. If not, the original value is used instead.
    - In case of non-matching counter values, the value of merging variable is assigned to the merged variable.

10.5 Licensing And Printer Usage

DESIGNER PRODUCT LEVEL INFO: This section is applicable to PowerForms Suite.

Depending on the license type, your copy of NiceLabel 2017 product might be limited to a number of printers you can use simultaneously. In case of a multi-user license, NiceLabel 2017 keeps a track of the number and names of different printers you have used for printing on all NiceLabel clients in your environment. The unique printer identifier is a combination of printer driver name (not printer name), printer location and port.

"To use a printer" means that one of the below listed actions has been taken within a solution:

- Print Label
- Set Printer
- Send Data To Printer
- Define Printer Settings
- Set Print Parameter

Each of these actions signalizes that a printer has been used. The associated printer is added to the list of used printers and remains listed for 7 days from the last usage. To remove a printer from the list, do not use it for a period of 7 days and it will be automatically removed. The software will display the **Last Used** information so you know when the 7-day will pass for each printer. You can bind a printer seat with a specific printer, by clicking the **Reserved** check box. This will ensure the printer availability at all times.

WARNING: If you exceed the number of seats defined by your license, the software enters a 30-day grace period. While in this mode, the number or allowed printers is temporarily incremented to twice the number of purchased seats.

Grace period provides plenty of time to resolve the licensing problems without any printing downtime or loss of the ability to design labels. This is usually an effect of replacing printers in your environment, when the old and new printers are used simultaneously, or when you add new printers. If you do not resolve license violation within the grace period, the number of available printers will reduce to the number purchase seats starting from the recently used printers in the list.

TIP: To learn more about NiceLabel 2017 licensing, read the dedicated document.

10.6 Spell Checking Support

Spell checker for entered text in Edit field and Memo field objects language support depends on the operating system. Table below lists languages that can be spell-checked in Windows 8.1 and 10.

Culture	IETF Language Tag	Win 8.1	Win 10
Arabic_SaudiArabia	ar-SA	Yes	Yes
Bulgarian_Default	bg-BG	Yes	Yes
Catalan_Default	ca-ES	Yes	Yes
Czech_Default	cs-CZ	Yes	Yes
Danish_Default	da-DK	Yes	Yes
German_German	de-DE	Yes	Yes
Greek_Default	el-GR	Yes	Yes
English_US	en-US	Yes	Yes
Finnish_Default	fi-FI	Yes	Yes
French_French	fr-FR	Yes	Yes
Hebrew_Default	he-IL	Yes	Yes
Italian_Italian	it-IT	Yes	Yes
Dutch_Dutch	nl-NL	Yes	Yes
Norwegian_Bokmal	nb-NO	Yes	Yes
Polish_Default	pl-PL	Yes	Yes
Portuguese_Brazil	pt-BR	Yes	Yes
Romanian_Default	ro-RO	Yes	Yes
Russian_Default	ru-RU	Yes	Yes

Culture	IETF Language Tag	Win 8.1	Win 10
Croatian_Default	hr-HR	Yes	Yes
Slovak_Default	sk-SK	Yes	Yes
Swedish_Default	sv-SE	Yes	Yes
Turkish_Default	tr-TR	Yes	Yes
Indonesian_Default	id-ID	Yes	Yes
Ukrainian_Default	uk-UA	Yes	Yes
Slovenian_Default	sl-SI	Yes	Yes
Latvian_Default	lv-LV	Yes	Yes
Lithuanian_Default	lt-LT	Yes	Yes
Hindi_Default	hi-IN	Yes	Yes
Portuguese_Portugal	pt-PT	Yes	Yes
Spanish_Modern	es-ES	Yes	Yes
Hungarian_Default	hu-HU	No	Yes
Urdu_Default	ur-PK	No	Yes
Vietnamese_Default	vi-VN	No	Yes
Malay_Malaysia	ms-MY	No	Yes
Punjabi_Default	pa-IN	No	Yes
Gujarati_Default	gu-IN	No	Yes
Tamil_Default	ta-IN	No	Yes
Telugu_Default	te-IN	No	Yes
Kannada_Default	kn-IN	No	Yes
Malayalam_Default	ml-IN	No	Yes
Marathi_Default	mr-IN	No	Yes
English_UK	en-GB	No	Yes
Bengali_Default	bn-BD	No	Yes

10.7 Session Printing

Session printing enables printing of multiple labels using a single print job. If session printing is enabled, the printer receives, processes and prints all labels in the print job at once. As a result, printing speed increases due to continuous process of bundled label printing.

