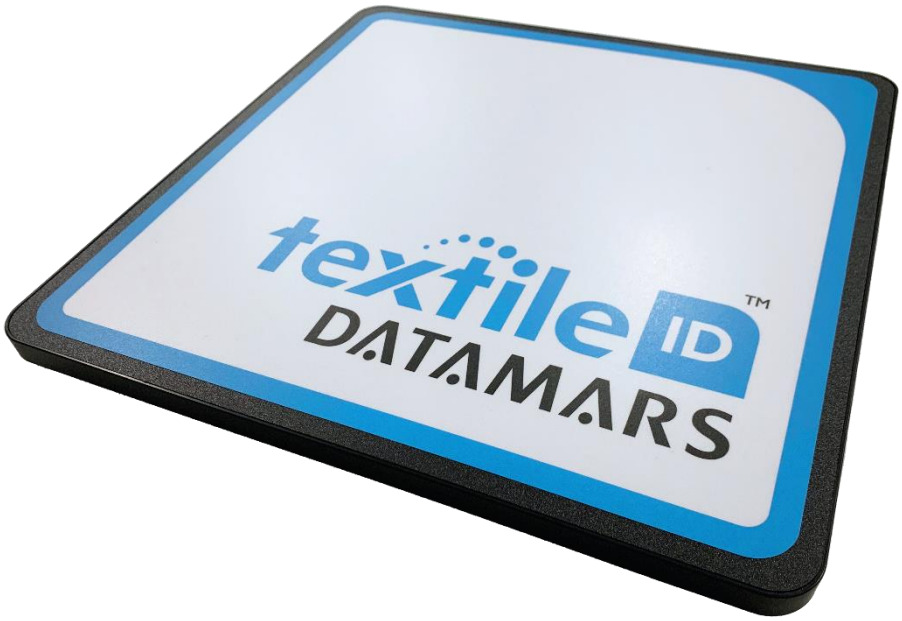
All-in-one stationary UHF reader

R-DT-UHF-CW-101

USER MANUAL

Version 1.0



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1 Introduction

The R-DT-UHF-CW-101 is an all-in-one stationary reader that is ideal for light industrial usage.

Its integrated antenna makes it a cost-efficient solution to create redundant reading points in the laundry in order, for example, to handle lost textiles or to speed-up tag registration.

The reader communicates and is powered through its USB port which makes it particularly easy to install and configure. It can be configured to send data to the terminal in keyboard wedge or serial mode (COM port) and thanks to several configurable parameters, it is possible to customize the output data string i.e., by cutting the EPC length or adding a prefix to the EPC code as well as being able to set filters on the readings, etc to fit your needs.

After the first setup (if needed), the reader is a plug and play reader that can be moved anywhere and connected to any computer to be able to use it to scan your textiles.

This guide is intended to describe how to modify the available parameters to better adapt the operation of the reader to your needs/requirements.

2 Starting up

As already mentioned, the R-DT-USB-CW-101 is a plug and play reader that can be moved anywhere and connected to any computer to be able to use it to scan textiles.

To prepare it, follow the below steps:

1. Remove the reader from the box;
2. Take the USB cable;
3. Connect the USB cable to the reader;
4. Place the metal plate to secure the cable;

5. Fix the metal plate with the two screws.

6. Place the reader on a non-metallic desk/table and if needed secure it using the mounting brackets included into the box.

3 Operating modes

The R-DT-UHF-CW-101 reader can be used in two different configurations:

1. HID keyboard wedge
    a. HID through USB cable (operating mode 1)
    b. HID through BT connection (operating mode 3)
2. Serial communication through USB cable (operating mode 4)

The reader by default is supplied with the Firmware for HID keyboard wedge communication and is configured in HID keyboard wedge through USB cable, but the operating mode can quickly be changed.
If you need to change the operating mode, please email to support-tid@datamars.com.

4 Adjustable parameters

The adjustable parameters are the following:

Glossary:

Parameter	Specification		Default value
Mode	Operating Mode		1 (USB HID)
Power	Tx Power		26 dB
Buzzer	Acoustic signal		1 (Enabled)
PC	Protocol Control – indicates how many bits of EPC are sent back to the reader		0 (Disabled)
RSSI	Received Signal Strength Indicator		0 (Disabled)
Pointer	Starting point for EPC		0
Length	EPC Length		0
Filter	EPC filter		1 (Enabled)
Timeout	Timing for the filter		5000 ms
Frequency	Transmitting frequency		0 (Uses default frequencies defined by standards)
Area	N/A		N/A
New_line	New line characters	LF = Line Feed CR = Carriage Return	2 (LF+CR)
Prefix	String before the EPC		- (Not defined)
Suffix	String after the EPC		- (Not defined)
Output_speed	N/A		N/A
EPC_format	EPC output format for BT communication		1 (Uppercase)

