

# PRINTER AUTOMATION

Labelstar Office Printer Control



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## 1 Inputs to a printer

With Labelstar Office **Printer Control**, print jobs can be started directly on the printer.

Individual print data is entered directly at the printer (e.g., via a USB keyboard). Label templates are transferred from the PC on which the LPC is installed.

The memory card (CF, SD, or USB) inserted in the printer, if any, is not and cannot be used.

In order to process multiple entries simultaneously, current Valentin printers (min. SH3) must be used.

LPC consists of two components: status program and service.

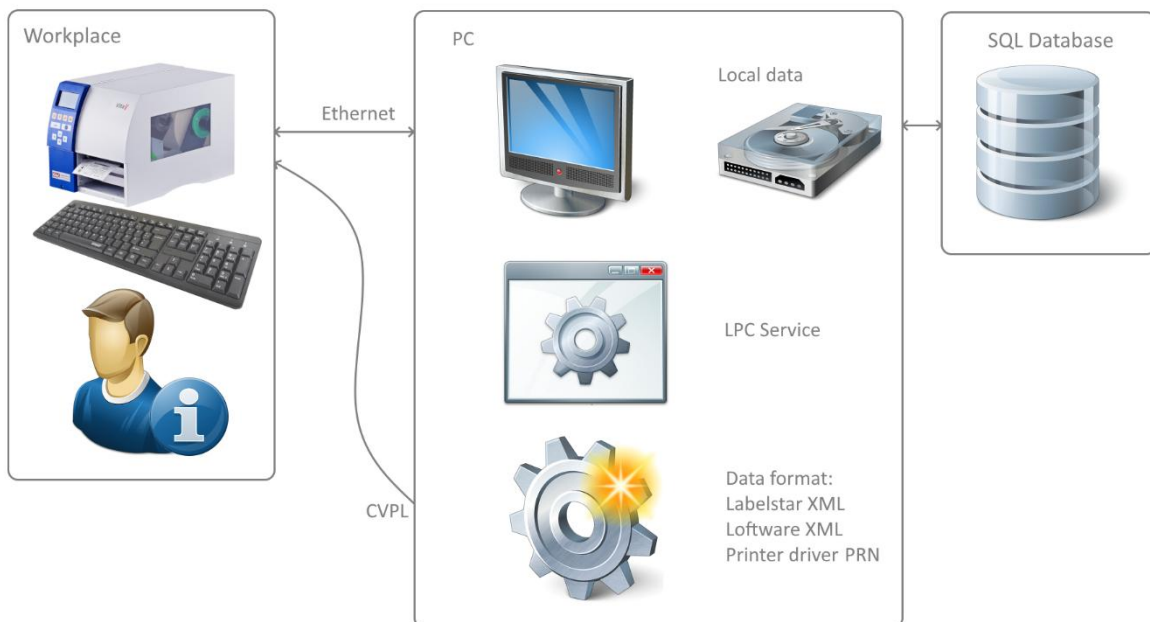
Die Konfiguration erfolgt im Statusprogramm.

### 1.1 Basic procedure

LPC is launched as a standalone service on the PC and allows 'any' number of printers to be connected. Each connection to a printer runs in an independent thread, ensuring parallel processing.

As soon as the LPC service is started, it connects to the connected printers. The message displayed in the configuration (e.g., item number) is shown on the printer display.

The data entered is sent by the printer to LPC, evaluated, and printed together with the defined label.



Label data must be available on the local PC.

The selected file extension (LBEX, NLBL, or PRN) determines whether Labelstar Office or Loftware Automation directory monitoring is used. PRN files are processed directly.

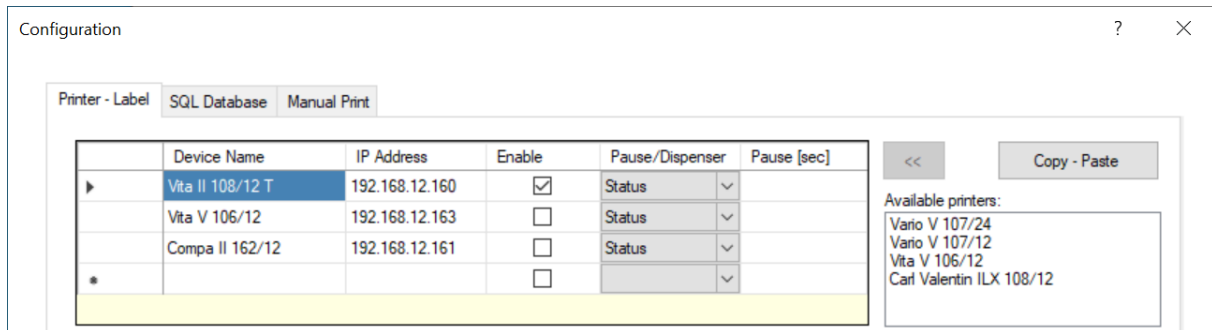
The directory monitoring used must be configured separately.

## 2 Installation

The program consists of two parts:

- the service
- the status display, including configuration.

After the program has been installed, the configuration dialog opens automatically.

