# API
# Programmer Guide

## 1. imprint(Revision V1.00).

## 2. explain of backtrack value.

2.1   the function return values

| | |
|---|---|
| 0x00 | Command OK. ( success) |
| 0x01 | Command FAILURE, the error code is: |
| 0x02 | checksum error. |
| 0x03 | Not selected COM port |
| 0x04 | time out reply |
| 0x05 | check sequence error |
| 0x07 | Receive error |
| 0x0A | the parameter value out of range |

2.2   System Error/Status Codes (0x80-0xFF)

| | |
|---|---|
| 0x80 | SET OK. ( success) |
| 0x81 | SET FAILURE |
| 0x82 | Reader reply time out error |
| 0x83 | the card do not exist |
| 0x84 | the data is error |
| 0x85 | the authentication failure |
| 0x86 | Unknown Internal Error |
| 0x89 | operation error |
| 0x8f | Reader received unknown command |
| 0x90 | show the card could not support this command |
| 0x91 | show the command format have a mistake |
| 0x92 | show the command could not support OPTION form |
| 0x93 | show the inputed block is inexistence. |

| 0x94 | show the inputed block had been locked |
| 0x95 | show Locked the block is not successful |
| 0x96 | show the write card operation is not successful. |

# 3、 System Commands

3.01    HANDLE API_OpenComm(

                          char    *com,

                          int        Baudrate);

Description

Open the comm port and set the baud rate for further communication with the reader.

Example

Select COM1 and set the baud rate to 115200bps.

```
int Baudrate=115200;
handle comhandle;        { the 'comhandle' is the serial port handle.}
  comhandle=API_OpenComm("COM1",Baudrate);
   if (comhandle<>0)
     {          //successful     }
   else
     { //Not successful }
```

 Input Parameter Description

Com Character pointer to C string of the name of the serial port where the reader is
    connected. (e.g. COM1, COM2, COM3, COM4)

Baudrate The communication baud rate of serial port
   (Possible values : 9600, 19200, 38400, 57600, 115200).

Output Parameter

 Return value:

    HANDLE , succeed to open the serial port handle

     if you open it succeed, the return value is the serial port handle.

     if you open it unsuccessfull, the return value is 0.

3.02    int    API_CloseComm( const    HANDLE        commHandle);

Description

Close the communication port. The API_CloseComm ( ) should be called to release the serial port before closing the application program.

Input Parameter Description

CommHandle    you need to close the serial port handle

Output Parameter

None

Return value:

0    □ closed the serial port in the handle

-1  □ inpurted the handle value is 0, it couldn't close.

3.03  int    API_SetDeviceAddress(

|  |  |
|---|---|
| HANDLE | commHandle, |
| int | DeviceAddress, |
| unsigned char | newAddr, |
| unsigned char | *buffer); |

Description: set the new address for reader,the reader back to the setting address

Input Parameter Description

|  |  |
|---|---|
| commHandle, | the serial port handle |
| DeviceAddress, | formerly system address |
| newAddr, | new system address |
| *buffer | buffer send a pointer, it is used to return the received value. |

Output Paramete

If Command success

*buffer        the read date(It means you have set the new address in this function)

If Command Failure

*buffer        System Error/Status Codes(You can consult the 2.2)

Return value:

|  |  |
|---|---|
| 0x00 | Command OK. ( success) |
| 0x01 | Command FAILURE |

3.04   int API_SetBandrate(

              HANDLE              commHandle,

              int                    DeviceAddress,

              unsigned char       newBaud,

              unsigned char       *buffer);

Description:

set up the baud rate between the reader and PC communication. the baud rate will be saved in EEPROM and it will be a new default baud rate

Input Parameter Description

        commHandle     the serial port handle

        DeviceAddress    equipment address

        newBaud,          require set new baud rate.

           baud rate   code:

                0x00 – 9600 bps

                0x01 – 19200 bps

                0x02 – 38400 bps

                0x03 – 57600 bps

                0x04 – 115200 bps

       *buffer           introduction a finger,back to the received date.

