



USER GUIDE

(Version 1.0)

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Introduction

Identix CONNECTIX for Impinj is an on-reader software that enables users to easily set configurations for a single Speedway reader or gateway, and quickly access RAIN RFID data. The easy-to-use graphical user interface facilitates setting up reader configurations to quickly read tag data such as EPC, TID and User Memory, and record other relevant information such as last seen Timestamp and Antenna ID. Multiple protocols are provided for passing RAIN RFID data to an application without costly software development or middleware expenses. Identix CONNECTIX provides a simple user interface and reader configuration for your RAIN RFID infrastructure deployment.

FEATURES

- Easy-to-use graphical user interface for deployments of single readers used to identify RAIN RFID
- Tag Data (EPC, User Memory, and TID)
- Set basic reader configurations to read RAIN RFID tags and save the configuration on-reader
- Access RAIN RFID data in an application via MQTT, HID, HTTP POST, TCP/IP, Serial, or USB protocols
- On reader parsing of SGTIN-96 to different GTIN formats
 - GTIN14
 - GTIN13
 - GTIN12

Supported Impinj Hardware and Firmware releases

Identix Connectix embedded software applications support the following Impinj UHF RFID readers and gateways:

- IPJ-REV-R120 – all configurations (including the Antenna Pack option)
- IPJ-REV-R220 – all configurations
- IPJ-REV-R420 – all configurations (including Antenna Hub)
- IPJ-REV-R640 – all configurations
- IPJ-REV-R660 – all configurations
- IPJ-REV-R680 – all configurations

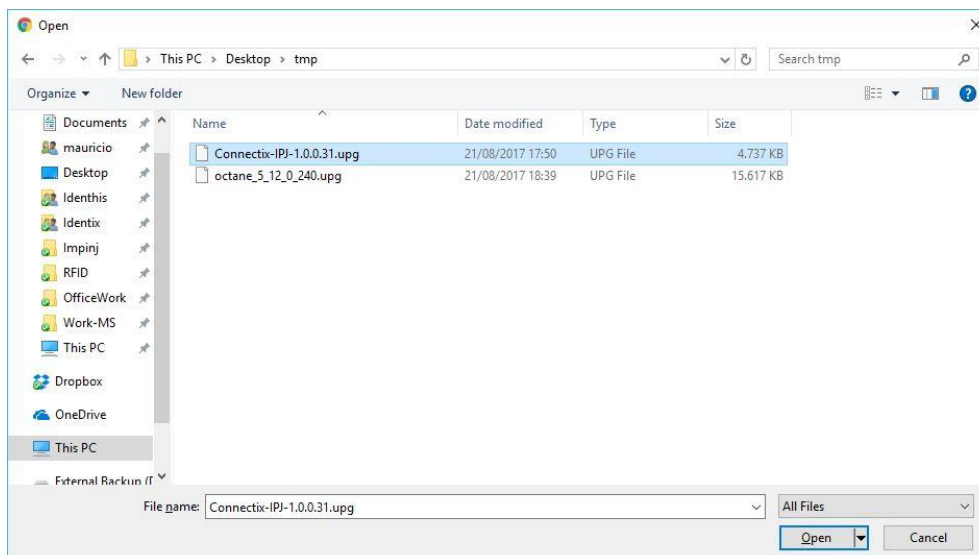
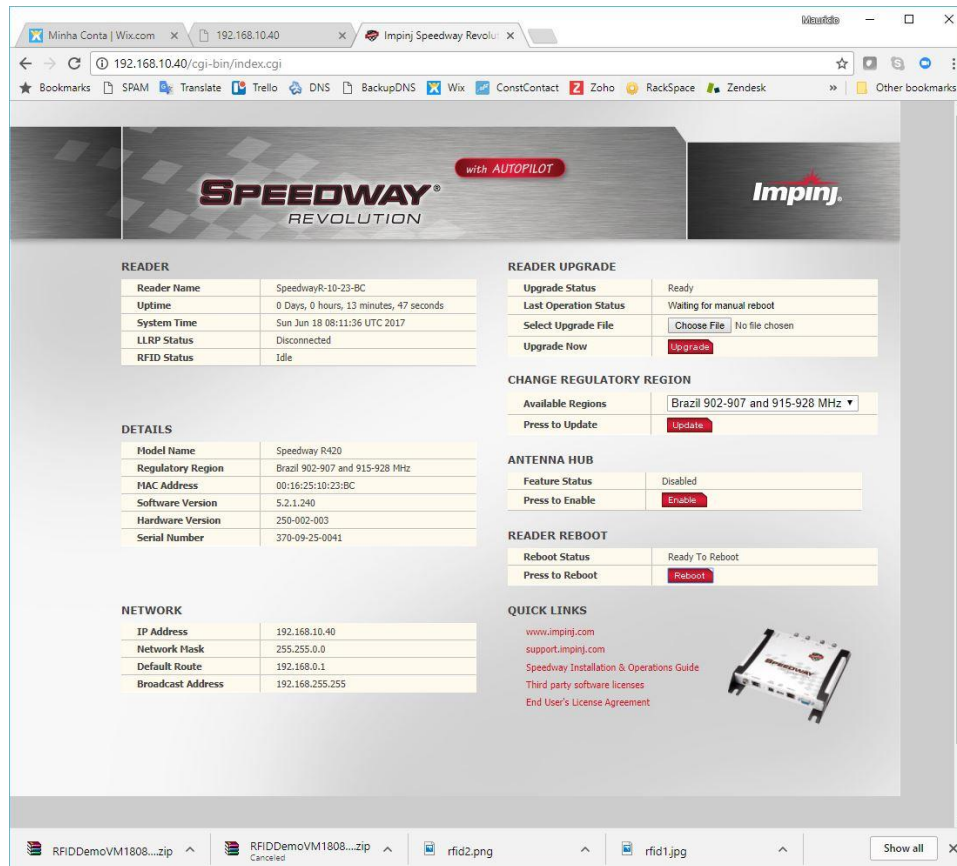
All Octane firmware releases after 5.8 (included) are supported