TIP: Session printing serves as an alternative to the normally used non-session printing, during which each label is sent to a printer as a separate print job.

NOTE: NiceLabel 2017 activates session printing automatically based on the configuration of actions.

How does session printing start?

Session printing automatically starts if For Loop or For Every Record actions are present in the workflow. In such case, the nested Print Label action automatically enables session printing. This means that print actions for all items in the loop are included in a single print job.

How does session printing end?

Each session printing ends either with a finished loop or with Print Label action combined with at least one of the following conditions:

- Printer changes. If you select another printer using the Set Printer action, session printing ends.
- Printer port changes. If you redirect the print job to a file using the Redirect Printing to File action, session printing ends.
- Label changes. If you select another label to be printed using Open Label action, session printing ends.
- Custom command that ends session printing is sent. If you send `SESSIONEND` command using the Send Custom Command action, session printing ends.

  NOTE: In this case, `SESSIONEND` must be sent as the only item in Send Custom Command action. If you would like to send additional commands, use separate Send Custom Command actions.

NOTE: More complex configurations might have multiple loops nested within each other. In such case, session printing ends when the outermost parent loop exits.

10.8 Tracing Mode

By default, NiceLabel 2017 logs events into the log database. This includes higher-level information, such as logging of action execution, logging of filter execution and logging of trigger status updates. For more information, see section Event Monitoring.

However, the default logging doesn't log the deep under-the-hood executions. When troubleshooting is needed on the lower-level of the code execution, tracing mode must be enabled. In this mode, NiceLabel 2017 logs the details about all internal executions that take place during event processing.

NOTE: Tracing mode should only be enabled during troubleshooting to collect logs and then disabled to enable normal operation.

WARNING: Tracing mode slows down processing and should only be used when instructed so by the technical support team.

To enable the tracing mode, do the following:

1. Navigate to the System folder.

   EXAMPLE: %PROGRAMDATA%\NiceLabel\NiceLabel 2017

2. Make a backup copy of the `product.config` file

3. Open `product.config` in a text editor. The file has an XML structure.
4. Add the element `Common/Diagnostics/Tracing/Enabled` and assign value **True** to it.

   The file includes the following contents:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
    <Common>
        <Diagnostics>
            <Tracing>
                <Enabled>True</Enabled>
                <Folder>c:\Troubleshooting\TracingLogs</Folder>
            </Tracing>
        </Diagnostics>
    </Common>
...
</configuration>
```

5. After you save the file, NiceLabel Designer Service will automatically apply the setting.
6. By default, tracing files (*.LOG) will appear in the same System folder.

> NOTE: You can override the log folder by specifying it in the element `Folder`. This element is optional.

11 How To

11.1 Entering Characters With <#hex_code> Syntax

Another method of entering special characters is using the syntax <#hex_code>. The hex_code stands for a two-character mark in hexadecimal numerical system. The appropriate values go from 0 (decimal 0) to FF (decimal 255).

EXAMPLE: <#BC> (decimal 188) would be the same as <FNC1>, as they both would encode the character with ASCII code 0188.

11.2 Entering Characters With Alt+<ASCII_code>

This method is valid only for characters that are above ASCII code 32. A typical example would be FNC codes that are used to encode GS1-128 barcode data. Labeling software encodes this type of barcode according to standards – normally you would not have to change anything about it. However, sometimes it becomes necessary to manually add such character to label data.

To include Function Codes, enter the appropriate character for Function Code. ASCII codes of Function Codes are as follows:

FNC1	0188
FNC2	0189
FNC3	0190
FNC4	0191

To enter a character for FNC1, press and hold down the left `Alt` key and type in digits 0188 on the numeric keyboard. Note the leading zero is mandatory. Release Alt and the FNC1 character appears.

These characters can be entered directly using the keyboard.

11.3 Automatic Font Replacement

You might design your label templates to print text objects using internal printer fonts. When printing such label to a different kind or printer, the selected fonts might not be available on that specific printer. The new printer probably supports an entirely different set of internal fonts. The font layout might be similar, but is available under a different name.

Similar problem might occur when the Truetype font that is used on the label is not installed on the target machine, where Designer is going to be used to design and print labels.

Designer can be configured to automatically replace the fonts used on the label with compatible fonts. You can configure font mapping based the font names. When the original font is not found, Designer uses the first available replacement font defined in the mapping table.

If no suitable replacement font is found, Arial Truetype font is used.

NOTE: If you configure font replacement feature, mapping rules execute when the printer on the label is changed.

11.3.1 Configuring The Font Mapping

To configure custom font mapping, do the following:

1. Open file explorer and navigate to the following folder:

