

Quick Start Guide

Thank you for purchasing the WC30i-TZ Wireless Flow Totalizer.
 This **Quick Start Guide** provides brief procedures for the hardware installation and configuration of the WC30i-TZ UM.

Important! It is assumed that the reader and installer have completed the FreeWave WC30i-TZ installation and setup training to follow the procedures in this document.

Note: For more detailed installation, connection, and configuration procedures, download the WC30i-TZ UM **User Manual** from the <http://support.freewave.com/> website. Registration is required to use this website.

The basic steps are:

- A. [Power Connection \(on page 1\)](#)
- B. [WC Toolkit Installation \(on page 1\)](#)
- C. [WC Toolkit Update \(on page 2\)](#)
- D. [Configuration \(on page 3\)](#)

Included Equipment

| Included Equipment | | |
|--------------------|-----|----------------------------------|
| FreeWave Part # | Qty | Description |
| WC30i-TZ | 1 | WC30i-TZ Wireless Flow Totalizer |
| QSG0048AA | 1 | Quick Start Guide |

User-supplied Equipment

- 4-pin to USB programming cable (FreeWave Part #: WC-USB-4PIN).
- Teflon tape
- Computer for WAVECONTACT device configuration.
- Turbine Flowmeter

Power Connection

Important! Verify the items listed in **Included** and **User-supplied Equipment** section are available before starting this procedure.

1. All wiring should be neat and orderly.
2. Unsnap and open the latch cover on the WC30i-TZ.
3. Connect the battery cable to the **Internal Lithium Battery** connection.
4. Slide the **On / Off Switch** to the **On** position.
5. Connect the 4-pin to USB programming cable to the **RS232 Config / Debug** connector.
6. Connect the USB end of the 4-pin to USB programming cable to the computer.

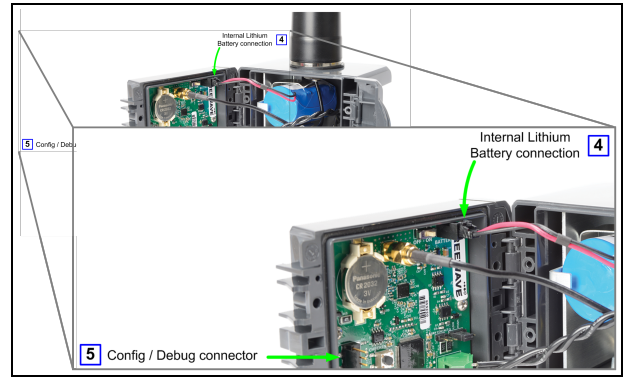


Figure 1: WC30i-TZ Internal Lithium Battery connection and Config / Debug connector

7. If this is the first time the WC30i-TZ is installed, wait for the drivers to install.

Important! Depending on the computer and connection, the driver installation can take 3-6 minutes.

8. Continue with [WC Toolkit Installation \(on page 1\)](#).

WC Toolkit Installation


Note: The images in this procedure are for Windows® 7 and/or Firefox®. The dialog boxes and windows may appear differently on each computer.

1. Click <http://support.freewave.com/>. The **FreeWave Support** site opens.

Important! Registration is required to use this website.

2. Enter the **User Name** and **Password**.



3. Click . A successful Login message briefly appears. The **Help Topics** window opens.
4. Click the **Software** link.

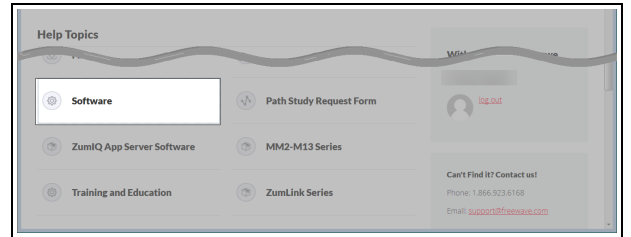


Figure 2: Help Topics window

The **Software** window opens.

5. Click the **WAVECONTACT Toolkit** link. The available software appears in the window.
6. Select and click the attachment.

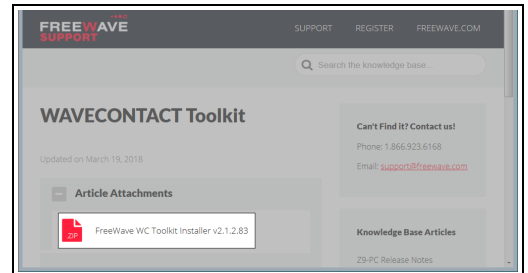


Figure 3: WAVECONTACT Toolkit window

The **Opening** dialog box opens.

