125/134KHz Reader/Writer

D-Think 300 series

User Manual

Version 1.0
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1. GENERAL INFORMATION

- ◇ RS232 or USB Interface
- ◇ DC4.5V ~ DC5.5V VDD Operating
- ◇ Maximum 180MA Working Current
- ◇ Size：110 x 81 x 26 mm
- ◇ Operating frequency：100-150kHz
- ◇ Protocols：ISO11784/85,EM4001

  TK4100, GK4100, EM4100 and compatible chip

  TEMIC 5557,ATA5567,ATA5577

  Hitag-S32,Hitag-S256, Hitag-S2048

  M4469,EM4205,EM4305
- ◇ Windows 32 Operating Systems Compatibility
- ◇ Operating Temperature Range: -20°C ~ +50°C
- ◇ Storage Temperature Range: -25°C ~ +60°C
- ◇ Weight: 100g

2. TYPES AND EXPLANATION

D-Think300 series models support various protocols and chips classified as follows.

	D-Think 302U	D-Think 302T	D-Think 302H	D-Think 303U	D-Think 303T
EM4001	✓	✓	✓	✓	✓
ISO 11784/85	✓	✓	✓	✓	✓
EM4305 and compatible chip		✓		✓	✓
ATA5577 and compatible chip	✓			✓	✓
Hitag-S			✓		✓

Table 2-1

3. CONNECTING TO PC

3.1 RS232

The USB port power to Reader

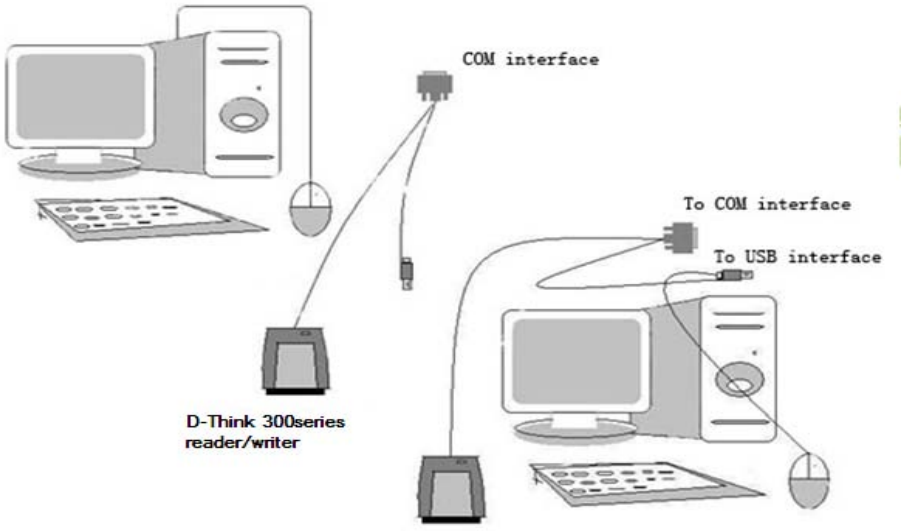

Figure 3-1

3.2 USB

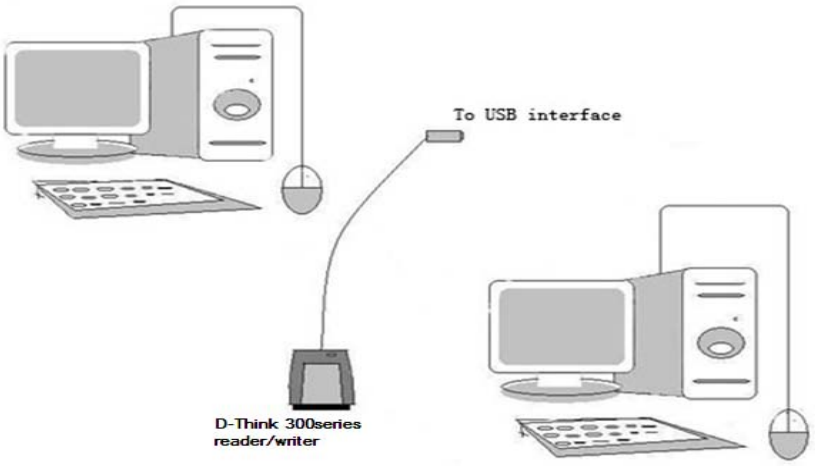

Figure 3-2

D-Think 300-USB Reader is USB bridge to COM way. Connect D-Think 300 to the USB port of PC, after installing the driver will come out a virtual COM, the operations hereafter are as same as D-Think 300-RS232.