Installing CONNECTIX on your Impinj Reader

Install the CONNECTIX software via the Octane Web interface

1. First download the Connectix for Impinj software from <https://idntx.zendesk.com> and place it in a location on your PC

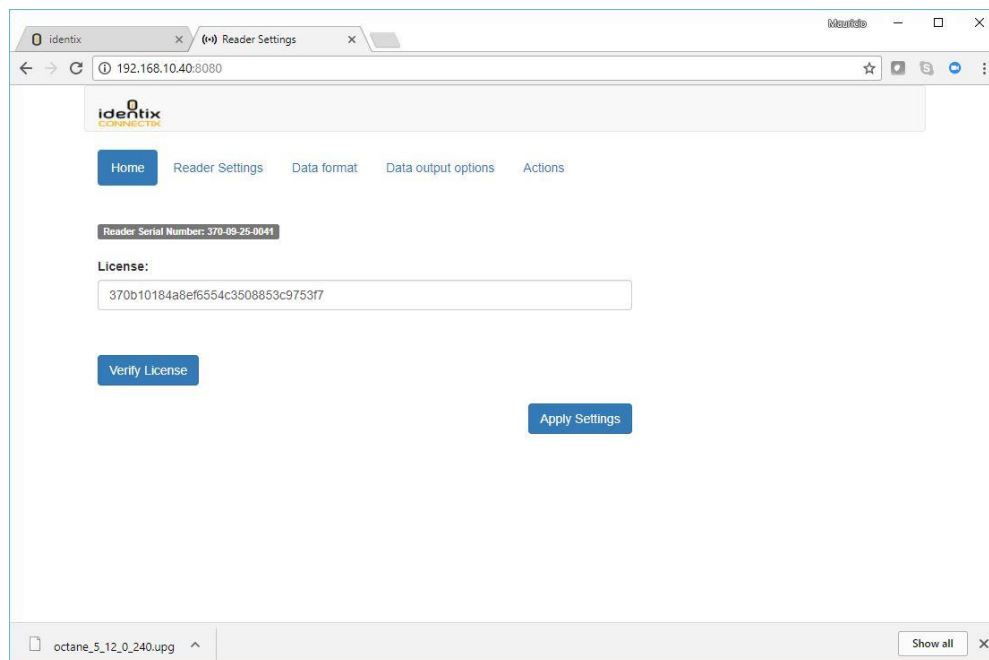
2. Enter the Impinj Octane Reader Web Interface. Under “Reader Upgrade” section “Select Upgrade File” choose the Connectix for Impinj software file you downloaded to your PC



