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HKRAT-ZT02 Demo Application User Guide

for EMPRESS™ 2.4GHz Active RFID Reader

(Model: HKRAR-EMWF)

Revision: 1.0.1

Before use, please read these instructions carefully.

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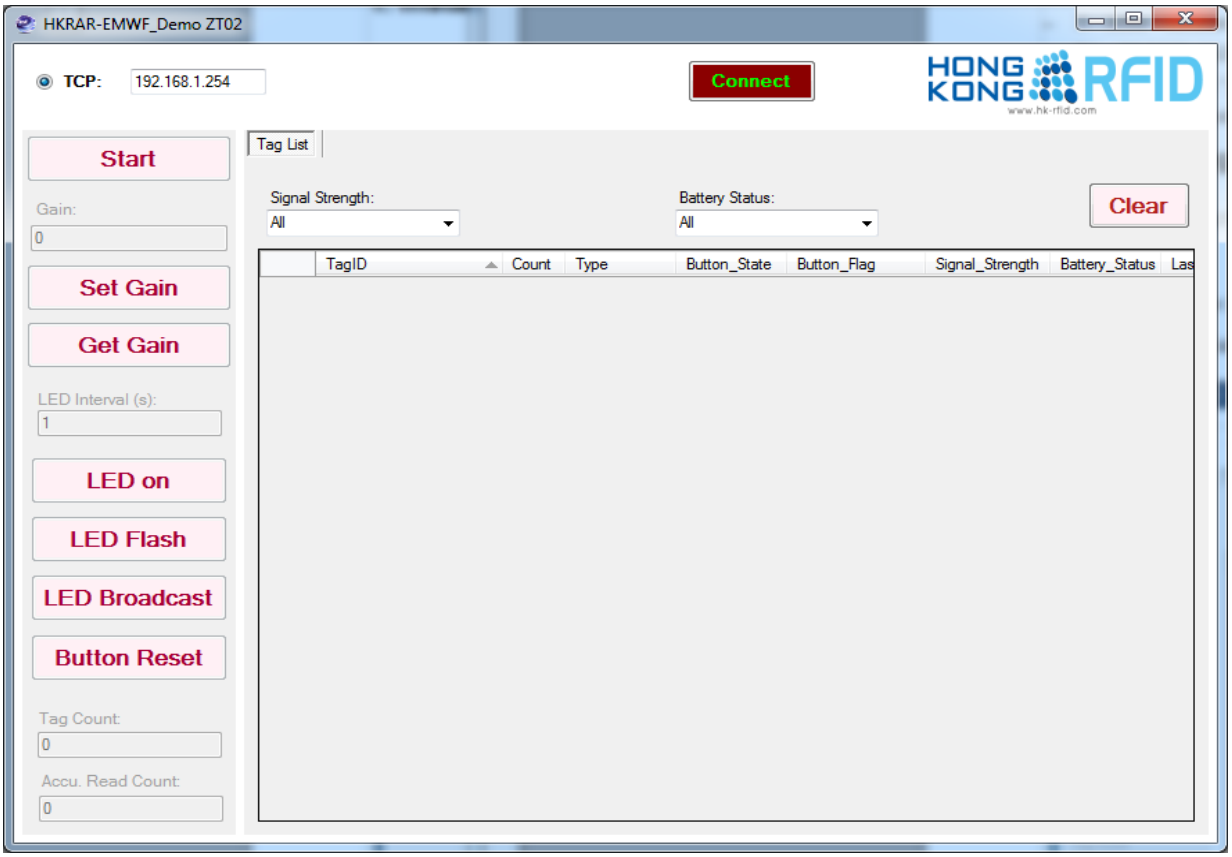
1. Installation

1. Open Folder {path}/HKRAR-EMWF on product CD and copy files to your PC's hard disk.
2. Demo program in "{path}/Application/HKRAR-EMWF_Demo-ZT02.exe"
3. Sample Source Code in folder "{path}/Software Development Kit"
4. Reference document in folder "{path}/Documents"

