NiceLabel 2019
User Guide for Designers

Product level: Designer Express, Rev-2019-1 ©NiceLabel 2018

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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.

3.1.2 Object

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 Office 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.

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
Select all	Ctrl+A
Run the startup form	Ctrl+D
Paste	Ctrl+V
Cut	Ctrl+X
Move up	↑
Move right	→
Move down	↓
Move left	←
Close	Alt+F4
Zoom to document	Ctrl+0

Action	Press
Bold	Ctrl+B
Copy	Ctrl+C
Italic	Ctrl+I
Close solution	Ctrl+L
Zoom Out	Ctrl+minus sign on numeric keypad
Zoom In/Out	Ctrl+mouse scroll up/down
Open	Ctrl+O
Print	Ctrl+P
Zoom In	Ctrl+plus sign on numeric keypad
Run the currently opened form	Ctrl+R
Save	Ctrl+S
Open blank label connected to default printer	Ctrl+Shift+N
Redo	CTRL+Y
Undo	Ctrl+Z
Cancel	Esc
Move Focus	Tab or Shift+Tab
Run Form Debugger when form is running	Ctrl+Shift+F12
Start form and Form Debugger at the same time to debug the onFormLoad events	Ctrl+Shift+R

3.3 Options (Configuring the Program)

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 and picture files.
- Language: selects user interface language. Select the preferred language from the listed options. Designer interface language changes after the restart.
- **Printer usage:** locally logged usage of installed printers.
- Designer: enables you to configure opening behavior of NiceLabel 2019.

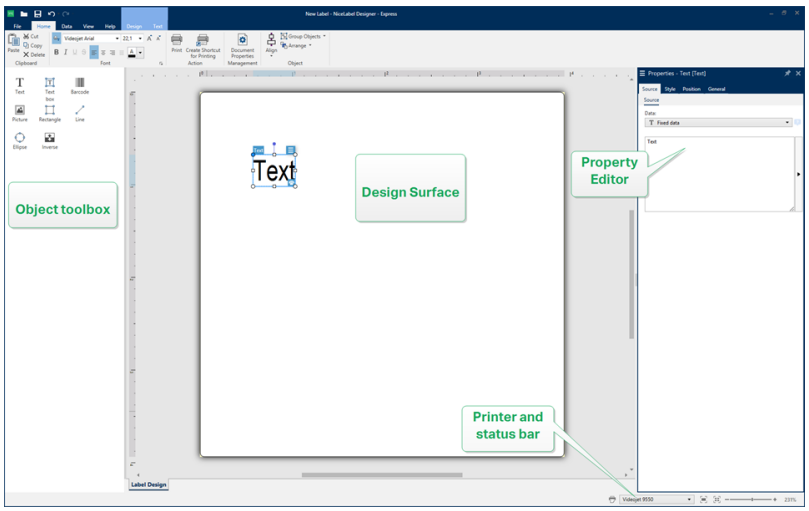
4 Workspace Overview

Designer's workspace offers a flexible and easy-to-use environment for simple label designing.

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 2019 completes loading. It consists of the following segments:

- **New document area:** creates new or opens existing Designer documents:
  - **Create a New Label:** creates a new label document.
- **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 learn more about NiceLabel 2019.

- **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 in just minutes.
- **User Guides:** user guides offer the most comprehensive collection of helpful descriptions and instructions on how to use NiceLabel 2019. 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. Use sample files to get familiar with NiceLabel 2019, 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 2019 – license, license key, and installed version. If a newer version of NiceLabel 2019 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 objects. These object are ready to be used on a label. Click the selected object and drag it to the design surface.

4.3 Printer and Status Bar

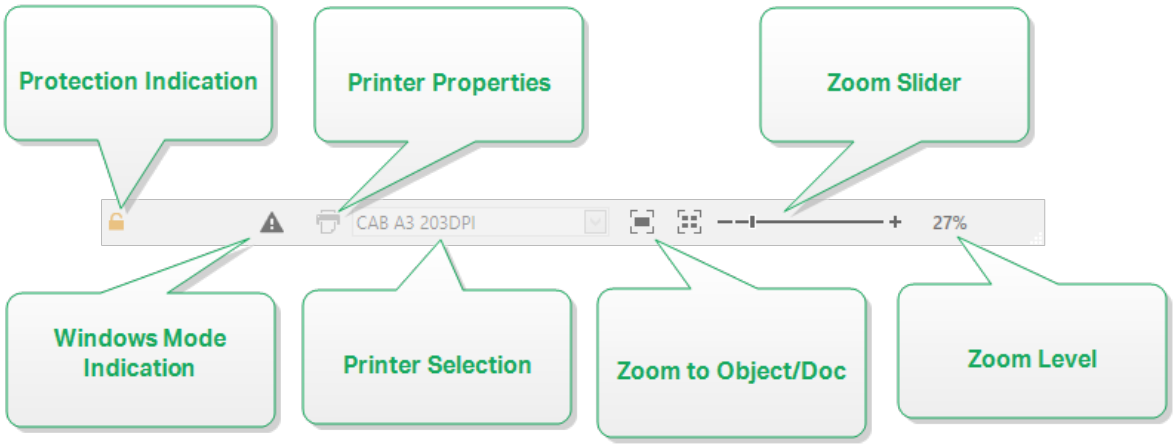
Printer and Status bar stretches over the bottom of the Designer window. It performs the following roles:

- **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

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.
- Open: allows opening existing label.
- Save: saves the active label.
- Save as: allows saving the active label file by defining its name and location.
- Print: opens the printing form.
- **Close:** closes the current Designer document.
- 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 it to create or open documents, access recently opened files, preview files and learn more about NiceLabel 2019.

4.4.3.2 New

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.

TIP: There are two ways of opening new labels. You can decide to open each additional document in a separate instance (window) of NiceLabel 2019. An alternative way is to open additional documents within the already opened instance of NiceLabel 2019. To select the way that suits you better, go to **File > Options >** Designer.

4.4.3.3 Open

Open dialog allows opening existing label files.

Browse allows selecting the label 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 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 file by defining its name and location.

Recent folders field lists the folders that were recently used for saving the label 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)

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 and picture files.
- Language: selects user interface language. Select the preferred language from the listed options. Designer interface language changes after the restart.
- **Printer usage:** locally logged usage of installed printers.
- Designer: enables you to configure opening behavior of NiceLabel 2019.

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 Designer

Designer tab enables you to configure opening behavior of NiceLabel 2019.

- **Open or create documents in new instances:** if enabled, additionally opened documents appear in separate instances (windows) of NiceLabel 2019. This applies to both – newly created and existing labels.

  If you decide to disable this option, additionally opened documents will appear within the currently active instance of NiceLabel 2019.