3. Once you choose the correct “.UPG” file proceed with the installation of Connectix for Impinj software as if you were upgrading the firmware on the Impinj reader. The reader can take up to three minutes to unpack and install all necessary files. Let the reader finish the installation and then proceed with a re-boot of the reader.

Access the CONNECTIX License and Configuration screen

To access the CONNECTIX configuration screen, please open a web browser providing the following address for the connection <http://MySpeedwayReader:8080> where MySpeedwayReader represents the IP address or hostname of your Speedway reader. The default username and password for accessing the configuration screen are: “admin” and “admin”.



*CONNECTIX software requires a valid license to run.
Without a valid license CONNECTIX will be limited to 500 reads*

To obtain a license for you reader please contact Identix sales: sales@idntx.com

Once you get a valid license, please copy/past it into the License field and click “apply settings”.

Configuring CONNECTIX for Impinj

Reader Settings

On this section, you will configure the reader operating mode, transmission power and GPIO settings.

RAIN RFID Settings

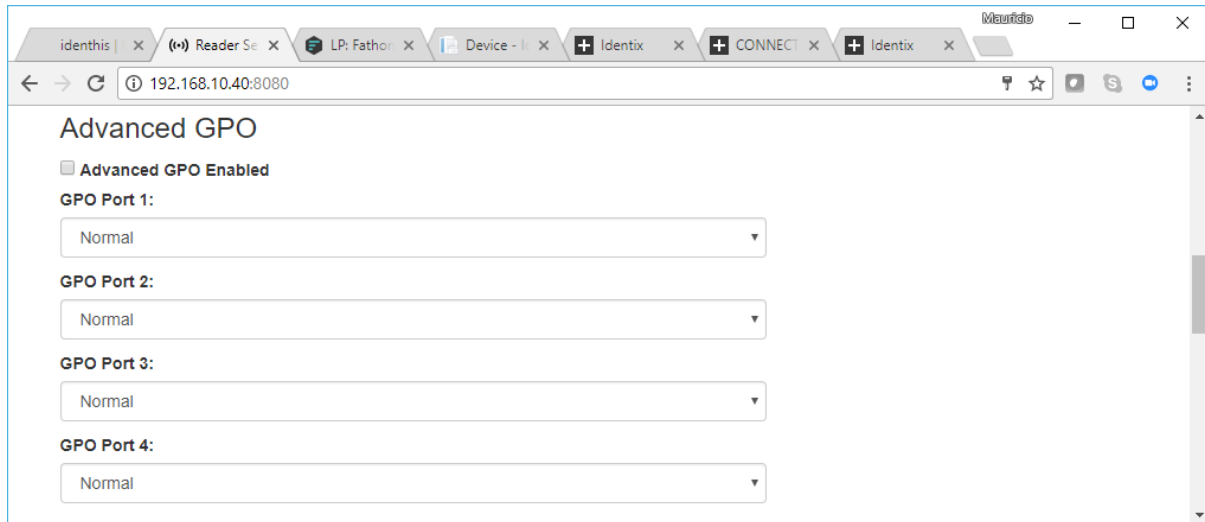
Here you can configure RAIN RFID related settings such as RF operating mode, inventory mode, target sections, tags population estimate and transmission power for each individual antenna.