2. Demo Program

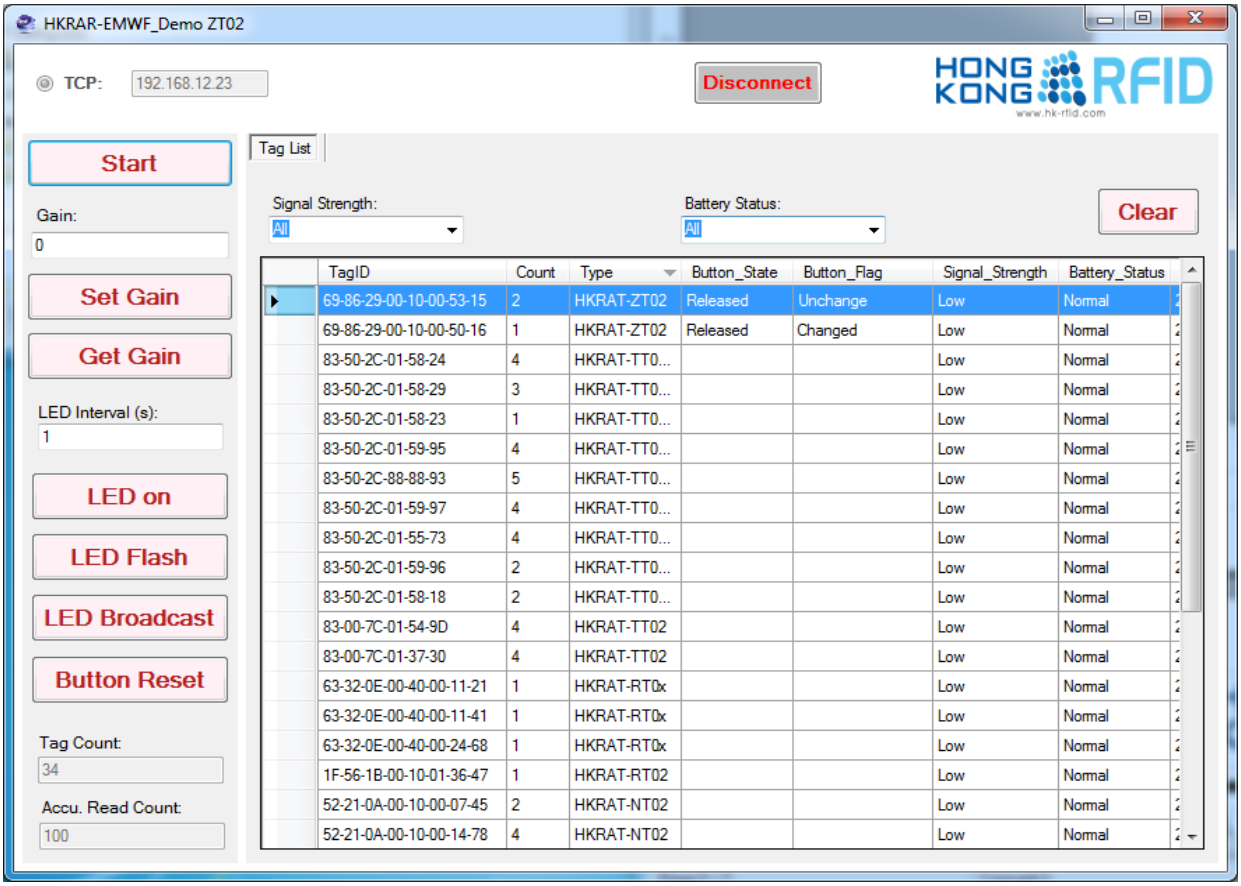
1. Open folder which applications being located
2. Double click to run HKRAR-EMWF_Demo-ZT02.exe program file



3. Program main screen be launched. The following is instruction for start reading.
4. Enter reader IP address to TCP text input.
5. Click "Connect" Button.