Output Paramete

If Command success

    *buffer☐        new baud rate(It means set new baud rate code in this function)

☐ 0x00 – 9600 bps☐ 0x01 – 19200 bps☐ 0x02 – 38400 bps☐ 0x03 – 57600 bps☐ 0x04 – 115200 bps☐

    If Command Failure

     *buffer         System Error/Status Codes(You can consult the 2.2)

Return value:

0x00                      Command OK. ( success)

0x01                      Command FAILURE

3.05     int   API_SetSerNum( HANDLE     commHandle,

              int               DeviceAddress,

              unsigned char     *newValue,

              unsigned char      *buffer);

Description:

set   8 byte  serial   number which be  supplied  by  manufactory

Input Parameter Description□

commHandle          the serial port handle

DeviceAddress      equipment address

*newValue          8 byte serial   number

*buffer             buffer send a pointer, it is used to return the received value.


Output Paramete:

　　If   Command Failure

　　　　*buffer             System Error/Status   Codes(Youcan consult   the  2.2)


Return value:

　　0x00                      Command OK. ( success)

　　0x01                      Command FAILURE


3.06   int     API_GetSerNum(

　　　　　　　　　　HANDLE          commHandle,

　　　　　　　　　　int               DeviceAddress,

　　　　　　　　　　unsigned char    *buffer);


Description:

　　read   one byte  reader  address and 8 byte  serial   number which be  supplied  by manufactory


Input Parameter Description□

commHandle          the serial port handle

DeviceAddress      equipment address

*buffer               buffer send a pointer, it is used to return the received value.


Output Paramete:

*buffer               buffer[0]    reader  address

　　　　　　　　buffer[1...8]    8 byte reader serial number


Return value:

　　0x00                      Command OK. ( success)

　　0x01                      Command FAILURE


3.07   int   WriteUserInfo(HANDLE        commHandle,

　　　　　　　　int                DeviceAddress,

　　　　　　　　int                num_blk,

　　　　　　　　int                num_length,

　　　　　　　　char               *user_info);

Description:

the reader consist of 4 blocks(each block less than 120 byte),the user data space in all 480 byte. the user could base the requirement to deposited the relevant userinfo into the reader.

Input Parameter Description□
    commHandle      the serial port handle
    DeviceAddress    equipment address
    num_blk        the block number
    num_length     data length
    *user_info      user information

Return value:
    0x00                  Command OK. ( success)
    0x01                  Command FAILURE


3.08   int    ReadUserInfo(HANDLE     commHandle,
                int               DeviceAddress,
                int            num_blk,
                int            num_length,
                char          *user_info);

Description:

Read the date from the reader, the reader consist of 4 blocks

(each block less than 120 byte)

Input Parameter Description□
commHandle      the serial port handle
DeviceAddress    equipment address
int num_blk      the block number
int num_length    data length
*user_info       wait for reading user date

Output Paramete:

*user_info      If Command         Failure,then   user_info[0] is error code.
               If Command        success,then    user_info[0..N] is read user information

Return value:
    0x00                  Command OK. ( success)
    0x01                  Command FAILURE

3.09 int    GetVersionNum(HANDLE          commHandle,
                          int                DeviceAddress,
                          char               *VersionNum);

Description:
   read reader version number

Input Parameter Description□
commHandle        the serial port handle
DeviceAddress     equipment address
*VersionNum      wait for reading version number

Output Paramete:

*VersionNum        If  Command  Failure,then VersionNum [0] is  error  code.
                   if  Command  success,then VersionNum [0..N] is  reading  version
                   number

Return value:
    0x00                         Command OK. ( success)
    0x01                         Command FAILURE

3.10 int   API_ControlLED(
                    HANDLE            commHandle,
                     int              DeviceAddress,
                    unsigned char     freq,
                    unsigned char     duration,
                    unsigned char     *buffer);

Description: the    work state  of  set  light,include,light       Cyc and repeating  times

Input  Parameter Description□
commHandle    the  serial  port  handle
DeviceAddress    equipment address
freq                periodicity

duration          times

*buffer          wait for return value parameter


Output Paramete:


*buffer          If Command Failure,then buffer [0] ☐ is error code.
                 If Command success ,then buffer [0] is  0x80


Return value:

0x00     Command OK. ( success)

0x01     Command FAILURE



3.11    int    API_ControlBuzzer(

                 HANDLE               commHandle,
                 int                  DeviceAddress,
                 unsigned char        freq,
                 unsigned char        duration,
                 unsigned char        *buffer);


Description: the work state of setting buzzer,include buzzer work Cyc and repeating times



Input Parameter Description☐

commHandle       the serial   port handle

DeviceAddress    equipment address

freq             periodicity

duration         times

*buffer          wait for return  value parameter



Output Paramete:


*buffer          If Command Failure,,then buffer [0] ☐ is error code.
                 If Command success,then buffer [0] is  0x80