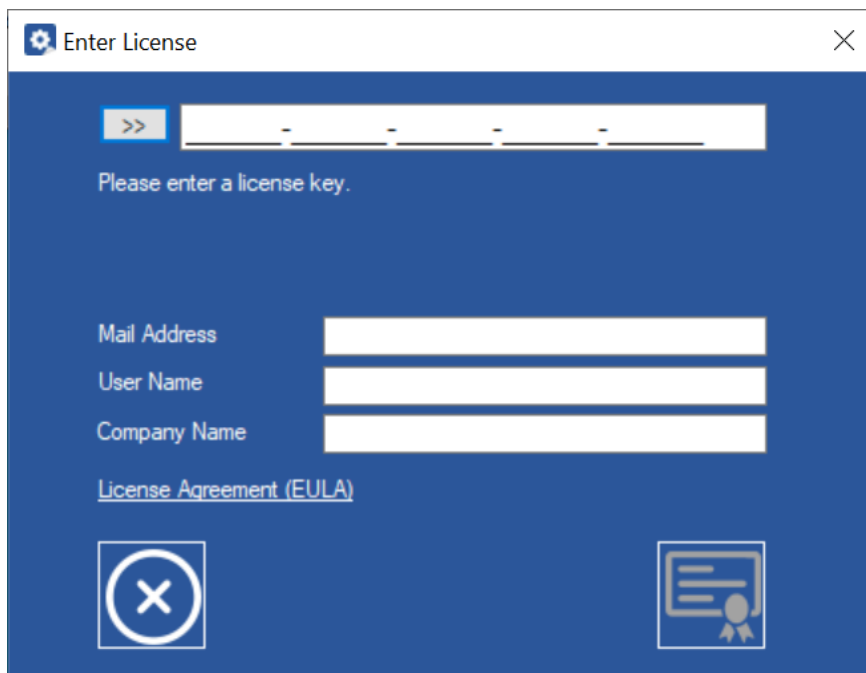


Three printers are provided as examples in the default settings. Although the first printer is active, it would be a coincidence if the address were actually used.

The printers must be set up and activated in the configuration.

The file paths must also be adapted to your own environment.

Because there is no valid license at this point, the next step is to request one.



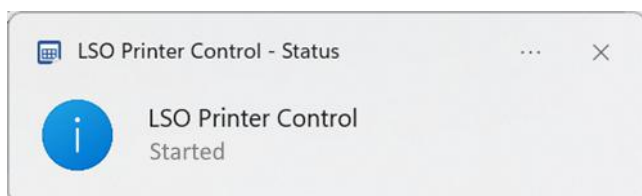
The service will then be restarted so that the new configuration and license key can be activated.

## Desktop Icons

If the taskbar icon is not present, the program can be started using the icon on the desktop.

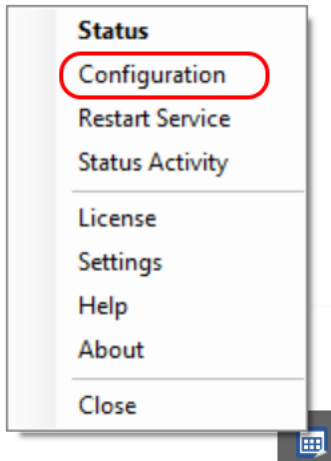


This will also display this icon in the taskbar (bottom right). Right-click on this icon to activate the status display.



### 3 Configuration

The configuration can be opened via the context menu.

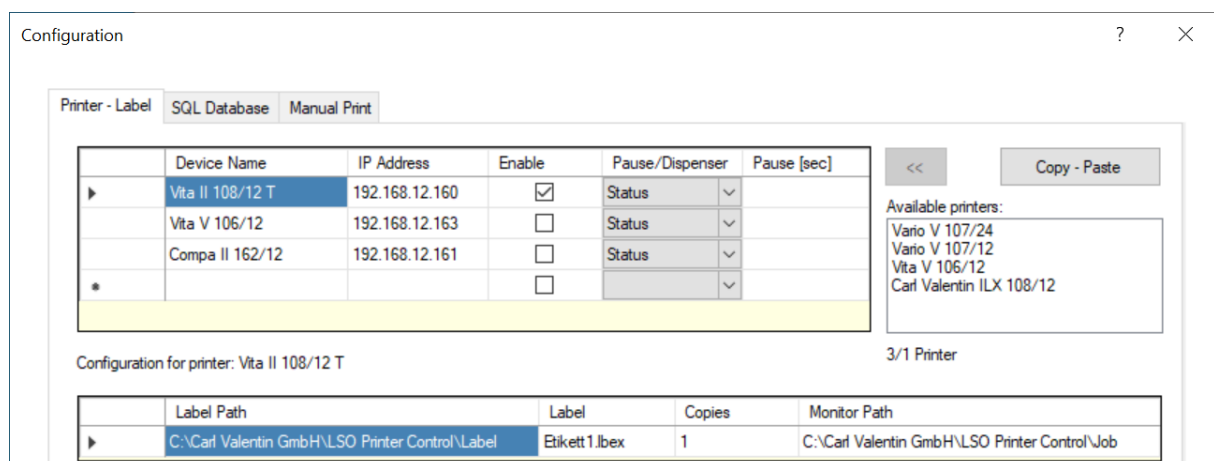


The relevant data can be defined separately for each printer.

First, all printers that are to be used must be defined. Duplicate active printers or IP addresses and ports must be avoided, because otherwise it cannot be determined which printer (status) belongs to which print job.

The settings for pause/dispenser should only be made if this operating mode is desired. Otherwise, the print jobs will continue immediately.

The information about the label path, label, and monitored path depends on the file type (Labelstar, Automation, or PRN).



#### NOTE!

If Labelstar labels are to be used, the monitored path must match the setting in Labelstar directory monitoring.

The object names are the fields that are to be filled in on the label.

Furthermore, this is where you define what should be displayed on the printer display. In addition, a default setting can be specified so that the operator knows which and how many characters to enter.

Vita II 108/12 T - Freely definable queries with printer display

	Object Name	Printer Display Text	Presetting
	ArtNr	Item Number	12345
	Extra	Extra Text	
»»			

If available, additional data can be retrieved from an SQL database.

The database column must be specified for this purpose. If there is an entry in the corresponding database field, this text content is displayed on the printer. The data entered on the printer is replaced by LPC with the corresponding object name on the label during the subsequent process.

Alternatively, you can select the *Use column content* option. In this case, nothing is queried on the printer; instead, it is printed directly on the label.