Antenna	Enabled	Tx Power	Rx Sensitivity	Connection Status	Current Tx Power
1	<input checked="" type="checkbox"/>	30,00	-70		0
2	<input checked="" type="checkbox"/>	30,00	-70		0
3	<input checked="" type="checkbox"/>	30,00	-70		3000
4	<input checked="" type="checkbox"/>	30,00	-70		3000

Important! CONNECTIX will automatically identify the reader model and the total number of antennas. For instance, if you have a Speedway R420 with 02 Antenna Hubs, there will be 18 ports available for configuration on this screen. For the Impinj gateways, you will be able to configure each beam state individually.

Advanced GPO Settings

Here you can configure how the reader GPOs will behave.



The following conditions can trigger a GPO change based on the following statuses

- Reader Operation Status
- LLRP connection status
- Reader inventory status
- Network Connection Status
- Reader Inventory Tag Status

Triggers Settings

Here is where you can configure GPI triggers to start/stop inventory based on external sensors.

Triggers

Start Trigger:
Immediate

Start Trigger GPI Port:
1

Start Trigger period in milliseconds:
0

Start Trigger GPI Event:
Low

Stop Trigger:
None

Stop Trigger duration in milliseconds:
0

Stop Trigger GPI Port:
Disabled

Stop Trigger GPI Event:
Low

Keepalive

☒ **Enabled Keepalive interval in seconds:**
10

Apply Settings

Output Data Formatting and Filtering

Here you configure how the collected information will be formatted. Identix CONNECTIX can include basic information such as EPC data, antenna port information, timestamp, RSSI and TID.

identix | x (Reader Settings) x LP: Fathor x Device - x Identix x CONNECTIX x Identix x

192.168.10.40:8080

identix CONNECTIX

Home Reader Settings **Data format** Data output options Actions

Fields to include:

- ☐ Parse SGTIN-96 to GTIN
- ☒ GTIN14
- ☐ GTIN13
- ☐ GTIN12
- ☒ Antenna Port
- ☒ Timestamp (EPOCH in useconds)
- ☒ RSSI
- ☐ TID

Format:

Field Delimiter:

Comma

Line Ending:

CRLF

Reader Name / Device ID:

NqCxL:SpanDemo

Optionally CONNECTIX can convert SGTIN-96 encoded data into GTIN formats automatically on-the-fly. Please choose the desired formatting, along the delimiters that will be used for separating each field.

CONNECTIX can also apply software and hardware filters to lower network traffic and avoid readings of undesired tags.

The screenshot shows a web browser window with the URL 192.168.10.40:8080. The page title is "Software Filter:". It contains two main sections: "Software Filter:" and "RAIN RFID Filter".

Software Filter:

- ☐ Filter Reports by interval
- Report interval in seconds:
- Group by:

RAIN RFID Filter

- ☐ Gen2 Filter
- Gen2 Filter Bank:
- Gen2 Filter Bit Pointer:
- Gen2 Filter Mask:
- Gen2 Filter Length:

At the bottom right, there is a blue button labeled "Apply Settings".

Data Output Options

Identix CONNECTIX can send the collected information automatically to one or more destinations via different protocols and methods configured under this section.

MQTT

MQTT is a popular, high efficiency, low latency IoT oriented network protocol offered on popular IoT platforms such as Microsoft Azure, Amazon AWS, IBM Bluemix, Google Cloud and many others.

With MQTT you can connect you Speedway readers to cloud platforms in a matter of minutes. Just enter the connection information on this section and you are ready to go.

Local Socket Server

Selection this option, CONNECTIX will send the tags information to a local sockets server available inside the speedway reader.

HTTP Post

If you want to send the read data directly to a web server, you can configure the HTTP post information for you service here.

