CHEMICAL BARCODING - HARDWARE GUIDE

Contents

IMPORTANT INFORMATION

- Always use a dedicated PDF reader such as **Adobe Acrobat** to open barcodes for printing.
- Barcodes opened from your internet browser will be compressed and made unreadable to scanners.
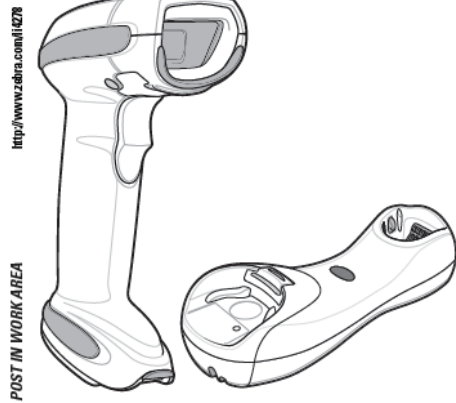

Revision History:

V1.0 New Document (04/08/2021)

V1.1 Sharing and printing over Network added. Added improved document navigation (10/02/2022)

PART 1: LI4278 SCANNER AND ZD410 PRINTER QUICK SETUP GUIDE

LI4278 LINEAR IMAGER
QUICK START GUIDE

http://www.zebra.com/li4278

POST IN WORK AREA

See Product Reference Guide for detailed information
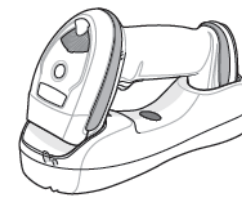
1 Scan Window
2 Scan Trigger
3 LED
4 Beeper

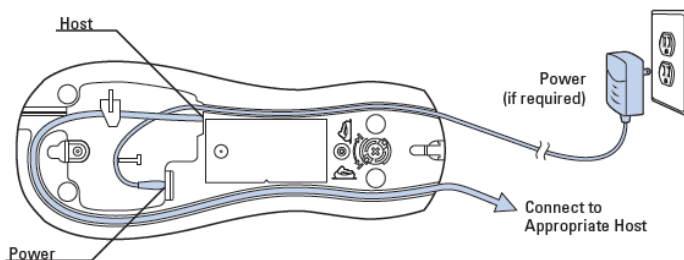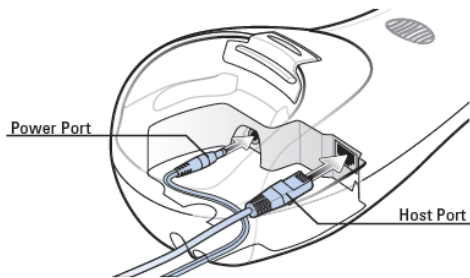**Cradles**

NOTE: The scanner must be paired to the cradle prior to scanning in standard or presentation mode.

Refer to the LI4278 Product Reference Guide, or the cradle Quick Reference Guides for detailed information about cradle setup. When charging, use the cradle power supply for faster charge time.
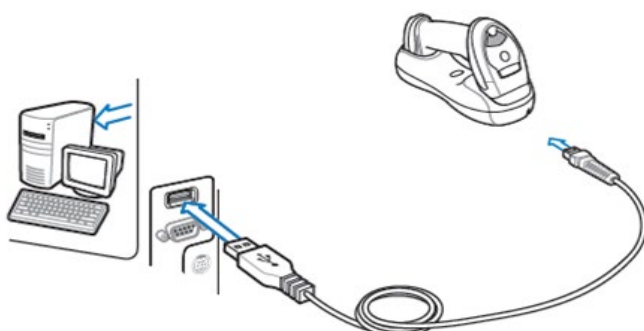
STEP 1 - CRADLE CABLE CONNECTIONS

Power Port

Host Port

Host

Power
(if required)

Connect to
Appropriate Host

Power

Important: Charge the linear imager scanner for 24 hours before the first full day of use.

STEP 2 - PAIRING SCANNER TO CRADLE

There are two methods available to pair (marry) the scanner to the cradle: scan the pairing bar code or pair on contacts by inserting the scanner into the cradle. Each cradle type has its own default pairing method. When the Bluetooth connection beep sounds the scanner and cradle are connected.
- Presentation cradle default (pair on contacts): cradle and scanner are paired when the scanner is inserted into the cradle.
- Standard cradle default (scan pairing bar code): cradle and scanner are paired when the user scans the pairing bar code on the cradle.