Note: This procedure shows Firefox® dialog boxes. Other browsers will have different dialog boxes and procedures.

7. Click **OK**.
The **Enter name of file to save to** dialog box opens.
8. Search for and select a location to save the **.zip** file to and click **Save**.
The **Enter name of file to save to** dialog box closes.
9. Open a Windows® Explorer window and find the location where the **.zip** file was saved.
10. Double-click the **.zip** file.
11. Extract the **.exe** file from the **.zip** file into a parent location.
12. Double-click the **.exe** file to run the WC Toolkit installer.
The **Open File - Security Warning** dialog box opens.

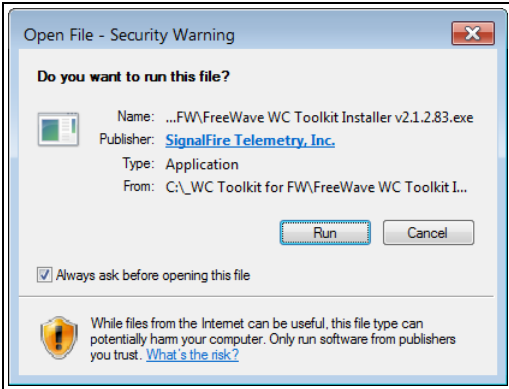


Figure 4: Open File - Security Warning dialog box

13. Click **Run**.
The **User Account Control** dialog box opens.

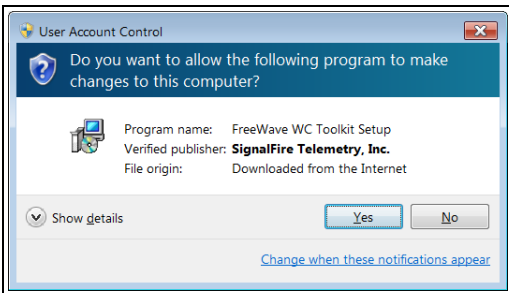


Figure 5: User Account Control dialog box

14. Click **Yes**.
The **WC Toolkit Setup Wizard** starts.

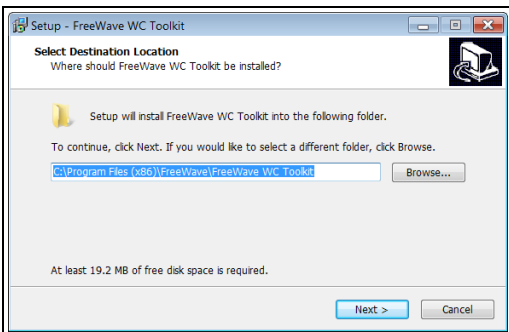


Figure 6: WC Toolkit Setup Wizard - Select Destination Location window

15. Click **Next** to continue.
The **Ready to Install** window opens.

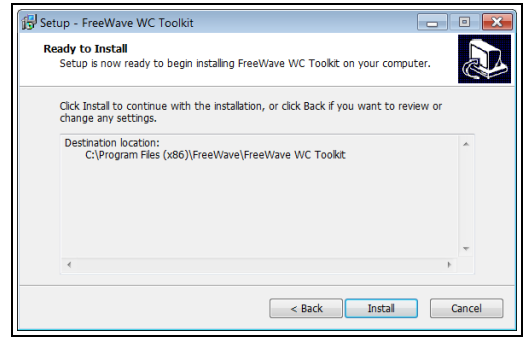


Figure 7: WC Toolkit Setup Wizard - Ready to Install window

16. Click **Install**.
The install process is very quick.
The **Installation Complete** window opens.

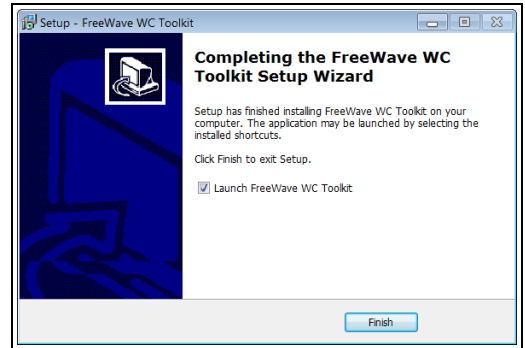


Figure 8: WC Toolkit Setup Wizard - Installation Complete window

17. Click **Finish** to open WC Toolkit.
An **Update** message appears in the WC Toolkit window if an update is available.