```
%PROGRAMDATA%\NiceLabel\NiceLabel Designer
```

2. Open the file **fontmapping.def** in your favorite text XML editor.
3. Inside the element **FontMappings**, create a new element with a custom name.
4. Inside the new element, create at least two elements named as **Mapping**.
    - Value of the first element named **Mapping** must contain the name of the original font.
    - Value of the second element named **Mapping** must contain the name of the replacement font.

    NOTE: Additional Mapping elements with new font names are allowed. If the first replacement font is not available, Designer tries the next one. If no replacement fonts are available, Arial Truetype is used instead.

11.3.2 Sample Mapping Configuration

In the below shown example, two mapping rules are defined.

- The first mapping rule converts any **Avery** font into a matching **Novexx** font. For example, a font named **Avery YT100** will be replaced with a font named **Novexx YT100**, and a font named **Avery 1** will be replaced with a font named **Novexx**. If the **Novexx** font is not available, **Arial** Truetype font will be used.
- The second mapping rule converts a font named **Avery YT100** into a font named **Novexx YT104**. If this font is not available, font **Zebra 0** will be used. If this font is also not available **Arial** Truetype will be used.
- The second mapping rule overrides the first one.

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<FontMappings>
  <AveryNovexx>
    <Mapping>Avery</Mapping>
    <Mapping>Novexx</Mapping>
  </AveryNovexx>
  <TextReplacement>
    <Mapping>Avery YT100</Mapping>
    <Mapping>Novexx YT104</Mapping>
    <Mapping>Zebra 0</Mapping>
  </TextReplacement>
</FontMappings>
```

11.4 Design Label With Variable Length

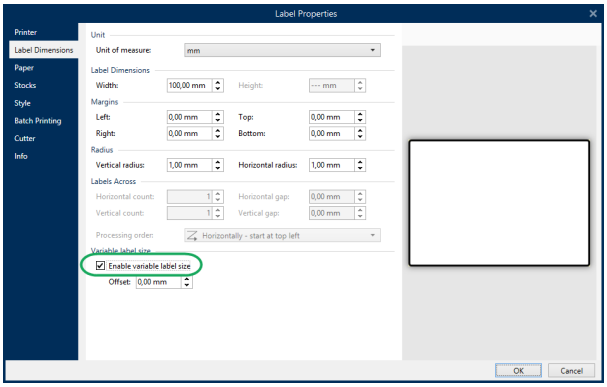
In most label-printing scenarios you design and print the label with fixed dimensions. The label width and height do not change so you must make sure to fit all objects on the label.

However, in some cases you need the ability to design the label with the variable length. The label length changes in accordance to the size of the label objects. When you assign more data to the label objects, their size increases and occupies more space on the label. In order to fit such objects on the label, the label height must change.

NOTE: The requirement for variable label sizing is quite often in the textile industry, where labels print to endless label material. There are no gaps between the labels. The printer cutter cuts the material after the label prints.

To enable the variable label sizing, do the following:

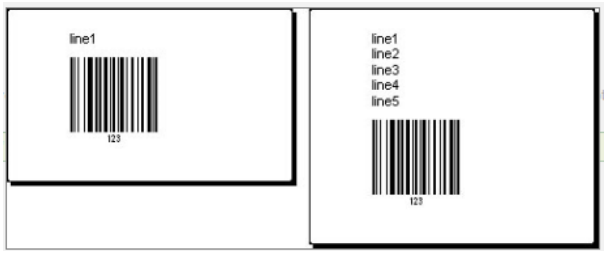
1. Open the label properties dialog.
2. Go to the Label Dimensions tab.
3. Enable the **Enable variable label size** option.



