USER Manual

125KHz RFID DeskTop USB READER

Please read the user manual carefully before using the device

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Federal Communications Commission (FCC) Statement. This device complies with part 15 of the FCC 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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide Reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

•Reorient or relocate the receiving antenna.

•Increase the separation between the equipment and receiver.

•Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

•Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications made to this device not expressly approved by ShenZhen YanShen Electronic Co., Ltd may void the FCC authorization to operate this device.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF exposure statement: The device compliance RF exposure requirement and can installed and used without restriction

EH301 is an external input device that can read EM4100 and HID 125K proximity cards ID and output to computer or Android/iOS device via USB interface according to the specified format.

1. Feature:
a) Support Card list:
HID 125KHz Proximity Card: ProxCardII(1326), ISOProxII(1386) , DuoProxII(1336), ProxKeyIII(1346) , ProxKey III (1346) , MicroProx Tag (1391)
AWID Low frequency Card : 26-50bits format card, Prox Wafer Disc , Clam Shell Card , Key Tag Casi /GE ProxLite 125KHz proximity (not all format) ; EM4100 or EM compatible
b) Output data at cursor location, HID USB interface, Driver-free, Supports Android & iOS device.
c) 44 output formats for both EM & HID, raw wiegand data for HID 125K proximity cards only
d) Turn on/off buzzer sound, configurable as QWERTY (USA) / AZERTY (Europe) keyboard layout
e) Default setting: 10 digit format, With Enter, buzzer sound, QWERTY keyboard, Disable HID Raw

2. How to use
Works with PC: Connect reader to USB port, Green LED light, then Green LED off and reader beeps & blue led light; Run text editable program (Word, Notepad. etc.), Read card, the card number is shown on window at the cursor location.
Works with Mac: same as work on PC, (Mac needs type C /Lighting to USB adapter)
Works with android device: an OTG adapter is required

3. Configuration of the reader
EH301 allows user to select output format, (include "with or without Enter" "reverse data"), Turn-ON/OFF buzzer, enable/disable HID raw data, USA/Europe keyboard layout

Config process is done through a 3-level menu system: Reader send option text to screen, user use two different read config card methods to tell reader to select or skip this option.
if choice "skip", reader will go to the next option at the same level, if choice "yes", reader will save it then jump to a new option group. These 2 read config card methods are:
★Short read card: read config card, reader sounds 1 beep (Bi), remove the card immediately
★Long read card : read config card ,reader sounds 1 beep (Bi), don't remove the card, until reader sounds another 2 beeps (Bi-Bi), then remove card

-3.1 Select reader output format 1 to 11
a) Run text editable program (suggest Excel); Plug in reader to PC till reader beeps (BLUE LED on)
b) Read the config card, reader enters config mode (Green LED on) and start to send instruction menu on screen, then the first format menu "18 8H-10D" is shown, waiting for user choice
c) "Long read card" will let reader save this format, and jump to next group menu if want not this format, use "short read card", then next format will appear on screen
d) if skip all format from 1 to 11, reader will keep previous output format setting

-3.2 Set reader parameters After format 1-11, 5 parameters can be selected, menu as below:

12	with enter	?	Short read card=with enter	Long read card=without enter
13	buzzer sound	?	Short read card=buzzer sound	Long read card=disable buzzer
14	enable hid raw	?	Short read card=disable hid raw	Long read card=enable hid raw
15	reverse data	?	Short read card=normal data	Long read card=reverse data
16	keyboard layout	?	Short read card=USA keyboard	Long read card=Europe keyboard

with enter—Send "Enter" after card number ; Without Enter—Only send card number
Normal: card number in normal sequence; Reverse data: card number in reverse sequence;
Buzzer sound: reader sound "Bi" after read card; Disable buzzer: reader is mute after read card
Disable HID raw: EM/HID/AWID card data are sent as format 1-11 which is selected before;
Enable hid raw: EM card follow format setting 1-11, but HID/AWID card data is sent as raw wiegand data stream(See detail for hid raw data explanation in next page)