You can find the virtual COM number on the “Device Manager ” as follows:

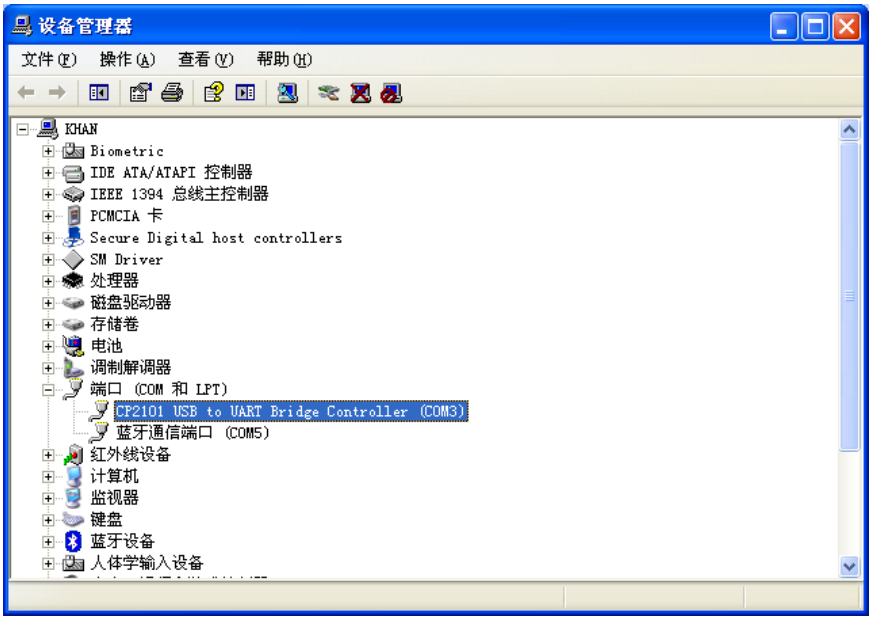

Figure 3-3

4. SDK

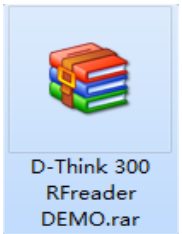

Figure 4-1

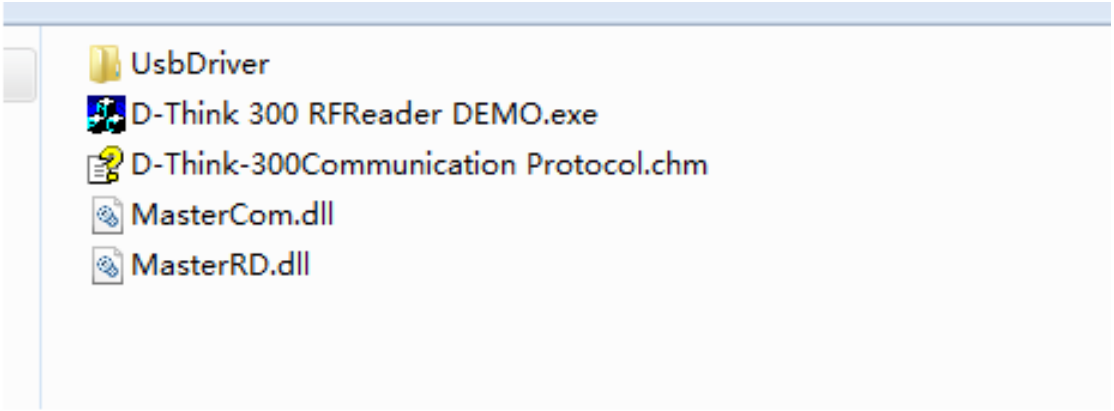

Figure 4-2

D-Think 300 RFreader DEMO.rar，including the following content:

*\ UsuDriver USB interface driver

*\ D-Think 300 RFReader DEMO.exe DEMO software

*\MasterRD.dll Reader interface library with application

*\ MasterCOM.dll Connect and transfer data with COM device. , Is MasterRD.dll call.

*\ D-Think-300Communication Protocol.chm DLL explanations at chm format

5. DEMO

Double-click the D-Think 300 RFReader DEMO.exe enter DEMO.

In DEMO interface, the CPC library functions that are called buttons will appear in the bottom of the screen, and in the top right corner of the screen prompts Results

5.1 Port Settings

First select the correct serial number ,click [Connect] button to connect the Reader to PC.

Click [Read] button to get Product Information and see specific model readers and the supporting card.