Vita II 108/12 T - Additional requests depending on SQL database column content

	SQL Object Name	SQL Column	Use column content
	SQL1	Extra Text	<input type="checkbox"/>
	SQL2	Marke	<input checked="" type="checkbox"/>
»»			<input type="checkbox"/>

ArtNr:

### SQL database

If a database is to be used, the access data can be entered here.

The connection to the database can be tested in the area below.

SQL database settings

	DB Server	DB Database	DB User	DB Table	DB Key ID
▶	server-adresse	db-name	db-user	Schuhe	Artikelnummer

SQL Enable

DB Password



**NOTE!**

When using the SQL database, it is assumed that the first query (e.g., ArtNr) is also used for the key ID.

**Example:** Printer display *Item number*. Enter 10007. The label field *ArtNr* is filled with 10007.

The *Artikelnummer* is specified as the key ID, and *ExtraText* is defined for the SQL column to be queried.

This means that the printer will be queried: 'Extra Text'.

If 10008 were entered, the content of the field would be NULL, i.e. empty. No query is performed.

Results		Messages								
	ID	Artikelnummer	Bezeichnung	Marke	EAN	Layout	Serie	Kopien	ExtraText	ExtraPreis
1	7	10007	Stiefel		4046598243609	Etikett-1	35.768	2	Extra Text	NULL
2	8	10008	Fußballschuhe		4028460120393	Etikett-2	12-345	2	NULL	Sonderpreis
3	9	10009	Slipper		0737428872406	Etikett-3	65.65	1	Extra Text	NULL
4	10	10010	Clogs		4013871765660	Etikett-1	12.345.6	1	NULL	Sonderpreis
5	11	10011	Ballerinas		4056067872230	Etikett-2	44.165.12	2	Extra Text	NULL
6	12	10012	Mary Jane		4046028881180	Etikett-3	24302	2	NULL	Sonderpreis

This means that if printer queries are to be controlled using SQL field contents, this is done using the texts or empty entries entered in the database table. If a field is empty, nothing is queried.

If the label name and/or number of copies are to be taken from the SQL database, this can be selected in the label definition. This allows different labels to be used depending on the key ID (e.g., *Artikelnummer*).



#### NOTE!

If a cloud database (Azure) is used, the corresponding port 1433 must be enabled for the PC.

### Define additional printers

By selecting a printer line, you can create a copy using the *Copy – Paste* button and then edit it.

It is important to pay attention to the IP address used or to deactivate duplicate entries if necessary.

### Enable settings

The settings can be activated using the first switch. The service will restart automatically.



The middle buttons can be used to stop the service or export or import settings.

## 4 Data exchange

Since the entire configuration is done directly in LPC, it is reduced to a minimum for the directory monitoring used.

LPC does not receive any further feedback from the directory monitor itself. Therefore, the printer is monitored continuously.

When a print job is started, LPC expects corresponding status messages from the printer. These are predefined and cannot be customized. This makes it possible to automatically start a new query cycle after printing.

### 4.1 Input at the printer

Up to 9 queries can be defined simultaneously for input at the printer. This must be taken into account in the configuration.

#### Default values

To avoid incorrect entries, default values (presets) can be defined.

**Example:** 12345

The default value also determines the maximum number of characters.

The printer display can show a maximum of 16 characters.

#### Defined inputs

The printers can prevent incorrect entries directly. The following enhancements can be used to make entries more secure:

#NUM	numbers only 0...9
#LNUM	numbers or blank
#SNUM	empty, digits with signs
#ALPHA	letters
#ALNUM	letters or numbers
#AUTO	automatic assignment of letters or numbers
#TRIM	content up to the first space

**Example:** 12345#NUM

For example, if a letter is entered when using #NUM, a beep sounds and the character is ignored.

## Input masks

Sometimes serial numbers contain special characters, such as dashes. To avoid having to enter these separately, they can be integrated into the default value.

**Example:** 12\_345-AB

The following special characters can be used for masking:

"," ". " ":" "/" " " "\_ " \* " "\_ "

## Empty entries - Value transfer

If no specification is made for query texts, but the query text is to be accepted directly, simply press the Enter key. This means that the text does not have to be entered again.

If, on the other hand, you really want to enter a blank value, you must use the space bar as input.

## 4.2 Multiple queries

Up to nine queries can be queried simultaneously on the printer.

Using the two printer buttons



forward



backwards

can be switched between the input variables without starting processing.

## 4.3 Output

LPC collects the entered values and packs them into an XML file that is recognized by the directory monitors (Labelstar or Automation).

Directory monitoring is responsible for the printout itself.

### Exception for prn files

When using prn files, the template prn file is first sent to the printer, followed by a print file containing the entered data. LPC then starts the printing process itself.

This also explains why the template prn file must not contain a print start command.

#### 4.4 Restarting the command prompt

Normally, a new prompt is automatically started after each print job. If this does not appear, it can be requested via the USB keyboard using F12 or ESC. If necessary, the printer must be switched on again.

#### 4.5 Status display

All defined printers are displayed in the status display.

The status of each printer is displayed in different colors, making it immediately apparent which printers are currently in use and whether any errors have occurred.

Printer Name	IP Address	Status	Number Print Outs	Last Print Out
Vita II 108/12 T	192.168.12.160	Offline	0	1/21/2026 12:21:08 PM

The number of printouts can be set to 0 using the switch with the gear icon.

Simple logging can be activated using the middle switch. Log files are saved in the directory C:\logfiles, unless otherwise specified.