Note: When pair on contacts is enabled you may still use the scan pairing bar code method. You can enable or disable the pair on contacts method for either cradle type by scanning the appropriate pairing method programming bar code from the LI4278 Product Reference Guide.

Standard Cradle

STEP 3 - CONNECT HOST INTERFACE

USB
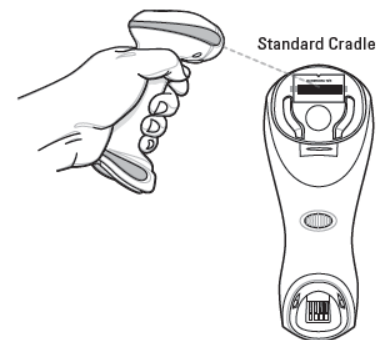
STEP 4. ENABLE REQUIRED FEATURES

To setup the scanner for operation with ChemAlert scan the following barcodes in order:

A. Erase any settings from the previous user, return the scanner to defaults by scanning the following barcode:

SET DEFAULTS

RETURN TO FACTORY DEFAULTS

B. Scan the following to have the scanner feed information to your PC.

HID KEYBOARD EMULATION

C. Scan the following to have the scanner 'press enter' after scanning every barcode.

ADD AN ENTER KEY
(Carriage Return/Line Feed)

To add an Enter key after scanned data, scan all *THREE* bar codes in numerical order.

1
SCAN OPTIONS

2
<DATA><SUFFIX 1>

3
ENTER

D. The scanner is now ready to be used, however you may like to enable some of the additional features on the next page.

E. Before returning the scanner to H&S please turn it off and place in the box. You can turn off the scanner by scanning the following barcode.

BATTERY OFF

BATTERY OFF FOR LONG TERM STORAGE/SHIPPING

STEP 5. BATCH SCANNING (OPTIONAL)

F. Batch Mode

    i.   **Purpose.** Batch mode store barcodes in the scanner until instructed to transmit to your PC. It is especially useful if you PC is out of range of the scanner while you are scanning your chemical store. The scanners provided

Standard Batch Mode (02h)

Modes of Operation

- **Normal (default)** - Do not batch data. The linear imager scanner attempts to transmit every scanned bar code.

- **Standard Batch Mode** - The linear imager scanner starts storing bar code data after **Enter Batch Mode** is scanned. Data transmission is triggered by scanning **Send Batch Data**.

    ✓   *NOTE* Transmission is halted if the connection to the remote device is lost.

In all modes, transmissions are halted if the linear imager scanner is moved out of range. The linear imager scanner resumes when it is back in range. If a bar code is scanned while batch data is transmitted it is appended to the end of the batched data; parameter bar codes are not stored.

    ii.   **Enable.** Scan the code at the top of this page, then the code to the right.

Enter Batch Mode

    iii.   **Transmit**. First ensure that the computer is ready. It would be prudent to use Word or Notepad to receive the barcodes rather than transmitting directly to ChemAlert, this will allow you to recover the barcodes if something goes wrong. On your PC position the text cursor where you want the barcodes to appear then scan the code to the right.
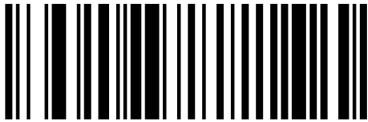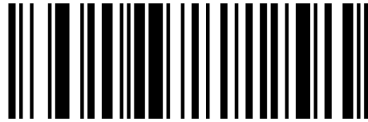

Send Batch Data

    iv.   **Repeat.** Repeat steps ii – iii to re-enable batch scanning.

*Normal (00h)

    v.   **Disable / Cancel.** To turn off batch mode scan the code to the left.

A. Volume

Beeper Volume

Low Volume (02h)	Medium Volume (01h)	*High Volume (00h)

B. To enable "Tab" after a barcode

    i.   Other software programs may require the scanner to "press Tab" after scanning a code. To enable "Tab" scan the following **eight** barcodes.

ADD AN ENTER KEY (Carriage Return/Line Feed)

To add an Enter key after scanned data, scan all *THREE* bar codes in numerical order.