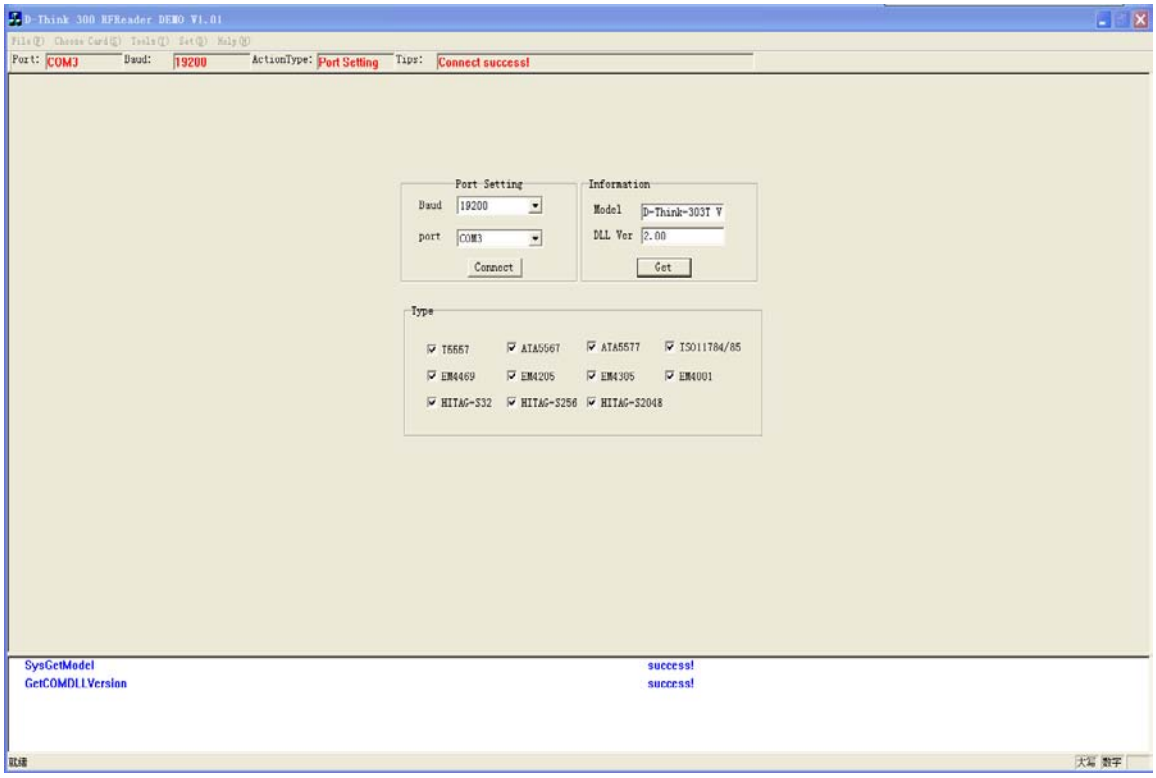

Figure 5-1

5.2 EM4001(EMID)

Select "Tools" → "Write Em4001 Format" into the interface. Click [Read] key ，you can get the card ID number.In the "Select" option box, select the correct chip type, in the "Input ID" box, enter the appropriate ID number, click [Write] button to write the new ID number.

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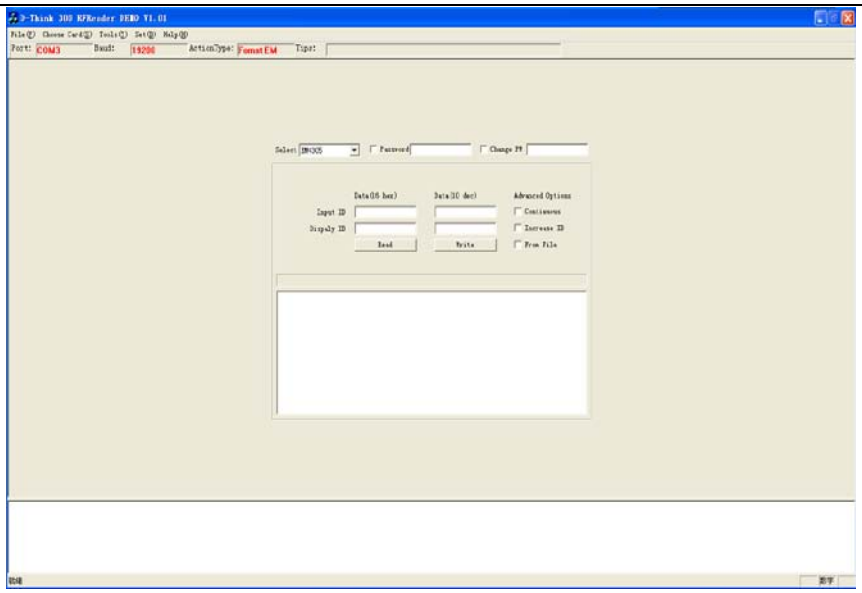

Figure 5-2

5.3 ISO11784/85

Select "Tools" → "Write AnimalID Format" into the interface. Click [Read] key , you can get the animal tag number. In the "Select" option box, select the correct chip type, in the "National Code”,”Country Code”and“User Code”box enter the appropriate number, click [Write] button to write the new animal number.

