## **DESFire**(RD300-DES1 supported)

RD100/RD200/RD300 Tools V0251	– 🗆 X	
<u>F</u> ile <u>L</u> anguage <u>A</u> bout		
	Auto read file/block (DESFire)  Enabled  File ID: 01 BlockID: 01 KeyNo: 1  Start: 0  Byte: 4	
	Key Error Message: LED 🔹	
<u>R</u> ead block	Set Get	
Write Block Data:	Write key to EEPROM No: 1 - 0000000000000000000000000000000000	
<u>W</u> rite block	Write	
Old Key: 000000000000000000000000000000000000		
<u>F</u> ormat card <u>C</u> hange key		
Connect VID (Hex): 0E6A PID (Hex): 0317	[Connected] (RD300-DES1 0236) (SN:14300007)	
Command Done.		
TX : 02 17 9F 16 01 B2 01 01 00 00 00 00 00 00 00 00	RX : 02 27 9F 00 25 01 B2 00 00 00 00 00 00 00 00 00 00	

- 1. UID : Click to read Desfire card's UID.
- 2. File ID : RD300-DES1 support 4 files (01~04)
- 3. Block ID : Each File ID have 4 block ID (01~04), Every block have 32 bytes data.

## 4. Key No (1~8)

0	Format key	Can't change
1	File Key	FileID 1 read key
2	File Key	FileID 1 write key
3	File Key	FileID 2 read key
4	File Key	FileID 2 write key
5	File Key	FileID 3 read key
6	File Key	FileID 3 write key
7	File Key	FileID 4 read key
8	File Key	FileID 4 write key

(\*Default key is all "0" or all "F".)

Line     Line     Line       Write     File     Data       UID     UID     HEX:			
File ID: 01	BlockID	: 01	KeyNo: 1 🔹
<sup>2</sup> Key: 1234 Read Block Dat		0000000	000000000000
		000000000	000000000000000000000000000000000000000
<u>R</u> ead block			
Write Block Dat		FFFFFFFFFF	FFFFFFFFFFFFFFF
<u>W</u> rite block			
Old Key: 000000000000000000000000000000000000			
<u>F</u> ormat	card	3 <u>C</u>	hange key

Select KeyNo and input correct key then click "Change key" to change Desfire card's file key.

- 5. Read block :Click read block to read current configured block data.
- 6. Writeblock :Click write block to write current configured block data.

7. Format card: Input correct old key and new key to format card to clear all data and change format key.

When the format card is successful, all file keys will be initialized to all "0"

Read / Write File Data <u>UID HEX: 041D302A2C5D80</u>	
File ID: 01 BlockID: 01 KeyNo: 1	
Key: 1234000000000000000000000000000000000000	
Read Block Data :         New Key           000000000000000000000000000000000000	
<u>R</u> ead block	
Write Block Data:	
<u>W</u> rite block	
Old Key: 000000000000000000000000000000000000	
<u>F</u> ormat card <u>C</u> hange key	

- 8. Auto read :
  - a. Enable this function and configure FileID, BlockID and KeyNo (EEPROM KEY)
  - b. Enable "Auto" in common tab.
  - c. Open notepad and punch Desfire card to read.
- 9. Write key to EEPROM : Input and save key to RD300-DES1 (1~8)

## 10. Desfire EV1 file structure

Root	Application ID = 0 x 1001		Key File Store 14 keys	
	File 1 File ID = 0x01		File 2 File ID = 0x02	
		128 bytes		128 bytes
	File 3 File ID = 0x03		File 4 File ID = 0x04	
		128 bytes		128 bytes
	<b>e</b> 17 - 7 - 7			

	Desfire Key structure
0x00	Application key
0x01	FileID 1 read key
0x02	FileID 1 read/write key
0x03	FileID 2 read key
0x04	FileID 2 read/write key
0x05	FileID 3 read key
0x06	FileID 3 read/write key
0x07	FileID 4 read key
0x08	FileID 4 read/write key
0x09	Reserved
0x10	Reserved
0x11	Reserved
0x12	Reserved
0x13	Reserved