1   SCAN OPTIONS

2   <DATA><SUFFIX 1>

3   ENTER

ADD A TAB KEY

To add a **Tab** key after scanned data, scan all *THREE* **Enter** key bar codes (left) in numerical order then scan all *FIVE* bar codes below in numerical order.

1   SCAN SUFFIX

2   7

3   0

4   0

5   9

To enable Continuous scanning

    iii.   Be wary of double-scanning. Consider enabling the **unique barcodes** feature.

    iv.   This mode can be used in combination with batch scanning if desired.

Continuous Bar Code Read

Parameter # 649

Enable this to report every bar code while the trigger is pressed.

***Disable Continuous Bar Code Read
(0h)**

**Enable Continuous Bar Code Read
(1h)**

Unique Bar Code Reporting

Parameter # 723

Enable this to report only unique bar codes while the trigger is pressed. This option only applies when **Continuous Bar Code Read** is enabled.
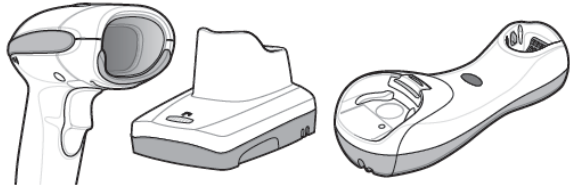
***Disable Continuous Bar Code
(00h)**

**Enable Continuous Bar Code Read Uniqueness
(01h)**

SCANNER TROUBLESHOOTING AND ERGONOMICS
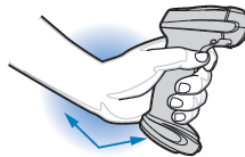
LI4278 LINEAR IMAGER

POST IN WORK AREA

SCANNING

Aiming

✓ (correct aim)   012345

✗ (incorrect aim)   012345

RECOMMENDED USAGE GUIDE - OPTIMUM BODY POSTURE

Avoid Extreme Wrist Angles

AVOID EXTREME WRIST ANGLES

Avoid Bending

AVOID BENDING

Avoid Reaching

AVOID REACHING
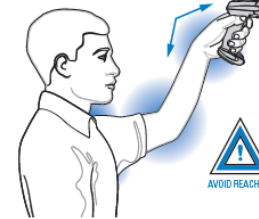
Health and Safety Recommendations

⚠ *Ergonomic Recommendations*

Caution: In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion.
- Maintain a natural position.
- Reduce or eliminate excessive force.
- Keep objects that are used frequently within easy reach.
- Perform tasks at correct heights.

- Reduce or eliminate vibration.
- Reduce or eliminate direct pressure.
- Provide adjustable workstations.
- Provide adequate clearance.
- Provide a suitable working environment.
- Improve work procedures.

BEEPER INDICATIONS

Standard Use

Low/medium/high beep	Short medium beep	4 long low beeps	4 short beeps
Power up	Bar code decoded	Transmission error detected; data is ignored	Low battery

Parameter Menu Scanning

High/low/high/low beep	High/low beep	Low/high beep
Successful parameter setting	Correct programming sequence performed	Incorrect programming sequence or "Cancel" bar code scanned

Wireless Operation

High/low/high/low beep	High/low beep	Low/high beep
Pairing bar code scanned	Bluetooth disconnection	Bluetooth connection established

LED INDICATIONS

Hand-Held Scanning

Off	Green	Red
Scanner is on and ready to scan, or no power to scanner	Bar code is successfully decoded	Transmission error

Hands-Free (Presentation) Scanning

Off	Green	Off Momentarily	Red
No power to scanner	Scanner is ready to scan	Bar code is successfully decoded	Transmission error

Charging

Off	Green - Slow Continuous	Green - Fast Continuous	Green - Solid
No power to scanner	Non-critical battery temperature fault	Scanner is charging	Scanner is fully charged

Local Contact:

TROUBLESHOOTING

Scanner not working

No power to scanner
Check system power; battery may be discharged; charge scanner in cradle; check battery door is closed; ensure battery end cap is secured

Scanner is disabled
Ensure that correct host interface cable is used

Scanner not decoding bar code

Scanner not programmed for bar code type
Ensure scanner is programmed to read type of bar code being scanned

Bar code unreadable
Ensure bar code is not defaced; try scanning test bar code of same bar code type