4.4.3.8 About

The Designer's **About** dialog page provides information about your NiceLabel product license, enables license purchasing (when in trial mode) and activation, provides software details, allows you to sign in to your Label Cloud account, and enables you to change the Designer product level.

- **Trial mode duration:** information about the remaining days for product evaluation.
- **Purchase License:** button directs you to the NiceLabel online store.
- **Activate license:** button opens the Designer license activation dialog. See NiceLabel 2019 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.

  NOTE: These segments are no longer visible after purchasing and activating the product license.

- **Product level** tells you of you are running the Designeras Express, Pro or PowerForms
- **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 take effect after you restarting the Designer.

NOTE: If NiceLabel 2019 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.

- **License type:** is the type of license that you are using to run the NiceLabel 2019. If you activated the Designer by signing into the Label Cloud, here is where you see the **Edition** of your cloud.
- **Upgrade license:** opens the product level upgrade dialog. See NiceLabel 2019 installation guide for details about the license upgrade process.

NOTE: NiceLabel 2019 upgrades automatically if the upgraded license is available on your network.

- **Printer limit:** is the maximum number of printers that you can use with your Designer Express license.
- **Account:** if you are signed into Label Cloud, Designer displays the name of you cloud account.
- **User:** if you are signed into Label Cloud, Designer displays your Label Cloud user name.

Software information group contains information about the installed copy of NiceLabel 2019– license, license key, and installed version. If a newer version of NiceLabel 2019 is available, a notification link appears on the page automatically. Click on the link to download and install the latest version.

4.4.3.8.1 Losing Your Label Cloud Connection

PRODUCT LEVEL INFO: This section is applicable if your NiceLabel 2019 is signed in to the Label Cloud

If your Designer is signed in to the Label Cloud, and you lose the internet connection, you must reestablish the connection in up to five days. Without reconnecting with your Label Cloud, Designer closes automatically.

After losing the internet connection, and if your computer stays offline, a warning appears in 5 days. Designer closes 5 minutes after you see the warning.

After you reestablish the internet connection, open Designer and sign in to the Label Cloud. This makes your copy of Designer active again.

WARNING: Save your work to an offline location (your computer) to prevent losing any changes.

4.4.4 Home Tab

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 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 to another.

TIP: Copying and pasting of textual (plaint text) 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

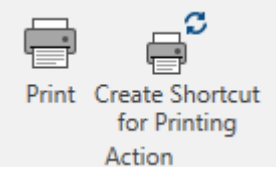
Font group defines font properties:

- **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 properties.

4.4.4.5 Object Grouping And Arranging,

The **Object** group helps you work with mutiple objects.

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

- **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.

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

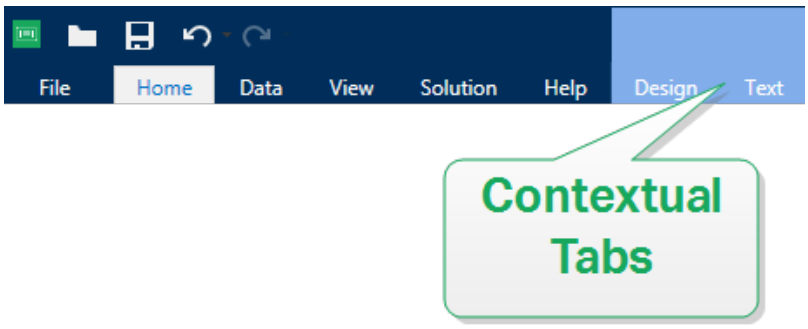
Rotate view button rotates the design surface clockwise. Horizontal and vertical rulers adapt to the current position of the design surface.

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.



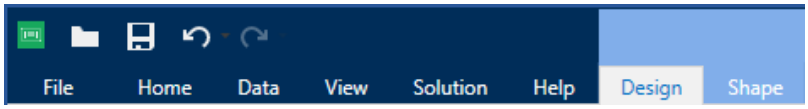
4.4.7.1 Label-specific Contextual Tabs

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 how objects are positioned in a group.

- **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:

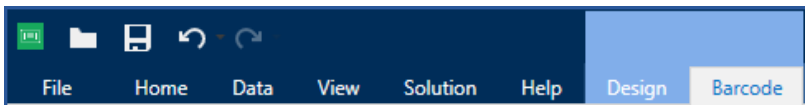
- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest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

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 allows you to choose the barcode type and to set the dimensions of your barcode symbol.

> 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** defines its specific subtype to be used on the label.
- **X dimension:** width of the barcode's narrow bar in the selected **Unit of measurement**.
- **Height:** vertical dimension of your barcode in the selected **Unit of measurement**.
- **Ratio** defines the ratio between the barcode's narrow and wide bar widths.

  Each barcode type's range of permitted ratios is limited by the standard. Designer only allows you to use valid ratios. By default, the ratio is set to 3. This means that the wide bar is 3 times the width of a narrow bar.

  > NOTE: The available ratios depend on the selected **X dimension**. If you are changing the X dimension, this also affects the selection of available 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**.

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 how objects are positioned in a group.

- **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.

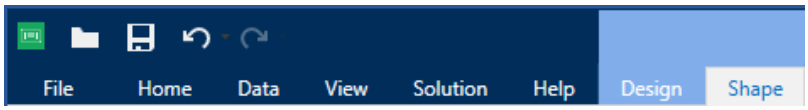
Vertical alignment options are:

- **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.

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.
- **Clear:** 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 how objects are positioned in a group.

- **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.

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 how objects are positioned in a group.

- **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:

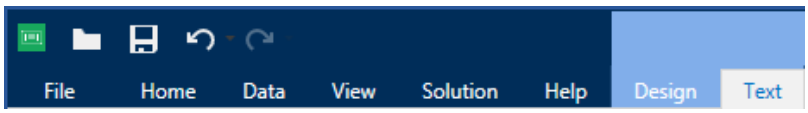
- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest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

4.4.7.1.5 Text Contextual Tab

Text tab serves as a contextual tab that defines formatting of Text object.



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 visible on the list of available fonts. These are the **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.

Arrange

Arrange group defines how objects are positioned in a group.

- **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:

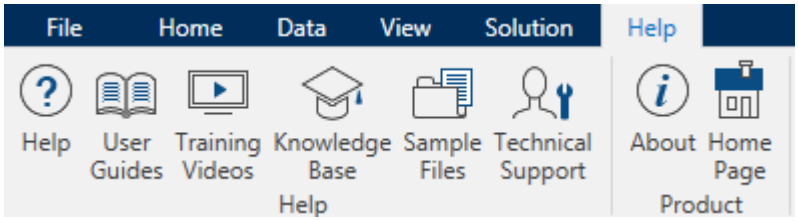
- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest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

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.
- **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 Office applications.