1. Mode: allows to select the operating mode.
    a. 1 = USB HID keyboard wedge
    b. 2 = Not Available
    c. 3 = BT HID keyboard wedge
    d. 4 = serial communication (Virtual COM)

    If using a reader with the firmware for HID keyboard wedge, only the operating mode 1 and 3 are available, if using a reader with the firmware for Serial communication, only the operating mode 4 is available.
2. Power: set the transmission power from 5 to 30dB.
3. Buzzer: enable or disable the buzzer.
4. PC: allows to include the PC into the data string.
5. RSSI: allows to include the RSSI value into the data string.
6. Pointer: when the EPC length is other than 0, allows to specify where the EPC string starts from.
7. Length: allows to specify the EPC length. The minimum granularity is two hexadecimal characters. i.e. if set to 1, the output string will be 2 hex characters.
8. Filter: allows to discard multiple readings of the same EPC.
9. Timeout: value for the the filter, specified in milliseconds.
10. Frequency: if needed, allows to define a single transmission frequency, specified in kHz.
11. Area: Not available.

12. New_line: allows to append a new line character to the output string
    a. 0 = None
    b. 1 = LF
    c. 1 = LF+CR
13. Prefix: allows to specify a prefix for the tag data string.
14. Suffix: allows to specify a suffix for the tag data string.
15. Output_speed: Not available.
16. EPC_format: allows to specify the format of the output string for BT HID connection (lowercase or uppercase).

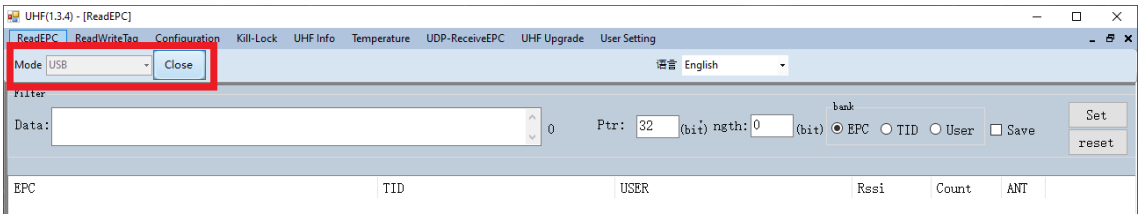
Examples:

Length	Pointer	Prefix	Suffix	PC	RSSI	Data String
0	0			0	0	300ED89F3350008CCD2CAC01
0	0			1	0	"PCvalue"300ED89F3350008CCD2CAC01
0	0			0	1	300ED89F3350008CCD2CAC01"RSSIvalue"
0	0	Prefix		0	0	“Prefix”300ED89F3350008CCD2CAC01
0	0		Suffix	0	0	300ED89F3350008CCD2CAC01”Suffix”
5	0			0	0	300ED89F33
10	0			0	0	300ED89F3350008CCD2C
0	5			0	0	50008CCD2CAC01
5	5			0	0	50008CCD2C

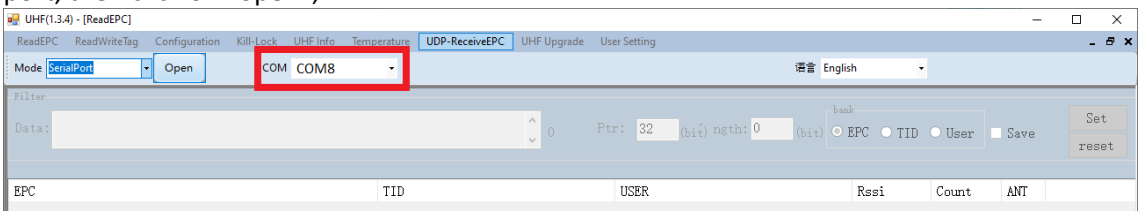
5 Ho to configure the parameters

To adjust the desired parameters, follow the below example made with the “buzzer” parameter:

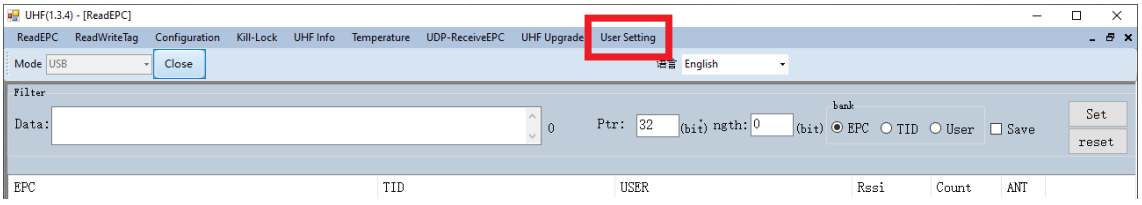
1. Unzip the “R-DT-UHF-CW-101-ConfigTool” folder on your desktop;
2. Keep all the documents inside the same folder;
3. Launch the “UHFapp.exe”;
4. In the top left corner select “USB” and click on “open”;