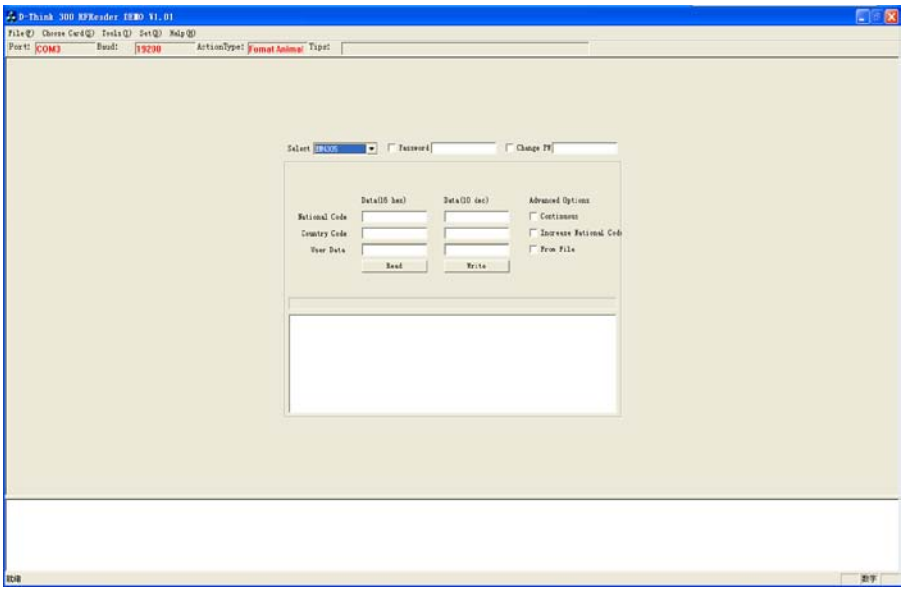

Figure 5-3

5.4 EM4205/EM4305

Select "Choose Card(s) " → "EM4205/4305" into the interface.

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Click [AllSelect] key can select all blocks.

Click [AllCancel] key, you can deselect all block numbers once.

Click [Read] key, select the block number can be read.

Click [Write] button, you can choose to write data block number.

Click [Clear] key, you can clear the data displayed in the interface plane.

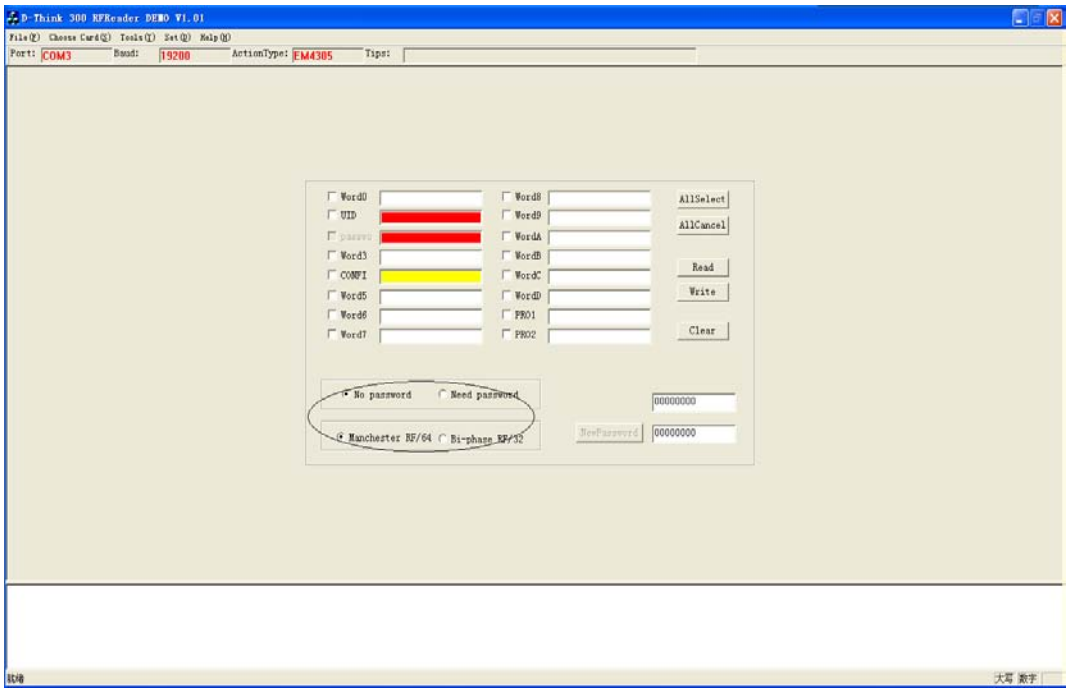

Figure 5-4

Note: The circle is that defined EM4205/EM4305 key and means of communication, please contact your card provider specific configuration.

