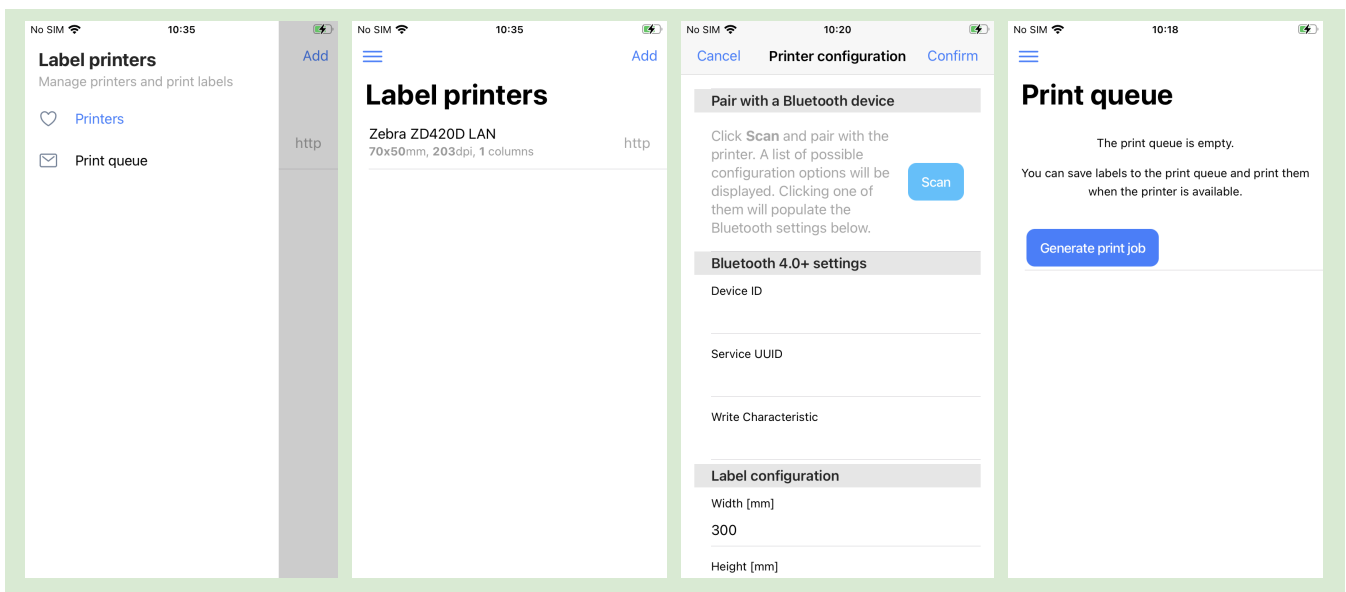# Label Printer app

Revision:

29 October 2022

Label Printer is a GGCE companion app for mobile devices (Android, iOS) and desktops (Windows and macOS) for printing labels to Bluetooth and network printers.

This is an internal document. Do not distribute.

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Your feedback: Please contact support@ggce.genesys-pgr.org with any suggestions or questions related to this document.

The revision notes can be found at the end of the document.

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Introduction

Access to printers on mobile devices and from web applications is restricted by operating systems. GGCE **Label Printer** is a companion app for GGCE that runs natively on a user's device. It accepts print requests from GGCE and relays them to a label printer connected to the device.

Technicians using tablets within WiFi range will commonly print labels to a shared network printer. Field staff will carry a mobile printer, connected over Bluetooth. Desktops are connected to the network and can use printers connected to the computer via USB cable and printers on the network:

Supported printer types	Mobile	Desktop
Zebra printers on LAN	✓	✓
Bluetooth Low Energy (BTLE)	✓	—
Bluetooth Classic (e.g. Zebra **P4T**)	✓	—
System printers	—	✓

Quick start

1. Install the app from https://gitlab.croptrust.org/ggce/ggce-label-printer/-/releases
2. Start the app
3. In the menu "Label printers" register a new Printer
4. In the menu "Print queue" hit "Generate print job" and send it to one of your configured printers

Printing labels from GGCE:

1. In the *Print labels* dialog select the label template and hit **Generate labels** button
2. The **Label Printer** app will load and display the print job, including the number of labels detected
3. Tap the the destination printer to send the print job to the printer
4. … or save the job in "Print queue" for later

Installation instructions

Download the app for Windows, macOS (Intel) and Android from
https://gitlab.croptrust.org/ggce/ggce-label-printer/-/releases.