4. **Offset** defines the amount of space between the last object on the label and the bottom label edge.

See the screenshots below to understand the automatic label resizing function.

Variable label size is enabled on the label. 1 cm wide gap is set between the bottom label border and the last object on the label – barcode in this case. The text object is a multi-line object. If you enter more data for the text object, the label height must increase to accommodate for the larger text object.



Variable label sizing feature increases label height on demand

To make the most of variable label sizing, enable object relative positioning (open **object properties > Position > Relative position** tab). In this case, the objects are not always be placed on the same spot on the label. Their placement changes in accordance with the placement of reference objects.

NOTE: If you enable variable label sizing, the Labels Across option can no longer be used.

11.5 Multicolor Printing

Some thermal printers support multicolor printing. They use multiple heads, each head for a ribbon of a different color. The colors for each printer head are customizable and can be defined in the printer driver. Each print head is assigned a color that matches the used ribbon. The same colors become available in the labeling software. For multicolor printing to work you need to use the appropriate NiceLabel printer driver.

Color palette synchronizes the available colors with settings in the printer driver. All colors you have defined in the printer driver are retrieved in the labeling software and made available for

color selection. Color palette, color selection dialog box and label properties dialog box all display only the available colors from the printer. Each label object can then easily be assigned some of the available colors. The object is then printed using that same color. More than one color cannot be used with a single label object.

When you use color images on the label, their appearance on the label changes. They cannot be printed in more colors than supported by the printer. The images are not displayed in full color. Each image is converted to monochrome graphics and previewed on the label as such. Conversion from color to monochrome graphics is done using dithering setting in the driver. You can assign the image one color and thus the print head where the image will be printed.

The colors on the label identify which printer head will be used for printing the objects.

11.6 How To Create A GS1 Compliant Label

The GS1 System provides for the use of unambiguous numbers to identify goods, services, assets, and locations worldwide. These numbers can be represented in barcodes to enable their electronic reading wherever required in business processes.

GS1-128 is an application standard of the GS1 implementation using the Code 128 barcode specification. The former correct name was UCC/EAN-128.

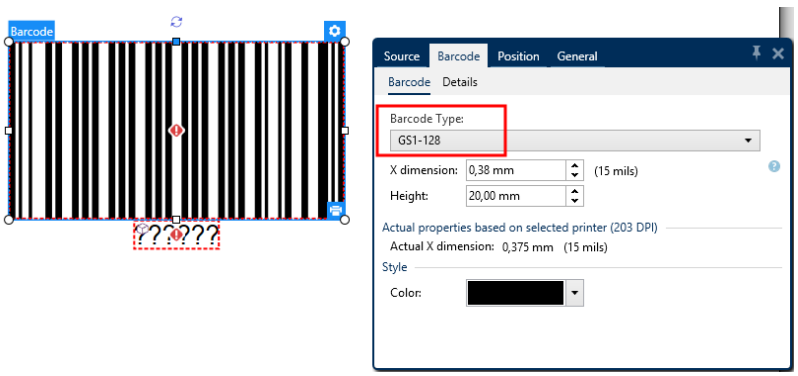
GS1-128 uses a series of Application Identifiers (AI)to include additional data such as best before dates, batch numbers, quantities, weights and many other attributes needed by the user.

- See section describing the GS1 function to read more about the AIs.
- Official recommendations for creating a GS1 compliant label are available here.

11.6.1 Add Barcode Content Using GS1-128 Function

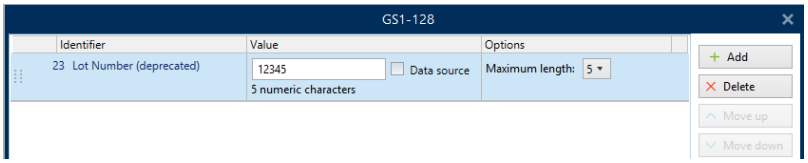
Complete the following steps to assign GS1-128 compliant data structure to a barcode:

1. Create a new label.
2. Add a Barcode object to design surface.
3. Select GS1-128 as barcode type on **Barcode** tab.



NOTE: GS1-128 barcode selection results in creating a Barcode and a Text object. Barcode object includes the symbol while the Text object includes GS1-128 function content. GS1-128 function to which both objects are connected is automatically added to the dynamic data explorer.