#### 4.6 Additional status window

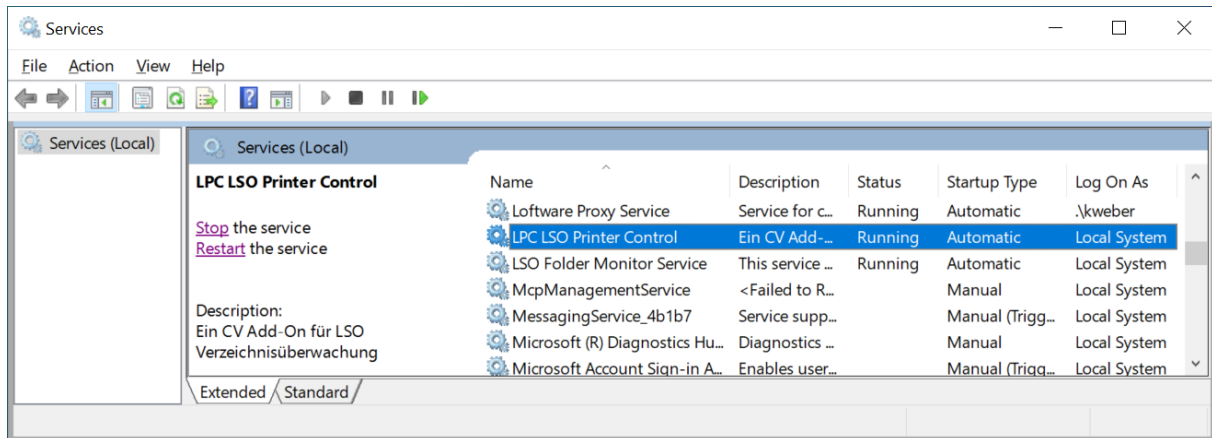
Right-clicking on the LPC icon in the taskbar and selecting the *Status Activity* menu item opens a window above the taskbar. This dialog is primarily an activity display, but can also be helpful for debugging in the event of an error.



## 5 Automatic start as a service

The service is normally started even without logging in to the system.

When using an SQL database or network drives, the PC must be configured accordingly with regard to shares and permissions. Otherwise, only local drives can be used.



If the service should ever hang, it can be restarted in the Services dialog or via the context menu.

## 6 Directory monitoring

Based on the file extension of the label name, LPC creates different XML files that are recognized directly by Labelstar Office and by Loftware Automation in accordance with the input filter.

Directory monitoring is not necessary for prn files.



### NOTE!

When creating label templates and configuring LPC, it is essential to ensure that the object names match. Otherwise, incorrect or empty values will be printed.

### 6.1 Labelstar Office

Using Labelstar Office is the easiest option.

#### Label designer

Various texts, barcodes, or images are positioned on the label.

Texts that are to be replaced must be defined with unique names. In this example, *ArtNr* for an item number.

» Properties	
Log	<input type="checkbox"/>
Printable	<input checked="" type="checkbox"/>
Word wrap	<input type="checkbox"/>
▲ Data	
Status	OK
Text	ExampleText
	<a href="#">Text Editor...</a>
	<a href="#">Additional Commands...</a>
▲ General	
Name	ArtNr
▲ Layout	
Base point	Top left
Height	6.24 mm

Exactly this object name must be entered in the configuration.

Configuration for printer: Vita II 108/12 T

Label Path	Label	Copies	Monitor Path
C:\Carl Valentin GmbH\LSO Printer Control\Label	Etikett 1.lbex	1	C:\Carl Valentin GmbH\LSO Printer Control\Job

Vita II 108/12 T - Default printer display requests (1st entry used for key ID)

Object Name	Printer Display Text	Presetting
ArtNr	Item Number	12345
Extra	Extra Text	
**		

Label path

Label from SQL

Copies from SQL

Images can be assembled and printed using phantom fields (non-printable) with relative path specifications and the received image name, for example.

## Directory monitoring

Only two settings need to be made in directory monitoring:

Labelstar Office Folder Monitor

File Home Folders

Start Stop

Service

Folders Printers Variables Event Log

Quick Add: [ ] Add

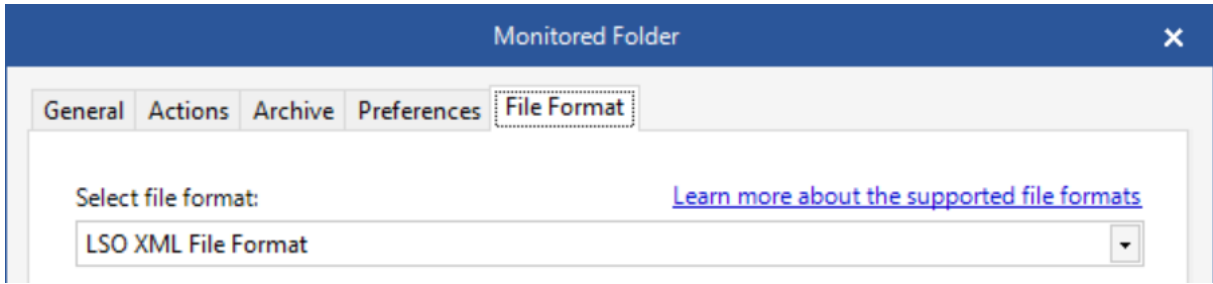
Folder	Filter Patterns	Last Triggered
C:\Carl Valentin GmbH\LSO Printer Control\Job	*.xml	N/A

The monitored directory must match the *Monitored Path* entry in the LPC configuration..

Configuration for printer: Vita II 108/12 T

Label Path	Label	Copies	Monitor Path
C:\Carl Valentin GmbH\LSO Printer Control\Label	Etikett 1.lbex	1	C:\Carl Valentin GmbH\LSO Printer Control\Job

Double-click on \*.xml (filter criteria) to select the LSO XML file format.



This is important so that the generated XML format is also recognized.