-3.3 Quit Config mode: (there are two ways to quit config mode)
- power off reader to quit at any time. This will not affect already saved setting of each step
- quit from operation menu as below: (short read card can start config process again)

| Repeat or quit config | short read card = repeat | long read card = quit |

Notice::
a) After power on, if other card is read before reading the config card, reader will enter normal work mode. In normal work mode, blue LED is on. Config card will be read as normal card
b) HID raw data format is for user who has better knowledge on RFID card and wiegand protocol, If it is enabled, Reader send 6 or 8 Byte HEX data when HID card is read according to below rule: The First 1 byte is card data bit length, others are card number data.
Example, reader sends "1A002468AC", means:
Card is wiegand 26 bit data : 1A (HEX) = 26 (DEC),
002468AC (HEX) = 0000 00 00 0010 0100 0110 1000 1010 1100 (BIN)
Take 26 bits data from LSB to MSB(see above), according to Wiegand26 protocol, the finial data is 0 0001 0010 0011 0100 0101 0110 0", in Hex It is 123456, group as FC and ID , it is FC= 12 (HEX) or 18 (DEC) ; ID=3456 (HEX) or 13398 (DEC)

c) Normal format 1-11 are listed as table below:

Number/ Mark		Description	Data example
1	8h-10d	10 digits decimal	0281845676
2	2h-3d 4h-5d	3 digits FC,5 digits ID	20440876 (FC=204 ID=40876) /WG26 format
3	4h-5d	5 digits decimal	40876 (5 digit number is printed on card)
4	5h-7d	7 digits decimal	827308 (7 digit number is printed on card)
5	6h-8d	8 digits decimal	13410220
6	7h-9d	9 digits decimal	013410220(card with 9 digit number printing)
7	4h-5d 4h-5d	5 digits FC,5 digits ID	0430040876 (FC=04300, ID=40876)
8	8h	4 byte Hex	10CC9FAC
9	6h	3 byte Hex	CC9FAC
10	10h	5 byte Hex	A710CC9FAC
11	10h-13d	13 digits decimal	0717541384108

4. Advanced config (add prefix/suffix in output data , or select client format for HID card)
If reader output data format "1-11" does not match with HID card number printing, user may try HID card client definition format, EH301 has 22 client format options for choice.
4.1 Enter Advanced Config
4.1.1 Run text editable PC program (Excel, Note etc. / Suggest Excel) ; Plug in reader to PC;
4.1.2 Read config card and don't move config card when reader sound the first "Bi"; till reader sound 2nd "Bi", remove the config card to start advanced config process.
4.2 Choice client format. The first menu display on window is:

Set client format? Short read card=not long read card=yes yes ◄——— Long read card

The first format option is appeared below:

Client format 49 "short read...= yes" or read your hid card to verify output ➤ 4291461069 yes

Now, user may read HID card, the number is shown at here, if output is same as the card printing, long read config card to save format; if not, short read card to next option.
Once format is set, user may power-off reader to quit config or go to set prefix and suffix option.
4.3 Set prefix and suffix
Prefix/Suffix can be any symbol/letter/number on keyboard, They are divided in 6 groups.
User need to choice a group first, then choice one character from this group. Groups list as:

! @ # $ % ^ & * ()	_ + { }		: " ~ < > ?	- = [ ] \ \ ; ' , . /
A B C.... X Y Z	a b c... x y z	1 2 3 4 5 6 7 8 9 0

Prefix and suffix can be enabled together or only one of them

5. Other HID products on line:
HID Card programmer ASIN:B07TMNZPXK ; HID Card/Fob ASIN:B07QXLH7L3 / B07QXLHKDP

Download operation video & documents & question answer at www.fissaid.cn/eh301
★Pls. send email to check solution for your problem before ask goods return,
we will solve your Problems to reduce the unnecessary return ★

Support Email: Taylor@szjat.com.cn

Application picture

Main product picture

For on reader   card on reader