Return value:

0x00     Command OK. ( success)

0x01     Command FAILURE

# 4   ISO14443 Type-A Commands

## 4.1   Type-A Commands

4.1.1 int   MF_Request(

                HANDLE              commHandle,

                Int                  DeviceAddress,

                unsigned char     inf_mode,

                unsigned char     *buffer);

Description:☐   send ISO14443 A seeking card instruction

Input Parameter Description☐

commHandle       the serial port handle

DeviceAddress     equipment address

mode               seeking card mode

    0x01 –Idle mode☐ operate one card once a time☐

    0x00 –All mode☐ operate a lot of card once a time☐

*buffer            wait for return value parameter

Output Paramete:

*buffer            If   Command FAILURE,then  buffer [0] is error code.

                       if Command OK,then buffer [0..1]☐ return data bunch within 2 byte

Return value:

0x00     Command OK. ( success)

0x01     Command FAILURE

4.1.2 int MF_Anticoll(

                HANDLE            commHandle,

                int                 DeviceAddress,

                unsigned   char    *snr,

                unsigned char     &status);

Description:☐ test card quantity, single or much more, and then return the card number within 4 byte(if there are many cards, the only return one of card number

Input Parameter Description□

commHandle  the serial port handle

DeviceAddress equipment address

Status    send a finger□ return to the number of the card

*snr     send a finger□ return to 4 byte card number

Output Paramete:

If Command success

 Status     the checked card number(0x00 means have checked a single card,0x01

        means have checked more cards

 *snr     4 byte card number□ snr[0..3]□

If Command Failure

 *snr   System Error/Status Codes(You can consult the 2.2)

Return value:

0x00  Command OK. ( success)

0x01         Command FAILURE

4.1.3  int  MF_Select(

        HANDLE   commHandle,

        int      DeviceAddress,

        unsigned char  *snr);

Description:

  Select card, make the card as been select stat…

Input Parameter Description□

commHandle  the serial port handle

DeviceAddress equipment address

*snr     send a finger,input 4 byte card number,and return to 4 byte card numbe

Output Paramete:

Status     checked card numbe

*snr     4 byte card number4□ snr[0..3]□

Return value:

0x00  Command OK. ( success)

0x01         Command FAILURE

4 .1.4 int　　MF_Halt(

　　　　　　　　HANDLE　　　　commHandle,

　　　　　　　　int　　　　　　DeviceAddress );

Description:

select card,make the card as been break off

Input Parameter Description□

commHandle　　　the serial port handle

DeviceAddress　　equipment address

Output Paramete:

　None.

Return value:

0x00　　　　　Command OK. ( success)

0x01　　　　　Command FAILURE

## 4.2　　Mifare Appilication Commands

4.2.1 int　　API_PCDRead(HANDLE　　　　commHandle,

　　　　　　　　int　　　　　　DeviceAddress,

　　　　　　　　unsigned char　　mode,

　　　　　　　　unsigned char　　 blk_add,

　　　　　　　　 unsigned char　　num_blk,

　　　　　　　　 unsigned char　　　*snr,

　　　　　　　　unsigned char　　*buffer);

Description:

read the appointed length date at the appointed station

Input Parameter Description□

commHandle　　　the serial port handle

DeviceAddress　　equipment address

mode□　　　　　read mode

（ Request Idle + Key A　　mode=00 ,　Request Idle + Key B　　mode= 02,

　Request All　+ Key A　　mode=01 ,　Request All　+ Key B　　mode=03□

　　　　　　　　□ the up number is hex□

blk_add□　　　　read block address

num_blk□　　　　 read block amount

*snr         a finger, transfer eight byte secret key
*buffer         wait receive the variable of output finger

Output Paramete:
  If Command success
    *snr         4 byte card number
    *buffer      the read date (the fact number is   num_blk*16)
  If  Command Failure
    buffer[0]      System Error/Status   Codes(You can consult  the  2.2)

Return value:
0x00      Command OK. ( success)
0x01      Command FAILURE


4.2.2 int   API_PCDWrite(HANDLE              commHandle,
                         int                DeviceAddress,
                 unsigned char              mode,
                 unsigned char              blk_add,
                 unsigned char              num_blk,
                 unsigned char              *snr,
                 unsigned char              *buffer);