Serial Port

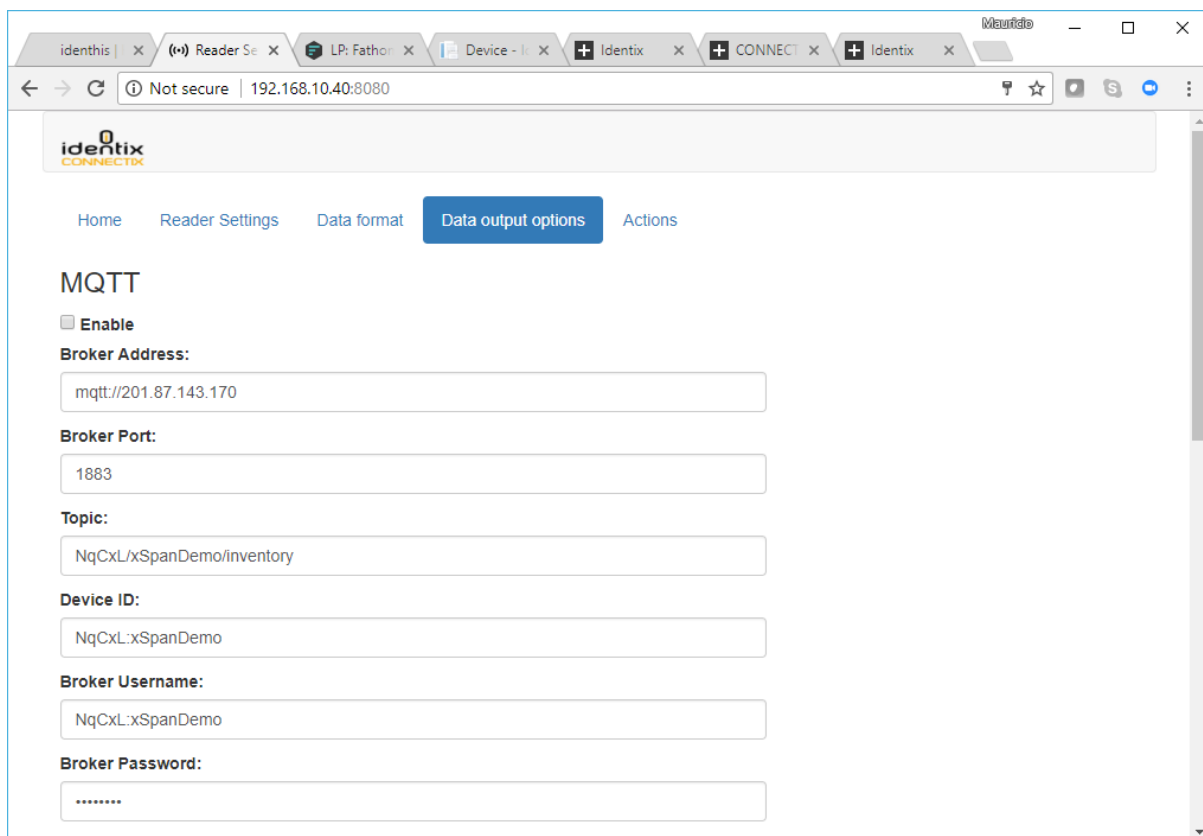
CONNECTIX will output the collected information on the reader serial port if you select this option.

Keyboard Emulation

CONNECTIX will output the collected information on the USB port, behaving like a keyboard if you select this option.

USB Flash Drive

CONNECTIX will write the collected information on a USB stick connected to the reader USB port if you select this option.



The screenshot shows a web browser window with the URL `192.168.10.40:8080`. The page title is "identix CONNECTIX". The navigation bar includes links for "Home", "Reader Settings", "Data format", "Data output options" (which is active), and "Actions".