**NOTE!**

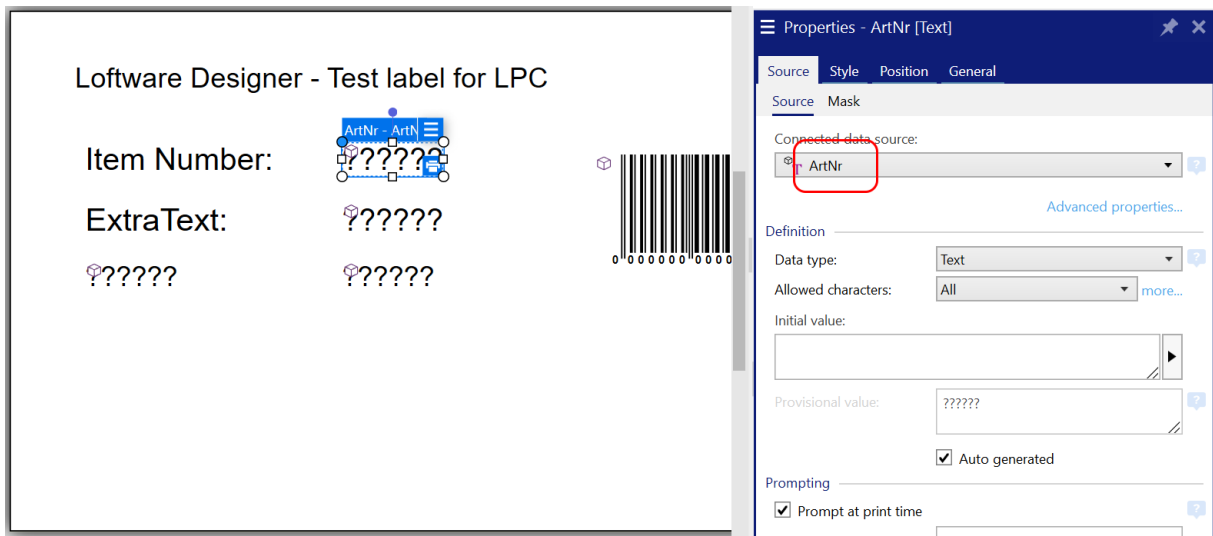
If a change is made in directory monitoring, it must be restarted.

## 6.2 Software Automation

The configuration in Automation, and especially of the input filter, is somewhat more complicated, but works just as well.

### Label designer

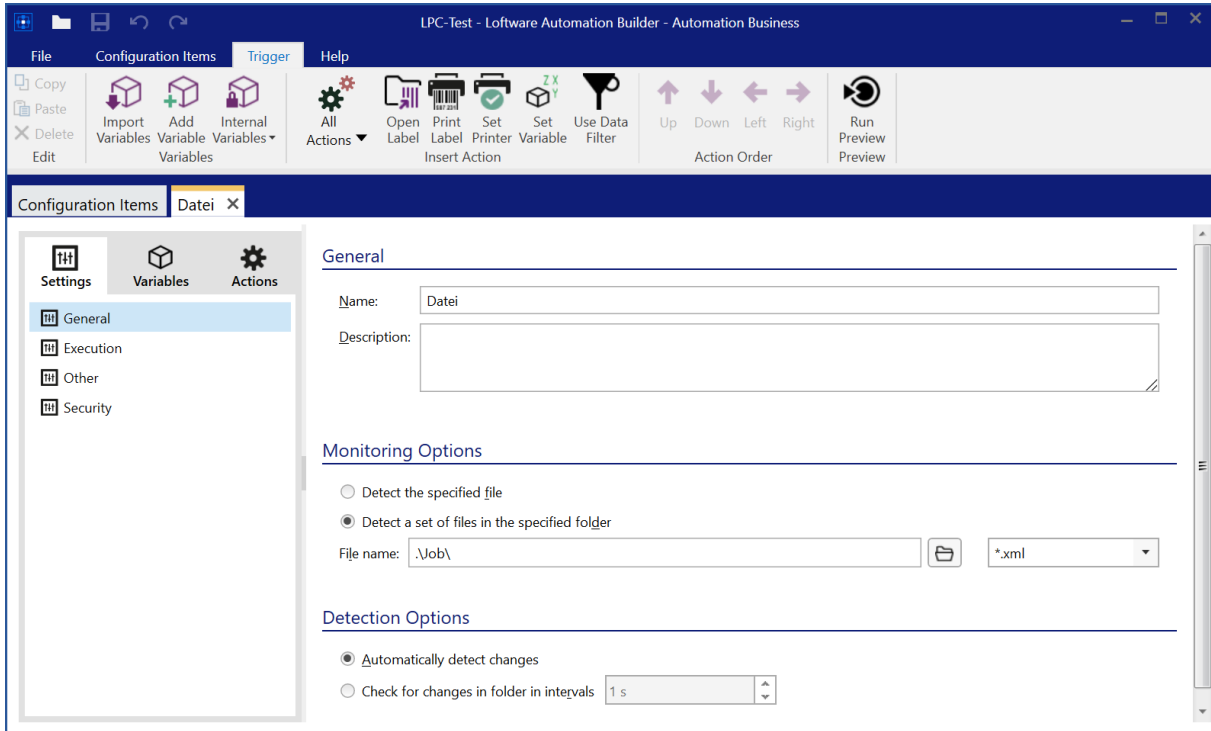
The same procedure applies here. The corresponding text objects, etc., must be defined on the label, but they must be linked to variables as the associated data source. The variable names must match the object names in the configuration.