5.5 T5557/ATA55X7

Select "Choose Card(s) " → "T5557/ATA55X7" into the interface.

Data output area: Shows the read block data.

Data input area: used to input the data to be written.

Function keys: allows configuration block write, read and write ordinary blocks, direct_access reading, page selection, card reset functions.

Specific methods of operation, please refer to the relevant data sheet.

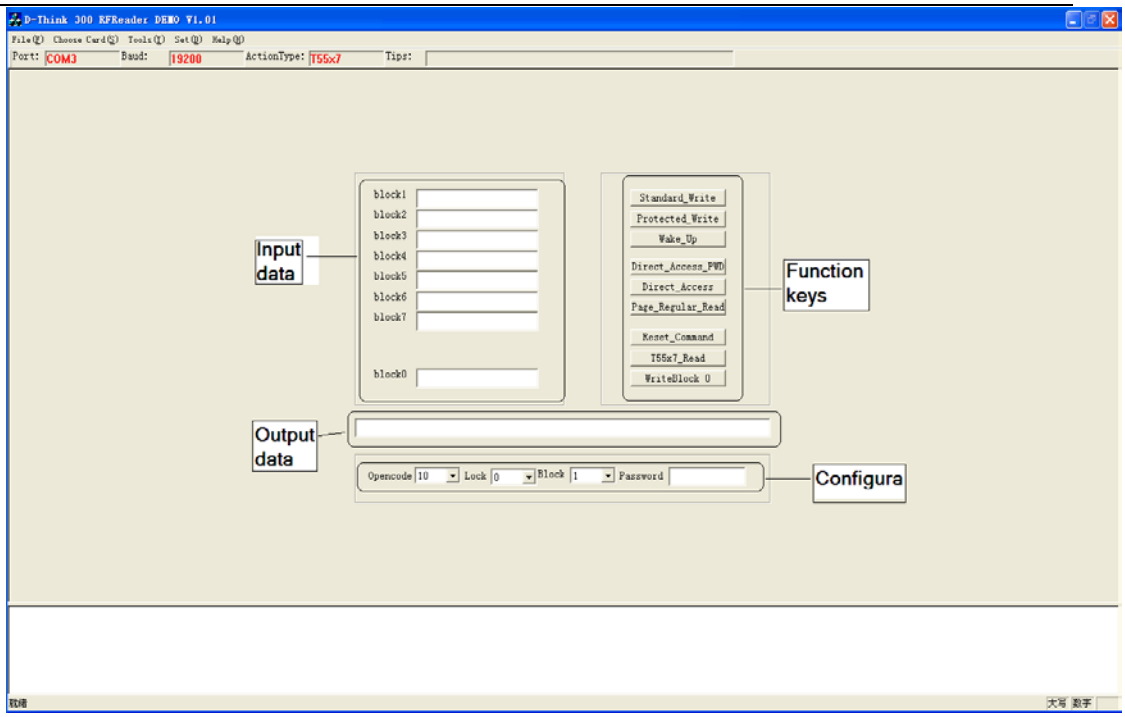

Figure 5-5

5.6 Hitig-S

Select "Choose Card(s) " → "HTAG-S32/256/2048" into the interface.
Click [Request] key, you can get PAGE0 (UID)
Click [Select] key, you can get PAGE1 (configuration block)
Click [Clear] key to clear the display interface data
Click [Read] key, you can read the selected block
Click [Write] button, you can write data on the selected block
Selected "Read ALL?" Checkbox can be continuously read data.

