Hardware Setup

Installation overview

The Factbird barcode solution is an add-on to the Factbird solution designed to improve the workflow and how you collect data for analysis in the Factbird manufacturing intelligence software.

Barcode scanner and preprogrammed router

Barcode information
e.g. stop cause

Manufacturing data
e.g. production counts

Factbird device
*For installation of Factbird device, please refer to Factbird quick start guide.
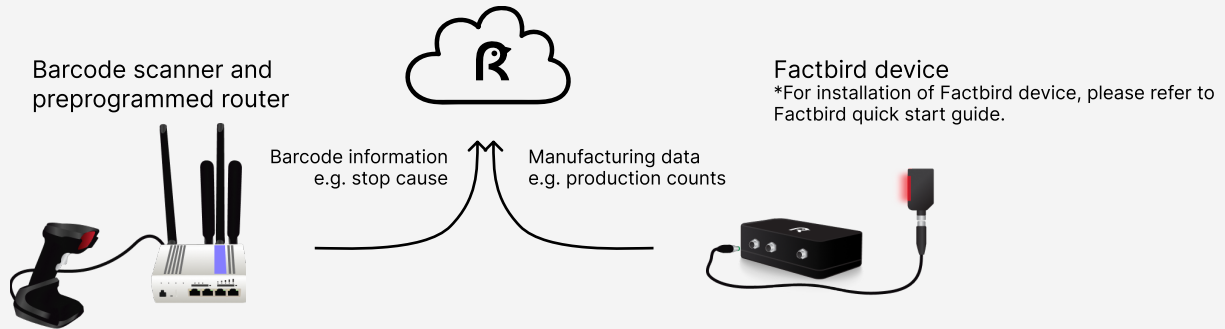
*Please provide Factbird with information on the type or types of barcodes that will be detected in advance. This will help reduce the likelihood of detecting and reacting to the wrong barcodes.

Factbird provides the barcode scanner packaged with:
- Charging cradle
- Cable for connecting cradle

① Handheld barcode scanner
e.g. Zebra DS2278
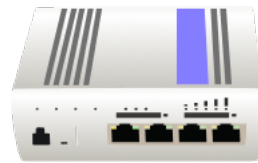
Factbird provides Teltonika router RUTX11 packaged with:
- Power supply
- Wi-Fi and mobile antennas
- SIM card (in case of using a mobile network)

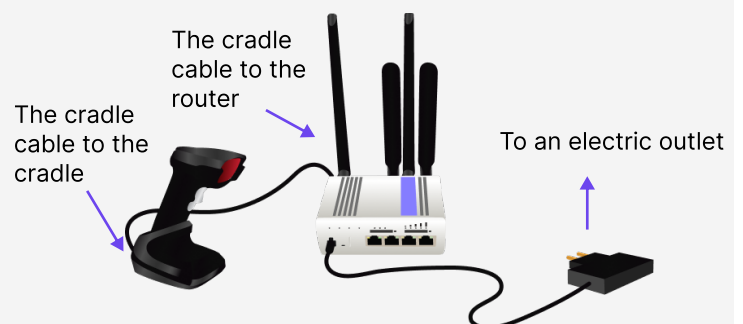*The router is preprogrammed for the solution.

② Teltonika router RUTX11

1

Connecting the router and the barcode scanner

1. Attach the mobile antennas to the connectors labeled "Mobile MAIN" and "Mobile AUX" and the Wi-Fi antennas to the connectors labeled "WiFi" on ② the router.
2. Connect the power supply to the "PWR" connector on the front of ② the router and to an electric outlet.
3. Connect the cradle cable to the port underneath the cradle of ① the barcode scanner and connect the other end of the cable to a USB port on ② the router.
4. Place the router where it receives good network signal.
   Not inside the cabinet or metal box.
   Not under or between big machines.

The cradle cable to the router

The cradle cable to the cradle

To an electric outlet

2

Confirm the connection

1. After the router has booted and successfully connected to the network, it should display a solid green light by the 3G or 4G indicator in case of using mobile network.
2. The cradle should exhibit a solid green light or a blinking yellow light (indicating charging).

Cradle LED indicator
- Green (solid): fully charged
- Yellow/amber blinking: charging
- Yellow/amber fast blinking: charging error

Re-configuring the barcode scanner if necessary

The barcode scanner comes preconfigured. If, however, it becomes necessary to factory reset and reconfigure the scanner, follow these steps:

1. Open the "DS2278 Digital Scanner Product Reference Guide" from Zebra Technologies or see the following pages for the copies of the relevant pages.
2. One barcode on each of the referenced pages needs to be scanned (6 in total).
3. Please scan the codes in order and await the scanner restarting after the first scan and last scan.
   - Restore Defaults
   - (wait until the scanner has restarted)
   - Low/Medium/High Volume (depending on your preferences)
   - Enter Key
   - AIM Code ID Character
   - Enable No Read
   - USB CDC Host
4. (wait until the scanner has restarted)
5. Put the scanner back in the charging cradle. This allows the scanner to reconnect to the cradle.