Mobile versions of the app are **not yet available** in Google Play Store or Apple App Store.

Managing label printers

Label printers menu displays existing printer configurations and allows users to register additional printers, manage printer settings and remove printers from the app.

Adding a printer

1. Tap "Add"
2. Select the type of the connection to the printer (only the supported connection types are listed)
3. Follow the on-screen instructions in the *Printer configuration dialog*
4. Hit "Save"

Updating printer configuration

Tap the printer configuration and select "Modify configuration".

Connecting to a printer

When adding or modifying printer configuration, only the types of printers supported by the platform (mobile/desktop) are enabled because of technical differences between mobiles and desktops.

Bluetooth printers

Newer printers use Bluetooth 4+ (or Bluetooth Low-Energy, Bluetooth LE, BTLE) while older printers commonly use serial communication over Bluetooth Classic.

For classic devices you need to first pair your device with the printer and then select it from the list. The newer, low-energy connection is slightly more advanced and requires the user to select the correct "characteristic" to which data will be sent.

Zebra network printers

Zebra printers connected to LAN with ethernet cable or wireless can be reached by their IP address or DNS name.

- *Host name* of the printer can be the DNS name or IP address.
- *Port* for Zebra network printers is usually port **80**.

System printers

USB and **Network label printers** can be registered on Windows, macOS and Linux by adding a new printer to the system. Feel free to use the Zebra printer driver when prompted by the operating system as this will also allow you to conveniently use label designer tools and print labels from other applications. The *Label Printer* app will send raw ZPL data to the printer over the system print service.

Label configuration

In the *Printer dialog* you also specify the information about **Label dimensions**. Specifying label dimensions is not required for single-column printing, but it is still useful as it will help you choose the correct target printer during printing.

- *Label width* and *height* are the dimensions of one sticker and must be provided in millimeters.
- *Number of labels per row* allows you to specify how many columns of stickers are in one row.

If stickers are in several columns, then label **width must be specified** and you should measure the space between two stickers:

- *Horizontal gap between labels* helps to correctly position label content on the stickers in columns two and three.

Multiple columns of labels

The **correct resolution** of the printer head and **label dimensions** must be specified when the media has multiple columns of stickers. When the second column is printed too far to the right or left, and you are sure that label dimensions are correctly configured, then double check the printer resolution setting. Most smaller printers use **203 dots per inch (dpi)** and the bigger printers use **304 dpi**.

Printing from GGCE

Print label action in GGCE prompts the user to select the label template and specify the number of copies to print. Pressing **Generate labels** will then populate the selected template with data and prepare labels for printing. When labels are ready, GGCE will automatically open the **Label Printer** app on the device (from version 2022.9). A **Send to printer** button is also available to manually start the app.

The app will display the print job, including the number of labels detected and allow you to send the labels to one of the configured printers. Tap the the destination printer to send the labels to the printer or save the job in "Print queue" for later if the printer is currently not accessible. When sending labels to the printer fails, the print job will automatically be saved in the **Print queue**.

Using the Print queue

The **Print queue** contains saved print jobs and also allows for generating a new print job for testing. Tapping an existing job will open the *Print dialog* with the information about the selected job and printing.

A print job can be removed in the *Print dialog* by clicking "Remove print job".

Troubleshooting

Please make sure you are using the latest version of the **Label Printer** app. See [Installation instructions](#).

Labels are not printed on Bluetooth LE: Select another *Write characteristic* in printer configuration. Check the printer manual Bluetooth section for the correct *Write characteristic* that accepts ZPL data.

Bluetooth LE printer not found: Check the printer manual Bluetooth section and send the information about the Bluetooth **service and characteristic UUIDs** to our GGCE Support.

Cannot connect to network printer or labels are not printed: This indicates that the host and port configuration of the Zebra printer is incorrect or not reachable. Determine the IP address of the printer by printing out the current printer settings and find the IP address. Make sure you can "ping" the printer IP from a desktop.

Labels are not printed in multiple columns: Ensure that the ZPL label template contains a single pair of **^XA ^XZ** instructions. One such pair represents one **row** of labels.

Incorrect number of labels detected in the print job: Same as above, ensure that there is a single pair of **^XA ^XZ** instructions in the label template.

Revisions

5 August 2022: First version.

29 October 2022: Updated instructions for app version 2022.2.1.

– END.