4. Click **Source** tab and open the **Edit Function Definition** dialog.
5. Add LOT Number AI.
6. Enter the sample data, for example 12345.



7. Add another AI, such as Expiration Date, for example June 3, 2016 (in YYMMDD format).
8. Click **OK**.

GS1-128 barcode is placed on the label containing LOT and expiration date.

11.7 Printing Of Unlimited Data

When printing labels with **All (unlimited quantity)** option selected, the labels are in fact printed in various quantities, depending on the label content.

All (unlimited quantity) option sets the printing quantity in two ways.

11.7.1 Label With Connected Database Or Counter

With **All (unlimited quantity)** option selected, the number of printed labels is not limited upfront. It is determined by one of the following properties:

- Number of database records to be printed.
- Quantity set by the counters used on the label.

TIP: All (unlimited quantity) option is useful when printing labels connected to a database. The number of labels to be printed for such labels is usually not known in advance. After

selecting this option, all relevant records from the connected database are printed.

NOTE: With multiple databases or counters for print quantity, the one with the lowest value actually determines the number of printed labels.

EXAMPLE:
Counter value: 90
Number of database values: 100
Number of printed labels under All (unlimited quantity): 90

11.7.2 Label Without Connected Database Or Counter

If a label does not use database or counter objects, a maximum supported number of identical label copies is printed. In such case, the printing continues until:

- Printer is switched off.
- Printer receives a command to clear its memory buffer.

NOTE: When printing identical label copies use a NiceLabel printer driver to print the labels. The driver is aware of printer's quantity limitations and prints the exact supported amount of labels.

TIP: In this case, if the maximum print quantity the printer supports is 32000, that many labels are printed after selecting **All (unlimited quantity)**.

11.8 Using Printer Internal Counter

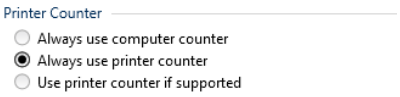
Almost all thermal printers support internal increment counter functionality. This is a special printer counter that counts labels internally. The printer only receives the first value of the counter and automatically increments the counter in steps of 1 on the subsequent labels.

TIP: Internal counters reduce the amount of data transferred between computer and printer as only start value is sent to printer. This speeds up the label production significantly.

1. Add a new Counter variable. To use counter as internal printer element, pay attention to the following settings:
2. The variable's maximum length is limited by you printer. You should find this value in your printer's Owner Manuals. If you can not find this value, experiment.
3. The variable length has to be set by enabling the **Limit length** option (go to **Counter properties > Input rules**).
4. Set allowed characters to **Numeric**.
5. The Text object linked to the variable must be formatted as internal printer font (make

sure the **Show printer fonts only** option is enabled.

6. Enable the option **Always use printer counter** in the **Source** tab. This option is available only if the counter variable has been set up properly.



7. A symbol for internal printer must appear in the bottom right corner of the Text object which contains the counter value.

11.9 Installation Of Printer Drivers

There are two ways to install NiceLabel printer drivers:

- Use NiceLabel **PrnInst** application (recommended).
- Use **Windows Add** printer process (alternative option).

NOTE: For detailed instructions on how to install printer drivers, refer to the document NiceLabel Printer Drivers Installation Guide.

12 Online Support

You can find the latest builds, updates, workarounds for problems and Frequently Asked Questions (FAQ) on the product web site at www.nicelabel.com.

For more information please refer to:

- Knowledge base: http://www.nicelabel.com/support/knowledge-base
- NiceLabel Support: http://www.nicelabel.com/support/technical-support
- NiceLabel Tutorials: http://www.nicelabel.com/learning-center/tutorials
- NiceLabel Forums: http://forums.nicelabel.com/

NOTE: If you have a Service Maintenance Agreement (SMA), please contact the premium support as specified in the agreement.

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