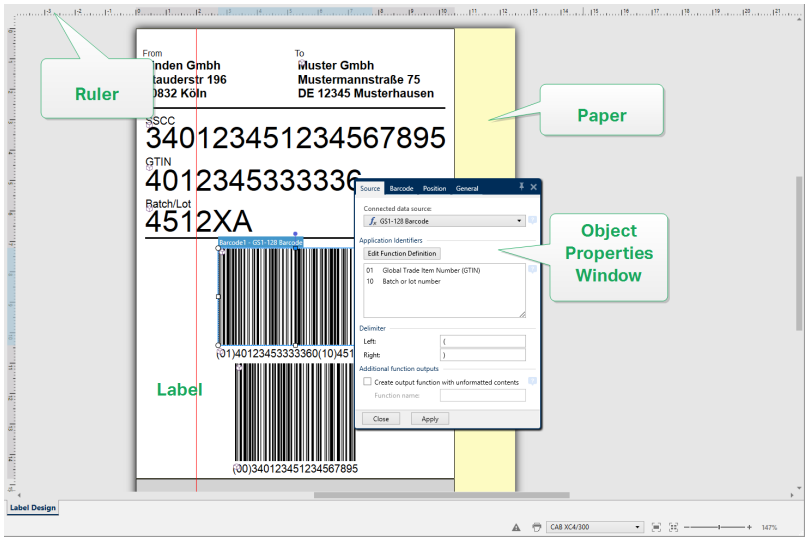
TIP: Use View tab to customize design surface.

- 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.



4.5.2 Design Surface Editing Actions

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

- **Object arranging:** allows the objects to be placed in front or behind other objects in a group. Arranging 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 simultaneously.
- **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.

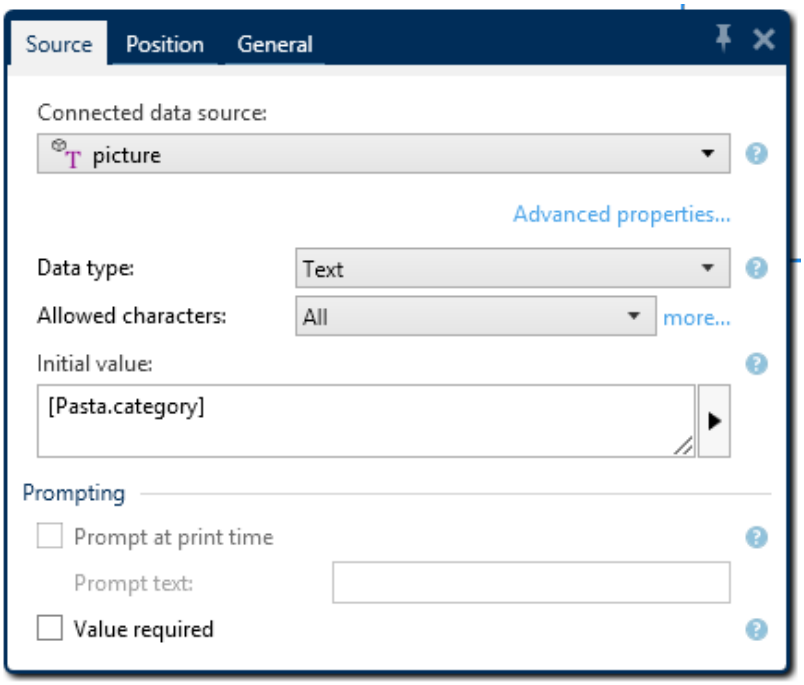
- **Gridlines** serve as a visual aid during the design process. They can be either visible or hidden. Their density is customizable. Gridline options are available in Designer's Visual aids ribbon group.
- **Snaplines** are non-visible alignment lines that help the user align the objects during the 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 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

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

- **Document Properties:** opens the 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.
- **Select all:** selects all object on the design surface.
- **Align to 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 to grid:** makes the object on the design surface align with gridlines. When moving the object, it always snaps to the gridline.
- **Display gridline guides:** makes the gridlines visible.
- **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.
- **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

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

- **Properties:** opens object 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:** 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

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

- **Properties:** opens common object properties dialog.
- **Copy:** copies the selected content to the clipboard
- **Cut:** removes the selected object(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:** deletes the selected object(s) from the design surface.
- **Lock:** prevents the selected objects from being moved.
- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange group defines how objects are positioned in a group.

- **Send backward:** moves the selected object down one level.
- **Send to back:** moves the selected object to the bottom of the object stack.
- **Bring forward:** moves the selected object up one level.
- **Bring to front:** moves the selected object to the top of the object stack.

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.

  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.

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.

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

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

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

5.1.1 Label Setup Wizard Step 1: Select The 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 available 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.

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 Label Setup Wizard Step 2: Set The 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 Label Setup Wizard Step 3: Select The 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 Label Setup Wizard Step 4: Specify The 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 Label Setup Wizard 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 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.

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 available 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

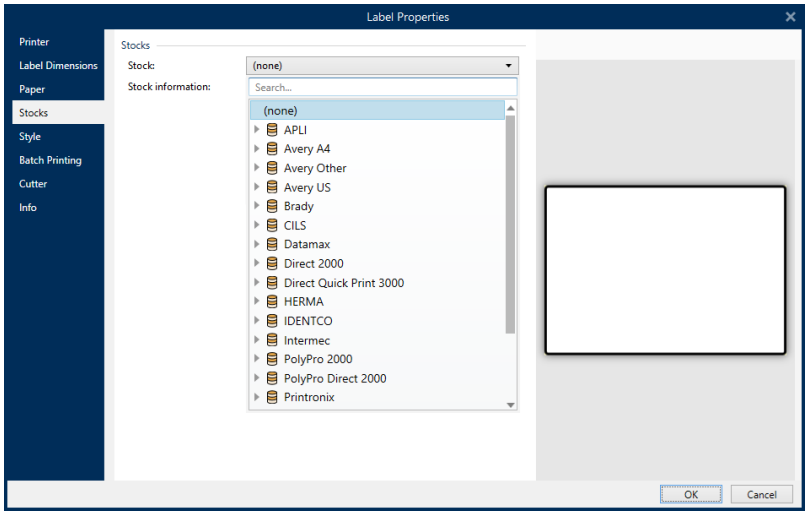
Label stocks are a time-saving alternative to designing labels from scratch. Use stock templates when designing labels for a specific printer type and when optimizing the label designing process.

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.

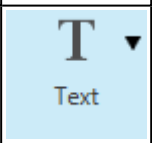
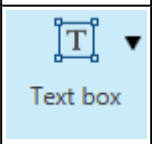
5.2.6 Info

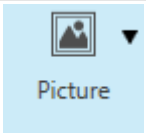
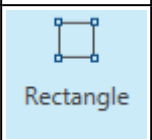
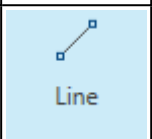
Info tab includes a **Description** that serves as a hint or as a guidance for the user that is going to work with the label.