Distance between scanner and bar code incorrect
Move scanner closer to or further from bar code

Scanner decoding bar code, but data not transmitting to host

Scanner not programmed for correct host interface
Scan appropriate host parameter bar codes

Scanner not paired to host-connected interface
Pair the scanner to the cradle

Interface cable is loose
Ensure all cable connections are secure

Cradle lost connection to host
In this order: disconnect power supply; disconnect host cable; wait three seconds; reconnect host cable; reconnect power supply; reestablish pairing

Scanned data incorrectly displayed on host

Scanner not programmed for correct host interface
Scan appropriate host parameter bar codes

LED indicates low battery start-up

Low battery start-up
Wait for red LED to turn green indicating scanner is charging

Cradle communication error
Inspect contacts; remove and reinsert scanner in cradle

LED indicates battery temperature

Battery is above or below normal operating temperature
Do not use scanner; move scanner to location with normal operating temperature; refer to the *Product Reference Guide* for more information

Curtin University

ZD410 (203dpi) BARCODE PRINTER - QUICKSTART GUIDE

STEP 1. INSTALLING THE PRINTER

1. First connect the ZD410 to the PC by USB, then plug in the power.
2. Press the Power button to turn on the printer, Windows 10 will notify you that it is installing the printer.
3. After a few minutes installation will be finished, proceed to configuration below.

Connect a USB cable to the printer
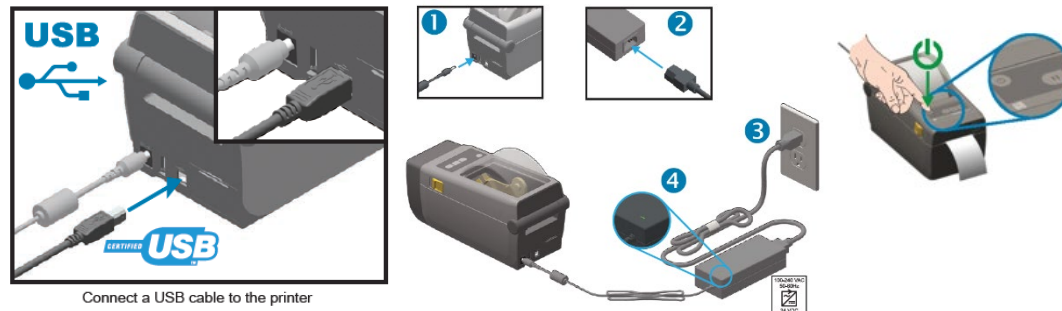
STEP 2. CONFIGURING THE PRINTER

4. Download the setup files by following the instructions on the H&S ChemAlert webpage, save these to your computer (e.g. the *Documents* folder).
5. In the windows search bar type in *printer*
6. Open the **Printers and Scanners** app
7. Click on **ZDesigner ZD410-203dpi ZPL** and click **Manage**
8. Select **Printer Properties** on the left
9. Select the **Driver Settings** tab
   - ! If the Driver tab isn't visible use the Alternative Configuration Instructions →
10. Go to *Import Driver Settings for all Users* and click **Import**
11. In the open file dialogue box change the option in the bottom-right corner, change the setting from *Driver export Files (*.drx)* to ***Legacy driver export Files (*.drs)***
12. Select the driver settings file that you saved earlier: ***ZD410_Settings_40x15mm_DirectThermal_20Dark.drs***, then click **Open**.
13. Click **Apply**, then **OK**.

ALTERNATIVE CONFIGURATION INSTRUCTIONS

If you couldn't see the tab *Driver Settings* you likely have an older version of Window 10. Try the below alternative:

- Click on **ZDesigner ZD410-203dpi ZPL** and click **Manage**
- Select **Printing Preferences** on the left
- Click the **Import/Export Settings** tab
- Click **Import**
- Select the driver settings file that you saved earlier: **ZD410_Settings_40x15mm_DirectThermal_20Dark.drs**, then click **Open**
- Click **Apply**, then **OK**.