Description:
Read-in date At appoint station

Input Parameter Description
commHandle         the serial port handle
DeviceAddress      equipment address
mode               needs write mode
(  Request Idle + Key A      mode=00 ,   Request Idle + Key B         mode= 02,
   Request All   + Key A      mode=01 ,   Request All   + Key B        mode=03
blk_add            needs fill in block address
num_blk            needs fill in block number
 *snr               wait fill in date
*buffer             afferent pointer sign to output the date

Output Paramete:
If Command success
snr[0..3]          four byte card number
If Command Failure
buffer[0]          System Error/Status Codes(You can consult the 2.2)

Return value:

0x00      Command OK. ( success)
0x01      Command FAILURE

4.2.3 int      API_PCDInitVal(
                              HANDLE          commHandle,
                              int                DeviceAddress,
                              unsigned char    mode,
                              unsigned char    SectNum,
                              unsigned char    *snr,
                              int                 value);

Description:
      Initialize    card

Input Parameter Description
commHandle        the serial port handle
DeviceAddress      equipment address
mode              initialize mode
(  Request Idle + Key A      mode=00 ,   Request Idle + Key B        mode= 02,
   Request All    + Key A      mode=01 ,   Request All    + Key B        mode=03
SectNum,          need initialize fan number
 *snr,              six byte secret key (introduction as pointer)
   value            4 byte   initialize   the date

Output Paramete:
If Command success
snr[0..3]        4 byte card number
If Command Failure
snr[0]            System Error/Status Codes(You can consult the 2.2)

Return value:
0x00      Command OK. ( success)
0x01      Command FAILURE

4.2.4 int    API_PCDDec(

                HANDLE            commHandle,

                Int                DeviceAddress,

                unsigned char     mode,

                unsigned char     SectNum,

                unsigned char     *snr,

                int                *value);

Description:

      Devalue work to the fan of the card

Input Parameter Description□
commHandle      the serial port handle
DeviceAddress    equipment address
mode□            work mode
( Request Idle + Key A    mode=00 ,   Request Idle + Key B       mode= 02,
  Request All  + Key A     mode=01 ,   Request All  + Key B     mode=03□
SectNum,        the fan number which need to write value 00-0F
*snr,           6 byte   secret key□ introduction as pointer□
value          need decrease value,4 byte length

Output Paramete:
If Command success
    snr[0..3]□      4 byte  card number
    value[0..3]     date bunch after 4 byte work
If Command Failure
    snr[0]          System Error/Status Codes(You can consult the 2.2)

Return value:
0x00    Command OK. ( success)
0x01    Command FAILURE

4.2.5 int   API_PCDInc (

                HANDLE       commHandle,

                Int             DeviceAddress,

                unsigned char   mode,

                unsigned char   SectNum,

                unsigned char   *snr,

                int            *value);

Description:

Add value work to appointed fan of the card.

Input Parameter Description□
commHandle        the serial port handle
DeviceAddress     equipment address
mode□             work mode
(  Request Idle + Key A      mode=00 ,   Request Idle + Key B        mode= 02,
   Request All   + Key A      mode=01 ,   Request All   + Key B        mode=03□
SectNum,          need add value fan number 00-0F
*snr,             6 byte secret key( introduction as pointer)
value             need add value, 4 byte length

Output Paramete:
    If Command success
        snr[0..3]□         4 byte card number
        value[0..3]        the date bunch after 4 byte work
    If Command Failure
        snr[0]             System Error/Status Codes(You can consult the 2.2)

Return value:
0x00      Command OK. ( success)
0x01      Command FAILURE

4.2.6 int   GET_SNR (
                HANDLE              commHandle,
                int                 DeviceAddress,
                unsigned char       mode,
                unsigned char       RDM_halt,
                unsigned char       *snr
                unsigned char       *value);

Description:

Return 1byte single card or numerous card sign□ 4 byte card number.

Input Parameter Description□
commHandle        the serial port handle
DeviceAddress     equipment address
mode□             mode command    □ mode command 26 or 52  □

0x26 –Idle mode（one time only work to one card）

0x52 –All mode（one time can work to manycard）

RDM_halt,　　whether need halt card （halt select　00 or　01 ）

00　don't need perform halt order

01　reader perform halt order

*snr,　　　returned 1byte single card or numerous card sign (if read card fail,return error code)

*value　　　return 4byte card number

Output Paramete:

If Command success

snr[0]（　　1 byte single card or numerous

value[0..3]　return 4 byte card number

If Command Failure

snr [0]　　　System Error/Status Codes(You can consult the 2.2)

Return value:

0x00　Command OK. ( success)

0x01　Command FAILURE

4.2.7 int　MF_Restore(HANDLE　　　commHandle,

int　　　　DeviceAddress,

unsigned char　　mode,

int　　　　cardlength,

unsigned char　　*carddata );

Description:

According the selected mode to send the date

Input Parameter Description（

commHandle　　the serial port handle

DeviceAddress　equipment address

mode（　　　mode command　　0x00 —don't need check CRC

0x01 —need check CRC

cardlength,　　card date length

*carddata,　　send time（ card date（

incept time（ return date（

Output Paramete:
    If Command success
        carddata[0..N],        incept the return date
    If Command Failure
        carddata[0]            System Error/Status Codes(You can consult the 2.2)


Return value:
0x00    Command OK. ( success)
0x01    Command FAILURE




# 5. ISO14443 Type-B Commands


5.1 int    RequestType_B(
                    HANDLE            commHandle,
                    int                DeviceAddress,
                    unsigned char    *buffer)


Description: this order perform REQB order of ISO14443B, get PUPI code of the card



Input Parameter Description：
commHandle        the serial port handle
DeviceAddress     equipment address
*buffer,           the date bunch after card reposition      （ ATQB）



Output Paramete:
If Command success
    *buffer,            the date bunch after card reposition      （ ATQB）
        buffer[0]            card reposition date length
        buffer[0..N]         the date after work（ ATQB）
If Command Failure
    buffer[0]            System Error/Status Codes(You can consult the 2.2)


Return value:
0x00    Command OK. ( success)
0x01    Command FAILURE

5.2   int   AntiType_B(

                    HANDLE              commHandle,

                    int                    DeviceAddress,

                    unsigned char        *buffer);

Description: this order perform Anticol1B of ISO14443B

Input Parameter Description□

commHandle       the serial port handle

DeviceAddress     equipment address

*buffer,           The date after return card□ ATQB□

Output Paramete:

  If Command success

    Buffer[0..N],         the date of card return□ ATQB□

  If Command Failure

    buffer[0]        System Error/Status Codes(You can consult the 2.2)

Return value:

0x00     Command OK. ( success)

0x01     Command FAILURE

5.3 int   SelectType_B (

                    HANDLE              commHandle,

                    int                    DeviceAddress,

                    unsigned char        *SerialNum);

Description:

    this order perform ATTRIB of ISO14443B, distribute a sign   for CID to the know card

Input Parameter Description□

commHandle       the serial port handle

DeviceAddress     equipment address

*SerialNum,       the serial number of the card

Return value:

0x00     Command OK. ( success)

0x01     Command FAILURE

5.4 int    Request_AB(

        HANDLE    commHandle,

        int       DeviceAddress,

        unsigned char  * buffer);

Description:

 This order performation integration REQUEST AND ATTRIB order of ISO14443B,use one order to make card reposition.

Input Parameter Description□

  commHandle  the serial port handle

  DeviceAddress equipment address

  * buffer,   return to 4 byte serial number of the worked card

Output Paramete:

  If Command success

    buffer[0..3],   return to 4 byte serial number of the worked card

  If Command Failure

    buffer[0]   System Error/Status Codes(You can consult the 2.2)

Return value:

0x00  Command OK. ( success)

0x01  Command FAILURE

5.5 int API_ISO14443TypeBTransCOSCmd(

            HANDLE    commHandle,

            int       DeviceAddress,

            unsigned char  *cmd,

             int      cmdSize,

            unsigned char  *buffer);

Description:

 ISO14443 remit order, any effect order and date can be transfer by this order

Input Parameter Description□

commHandle  the serial port handle

DeviceAddress  equipment address

*cmd,   date which wait to be send

cmdSize,   date length

* buffer,   return date

Output Paramete:
    If Command success
      buffer[0..N]        the date which returned from the card
    If Command Failure
      buffer[0]        System Error/Status Codes(You can consult the 2.2)

Return value:
0x00    Command OK. ( success)
0x01                      Command FAILURE

# 6  ISO15693 COMMANDS

**6.1**  int     RDM_ISO15693_Inventory(

                HANDLE                commHandle,
                int                        deviceAddress,
                unsigned char          flag,
                unsigned char          afi,
                const unsigned char    *pData,
                unsigned char          *nrOfCard,
                unsigned char          *pBuffer);

Description:
    This order is to get all the card's serial number which in the reading card district    □ the getable card number is relate to the output rate of the module   antenna, commonly can read 2~6 card within anticollision□