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.

Label Object	Icon	Description
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.
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.

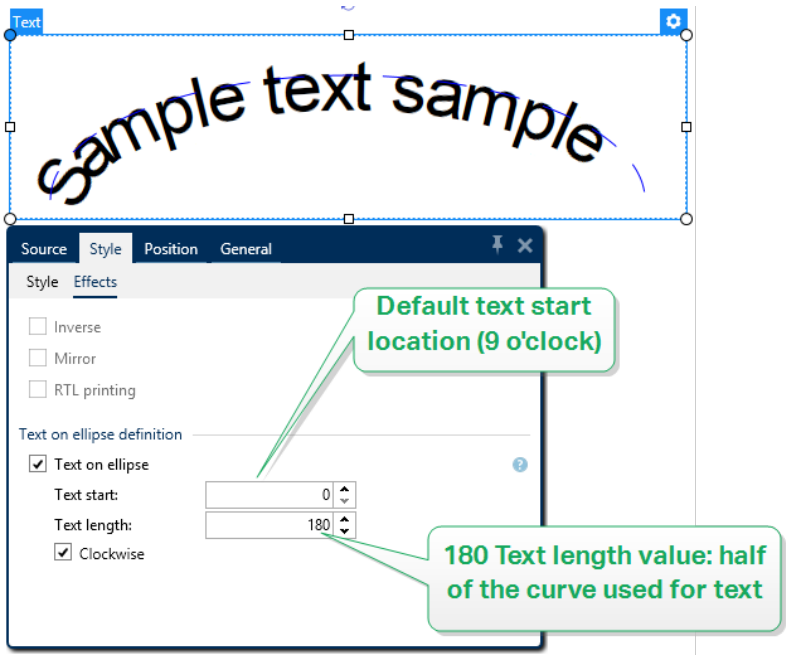
- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.
- **Justified:** distributes text evenly along both sides.

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.



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.

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.
- **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.

Option	Print Preview	Printout
Not printable (selected)	YES	NO
Visible (cleared)	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) its 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.

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

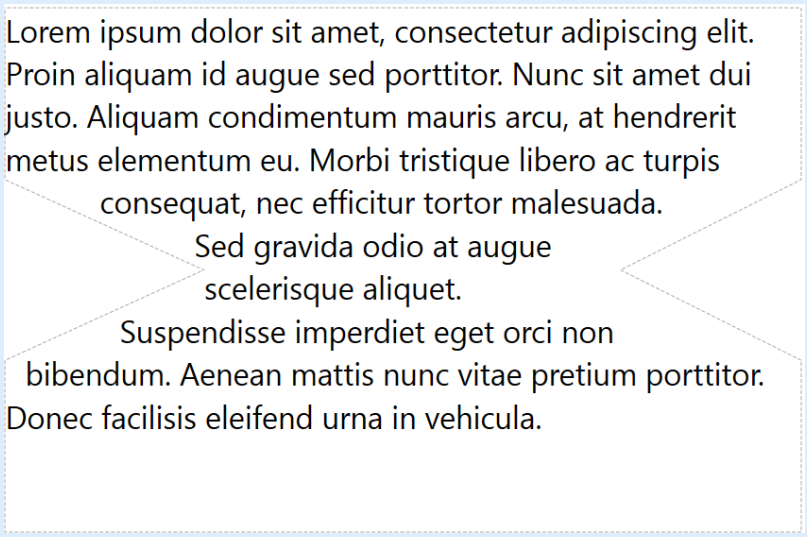
Left border group defines the text boundary along the object's left border.

- **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.

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.
- **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.

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

Use **Picture** object to add graphic content on 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.
- Variables: predefined variable values which are used as object content.
- Functions: input data transformation tools.
- Databases: database values which are used as object content.

Data defines the content source of the selected object.

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 label file sharing.

Save embedded picture to file: the embedded label picture is saved as 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 multiple colors and shades by varying the pattern of black 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.

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.
- **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.

Option	Print Preview	Printout
Not printable (selected)	YES	NO
Visible (cleared)	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 2019 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.

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.
- **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.

Option	Print Preview	Printout
Not printable (selected)	YES	NO
Visible (cleared)	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 creates 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 2019 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.

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.
- **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.

Option	Print Preview	Printout
Not printable (selected)	YES	NO
Visible (cleared)	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 creates 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: Shape objects (Rectangle, Line and Ellipse) in NiceLabel 2019 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.

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.

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.
- **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.

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

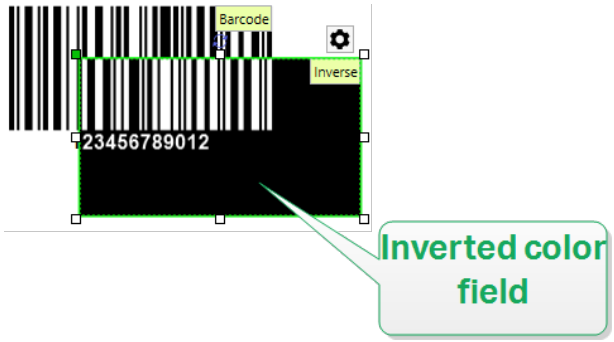
- **Use printer elements if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected 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.

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.

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.
- **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.

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

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.

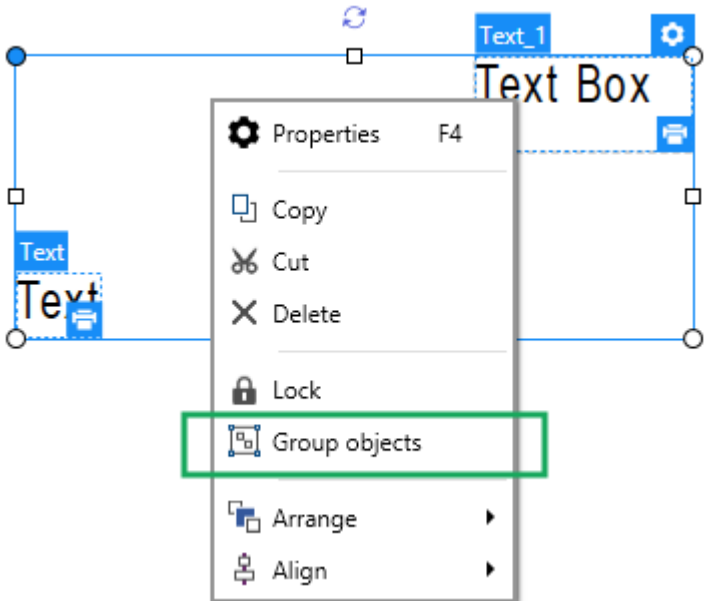
The below listed actions describe which actions are common for multiple object types:

- 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 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.