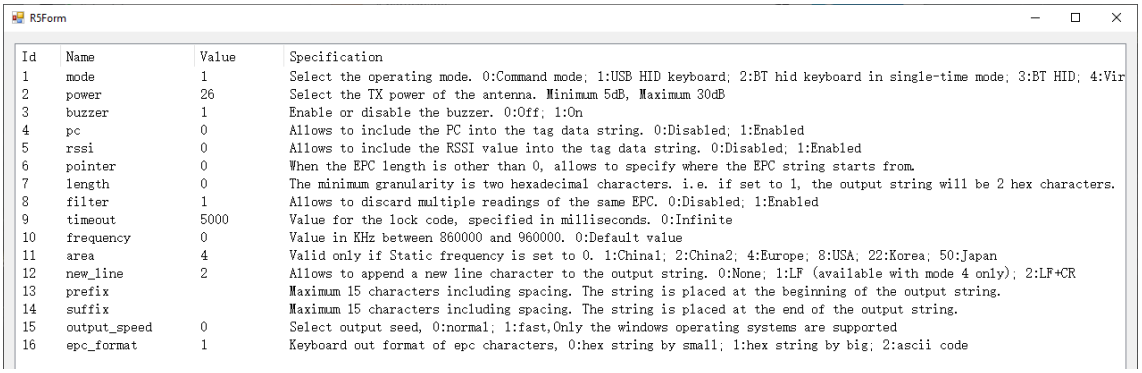
5. In case you’re using the serial communication firmware, select “SerialPort” and chose the right COM port, then click on “open”;



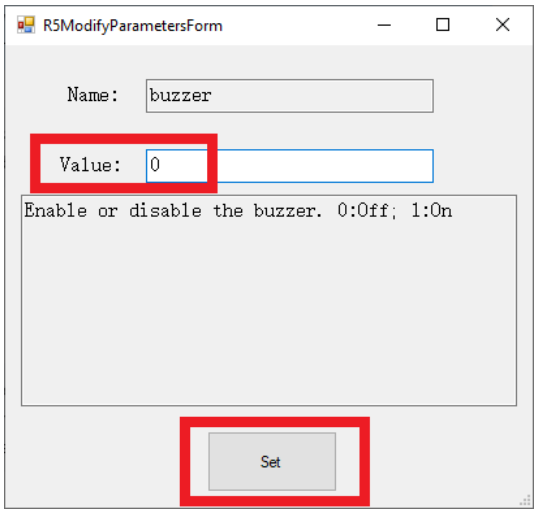
6. Click on “User Settings”;



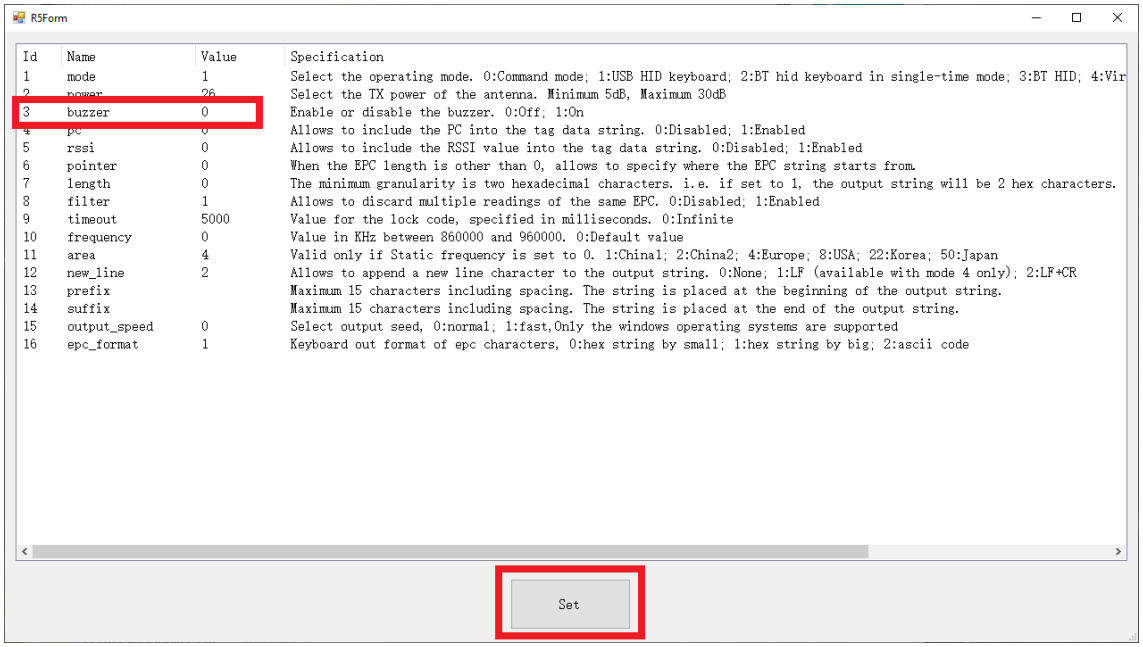
7. A new window wit the parameters will pop up. Double click on the parameter you want to adjust;