### STEP 3. TESTING THE PRINTER

14. Finally, open the supplied example barcodes in **Adobe Acrobat**. Print these files using the *ZDesigner ZD410* printer, ensure the printed barcode is readable.
15. Open a text editor application, then scan your printed barcodes to ensure the scanner recognises the barcodes correctly.
    - ! If you experience any issues repeat the configuration steps again to ensure the driver settings are correctly applied, and see the Important Information to the right. →
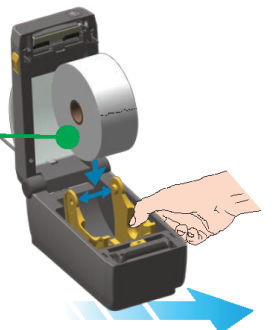
IMPORTANT INFORMATION

- Always use a dedicated PDF reader such as **Adobe Acrobat** to open barcodes for printing.
- Barcodes opened from your internet browser will be compressed and made unreadable to scanners.

TROUBLESHOOTING & LABEL REPLACEMENT

GO
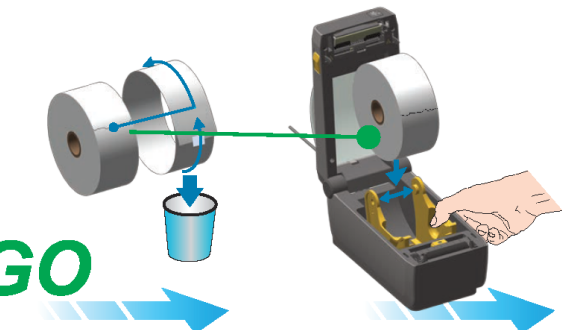
Remove and discard outer layer
Extraiga y deseche la capa externa
Retirez la pellicule de protection

Open and place roll on holder
Abra y coloque el rollo en el soporte
Ouvrez le rouleau et positionnez-le sur le support

Verify easy spin on holder
Verifique que gire fácilmente en el soporte
Contrôlez la mise en place rapide

Pull paper past printer front
Tire el papel hasta que salga más allá del frente de la impresora
Tirez le papier à l'avant de l'imprimante

Push the paper under guides
Empuje el papel debajo de las guías
Passez-le sous les guides
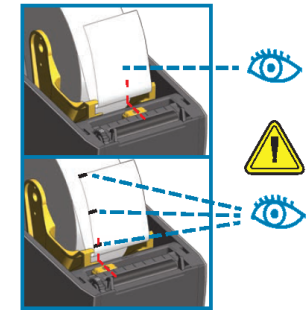
Align sensor near center (default)
position or to middle of black marks.
Alinee el sensor cerca de la posición central (predeterminada) o en el medio de las marcas negras
Alignez la cellule sur la position centrale (valeur par défaut) ou sur le centre des marques noires
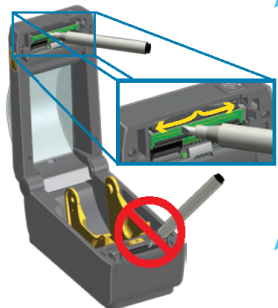
Clean printhead with cleaning pen
Wipe from middle to the outside edge
Limpie el cabezal de impresión con el lápiz de limpieza. Limpie desde el centro hacia el borde exterior.
Nettoyez la tête d'impression à l'aide du stylet de nettoyage. Procédez en allant du centre vers le bord extérieur.

Indicators - Indicateurs - Indicadores

STATUS	PAUSE	DATA	SUPPLIES	NETWORK	
●	▮▮				Ready / Lista / Prêt
●	▮▮				Paused / En pausa / En pause
●	▮▮				Cover Open / Cubierta abierta / Capot ouvert
●	▮▮		●		Media Out / Sin papel / Fin de papier
●	▮▮			●	Network Error / Error de la red / Erreur réseau
●	▮▮	☀			Communication Error / Error de comunicación / Erreur de communication

Pause / Pausa / Pause
Feed / Alimentación / Avance
Cancel / Cancelar / Annuler

⊙+ + ✕   **Configuration Report** / Informe de configuración / Rapport de configuration

▮▮ + ✕   **Smart Calibration** / Calibración inteligente / Calibrage intelligent

— http://www.zebra.com/contact
— https://km.zebra.com
— https://www.zebra.com/supplies
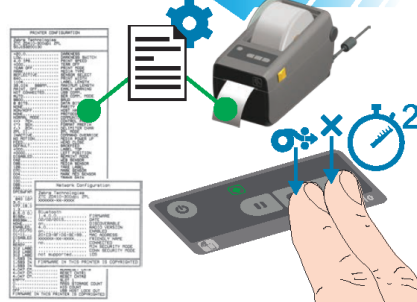
www.zebra.com/zd410d-info