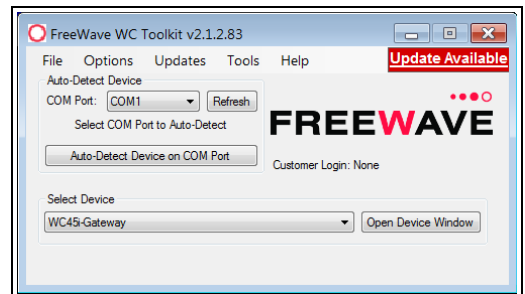


Figure 9: WC Toolkit - Update Available message

18. Continue with the [WC Toolkit Update \(on page 2\)](#) procedure.

WC Toolkit Update

If the WAVECONTACT device is connected to the internet, WC Toolkit automatically searches for an update for either the WC Toolkit itself or the connected device's firmware.

An **Update Available** message appears if an update is available.

Note: An **Update Available** message also appears in the [Device Configuration window](#) for any connected WAVECONTACT device when an update is available for that device.
The update procedure is the same for the device and WC Toolkit.

1. Open the **WC Toolkit** software.
The **Update Available** message appears in the window. ([Figure 10](#))

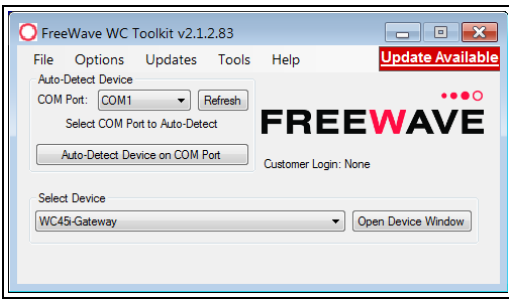


Figure 10: WC Toolkit - Update Available message

2. Click the **Update Available** message link.



Figure 11: Click the Update Available message link

The **Open File - Security Warning** dialog box opens.

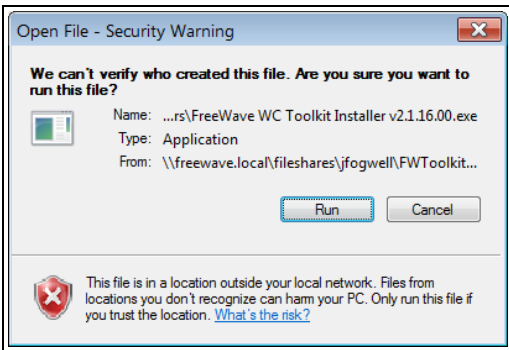


Figure 12: Open File - Security Warning dialog box

3. Click **Run**.

The **User Account Control** dialog box opens.

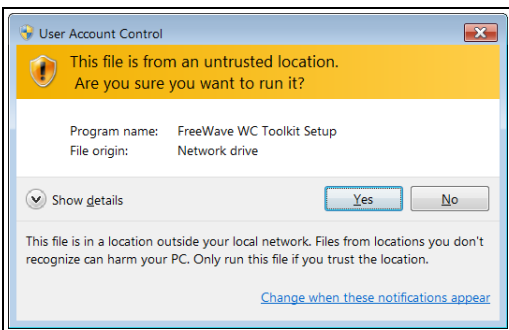


Figure 13: User Account Control dialog box

4. Click **Yes**.

The WC Toolkit update process is very quick. When the update is completed, WC Toolkit re-opens the **Select Device** window showing the updated software version in the WC Toolkit window. (Figure 14)

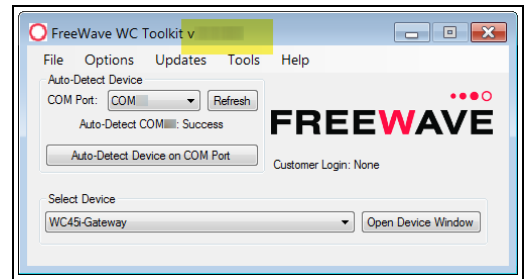


Figure 14: Select Device window

5. Continue with Configuration of the WC30i-TZ UM.

Configuration

Note: The terms node and Endpoint are used interchangeably in this document.