User Preferences

Default Parameters

✓ ***NOTE*** To pair the scanner and cradle after scanning **Set Factory Defaults** either insert the scanner in the cradle to pair or wait five seconds before scanning the pairing bar code on the cradle.

Scan one of the following bar codes to reset the scanner to its default settings as follows:

- **Restore Defaults** resets all default parameters as follows:
  - If you configured custom default parameter values via the **Write to Custom Defaults** bar code, scanning the **Restore Defaults** bar code restores these custom values.
  - If you did not configure custom default parameter values, scanning the **Restore Defaults** bar code restores the factory default values. See Appendix A, Standard Default Parameters for these values.
- **Set Factory Defaults** clears all custom default values and sets the factory default values. See *Appendix A, Standard Default Parameters* for these values.

Write to Custom Defaults

To create a set of custom defaults, select the desired parameter values in this guide, and then scan **Write to Custom Defaults**.

Restore Defaults

Set Factory Defaults

Write to Custom Defaults

Beeper Volume

Parameter # 140
SSI # 8Ch

Scan one of the following bar codes to select a beeper volume.

Low Volume
(2)

Medium Volume
(1)
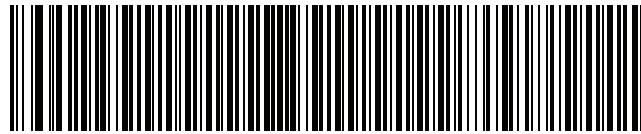

*High Volume
(0)

Miscellaneous Scanner Parameters

Enter Key

Scan the following bar code to add an Enter key (carriage return/line feed) after scanned data.
To program other prefixes and/or suffixes, see *Prefix/Suffix Values on page 5-33.*

Add Enter Key (Carriage Return/Line Feed)

Tab Key

Scan the following bar code to add a Tab key after scanned data.

Tab Key

Transmit Code ID Character

Parameter # 45
SSI # 2Dh

A Code ID character identifies the code type of a scanned bar code. This is useful when decoding more than one code type. In addition to any single character prefix selected, the Code ID character is inserted between the prefix and the decoded symbol.

Select no Code ID character, a Symbol Code ID character, or an AIM Code ID character. For Code ID characters, see *Symbol Code Identifiers on page E-1* and *AIM Code Identifiers on page E-3*.
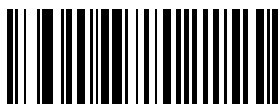
✓ **NOTE** If you enable Symbol Code ID Character or AIM Code ID Character, and enable *Transmit "No Read" Message on page 5-37*, the scanner appends the code ID for Code 39 to the NR message.
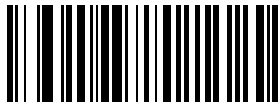
Symbol Code ID Character
(2)

AIM Code ID Character
(1)

*None
(0)

Transmit "No Read" Message

Parameter # 94
SSI # 5Eh

Scan one of the following bar codes to set an option for transmitting the No Read (NR) characters:

✓ **NOTE** If you enable **Transmit No Read**, and also enable Symbol Code ID Character or AIM Code ID Character for *Transmit Code ID Character on page 5-32*, the scanner appends the code ID for Code 39 to the NR message.

✓ **NOTE** This does not apply in presentation mode.

- **Enable No Read** - This transmits the characters NR when a successful decode does not occur before trigger release or the **Decode Session Timeout** expires. See *Decode Session Timeout on page 5-22*.

- **Disable No Read** - This sends nothing to the host if a symbol does not decode.


**Enable No Read
(1)**

***Disable No Read
(0)**

USB Device Type (continued)

✓ ***NOTES***

1. Before scanning *USB CDC Host on page 8-6*, install the appropriate USB CDC Driver on the host to ensure the scanner does not stall during power up (due to a failure to enumerate USB). Go to www.zebra.com/support, Support & Downloads > Barcode Scanners > USB CDC Driver, select the appropriate Windows platform, and download either Zebra_CDC_ACM_Driver_(x64)v2.15.0004.exe (64 bit) or Zebra_CDC_ACM_Driver(x86)_v2.15.0004.exe (32 bit).

    To recover a stalled scanner:

    Install the USB CDC Driver

    or

    Unplug the USB cable and then reconnect it to add power back to the scanner. Scan HID Keyboard or another host.

    After power-up, hold the trigger for 10 seconds, which allows the digital scanner to power up using an alternate USB configuration. Upon power-up, scan another **USB Device Type**.

2. To select the Toshiba TEC device type, refer to the *Toshiba TEC Programmer's Guide*.

3. Select USB HID POS to communicate over a USB cable with Universal Windows Platform (UWP) applications running on Windows 10 devices.
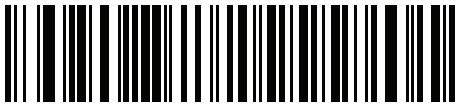
USB CDC Host

SSI over USB CDC

Symbol Native API (SNAPI) with Imaging Interface

Symbol Native API (SNAPI) without Imaging Interface

**USB HID POS
(for Windows 10 devices only)**