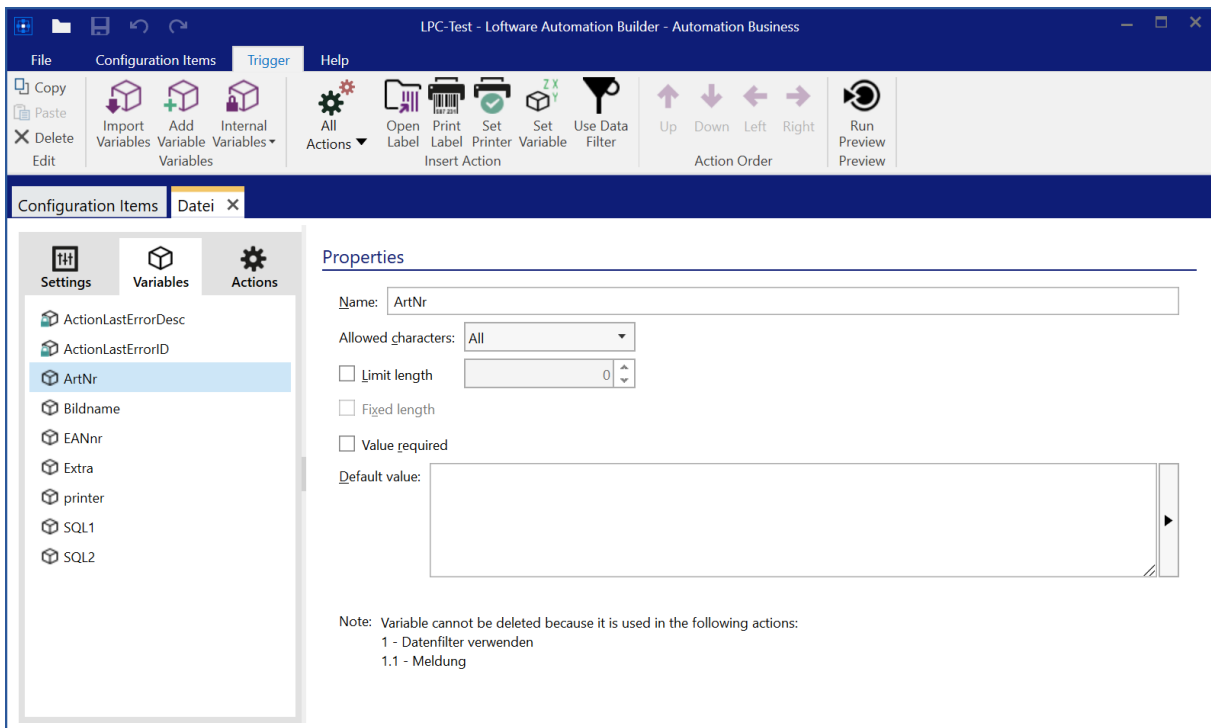
## Configuration

In automation, configuration is somewhat more complex.

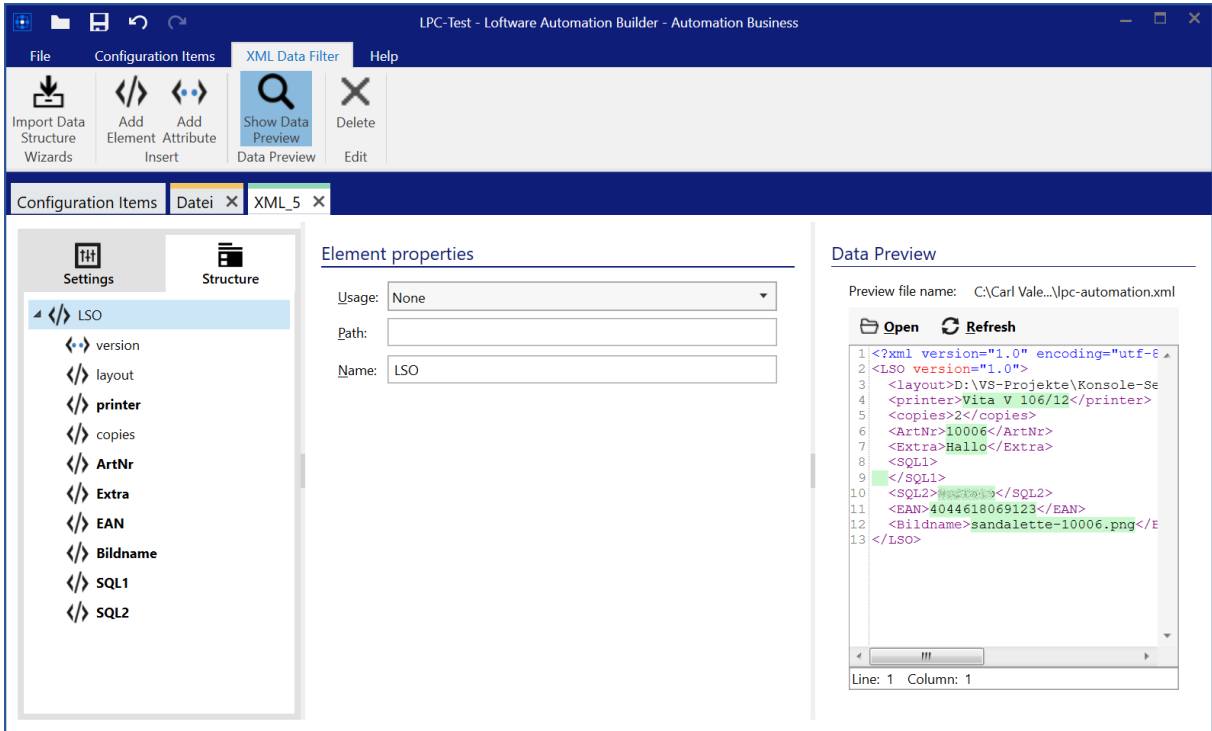
First, the monitored path is specified.



Then all variables are to be used on the label.



For the actions, an input filter must first be defined.