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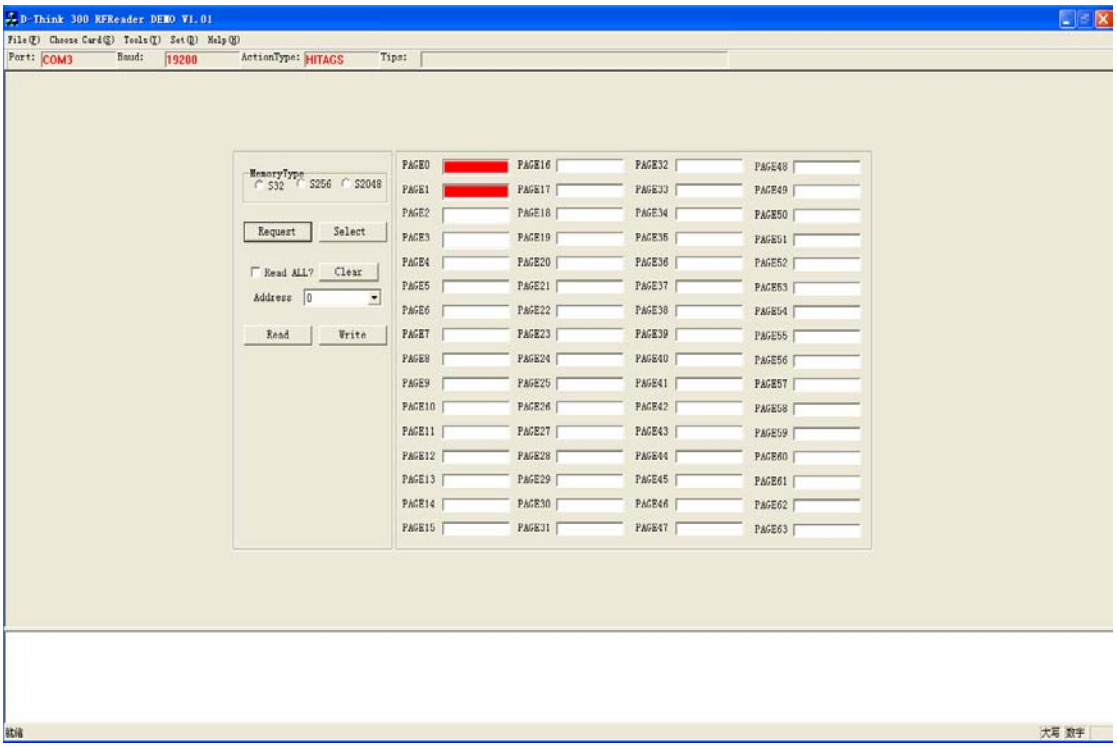

Figure 5-6

6. DLL INFORMATION

All types of readers have System function

Specific models reader function on selective support specific functions, refer to Table 2.1.

6.1 SYSTEM FUNCTION

6.1.1 Open serial port

Function: Open serial port

Prototype: BOOL (WINAPI* OpenComPort)(int nCom,
int baud)

Parameter: nCom： [IN] Serial No.

baud： None, fixed at 19200

Return: return 0 if successful

6.1.2 Close perial port

Function: Close perial port

Prototype: BOOL (WINAPI* CloseComPort)()

Return: return 0 if successful

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6.1.3 Set Beep

Function: Beep
Prototype: BOOL (WINAPI* SysBeep)(WORD icdev)
Parameter: icdev： [IN] Device ID, the default is 0x0000
Return: return 0 if successful

6.1.4 Initial Serial Port

Function: Initial serial port
Prototype: BOOL (WINAPI* SysSetCom)(WORD icdev)
Parameter: icdev： [IN] Device ID, the default is 0x0000
Return: return 0 if successful

6.1.5 Get reader model

Function: Get reader model
Prototype: BOOL (WINAPI* SysGetModel)(WORD icdev,
BYTE *pVersion,
BYTE * length)
Parameter: icdev： [IN] Device ID, the default is 0x0000
pVersion： [OUT] Return data
length： [OUT] The returned data length
Return: return 0 if successful

6.1.6 Set antenna state

Function: Set antenna state
Prototype: BOOL (WINAPI* SysAntennaSta)(WORD icdev,
BYTE state)
Parameter: icdev： [IN] Device ID, the default is 0x0000
State： [IN] 1:Open the antenna, 0: Close antenna
Return: return 0 if successful

6.2 T55x7

6.2.1 Read T55x7

Function: Read T55x7
Prototype: BOOL (WINAPI* T55x7_Read)(WORD icdev,
BYTE *length,
BYTE *Data)
Parameter: icdev： [IN] Device ID, the default is 0x0000
length： [OUT] The returned data length
Data： [OUT] Return data

Return: return 0 if successful

6.2.2 T55x7 Standard write

Function: Standard write T55x7

Prototype: BOOL (WINAPI* Standard_Write)(WORD icdev,
BYTE opcode ,
BYTE lock ,
BYTE *Data,
BYTE block)