ZEBRA

Close the printer
Cierre la impresora
Refermez l'imprimante
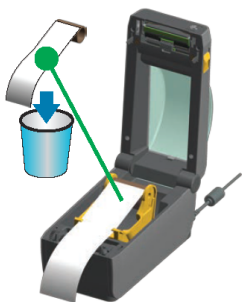
Open Printer
Discard empty roll
Abra la impresora
Deseche el rollo vacío
Ouvrez l'imprimante
Retirez le rouleau usagé

Media Out
Status + Media lights Red
Sin papel
Luces de estado + papel se encienden en color rojo
Fin de papier
Voyant rouge d'état et de support

Press Feed + Cancel buttons for 2 seconds.
Prints Configuration Report.
Presione los botones Alimentación + Cancelar durante 2 segundos. Imprime el informe de configuración.
Appuyez sur les boutons Avance et Annuler pendant 2 secondes. Impression d'un rapport de configuration.
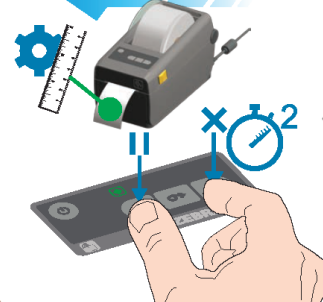
Press Pause + Cancel buttons for 2 seconds.
Performs Smart Calibration.
Presione los botones Pausa + Cancelar durante 2 segundos.Realiza la calibración inteligente
Appuyez sur les boutons Pause et Annuler pendant 2 secondes. Exécution du calibrage intelligent.
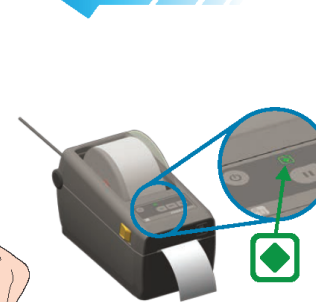
Green Status Light ON - Printer Ready
Luz de estado de color verde encendida: impresora lista
Voyant d'état vert allumé - Imprimante prête
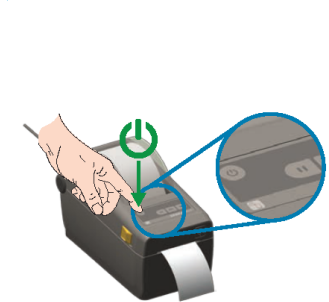
Press power and wait as lights cycle
Presione el botón de encendido y espere que las luces completen el ciclo de encendido y apagado
Appuyez sur le bouton Marche/Arrêt et attendez la fin du cycle d'initialisation

PART 2: ACCESSING PRINTERS OVER THE NETWORK   QUICK SETUP GUIDE

SHARING A BARCODE PRINTER OVER THE NETWORK

The following steps will share a barcode printer over the Curtin Network from a Windows 10 computer.
(If your barcode printer is WiFi enabled these steps will not be necessary, instead follow the manufacturer's instructions.)

Please note, for the printer to remain accessible on the network:
- the printer must remain on;
- the computer hosting the printer must remain on, but does not need to be logged in;
- if connected via USB the printer must remain connected to the same port at all times.

To share the printer over the network complete the following steps from computer that the printer is physically connected to:

1. Go to the **Start** menu, and click **Settings**

2. Click on **Devices**

3. Select **Printers & scanners** on the left

4. Click on the printer's name, e.g. *ZDesigner ZD410-203dpi ZPL,* and click **Manage**

5. Select **Printer properties** on the left

6. Select the **Sharing** tab at the top

7. Tick *Share this printer*

8. Change the name of the printer to indicate its location and/or ownership, e.g. *H&S 502B ZDesigner ZD410-203dpi ZPL*

9. Leave ticked *Render print jobs on client computers*

10. Tick *List in the directory*

11. Click **Apply**

12. Copy your new printer name

13. Select the **General** tab, and paste the new name for the printer in the top dialogue box, e.g. *H&S 502B ZDesigner ZD410-203dpi ZPL*