5.4.2 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** defines the ratio between the barcode's narrow and wide bar widths.

  Each barcode type's range of permitted ratios is limited by the standard. Designer only allows you to use valid ratios. By default, the ratio is set to 3. This means that the wide bar is 3 times the width of a narrow bar.

  NOTE: The available ratios depend on the selected **X dimension**. If you are changing the X dimension, this also affects the selection of available 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 printer displays 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.

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

6.8 General

General tab identifies the object and sets its status.

Name sets a unique object ID.

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.
- **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.

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

6.9 Barcode Types and Available Settings

6.9.1 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

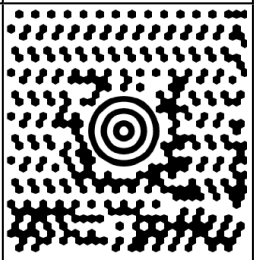
Barcode	Example	Info	Available Settings
MSI		Used primarily for inventory control, marking storage containers and shelves in warehouse environments.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
SSCC		Identification in logistics. The code includes 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

6.9.2 2D Barcodes

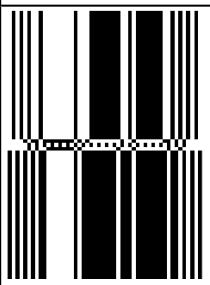
Barcode	Example	Info	Available Settings
Aztec		High capacity, symbol size adjusts automatically depending on the amount of input data.	Basic Barcode Settings Details tab: Code page Data layer Error correction level
Data Matrix		High capacity, optimal for small packages.	Basic Barcode Settings Details 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.

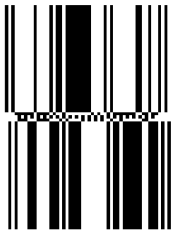
Barcode	Example	Info	Available Settings
GS1 Datamatrix		Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.	Basic Barcode Settings Details tab: Format Encoding Code page
GS1 QR Code		Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.	Basic Barcode 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

6.9.3 GS1 DataBar Subtypes

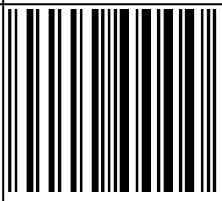
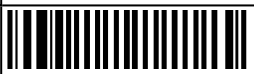
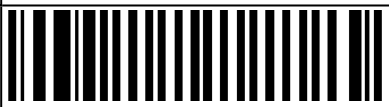
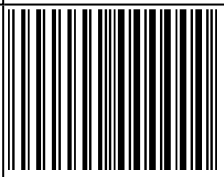
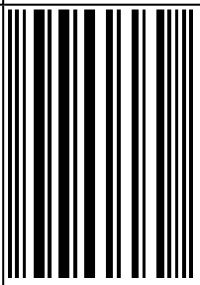
6.9.3.1 Linear Symbol Types

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.

6.9.3.2 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.

6.10 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.

6.11 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.

6.11.1 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.

6.11.2 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.

6.11.3 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).

6.11.4 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.

6.11.5 Encoding

Encoding defines character encoding scheme for the selected barcode.

> NOTE: If you select the GS1 Datamatrix barcode, NiceLabel 2019 automatically sets the encoding scheme to ASCII. This makes sure the GS1 Datamatrix barcodes on your labels are GS1-compliant.

6.11.6 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.

6.11.7 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.

6.11.8 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.

6.11.9 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.

6.11.10 Truncated

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

6.11.11 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.

6.12 GS1 DataBar Specifics

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

6.12.1 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. 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 barcode. 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 predefined **Data source**.

6.12.2 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.

6.13 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.

6.14 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 variable keyboard input.
- Filter and select which records should be printed
- Define printer settings.
- Control print quantity.
- Define additional quantity settings.

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.

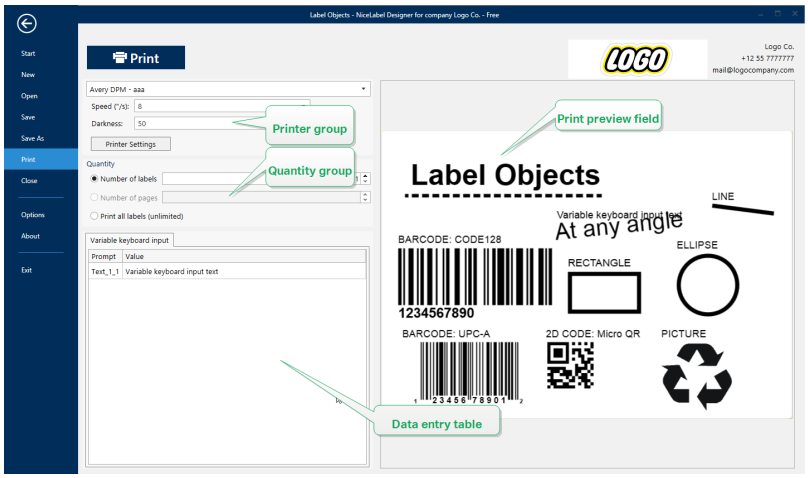
To open the print dialog, click the **Print** button in the Action group of the Home tab ribbon or press `Ctrl+P`.

Step-by-step printing procedure is described here.

TIP: NiceLabel 2019 also allows you to print without opening the Designer application. If no label editing is required, use NiceLabel Print to 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.



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 printer driver dialog for the currently selected printer.

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

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 label.

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 current label design.

7.2.3 Step 3: Select Printer

Choose the preferred printer from the **Printer** tab drop-down menu. All currently available 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

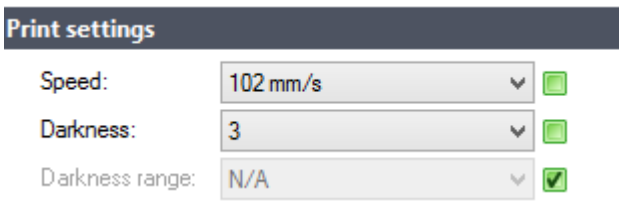
When designing a label, you also define which printer should be used for printing it. Each label file stores its own printer settings for the selected printer driver.

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.