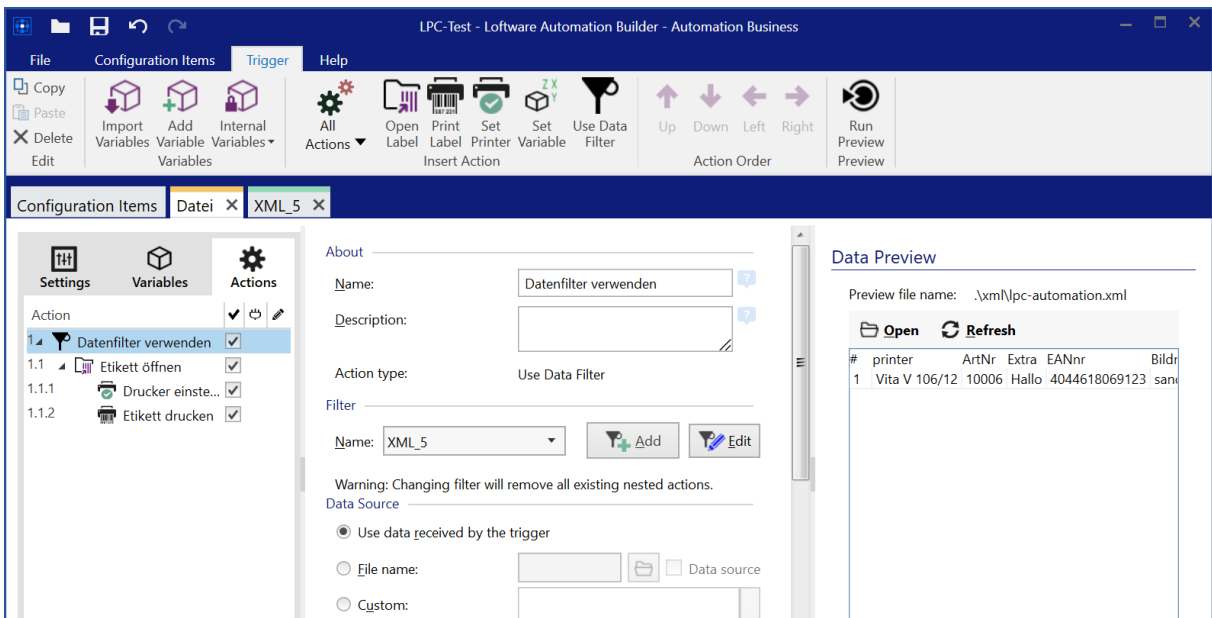


A customized sample file (e.g., lpc-automation.xml) can be used for this purpose.

The use of individual fields must be enabled in the element properties.

After that, all further actions are defined, in this case only:

- Open label
- Set up printer
- Print label



However, automation has the advantage that any number of additional actions can be defined. This means that automation is significantly more complicated but also offers more possibilities.

**NOTE!**

Unfortunately, Automation Builder does not always start reliably. In this case, it may help to log the current user out of the account in Designer and log in again. If necessary, contact Loftware Support.

If the Automation Builder can no longer be opened:

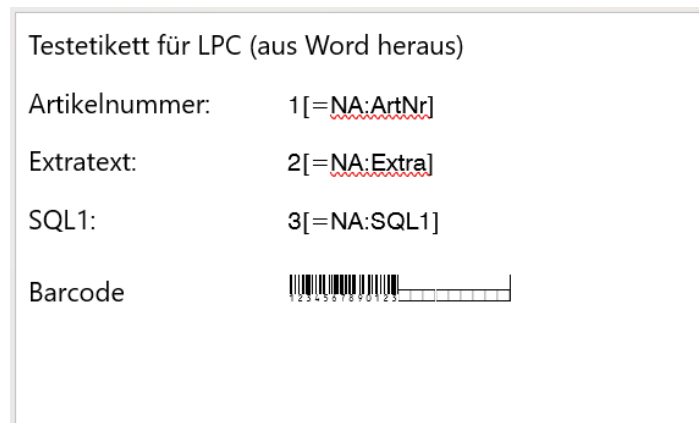
%LocalAppData%\Loftware\Loftware

Delete the files product.config and windowStates.config in this directory. You will then have to register the software again, but it can be started again.

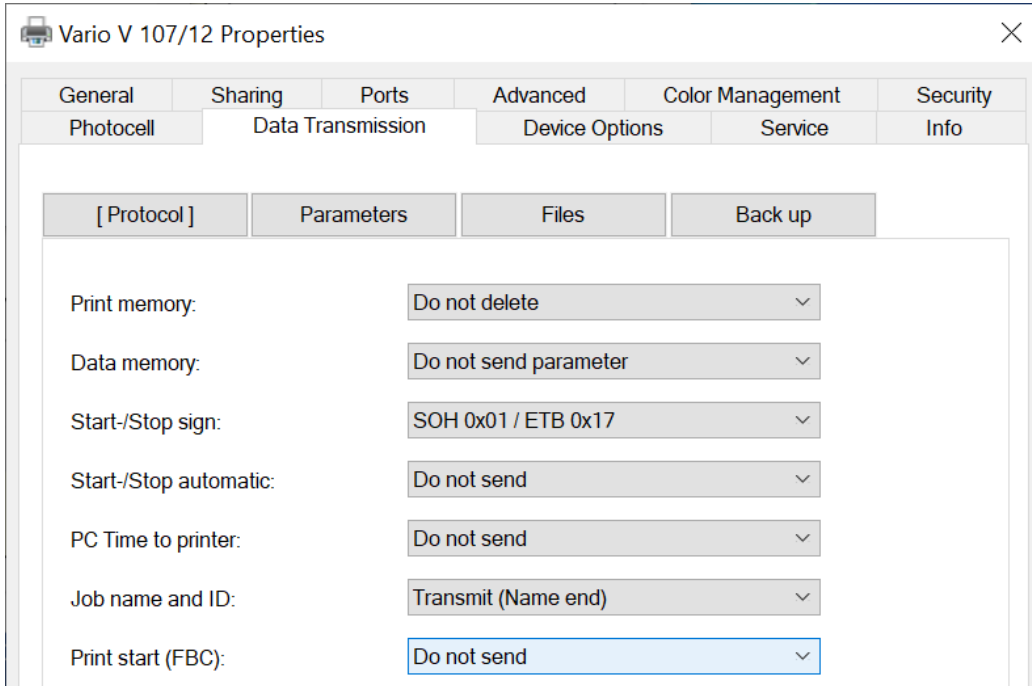
### 6.3 Any print files

Labels with object names can also be created using any program (e.g., Microsoft Word, etc., but also a designer). These objects must be defined in a print font, e.g., Swis721.