14. Click **OK**

15. If you get a message about renaming a shared printer, click **Yes**

*The printer will now be accessible over the network.*
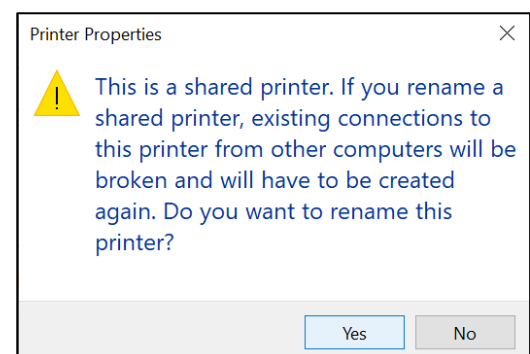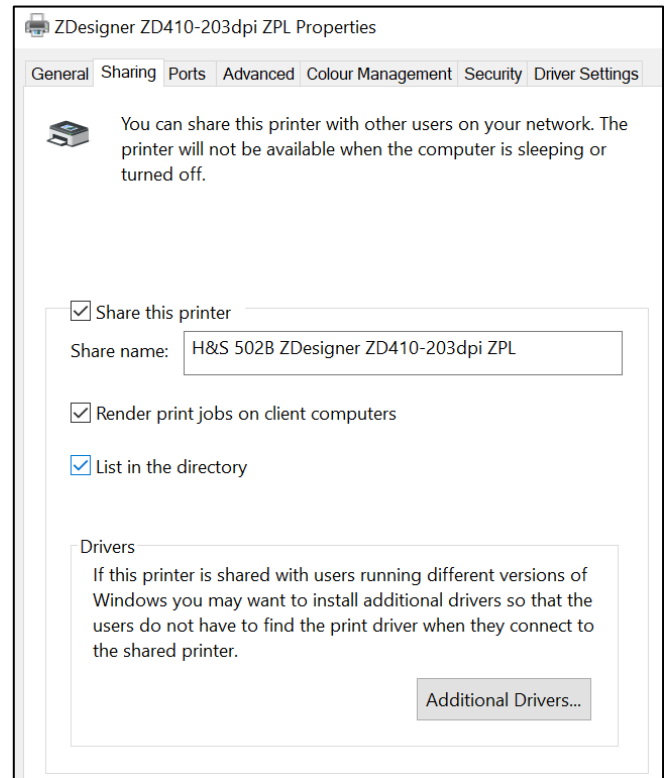
ACCESSING A BARCODE PRINTER FROM THE NETWORK

The following steps will allow you to access a barcode printer over the Curtin network from a Windows 10 computer.

Complete the following steps on a computer that is not physically connected to the barcode printer, but is on the Curtin Network (this includes computers logged in through VPN):

1. Go to the **Start** menu, and click **Settings**

2. Click on **Devices**

3. Select **Printers & scanners** on the left

4. Click **Add a printer or scanner**

   - It may take a little while for the barcode printer to show in the list.

5. Select the correct barcode printer, then click **Add device.**
   e.g. *H&S 502B ZDesigner ZD410-203dpi ZPL on C-A0042262.staff.ad.curtin.edu.au.*

   - If the correct barcode printer is not on the list, follow the **Alternative Access Instructions** below:
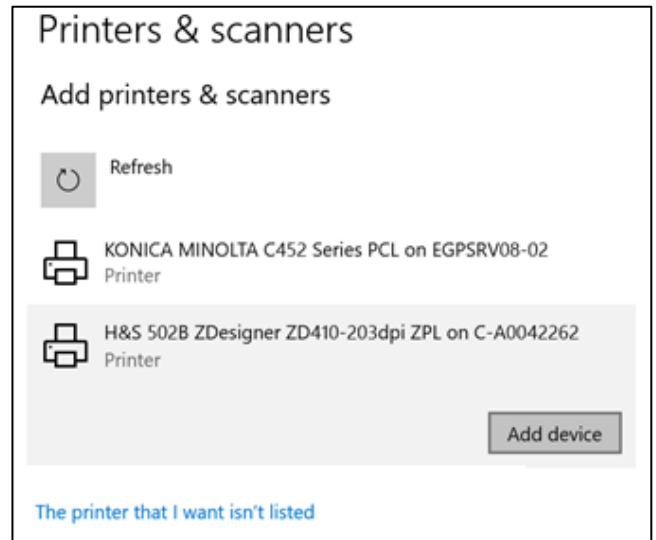
### ALTERNATIVE ACCESS INSTRUCTIONS