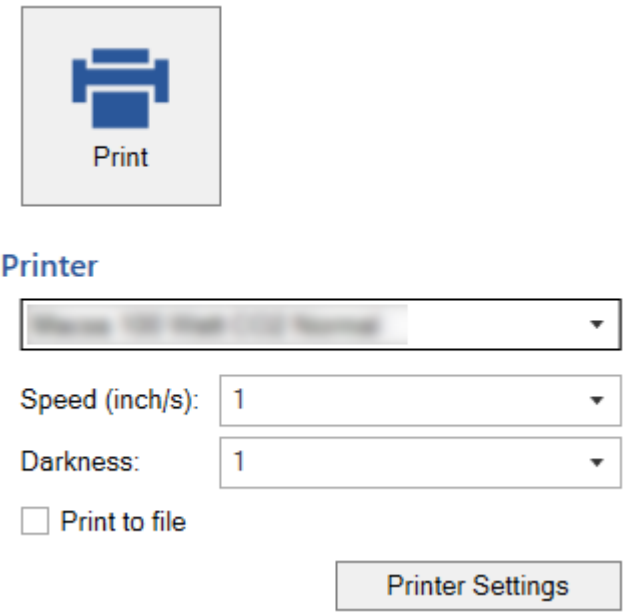
5. Click **OK**.
6. Save the label.

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

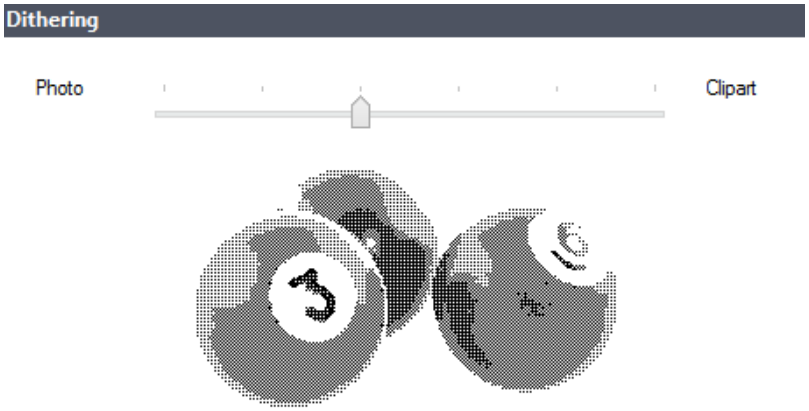
NOTE: This options is applicable only if a NiceLabel printer driver is used for label printing.

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.

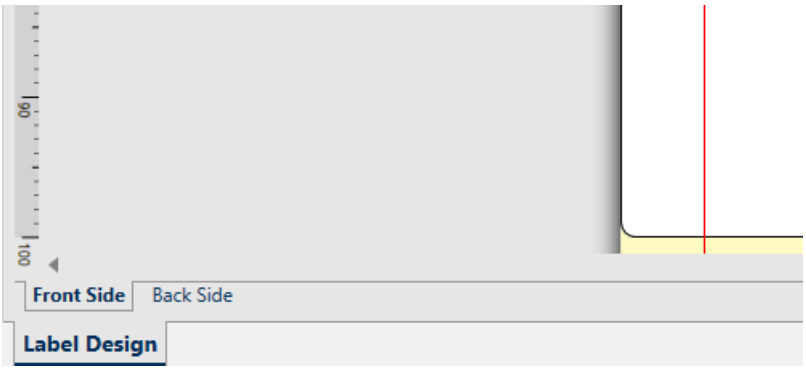
7.6 Double-Sided Printing

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, Euro Plus d.o.o. 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

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.

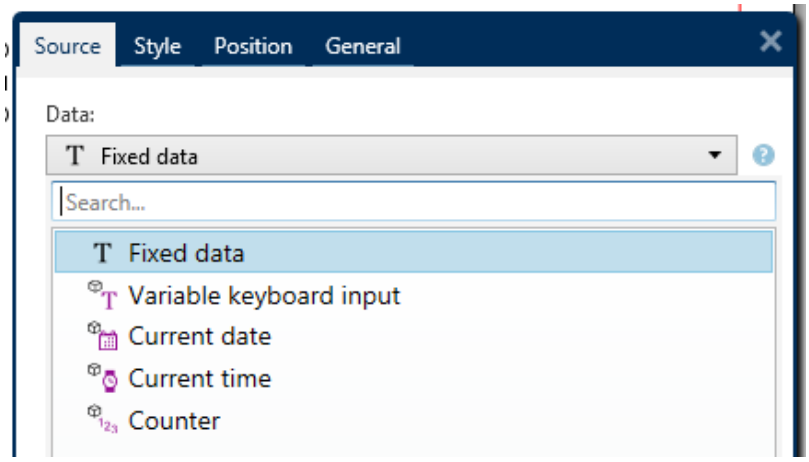
8.1 Variables

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.



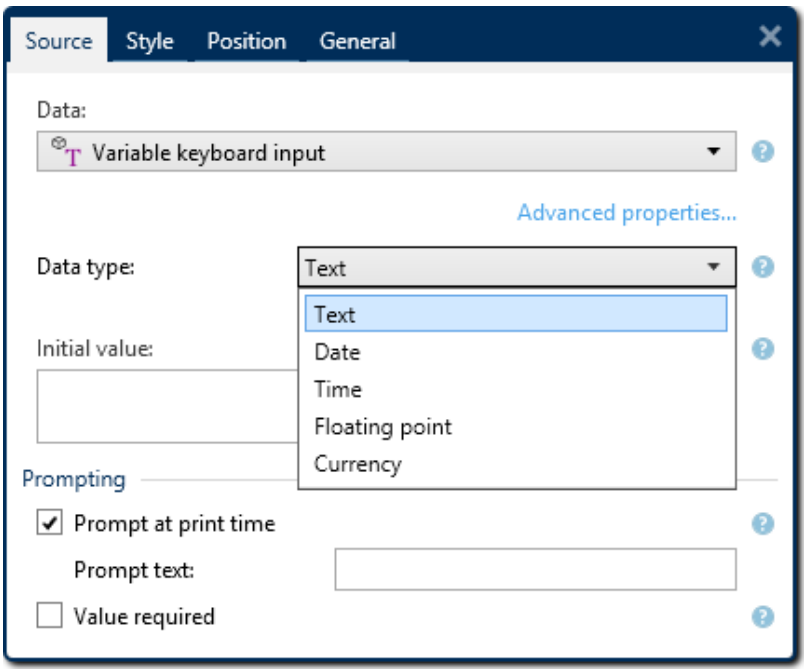
8.1.1 Variable Keyboard Input

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 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 file. Files that store the last used values have the same filename as the label, followed by .dvv extension.

  NOTE: When sharing labels with dynamic values, make sure not to share only label 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.

8.1.1.2 Text

Text data type is used for variables that store textual content. As a result, only textual input is allowed as the variable input data type.

8.1.1.2.1 Input Rules

Data group defines permitted data properties.

- **Allowed characters:** definition of permitted variable input characters.

  TIP: Groups of allowed characters for data input filtering are described in section Groups of Allowable Characters.

