FissaiD EH301 125KHz Proximity Card reader
Operation Manual

1. Product Profile
EH301 is designed as an external input device that read EM4100 and HID 125K proximity cards serial number and send it to host machine (PC/ Mac/Android device) via USB interface according to the specified format. Total 40 formats is selectable by user. It is widely used in many RFID application systems such as Access Control, Time Attendance, membership management, logistics, industrial process control etc.

2. Feature:
a) Read EM4100 / HID 125K proximity cards, not reads other cards
b) Emulate keyboard input, USB interface, Driver-free, support Windows Linux, iOS, Android(Android OTG adapter is required)
c) Total 40 formats for both EM and HID is selectable, or raw wiegand data format for HID 125K proximity cards only
d) Configurable to enable or disable buzzer sound
e) Configurable to suit QUERTY or AZERTY keyboard layout
f) Default setting: 10 digital format, buzzer sound, QWERTY keyboard

3. How to use
Works with PC: connect reader to USB port; run editable software, such as Word, Notepad, or existing user software, then read a card. The number is shown on window at the cursor location.
Works with Mac: same as work on PC,(New Mac needs type C adapter)
Works with android device: an OTG adapter is required between the android device and EH301 reader.

4. Configuration of the reader
The configuration is finished in 4 groups as below:
40 data output formats / QWERTY or AZERTY keyboard layout / enable or disable buzzer sound / RAW data stream for HID cards
Setting each group will not affect current setting of others.
Use config card to get updated video & manual download link

5. How to config reader output format and settings
EH301 allows user to select suitable format or set reader functions:
a) Run an editable software, like NotePad, then Plug in reader to host
b) Before reading any card, read the configuration card first. The reader will enter config mode automatically and
c) New format is appeared on window each second. When the demand format/function is appeared, plug off reader, new setting will be stored. Reader will work in new setting when next power on.
Remark: After power on, if other card is read before reading the config card, reader will not enter config mode.

HID card data explanation: HID card has different type, so reader will send number based on card type. For example H10301 wiegand26 bit cards, if use format 1-40, 3 byte data after decoding is used as card's number. If reader is set into 8H-10D format, 3byte card number will be converter to 10 digital decimal data, and if 2H-3D 4H-5D is set, the first 1 byte(MSB) will be calculate as FC and 2 byte will be calculate in card number per wiegand26 protocol
HID raw data format: when you want to know the HID card type or decode data by yourself, you can choice this format. In this format, Reader will output one group data in HEX, the first 1 byte is the card data bit length, others are the real data send by card. For example, A 26 bit card, data is "0 0001 0010 0011 0100 0101 0110 0", per the protocol of wiegand26, the first & last bit are polarity bits, real data are" 0001 0010 0011 0100 0101 0110", it is 123456 in HEX.
If reader format is set in "8H", reader outputs 00123456;
when it is "2H3D-4H5D",output is 01813398;
When "ena hid raw" is choice, output is 1A002468AC, means card is 26 bit(1A), and you can take 26 bits data from LSB to MSB(right to left, take 26 bits), will get raw data as "0 0001 0010 0011 0100 0101 0110 0"

EM card data explanation:
EM4100 UID is 40 bits or 10 bytes, called 10H in EH301 system. EM card output is only from format 1-40. Not support raw data format.

Email support: Taylor@szjat.com.cn

Appendix A :Tab for output format list

Description Format type	Enter	no Enter	Reverse & Enter	Reverse no Enter
8H-10D	1 -E	11	21 -R-E	31 -R
2H-3D-4H-5D	2 -E	12	22 -R-E	32 -R
8H	3 -E	13	23 -R-E	33 -R
6H	4 -E	14	24 -R-E	34 -R
4H-5D	5 -E	15	25 -R-E	35 -R
6H-8D	6 -E	16	26 -R-E	36 -R
4H-5D-4H-5D	7 -E	17	27 -R-E	37 -R
10H	8 -E	18	28 -R-E	38 -R
10H-13D	9 -E	19	29 -R-E	39 -R
7H-9D	10 -E	20	30 -R-E	40 -R

Remark: w.jatsecurity.com/Manual-of-FissaiD-EH301-3.html
1-40 are output format, suffix with -E means after data output, ENTER
    is sent ; otherwise, only data is sent;   -R, means reverse data
41 E: QWERTY keyboard layout   42 F: AZERTY keyboard layout
ena hid raw : For HID card, ignore format 1-40 just send RAW data
dis hid raw: Follow format(1-40) setting to send HID card data

Service Email: Taylor@szjat.com.cn / www.jatsecurity.com
Other readers works with HID cards:
ASIN:B07TMNZPXK, HID/AWID 125K proximity card writer, EM writer
ASIN:B07T5L2YLG , slim wiegand reader,IP65,for access control system
ASIN:B07QFMJTMV, EM/HID/AWID format card copier, handheld
ASIN:B07QXLH7L3 , ISO card, 1326 compatible, thin
ASIN:B07QXLHKDP ,keyfob,1386 compatible, gray

Download this manual : www.jatsecurity.com/Manual-of-FissaiD-EH301-3.html

Appendix B: Example of card number calculation

1450028957 109,44957
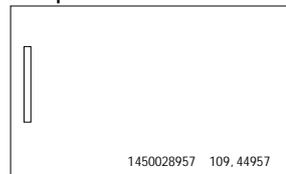
    Refer to picture, EM4100 card has 2 groups decimal data printing.
Converts the first group 1450028957 to Hex is 566DAF9D, it is called 8H
(8 digitals Hex data) in EH301, and 1450028957 is called 10D (10 digitals
decimal data). Converter the 2nd group 109, 44957 to Hex is DA,AF9D;
That's 109=DA ; 44957=AF9D, this format is called 2H-3D-4H-5D.
    Make other format example like: 8H-10D-R. This format means to
reverse 8H first then convert it to 10 digitals Decimal. In the sample data
the 8H is 566DAF9D, reverse 8H data, we got D9AF6D56, then convert it
to 10D is: 3652152662.   Finial output at 8H-10D-R is 365212662.
Quick Start and trouble shooting:
    Quick testing: plug reader to PC & run Excel, lets cursor on Excel
window. Then read sample cards in the shipment package. If reader
beeps & data is shown on window, means reader work properly.

Q: connect to PC, no beeps, no LED, do not reading
A: try on other USB port or re-start PC

Q: Reader beeps & blue LED on, read sample card but not my card?
A: your card is not EM4100 or HID 125K proximity format, EH301 does
    not support other type cards

Q: reader reads card but reading distance is too short?
A: if is reader on a metal surface (example: laptop is metal case, and
    reader was on laptop surface) or other 125K reader is nearby.

Q: Lost config card, how to set reader?
A: a) Run any editable software, Plug in reader till buzzer sounded
    b) Fast Plug IN then Plug Off reader immediately (within 1 second)
    c) repeat step b 2 times again, then
    d) Plug IN reader to host, buzzer sound, reader enter config mode

Refer Viedo: http://www.jatsecurity.com/Manual-of-FissaiD-EH301-4.html