Parameter: icdev： [IN] Device ID, the default is 0x0000
Opcode： [IN] Block access opcode,10(B) = page 0, 11(B) = page 1
lock： [IN] Lock bit, when set 1, the contents of the block can not be modified
Data： [IN] 4 byte write data
block： [IN] Block address

Return: return 0 if successful

6.2.3 T55x7 Protected write

Function: Protected write T55x7

Prototype: BOOL (WINAPI* Protected_Write)(WORD icdev,
BYTE opcode,
unsigned char *PassWord,
BYTE lock,
BYTE *Data,
BYTE block)

Parameter: icdev： [IN] Device ID, the default is 0x0000
Opcode： [IN] Block access opcode,10(B) = page 0, 11(B) = page 1
PassWord ： [IN] 4 bytes of the password and stored in the block 7 to match the password in
lock： [IN] Lock bit, when set 1, the contents of the block can not be modified
Data： [IN] 4 byte write data
block： [IN] Block address

Return: return 0 if successful

6.2.4 Reset T55x7

Function: Reset T55x7

Prototype: BOOL (WINAPI* Reset_Command)(WORD icdev)

Parameter: icdev： [IN] Device ID, the default is 0x0000

Return: return 0 if successful

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6.2.5 Wake up T55x7

Function: Wake up T55x7

Prototype: BOOL (WINAPI* Wake_Up)(WORD icdev,
BYTE *PassWord)

Parameter: icdev： [IN] Device ID, the default is 0x0000
PassWord： [IN] 4 bytes of the password

Return: return 0 if successful

6.2.6 T55x7 Direct access

Function: Direct access

Prototype: BOOL (WINAPI* Direct_Access)(WORD icdev,
BYTE opcode,
BYTE block)

Parameter: icdev： [IN] Device ID, the default is 0x0000
Opcode： [IN] Block access opcode,10(B) = page 0, 11(B) = page 1
block： [IN] Block address

Return: return 0 if successful

6.2.7 T55x7 Direct access with password

Function: Direct access with password

Prototype: BOOL (WINAPI* Direct_Access_PWD)(WORD icdev,
BYTE opcode,
BYTE *PassWord,
BYTE block)

Parameter: icdev： [IN] Device ID, the default is 0x0000
Opcode： [IN] Block access opcode,10(B) = page 0, 11(B) = page 1
PassWord： [IN] 4 bytes of the password
block： [IN] Block address

Return: return 0 if successful

6.2.8 T55x7 Select page

Function: Select page

Prototype: BOOL (WINAPI* Page_Regular_Read)(WORD icdev,
BYTE opcode)

Parameter: icdev： [IN] Device ID, the default is 0x0000
Opcode： [IN] Block access opcode,10(B) = page 0, 11(B) = page 1

Return: return 0 if successful

6.2.9 Format T55x7 to ISO11784/85 form

Function: Format T55x7 to ISO11784/85 form

Prototype: BOOL (WINAPI* ATA5567_WriteAnimalID)(WORD icdev,
BYTE *AnimalID)
Parameter: icdev: [IN] Device ID, the default is 0x0000
AnimalID: [IN] 14 bytes animal ID
Animal ID format: National ID(5 Bytes) +
Country ID(2 Bytes) +
DataFlag(1 Byte) +
AnimalFlag(1 Byte) +
CRC(2 Bytes) +
Trailer(3 Bytes)
Return: return 0 if successful

6.2.10 Format T55x7 to EM4001 card

Function: Format T55x7 to EM4001 card
Prototype: BOOL (WINAPI* ATA5567_WriteEM4001)(WORD icdev,
BYTE *ID)
Parameter: icdev: [IN] Device ID, the default is 0x0000
ID: [IN] 5 byte ID number
Return: return 0 if successful

6.3 EM4305

6.3.1 Write EM4305

Function: Write EM4305
Prototype: BOOL (WINAPI* EM4305Write)(WORD icdev,
BYTE addr,
BYTE *wdata)
Parameter: icdev: [IN] Device ID, the default is 0x0000
addr: [IN] Block address
wdata: [IN] 4 byte write data
Return: return 0 if successful

6.3.2 Read EM4305

Function: Read EM4305
Prototype: BOOL (WINAPI* EM4305Read)(WORD icdev,
BYTE addr,
BYTE *rdata)
Parameter: icdev: [IN] Device ID, the default is 0x0000
addr: [IN] Block address
rdata: [OUT] 4 byte return data

Return: return 0 if successful

6.3.3 login EM4305

Function: login EM4305
Prototype: BOOL (WINAPI* EM4305Login)(WORD icdev,
BYTE *pw)
Parameter: icdev： [IN] Device ID, the default is 0x0000
pw： [IN] 4 bytes of the password
Return: return 0 if successful