- **Limit variable length:** maximum length of variable value.
- **Fixed length:** variable must contain the exact given number of characters as defined in the **Limit length**.

Check range group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

NOTE: If enabled, minimum and maximum values must not be left empty.

8.1.1.2.2 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.

8.1.1.3 Date

Date data type stores date related values in the selected variable. Date field displays the date value using various date formats. The date value format can be either selected from the preloaded formats, or customized to meet the specific local, regulatory or industry related requirements.

8.1.1.3.1 Input Rules

Input Formatting group defines the allowed date format and displays a preview.

- **Input format:** allowed date input format.
- **Sample value:** displays the preview according to the selected input format.

NOTE: Designer supports a range of preloaded or customized date formats.

Check range group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

NOTE: If enabled, minimum and maximum values must not be left empty.

8.1.1.3.2 Output Rules

Output formatting sets the output date format.

- **Output format:** format in which the date is displayed.
- **Output language:** language selection and regional formatting for days and months.

> **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.

- **Sample value:** date preview according to the selected input format. Current date is shown if the initial value is not defined.

Prefix and Suffix group defines characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

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.

8.1.1.4 Time

Time data type stores time values in a variable. Time field displays the date value using various time formats. The time value format can be either selected from the preloaded formats, or customized to meet the specific local, regulatory or industry related requirements.

8.1.1.4.1 Input Rules

Input Formatting defines the allowed time format and displays a preview.

- **Input format:** allowed time input format.
- **Sample value:** variable preview according to the selected input format.

NOTE: Designer supports a range of preloaded or customized time formats.

Check range group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

NOTE: If enabled, minimum and maximum values must not be left empty.

8.1.1.4.2 Output Rules

Output formatting defines the output time format.

- **Output format:** format in which the time is displayed.
- **Sample value:** time preview according to the selected input format.

Prefix and Suffix group defines characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

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.

8.1.1.5 Floating Point

Floating Point data type specifies the representation settings for numeric values that are stored in a variable. This **Data type** is used to set the digit grouping points (separators) according to the regional specifics, and to place the decimal delimiters at the right places.

8.1.1.5.1 Input Rules

Input formatting specifies the allowed input number format.

- **Decimal delimiter:** specifies the character that separates the integer part from the fractional part of a number written in decimal form.
- **Decimal places:** the number of decimal places to be included in the number.
- **Use 1000 separator:** a separator that groups the thousands into groups.
    - **Separator:** a character that is used as thousands separator.
- **Sample value:** displays a preview of the current number input format.
- **Limit variable length:** enables limiting the number of digits to be defined for a variable.
    - **Length (characters):** allowed number digits in a variable.

Check range defines the minimum and maximum number values. Defining the minimum and maximum limits is optional:

- **Minimum value:** the lowest allowed input number.

    NOTE: If already defined, the initial value is taken as the minimum value.

- **Maximum value:** defines the highest allowed input number.

8.1.1.5.2 Output Rules

Input formatting group specifies the preferred output number format.

- **Decimal delimiter:** the character that separates the integer part from the fractional part of a number written in decimal form.
- **Decimal places:** the number of decimal places to be included in the number.
    - **Auto:** decimal places are defined by local system settings.
- **Use 1000 separator:** enabled use of a separator that groups the thousands into groups.
    - **Separator:** a character that is used as thousands separator.
    - **Sample value** displays a preview of the current output format.

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.

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.

8.1.1.6 Currency

Currency data type is used for variables that store numerical values of monetary amounts. Define currencies for various regions and set their properties.

8.1.1.6.1 Input Rules

Input formatting group specifies the allowed input currency format.

Decimal delimiter is the character that separates the integer part from the fractional part of value written in decimal form.

Decimal places is the number of decimal places that is allowed to be included in the value.

Use 1000 separator enables using a separator that groups the thousands into groups.

- **Separator:** character that is used as 1000 separator.

Currency symbol is a graphic symbol that represents a currency.

- **Placement:** position of the currency symbol.

Sample value displays a preview of the currency input format.

Limit length enables limiting the number of digits to be defined in a variable.

- **Length (characters):** allowed number of digits in a variable.

Check range defines the minimum and maximum values expressed in currency. Defining the minimum and maximum limits is optional.

- **Minimum value:** the lowest allowed input currency value.

  NOTE: If already defined, the initial value is taken as the minimum value.

- **Maximum value:** the highest allowed input currency value.

8.1.1.6.2 Output Rules

Input formatting specifies the preferred output currency format.

- **Decimal delimiter:** character that separates the integer part from the fractional part of a value written in decimal form.
- **Decimal places:** number of decimal places to be included in the value.
- **Use 1000 separator:** separator that groups the thousands into groups.
  - **Separator:** character that is used as 1000 separator.
- **Currency symbol** is a graphic symbol that represents a currency.
- **Placement** defines the currency symbol's position. Select it from the drop-down list.
- **Sample value** displays a preview of the currency input format.

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.

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.

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.

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.

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.
- Make sure an internal printer font is used for the counter text.

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

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 Functions

The purpose of functions is to manipulate the data that is assigned to label objects. Functions process the existing data source values and store the result in function-generated data sources.

Each function can be directly connected to an object and used as a part of another function.

Designer includes the following function types:

- Concatenate: merges two or more data source values into a single value.

8.3.1 Concatenate

Concatenate function merges two or more data source values into a single value.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Input data source group defines the existing or newly added input data source (variable, function or database record) or fixed text that will be used in the function.

Output Options group defines the output value format.

Delimiter is a character that is inserted between the concatenated values. The delimiting character can be entered manually or selected from one of the additional options:

- **New Line (CR/LF):** new line character.
- **Insert special character:** special character is entered.

> NOTE: Delimiter is an optional value. With no delimiter defined, the concatenated values are merged without a delimiting space or character.

- **Ignore empty values:** ignores empty data source values. These values are excluded from concatenation.

> **TIP:** This option is useful if you want to avoid duplicated delimiters if empty values appear.

EXAMPLE:
Data source value 1: A, B, C, D
Data source value 2: <empty>
Data source value 3: E, F, G
Delimiter: ,
Concatenated value with vs. without Ignore empty values: A, B, C, D, E, F, G vs. A, B, C, D,, E, F, G

> NOTE: **Ignore empty values** option is effective only after executing a print command. When storing a label in store/recall printing mode or when exporting a label, the empty values are not ignored. Delimiters appear duplicated.

8.4 Databases

Databases can be used as dynamic data source for label 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 data sources is to use the Step-by-Step Database Wizard.

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.

8.4.1 Supported Database Types

Designer supports multiple types of databases:

- Microsoft Excel
- Text File databases

8.4.2 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.

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.