If you did not see your barcode printer in the printer list, follow the below steps:

1. Elevate the user profile to admin rights
2. Follow steps 1-4
3. Click **The printer that I want isn't listed**
4. Select *Find a printer in the directory, based on location or a feature*
5. Click **Next**
6. In the name field, type in the beginning of your printer's name, e.g. *H&S*
7. Click **Find Now**
8. Double click on the correct printer name to select it
9. An alert will appear, confirm that you want to install the driver from the computer hosting your printer
10. Once installation is complete, click **Next**

11. Choose whether you want this printer as your default or not, then click **Finish**

The networked barcode printer will now be accessible to your applications on that networked computer.

OPTIONAL: For computers that are used primarily to print barcode labels you may like to make this printer the default printer:

6. Return to **Printers & scanners**

7. Select your newly added barcode printer and click **Manage**

8. Click **Set as default**
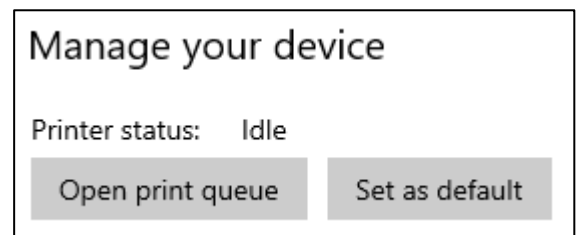
PRINTING OVER THE NETWORK

IMPORTANT INFORMATION
• Always use a dedicated PDF reader such as **Adobe Acrobat** to open barcodes for printing. • Barcodes opened from your internet browser will be compressed and made unreadable to scanners.

1. Before printing over the network ensure that you can physically access the area where the barcodes will be printed out, and that you have permission to use that printer.

2. Open the PDF document containing your barcode/s **in Adobe Reader**

3. Click **Print**

4. From the printer drop-down menu, select your network barcode printer

   • The printer will be at the top of the list, and will begin with the laptop's name, e.g. *\\C-A0042262.staff.ad.curtin.edu.au\H&S 502B ZDesigner ZD410-203dpi ZPL*
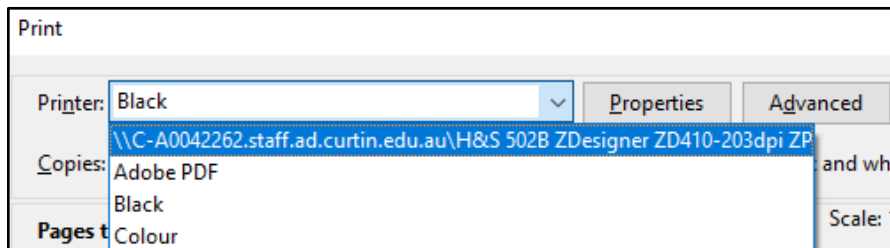
5. Check that the *Page Sizing & Handling* settings are correct:

   • Select *Actual size*

   • Select *Orientation: Auto*
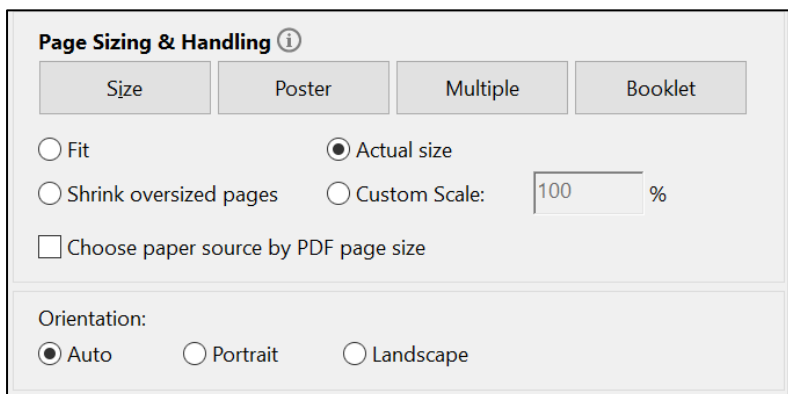
6. Click **Print**, and collect your labels.