FREEWAVE Recommends: Install and configure the **WC45i** Gateway before any Endpoints to ensure the Endpoints have connectivity after installation.

Warning! Perform the Configuration steps in a safe location only.
AVERTISSEMENT: Suivez les étapes de cette section (Configuration) dans un endroit sûr uniquement.

Warning! Debug and configuration information is available if the 4-pin to USB programming cable is connected to the **RS232 Config / Debug** connector using the debug port on the main board. The USB converter cable (FreeWave Part #WC-USB-4PIN) must be used for this interface. Debug and configuration is done using the WC Toolkit.

Warning! Only connect to the Config / Debug connector port in a safe area! Ensure that the maximum voltage applied to the configuration port is less than 5 VDC! **AVERTISSEMENT:** Branchez le port de débogage que dans une zone sécurisée. Assurez-vous que la tension électrique sur le port de configuration soit moins de 5 volt DC.

Note: The screenshots are examples only. The dialog boxes and windows appear differently on each computer.

1. Verify the WC Toolkit software is installed on the computer connected to the WC30i-TZ.
2. Verify the Gateway is installed and configured before continuing with the Endpoint configuration.
3. Connect the WC-USB-4PIN - 4-pin to USB programming cable to the computer and the WC30i-TZ.
4. Open the **WC Toolkit** software.
 The **Select Device** window opens. (Figure 15)

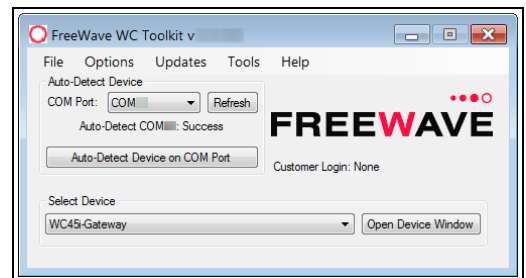


Figure 15: Select Device window

5. Click the **Refresh** button to have WC Toolkit search for and list the available COM ports reported by Windows and connected devices in the **COM Port** list box.
6. Click the **COM Port** list box arrow and select the COM port on the computer associated with the connected WC30i-TZ UM.

7. Click the **Auto-Detect Device on COM Port** button to have WC Toolkit connect the device to the COM Port selected in the **COM Port** list box. The **Device Configuration** window opens for the selected device.

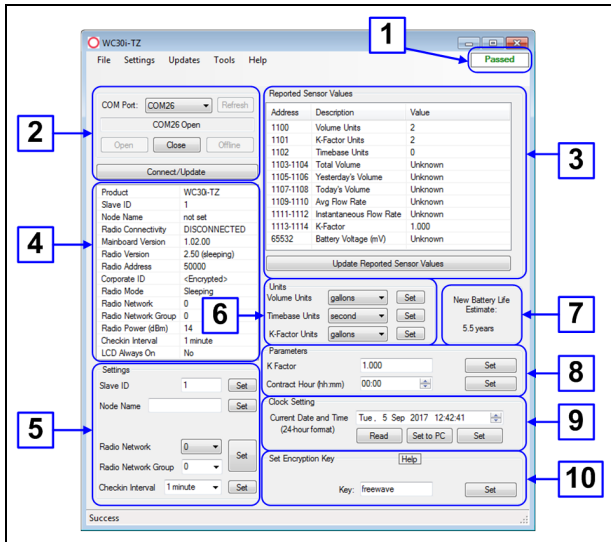


Figure 16: Device Configuration window: WC30i-TZ

8. In the **Settings** area (#5), change these settings:

Note: The **Network** settings are used to create separate networks using multiple Gateways (that are in close proximity to one another).

Important!: The **Radio Network** and **Radio Network Group** settings are selected by the user but **MUST MATCH** the existing Gateway network for successful communication between the Gateway and Endpoint.

- a. In the **Slave ID** column / text box, enter the remote source Endpoint Modbus Slave ID.

Note: Each remote device connected to the Gateway **MUST** have a unique Modbus Slave ID (1-240).

Important!: Verify there are no duplicate Slave IDs in a given network. The Gateway only caches one set of data for each Slave ID. A duplicate is overwritten.

- b. Click the **Set** button to save the information.
- c. Optional: In the **Node Name** text box, enter a name for the Endpoint using a maximum of 10 characters.
- d. Click the **Set** button to save the information.
- e. Click the **Radio Mode** list box arrow and select either **Sleeping** or **Non-Sleeping**.