8.4.2.1 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 an Access database
- Adding a Text File database

8.4.2.2 Database Wizard For Excel Files

This section describes how to connect Excel database to an object using the Designer Step-by-Step Database Wizard.

8.4.2.2.1 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**.

8.4.2.2.2 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 object.

Click **Next**.

8.4.2.2.3 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.

8.4.2.2.4 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

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.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

8.4.2.2.5 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.

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 object data source.

8.4.2.3 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.

8.4.2.3.1 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.

8.4.2.3.2 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**.

8.4.2.3.3 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 object.

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.

8.4.2.3.4 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.

8.4.2.3.5 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

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.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

8.4.2.3.6 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.

8.5 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.
- **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 Reference

10.1 Licensing and Printer Usage

Depending on the license type, your copy of NiceLabel 2019 product might be limited to a number of printers you can use simultaneously. In case of a multi-user license, NiceLabel 2019 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:

- Print Label

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 2019 licensing, read the dedicated document.

10.2 Tracing Mode

By default, NiceLabel 2019 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 2019 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 2019

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 2019 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.

10.3 Synchronizing Cutter Settings with Printer

NiceLabel 2019 synchronizes **Cutter** settings with the currently selected printer, and vice versa. After you enable cutter in Designer, this also enables cutter in **Printer Settings**.

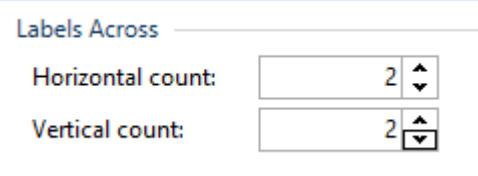
TIP: Printer Settings is the printer driver dialog that helps you configure detailed printing properties. **Printer Settings** is accessible from printing form or printer and status bar.

Cutter mode selection in **Printer Settings** depends on how you configure **Cutter** settings in Designer:

- **Cut after the last printed label** activates the cutter in normal mode.
- **Cut after a specific number of labels** activates the cutter in **normal mode** in two cases:
  - **Horizontal** and **Vertical count** of labels under Labels Across remains 1.
  - If the web of labels creates no leftover blank labels on the paper.
- **Cut after a specific number of labels** activates the cutter in **advanced mode** in these two cases:
  - You print a web of labels and there are leftover blank labels on the paper.

EXAMPLE:

We configure a web of labels in Designer Cutter settings as shown in the picture below:



A single web of labels (labels across) contains 4 printed labels. If you set the cutter to activate after 4, 8, 12, ... printed labels, there are no leftover blank labels. Every 4, 8, 12, ... labels translate to every 1, 2, 3, ... printed pages in **Printer Settings**. As a result, cutter runs in normal mode.

If you set the cutter to activate after 1, 2, 3, 5, ... (not a multiplier of number 4) printed labels, cutter runs in advanced mode.

  - You set a condition that activates the cutter under **Cut if condition is met option**.

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 2019
```

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

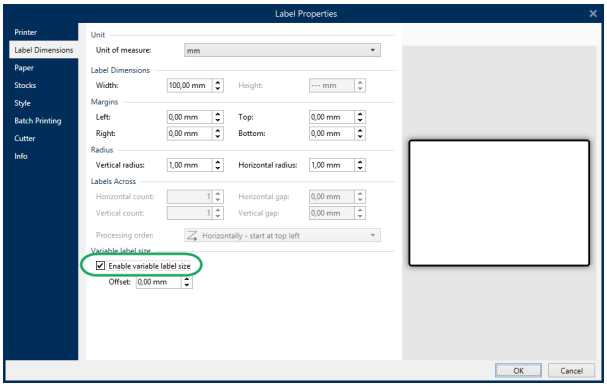
In most label-printing scenarios you design and print the label with fixed dimensions. The label width and height do not change so you must make sure to fit all objects on the label.

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:

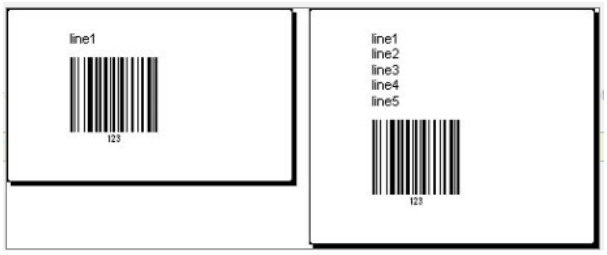
1. Open the label properties dialog.
2. Go to the Label Dimensions tab.
3. Enable the **Enable variable label size** option.



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.

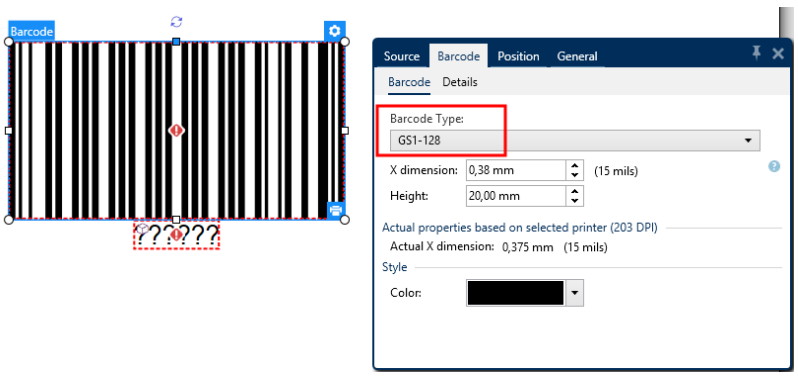
GS1-128 uses a series of Application Identifiers (AI)to include additional data such as best before dates, batch numbers, quantities, weights and many other attributes needed by the user.

- 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

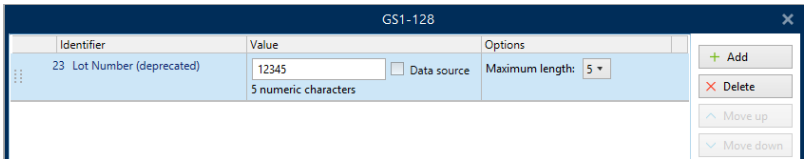
Complete the following steps to assign GS1-128 compliant data structure to a barcode:

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

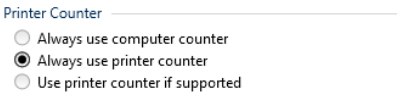
Almost all thermal printers support internal increment counter functionality. This is a special printer counter that counts labels internally. The printer only receives the first value of the counter and automatically increments the counter in steps of 1 on the subsequent labels.

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: https://www.nicelabel.com/support/knowledge-base
- NiceLabel Support: https://www.nicelabel.com/support/technical-support
- NiceLabel Tutorials: https://www.nicelabel.com/learning-center/tutorials
- NiceLabel Forums: https://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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