The Valentin printer driver can assign a name to this object using the addition [=NA:ArtNr].



In the driver itself, the *Print Start (FBC)* option must be set to *Do Not Send* in the printer properties in the *Data Transmission - Protocol* dialog box.



In the *Data Transmission - Files* dialog box, you can specify where the PRN file should be saved.

When using Microsoft Word, it is particularly important to ensure that the *In general desegment* option is activated in the *Fonts - Administration* dialog box in the print settings.

After 'printing' this label, the generated PRN file can be used.



**NOTE!**

Dynamic image content cannot be used.

After 'printing' this label, the generated prn file can be used.



**NOTE!**

Due to the missing print start command, no label is printed for this print job.

## 6.4 SQL database

If an SQL database is available, it can be defined in the LPC Configurator.

The object names (red) must match the names on the label.

The column names (green) with the columns in the database table.

If a valid item number is entered, the connection to the database can be tested and the contents of the fields can be displayed.

Vita II 108/12 T - Additional requests depending on SQL database column content

	SQL Object Name	SQL Column	Use column content
	SQL1	Extra Text	<input type="checkbox"/>
	SQL2	Marke	<input checked="" type="checkbox"/>
▶▶			<input type="checkbox"/>

ArtNr:

Test print

---

SQL database settings

	DB Server	DB Database	DB User	DB Table	DB Key ID
▶	server-adresse	db-name	db-user	Schuhe	Artikelnummer

SQL Enable

DB Password

In this way, a Word label can be filled directly with database fields, or the content can be retrieved from the database for further querying on the printer.

If an incorrect *Artikelnummer* (key ID) is entered on the printer, an error message appears on the display.

## 6.5 Dispenser or pause mode

After a print job has been forwarded by LPC, the service queries the printer status. This depends on the respective operating mode.

If only the status is queried, a new cycle is started immediately after Ready (Idle).

If, on the other hand, a break is to be taken, its duration can be defined.

If dispensing mode is activated in the printer driver, this should also be specified in the configuration, otherwise the status query will be confused. The next query will only take place when dispensing mode is terminated on the printer.

## 6.6 Summary

The configuration effort is minimal. It also depends on the type of label template.

It is essential to ensure that the object names used match.

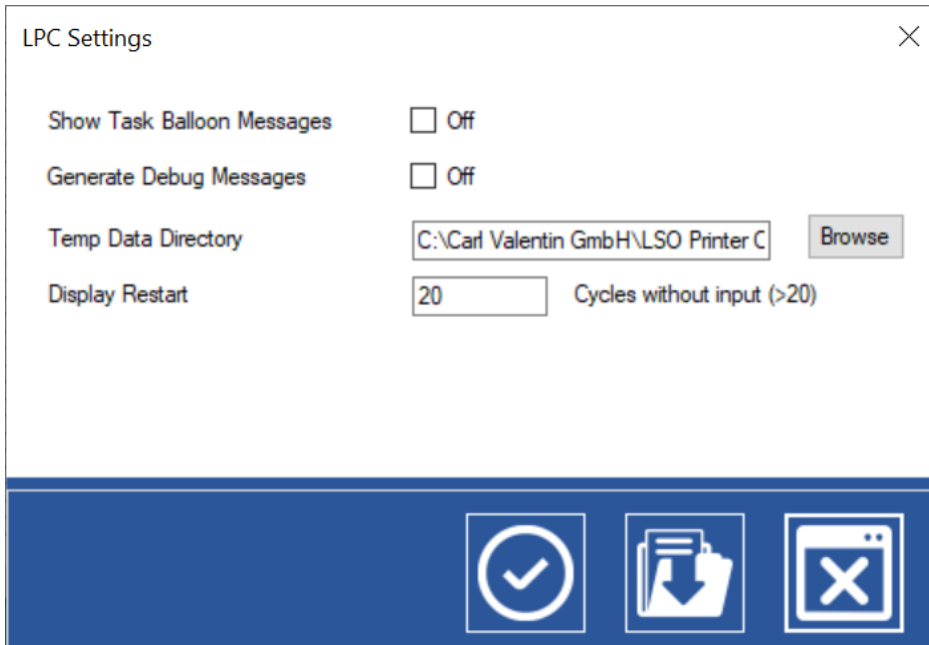
## 7 Other settings

These can be opened via the context menu and the *Settings* command.

The respective file for directory monitoring is temporarily stored until all information is available. This file is then copied to the monitored directory, where it is further processed by the directory monitoring system and deleted.

This auxiliary directory can be defined in the following dialog. If no specification is made, c:\logfiles is used.

Log and debug files are also stored in this directory.



The query cycle is restarted regularly. 20 cycles correspond to approximately one minute.

## 8 System requirements

- Windows 10 or Windows Server 2016 or newer
- .NET Framework 4.8
- Printer: at least SH3 series with Ethernet connection
- SQL database, if required

### 8.1 Used ports

The service uses port 740.

Ports 9100 and 9099 are used for the printer.

If a Cloud SQL database (Azure) is used, port 1433 must be open.

## 9 Response times

The threads that are started run in parallel and are therefore dependent on the system. This means that the program cannot guarantee that responses to received data will occur in real time.

Connections to newly switched on printers are made with a timeout of approximately three seconds and a response time of one second for other processes.

The status display is updated at intervals of approximately 500 milliseconds.

## 10 Maximum number of printers

The maximum number depends on the license. With a license > 10, 15 printers is realistic. In this case, attention must be paid to CPU utilization and PC performance. Although more than 15 printers are theoretically possible, this is not recommended.

## 11 Note

Since every system can behave differently, it cannot be guaranteed that software will behave identically on every system.

Subject to changes.

Illustrations or descriptions in this document may differ slightly in more recent software versions.

Further information can be found in the help file.





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