The "MQTT" section is displayed with the following configuration fields:

- Enable:** A checkbox that is currently unchecked.
- Broker Address:** A text input field containing `mqtt://201.87.143.170`.
- Broker Port:** A text input field containing `1883`.
- Topic:** A text input field containing `NqCxL/xSpanDemo/inventory`.
- Device ID:** A text input field containing `NqCxL:xSpanDemo`.
- Broker Username:** A text input field containing `NqCxL:xSpanDemo`.
- Broker Password:** A text input field with masked characters (dots).

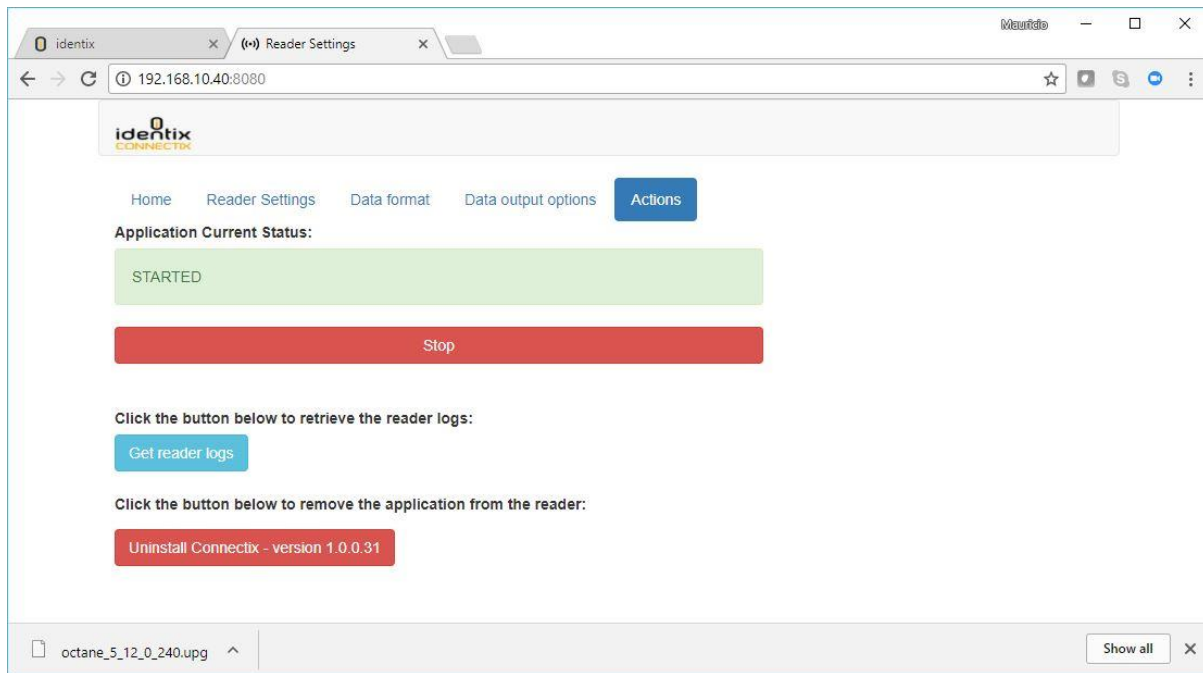
The screenshot shows a web browser window with the URL 192.168.10.40:8080. The page title is "Local socket server". The settings are as follows:

- Local socket server:**
 - ☒ Enable
 - Socket Port: 14150
- HTTP POST:**
 - ☐ Enable
 - Data Format: PLAIN
 - Remote Server URL: http://posttestserver.com/post.php
 - POST interval in seconds: 1
- Serial Port:**
 - ☐ Enable
 - 115200
- Keyboard emulation:**
 - ☐ Enable
- USB Flash Drive:**
 - ☐ Enable

An "Apply Settings" button is located at the bottom right of the form.

Removing and Stopping CONNECTIX from the Impinj Reader

You can temporarily stop CONNECTIX or remove it permanently from the Speedway reader if you wish. To temporarily deactivate CONNECTIX, just press “stop”. To permanently remove it from the Speedway reader, hit the “Uninstall Connectix” button.



Notices

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