Input Parameter Description□
commHandle      the serial port handle
DeviceAddress    equipment address
flag,               sign byte(length is 1 byte )
afi,               AFI   is date length
*pData,         the sent date( the fact is a array, transfer by a pointer)
*nrOfCard      the return card number(length is 1 byte)
*pBuffer       the return date□ include LAG,   DSFID and 8*n byte card number□

Output Paramete:

IF□ Command success (return 0x00)
    *nrOfCard       return card number (one byte)
    *pBuffer        return date□ include FLAG,   DSFID and 8*n byte card number□

IF□ Command Failure (return 0x01)

    *nrOfCard        System Error/Status Codes(You can consult the 2.2)

    Return value:

    0x00               Command OK. ( success)

    0x01               Command FAILURE, the error code is 2.2

**6.2**        int    API_ISO15693Read  (

                    HANDLE          commHandle,

                    int                DeviceAddress,

                    unsigned char    flags,

                    unsigned char    blk_add,

                    unsigned char    num_blk,

                    unsigned char    *uid,

                    unsigned char    *buffer);

Description:

    It's for reading 1 and numerous fan value. If need to read the safe digit of every block, make Option flag of FLAGS as 1 ,means FLAG=0x42,every fan will return 5 byte, include one byte show safe state and 4 byte block content,  here the most can read 12 block, IF FLAG=02,will only return 4 byte block content,  here the most can read 63 block.

Input Parameter Description□

commHandle      the serial port handle

DeviceAddress    equipment address

flags              0x02   without uid

                 0x22     with uid

                 0x42   without uid but need to read the safe digit

blk_add,          needed reading origin block number

num_blk,         block quantity

*uid             UID message

*buffer          return value

Output Paramete:

If : Command success (return 0x00)

    *buffer            return date

    buffer[0]         return flag

    buffer[1..N]      Data

If : Command Failure (return 0x01)

buffer[0]                  System Error/Status Codes(You can consult the 2.2)

Return value:

      0x00                    Command OK. ( success)

      0x01                    Command FAILURE, the error code is 2.2


**6.3** int    API_ISO15693Write(

                      HANDLE       commHandle,

                      int                DeviceAddress,

                      unsigned char    flags,

                      unsigned char    blk_add,

                      unsigned char    num_blk,

                      unsigned char    *uid,

                      unsigned char    *data);

Description:    make writting work to every block(every time only can write one block)


Input Parameter Description□

commHandle        the serial port handle

DeviceAddress    equipment address

flags            0x02   without uid

               0x22      with uid

               0x42   without uid but need to read the safe digit

blk_add,           needed writting origin block number

num_blk,         writing block quantity

*uid              UID message

*buffer           return value

Output Paramete:

If : Command success (return 0x00)

    *buffer              return date

    buffer[0]          return flag

    buffer[1..N]       Data

If : Command Failure (return 0x01)

    buffer[0]            System Error/Status Codes(You can consult the 2.2)

    Return value:

      0x00                    Command OK. ( success)

      0x01                    Command FAILURE, the error code is:2.2

**6.4** int API_ISO15693Lock(

| | |
|---|---|
| HANDLE | commHandle, |
| int | DeviceAddress, |
| unsigned char | flags, |
| unsigned char | num_blk, |
| unsigned char | *uid |
| unsigned char | *buffer); |

Description: for lock block content, caution : this process can not in reverse(can not unlock) the content can not revise when the block be locked.

Input Parameter Description

commHandle          the serial port handle

DeviceAddress     equipment address

flags               0x02    without uid

                    0x42    without uid but need to read the safe digit

                    0x22       with uid

num_blk,            locked block number

*uid                UID message

*buffer              return value

Output Paramete:

If : Command success (return 0x00)

     buffer[0]          return 0x80     means work ok.,

If : Command Failure (return 0x01)

     buffer[0]          System Error/Status Codes(You can consult the 2.2)

Return value:

     0x00                          Command OK. ( success)

     0x01                          Command FAILURE, the error code is:2.2

**6.5** int    RDM_ISO15693StayQuiet(

| | |
|---|---|
| HANDLE | commHandle, |
| int | DeviceAddress, |
| unsigned char | flags, |
| unsigned char | *uid, |
| unsigned char | *buffer ); |

Description:

    This order is to make the card to sleep sate, must use the address mode if the sent date is same to the card serial number, after this work finish, the card will be sleep, otherwise the state will not change.