6.3.4 Disable EM4305

Function: Disable EM4305
Prototype: BOOL (WINAPI* EM4305Disable)(WORD icdev)
Parameter: icdev： [IN] Device ID, the default is 0x0000
Return: return 0 if successful

6.3.5 Protect EEPROM words 0 to 13 from being modified using Write Word command

Function:Protect EEPROM
Prototype: BOOL (WINAPI* EM4305Protect)(WORD icdev,
BYTE *proWord)
Parameter: icdev： [IN] Device ID, the default is 0x0000
proWord： [IN] 4 bytes protect word
Return: return 0 if successful

6.3.6 Format EM4305 to ISO11784/85 form

Function: Format EM4305 to ISO11784/85 form
Prototype: BOOL (WINAPI* WriteAnimalID)(WORD icdev,
unsigned char *id)
Parameter: icdev： [IN] Device ID, the default is 0x0000
id： [IN] 14 bytes animal ID, format described in 6.2.9
Return: return 0 if successful

6.3.7 Set decode and data rate of reader

Function: Set decode and data rate of reader
Prototype: BOOL (WINAPI* SysSetEncoderRate)(WORD icdev,
BYTE enc_rte)
Parameter: icdev： [IN] Device ID, the default is 0x0000
enc_rte： [IN] 0x05 =Manchester RF/64
0x0A = Bi-phase RF/32

Return: return 0 if successful

6.3.8 Format EM4305 to EM4001

Function: Format EM4305 to EM4001
Prototype: BOOL (WINAPI* WriteEM4001)(WORD icdev,
BYTE *id)
Parameter: icdev: [IN] Device ID, the default is 0x0000
id: [IN] 5 byte ID number
Return: return 0 if successful

6.4 HITIG-S

6.4.1 Read HITAG UID

Function: Read HITAG UID
Prototype: BOOL (WINAPI* HITAG_Request)(WORD icdev,
BYTE * pUID)
Parameter: icdev: [IN] Device ID, the default is 0x0000
pUID: [OUT] 5 byte UID
Return: return 0 if successful

6.4.2 Read HITAG Configuration

Function: Read HITAG Configuration
Prototype: BOOL (WINAPI* HITAG_Select)(WORD icdev,
TE * pConfig)
Parameter: icdev: [IN] Device ID, the default is 0x0000
pConfig: [OUT] Return data
Return: return 0 if successful

6.4.3 Read HITAG Page block

Function: Read HITAG Page block
Prototype: BOOL (WINAPI* HITAG_ReadPage)(WORD icdev,
YTE pAddr,
YTE * pData)
Parameter: icdev: [IN] Device ID, the default is 0x0000
pAddr: [IN] Block address
pData: [OUT] 5 byte block data
Return: return 0 if successful

6.4.4 Write data to HITAG

Function: Write data to HITAG

Prototype: BOOL (WINAPI* HITAG_WritePage)(WORD icdev,
YTE pAddr,
YTE* pData)
Parameter: icdev： [IN] Device ID, the default is 0x0000
pAddr： [IN] Block address
pData： [IN] 5 byte write data
Return: return 0 if successful

6.4.5 Format HITAG to EM4001

Function: Format HITAG to EM4001
Prototype: BOOL (WINAPI* HITAG_EM4001)(WORD icdev,
BYTE * ID)
Parameter: icdev： [IN] Device ID, the default is 0x0000
ID： [IN] 5 byte ID number
Return: return 0 if successful

6.4.6 Format HITAG to ISO11784/85 form

Function: Format HITAG to ISO11784/85 form
Prototype: BOOL (WINAPI* HITAG_AnimalTag)(WORD icdev,
BYTE *AnimalID)
Parameter: icdev： [IN] Device ID, the default is 0x0000
AnimalID： [IN] 14 bytes animal ID, format described in 6.2.9
Return: return 0 if successful

6.5 READ Anim/ID

6.5.1 Read animal tag

Function: Read animal tag
Prototype: iBOOL (WINAPI* ReadAnimalID)(WORD icdev,
unsigned char *id)
Parameter: icdev： [IN] Device ID, the default is 0x0000
id： [OUT] 14 bytes animal ID, format described in 6.2.9
Return: return 0 if successful

6.5.2 Read EM4001 card

Function: Read EM4001 card
Prototype: BOOL (WINAPI* ReadEM4001)(WORD icdev,
BYTE *id)
Parameter: icdev： [IN] Device ID, the default is 0x0000
id： [OUT] 5 byte ID number

Return: return 0 if successful