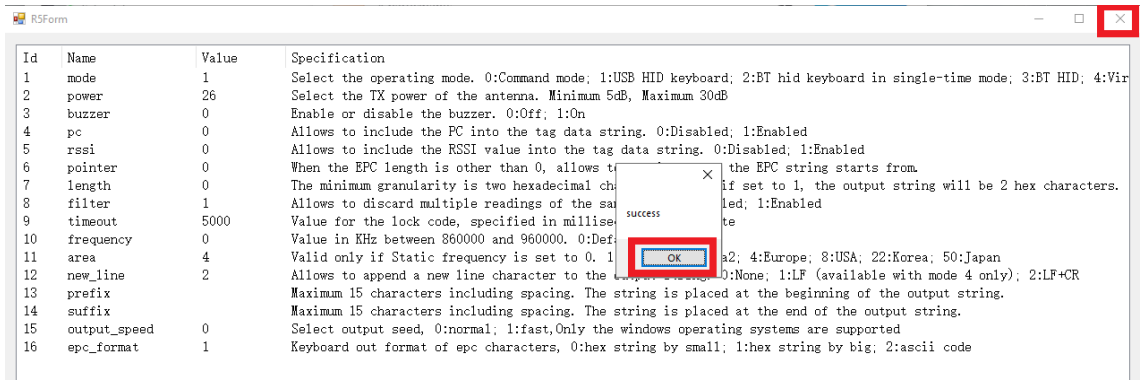
8. Type the new value and then confirm with “Set”;



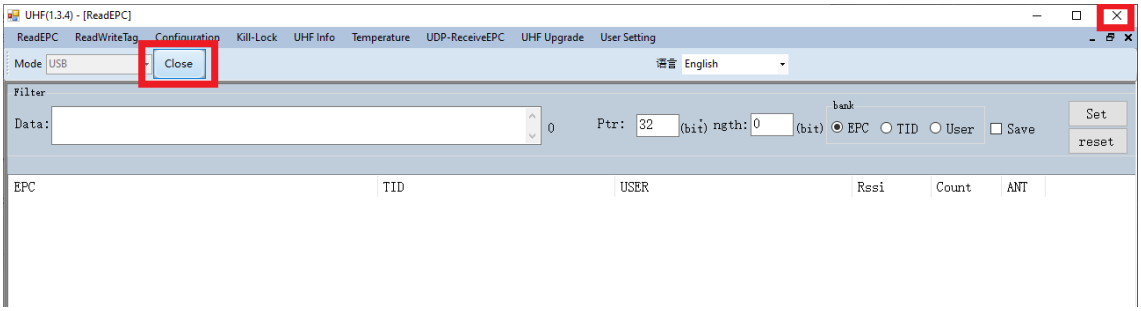
9. Check that the value has been stored and then confirm by clicking on “Set”;



10. Confirm again by clicking on “OK” and close the window;



11. Click on “Close” to close the connection with the reader and then close the “UHFapp”.



12. Unplug the reader from the PC and re-plug it after 5-10 sec.
13. The new parameters have been applied and you can now use the reader.

6 Safety and maintenance

Please carefully read this paragraph in order to ensure that a correct care and maintenance plan is followed to guarantee optimal operation of the Portal+.

- Storage
  - Do not expose the R-DT-UHF-CW-101 to water or moisture.
- Installation
  - The R-DT-UHF-CW-101 shall be installed on a non-metallic desk/table.
- Handling and operation
  - Handle and operate the R-DT-UHF-CW-101 with care; significant shocks may damage it.
  - Do not place any heavy load on the top of the R-DT-UHF-CW-101.
- Cleaning
  - Gently wipe with a slightly wet cloth and if needed, dry it immediately.
- Maintenance
  - Do not open the reader and attempt any modification to mechanical and/or electrical parts of the R-DT-UHF-CW-101. If extraordinary maintenance is required, please contact Datamars support (support-tid@datamars.com). Unauthorized service will void the warranty.