Caution: Do NOT use the **Non-Sleeping** option with the WC30i-TZ because of rapid depletion of battery life.

- f. Click the **Set** button to save the information.
- g. Click the **Radio Network** list box arrow and select 0 (zero) to 7 for the assigned number.
- h. Click the **Set** button to save the information.
- i. Click the **Radio Network Group** list box arrow and select 0 (zero) to 29 for the network group assigned number.
- j. Click the **Set** button to save the information.
- k. Click the **Checkin Interval** list box arrow and select how often the Endpoint wakes up, reads the Modbus device, and transmits the register data to the Gateway.
- l. Click the **Set** button to save the information.

9. In the **Units** area (#6), change these settings:

- a. Click the **Volume Units** list box arrow and select the unit the accumulated volumes and flow rate are presented in.

- b. Click the **Set** button to save the information.
- c. Click the **Timebase Units** list box arrow to configure the units used for the flow rates.
- d. Click the **Set** button to save the information.
- e. Click the **K-Factor Units** list box arrow and select the unit the flow meter uses for its k-factor.
- f. Click the **Set** button to save the information.

10. In the **Parameters** area (#8), change these settings:

- a. In the **K Factor** text box, enter the amount of pulses for the connected turbine flow meter.
- b. Click the **Set** button to save the information.
- c. Click the **Contract Hour (hh:mm)** spin box to control when the accumulated **Today's Volume** is moved to **Yesterday's Volume** and zero **Today's Volume**.

Note: The contract hour is set in hh:mm in the 24-hour format.

Example: 2:30pm is entered as 14:30.

- d. Click the **Set** button to save the information.

11. In the **Clock Setting** area (#9), change these settings:

- a. Optional: Click the **Read** button to read the current time / date from the WC30i-TZ.
- b. Click the **Set to PC** button to synchronize the WC30i-TZ time to the connected computer for the battery back-up real-time clock. or Click the **Current Date and Time** spin box to manually enter the date and time of the WC30i-TZ for the battery back-up real-time clock.
- c. Click the **Set** button to save the information.

12. In the **Set Encryption Key** area (#10), change these settings:

- a. In the **Key** text box, enter the encryption key for the device using 6 to 16 characters.
- b. Click the **Set** button to save the information.

Important!: A Key **CANNOT** contain spaces or angle brackets. The Gateway and Endpoints only communicate if they are configured with the same **Key**. When setting up a new network, use this same encryption Key on all the devices.

Note: When the WC30i-TZ drops its network, it attempts to join networks using the same encryption **Key**.



Caution: It is possible to hide the encryption **Key** so it cannot be read. This is the most secure option, but if the **Key** is forgotten, there is **no way to recover it**. The **Key** must be reset on every device on the network.

13. Optional: Click the **Settings** menu and select **Set Encryption Key Unrecoverable** to permanently hide the key.
14. On the WC30i-TZ, press the **Check-in** button to send the current readings to the Gateway.
15. Verify the Gateway is communicating with the Endpoints.

Note: A successful connection on the WAVECONTACT Endpoint is indicated with Green blinking TX and ACT lights and a Red blinking light for RX. If the connection is NOT successful, a Green blinking TX light appears for 10 seconds.

FREEWAVE Recommends: Install and configure the **WC45i** Gateway before any Endpoints to ensure the Endpoints have connectivity after installation.

16. Optional: Continue with:
17. Close the WC Toolkit software.

18. Remove the WC-USB-4PIN 4-pin to USB programming cable from the computer and the WC30i-TZ.
19. Use the 1" female NPT swivel fitting to directly mount the WC30i-TZ to a standard turbine flowmeter.

Learn More

For additional product information about the , visit www.freewave.com.

For additional product information or assistance, contact a local reseller, or contact FreeWave Technologies, Inc. at 303-381-9200 or 1-866-923-6168, or by email at moreinfo@freewave.com.

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The WC30i-TZ UM complies with FCC Part 15 rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference and 2) this device must accept any interference received, including interference that may cause undesired operation.

The WC30i-TZ UM must be professionally installed and is only approved for use when installed in devices produced by FreeWave or third party OEMs with the express written approval of FreeWave Technologies, Inc. Changes or modifications should not be made to the device.

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