6. Click “Start Read” Button. The program will send command to reader and reader will collect the tags' information.

7. In generally, you can now see the incoming Tags' data in the main screen.



Here is description to parts of program.

TCP text input	Active Reader’s IP address
Connect / Disconnect Button	The program connect to reader through IP address The program disconnect and stop communicate to the reader
Set Gain Button	This is sensibility to Reader Receive Tag Signal. Gain value in between 0 to 31. 0 is maximum sensitive (Long range) and 31 is minimum sensitive (Short range)
Get Gain Button	Get Gain Value from the connected reader
Start / Stop Button	The program send a “Start Read” command to reader, then the reader will collect tags' data within the range

	The program send a “Stop Read” command to reader, reader will stop collect tags' data
LED on	The reader send a “LED on” to the selected tag inside data table, the tag will turn on the LED with LED interval value
LED Flash	The reader send a “LED flash” to the selected tag inside data table, the tag will flash the LED with LED interval value
LED Broadcast	The reader send a “LED Broadcast” signal. If any tag receive the command, then it will flash the LED
Button Reset	The reader send a “Button Reset” signal to the selected tag inside data table, the tag will reset the “Button_flag” to “Unchanged”
(Table of data description as below)	
Tag ID	The specific tag's unique ID
Count	Number of specific tag was being read
Type	Tag type of specific tag
Button_Status	The current status of specific tag which is being “Pressed” or “Released”
Button_Flag	The flag of specific tag which is being “Changed” or “Unchanged”
Signal Strength	Current signal strength to specific tag
Battery Status	Battery Status to specific tag
Last_Updated	The last seen time of specific tag
(Filter option on result table, located above of the result table)	
Battery Status	Filter for battery level { All, Normal, Low}
Signal Strength	Filter for Signal Strength { All, High, Low }
(Statistic information of the program)	
Gain	Input the Gain Value or display the Gain value by Get Gain button
LED interval (s)	The interval time of LED on and LED flash command in second

Tag Count	Number of tag being read
Total read count	Total number of times that tag being read

3. HKRAR-EM.NET Library Fucntions for HKRAT-ZT02

HKRAR-EM .NET Library has several API functions which has designed specific for HKRAT-ZT02 series tag.

Function Name	Description
SetTagLEDOn	Trigger the target tag to turn on the LED for a specified interval.
SetTagLEDFlash	Triggers the target tag to flash the LED for a specified interval.
SetBroadcastLEDFlash	A broadcast command that triggers all the tags with LED to flash.
SetReaderLEDOn	Light up the reader's LED for a short interval.
SetTagLEDOn	Trigger the target tag to turn on the LED for a specified interval.
SetTagLEDFlash	Triggers the target tag to flash the LED for a specified interval.
SetBroadcastLEDFlash	A broadcast command that triggers all the tags with LED to flash.
SetReaderLEDOn	Light up the reader's LED for a short interval.

It also has specific Properties for HKRAT-ZT02 to TagStatus object.

Tag Status Property	Description
button_on_off	Instant button status
button_status_changed	1 if button status is changed

Please read document **HKRAR-EM.NET Library API Document** for more details information.

4. Communication Protocol API for HKRAT-ZT02

HKRAR-EM Communication Protocol API has several functions specific for HKRAT-ZT02 series tag.

Function list:

Function Name	Command Code	Supported Product
Set LED On	0x0D	HKRAT-RT02
Set LED Flash	0x0E	HKRAT-RT02
Broadcast LED flash	0x0F	HKRAT-RT02
Reset Button Trigger	0x10	HKRAT-RT02
Set LED On	0x0D	HKRAT-RT02
Set LED Flash	0x0E	HKRAT-RT02
Broadcast LED flash	0x0F	HKRAT-RT02
Reset Button Trigger	0x10	HKRAT-RT02

Read Tag ID format also has some status bit specific for HKRAT-ZT02. (see API doc section 3.2)

For details, please reference to **HKRAR-EM Protocol API** document.

Please feel free to contact the Customer Support for any difficulty in usage or technical support, or if there's any advice for products.

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