Input Parameter Description□

commHandle      the serial port handle

DeviceAddress    equipment address

flags           sign byte 1byte

*uid             UID message

*buffer           return value

Output Paramete:

If : Command success (return 0x00)

    buffer[0]     return 0x80□ means work ok.

If : Command Failure (return 0x01)

    buffer[0]    System Error/Status Codes(You can consult the 2.2)

    Return value:

      0x00                      Command OK. ( success)

      0x01                      Command FAILURE, the error code is:2.2

**6.6** int   RDM_ISO15693Select(

                      HANDLE         commHandle,

                      int               DeviceAddress,

                      unsigned char    flags,

                      unsigned char    *uid,

                      unsigned char    *buffer ) ;

Description:

    This order must use address mode, if the sent date is same to the card serial number, after the work ok, the card will be selected, otherwise the state will not change

Input Parameter Description□

commHandle      the serial port handle

DeviceAddress     equipment address

flags            sign byte 1 byte

*uid              UID message

*buffer                return value

Output Paramete:
If : Command success (return 0x00)
    buffer[0]            return to 0x80☐ means work ok

If : Command Failure (return 0x01)
    buffer[0]            System Error/Status Codes(You can consult the 2.2)

Return value:
        0x00                            Command OK. ( success)
        0x01                            Command FAILURE, the error code is 2.2

**6.7** int    RDM_ResetToReady(

                            HANDLE                commHandle,
                            int                    DeviceAddress,
                            unsigned char          flags,
                            unsigned char          *uid,
                            unsigned char           *buffer );

Description:
    After the work ok, the card will return to Ready state .

Input Parameter Description☐
commHandle        the serial port handle
DeviceAddress      equipment address
flags              sign byte 1 byte
                   0x02    without uid
                   0x42    without uid but need to read safe digit
                   0x22      with uid
*uid              UID message
*buffer            return value

Output Paramete:
If : Command success (return 0x00)
    buffer[0]                return 0x80☐ means work ok

If : Command Failure (return 0x01)
buffer[0]                System Error/Status Codes(You can consult the 2.2)

Return value:

    0x00                      Command OK. ( success)

    0x01                      Command FAILURE, the error code is:

**6.8** int    RDM_WriteAFI(

|  |  |
|---|---|
| HANDLE | commHandle, |
| int | DeviceAddress, |
| unsigned char | flags, |
| unsigned char | afi, |
| unsigned char | *uid, |
| unsigned char | *buffer ); |

Description:

    Write AFI to the card .

Input Parameter Description

commHandle      the serial port handle

DeviceAddress    equipment address

flags             sign byt 1 byte

                0x02   without uid

                0x42   without uid but need to read the safe digit

                0x22   with uid

afi              wait write AFI

*uid            UID message

*buffer         return value

Output Paramete:

If : Command success (return 0x00)

   buffer[0]                return 0x80□ means work ok

If : Command Failure (return 0x01)

   buffer[0]                System Error/Status Codes(You can consult the 2.2)

Return value:

    0x00                      Command OK. ( success)

    0x01                      Command FAILURE, the error code is:2.2

**6.9** int RDM_LockAFI(

|                 |                  |
|-----------------|------------------|
| HANDLE          | commHandle,      |
| int             | DeviceAddress,   |
| unsigned char   | flags,           |
| unsigned char   | *uid,            |
| unsigned char   | *buffer );       |

Description:

    For lock AFI of the card, after lock AFI can not change

Input Parameter Description□

commHandle      the serial port handle

DeviceAddress    equipment address

flags             sign byte 1 byte

              0x02   without uid

              0x42   without uid but need to read the safe digit

              0x22   with uid

*uid            UID message

*buffer          return value

Output Paramete:

If : Command success (return 0x00)□

  buffer[0]               return 0x80□ means work ok

If : Command Failure (return 0x01)

  buffer[0]               System Error/Status Codes(You can consult the 2.2)

Return value:

      0x00                    Command OK. ( success)

      0x01                    Command FAILURE, the error code is:2.2

**6.10** int   RDM_WriteDSFID(

|                 |                |
|-----------------|----------------|
| HANDLE          | commHandle,    |
| int             | DeviceAddress, |
| unsigned char   | flags,         |
| unsigned char   | DSFID,         |
| unsigned char   | *uid,          |
| unsigned char   | *buffer );     |

Description:

    Write DSFID   to the card

Input Parameter Description

commHandle      the serial port handle

DeviceAddress    equipment address

flags        sign byte 1 byte

        0x02   without   uid

        0x42   without   uid but need to read the safe digit

        0x22   with   uid

DSFID      the writted DSFID byte, the length is 1 byte

*uid        UID message

*buffer      return value

Output Paramete:

If : Command success (return 0x00)

  buffer[0]        return 0x80 means work ok

If : Command Failure (return 0x01)

  buffer[0]        System Error/Status Codes(You can consult the 2.2)

Return value:

    0x00                Command OK. ( success)

    0x01                Command FAILURE, the error code is:

**6.11**          int   RDM_LockDSFID(

                HANDLE     commHandle,

                int           DeviceAddress,

                unsigned char   flags,

                unsigned char   *uid,

                unsigned char   *buffer );

Description:

    For lock DSFID of the card, after lock, DSFID can not change

Input Parameter Description

commHandle      the serial port handle

DeviceAddress    equipment address

flags        sign  byte (length is 1 byte )

        0x02   without   uid

0x42    without uid

0x22    with uid

*uid            UID message

*buffer         return value

Output Paramete:

If : Command success (return 0x00)□

buffer[0]               return 0x80□ means work ok

If : Command Failure (return 0x01)

  buffer[0]               System Error/Status Codes(You can consult the 2.2)

Return value:

  0x00                    Command OK. ( success)

  0x01                    Command FAILURE, the error code is:2.2

**6.12**    int RDM_ISO15693_GetSysInfo(

                        HANDLE        commHandle,

                        int           deviceAddress,

                        unsigned char    flag,

                        unsigned char    *uid,

                        unsigned char    *Buffer);

Description:

    For get the particular message of the card, the fact content please refer to ISO15693 agreement date.

Input Parameter Description□

commHandle        the serial port handle

DeviceAddress     equipment address

flags           sign byte 1 byte

                0x02    without uid

                0x42    withou uid but need to read the safe digit

                0x22    with   uid

*uid            UID message

*buffer         return value

Output Paramete:

If : Command success (return 0x00)☐

  Then Buffer [0]:  Flags

  Buffer[1]:    INFO Flags

  Buffer[2..9]: UID

  Buffer[10]:  DSFID

  Buffer[11]:  AFI

  Buffer[12..N]:       Other fields

If : Command Failure (return 0x01)

  Buffer[0]               System Error/Status Codes(You can consult the 2.2)

    Return value:

      0x00                      Command OK. ( success)

      0x01                      Command FAILURE, the error code is:2.2

**6.13**   int RDM_ISO15693_GetMulSecurity(

                                    HANDLE              commHandle,
                                    int                      deviceAddress,
                                    unsigned char        flag,
                                    unsigned char        blkAddr,
                                    unsigned char        blkNum,
                                    const unsigned char   *uid,
                                    unsigned char         *pBuffer);

Description:   for get the date of every safe state block of the card

Input Parameter Description☐

commHandle       the serial port handle

DeviceAddress     equipment address

flag              0x02   without uid

                 0x22      with uid

                 0x42   without uid but need to read the safe digit

blkAddr,          the read origin block number

blkNum,          the read block quantity

*uid              UID message

*pBuffer           return value

Output Paramete:

If : Command success (return 0x00)☐

    *pBuffer      return value

    pBuffer [0]    return flags    pBuffer [1..N]   Block security status (the safe state of block)


If : Command Failure (return 0x01)

  pBuffer[0]           System Error/Status Codes(You can consult the 2.2)


Return value:

    0x00                        Command OK. ( success)

    0x01                        Command FAILURE, the error code is:2.2


**6.14**    int       API_ISO15693TransCOSCmd(

|  |  |
|---|---|
| HANDLE | commHandle, |
| int | DeviceAddress, |
| unsigned char | *cmd, |
| int | cmdSize, |
| unsigned char | *buffer); |

Description:   a currency order, the user can use this order to make kinds of handle to the card


Input Parameter Description☐

commHandle      the serial port handle

DeviceAddress    equipment address

*cmd,           the date need to be send.

cmdSize,         the date length

*buffer          return value


Output Paramete:

If : Command success (return 0x00)☐

    *buffer          return data

    buffer [0..N]     the date return from the card


If : Command Failure (return 0x01)

    buffer[0]           System Error/Status Codes(You can consult the 2.2)


Return value:

    0x00                        Command OK. ( success)

    0x01                        Command FAILURE, the error code is:2.2