RFIDEAS

USB CCID

Installation
User Manual

99009180 Rev C

Thank You!

Congratulations on the purchase of your USB CCID device(s). RF IDeas hopes you enjoy using the readers as much as we enjoyed creating and developing them. Configuration is easy, so you will be able to quickly take advantage of a more secure environment in your business, school, or organization.

Please call our Sales department if you have any questions or are interested in our OEM and Independent Developer's programs.

We look forward to your comments and suggestions for our product line! Please go to www.RFIDeas.com and follow the **Support ⇨ Learning Center** link for more details about our product line.

We are always discovering new applications for our product line(s). There are several software developer's licensing our technology so the solution you are looking for may already be developed.

Thank you,
The RF IDeas Staff

Need Assistance?

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USB CCID Overview

Introduction to Reader

The RF IDeas USB CCID contactless card reader is designed to the USB CCID class specifications and supplemented by the PC/SC Working Group specifications.

This reader provides a Smart Card interface using protocol T=0 to retrieve card ID information. The reader is also configured and updated through this same interface and protocol.

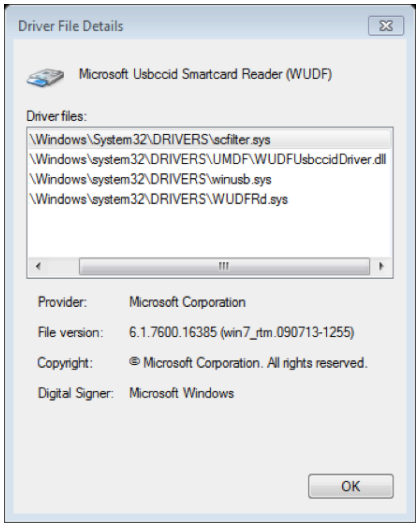
Device Connection Access

Access to the reader is supplied through various PC OS drivers (not part of the RF IDeas reader product) which, at least in the case of Microsoft Windows 7 and 8, are bundled with the standard OS install.

There are no installation files supplied or required under the Microsoft Windows OS. Just plug the reader into a Full Speed (12 Mbps) USB port and the OS does the rest. If the reader does NOT enumerate, updates to one or more of the driver files may be necessary.

The Microsoft Windows Smart Card API uses the underlying OS drivers that can be viewed by opening the "Driver Details" window from the "Properties" dialog of "Devices and Printers" / "CCID Card Proxy" device when the reader is attached.

Microsoft Windows 7 OS driver details:



Reader Configuration

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Configuration

Reader USB Strings and Class Descriptor Details

USB VID: 0x0C27, USB PID: 0xCCDA
Manufacturer String: “RFIDeas”
Product String: “CCID Card Proxy”

The required bulk endpoints IN / OUT are implemented.
Only Protocol T=0 using short APDUs is implemented.

Class Descriptor:
0x36 ; length
0x21 ; Descriptor Type == “CCID Class Functional Descriptor type”
0x10, 0x01 ; CCID BCD Release version 1.10
0x00 ; Max Card Slot index (00-0F)
0x01 ; Voltage support, bitwise OR: 1=5.0V, 2=3.0V, 4=1.8V
0x01, 0, 0, 0 ; dwProtocols: bitwise OR, 1==T0, 2==T1
LILENDIAND2BYTE (3580) ; dwDefault ICC Clock Frequency in KHz
LILENDIAND2BYTE (3580) ; dwMaximum ICC Clock Frequency in KHz
1 ; bNumClockSupported (0 means use Default & Max above, Microsoft maybe wants “1”)
LILENDIAND2BYTE (9600) ; dwDataRate bps (ICC I/O)
LILENDIAND2BYTE (9600) ; dwMaxDataRate (ICC I/O)
1 ; bNumDataRatesSupported
LILENDIAND2BYTE (0) ; dwMaxIFSD Max IFSD supported by CCID for protocol T=1
LILENDIAND2BYTE (0) ; dwSynchProtocols
LILENDIAND2BYTE (0) ; dwMechanical (Contactless)
0x7E, 0x00, 0x02, 0x00 ; dwFeatures
LILENDIAND2BYTE (64) ; dwMaxCCIDMessageLength (wMaxPacketSize of the Bulk-OUT endpoint)
0xFF ; bClassGetResponse
0xFF ; bClassEnvelope
LILENDIAND2BYTE (0) ; wLCDLayout (0000 = NO LCD)
0x00 ; bPINSupport
0x01 ; bMaxCCIDBusySlots

USB Control Endpoint Messages

Get Clock Frequencies [Return the single defined value of USB Class Descriptor]
Get Data Rates [Return the single defined value of USB Class Descriptor]
Abort

USB Interrupt Endpoint IN Messages

Card Inserted (not supported)
Card Removed (not supported)
This optional ENDPOINT is NOT supported! Its use makes it IMPOSSIBLE to configure and bootload the reader unless a card is "tapped" to prime the message pump. Instead, the reader always reports a "Slot Status" of "Powered" and "Active" and the Windows OS API call, "ScardGetStatusChange(...)" will ALWAYS report the same so it cannot be used to indicate that a user has "tapped" a card on the reader. The reader must be polled directly for the presence of a card instead of polling the OS driver stack for the presence of a card.

USB Bulk Endpoint OUT / IN Messages

Bulk Out Message	Bulk IN Response	Status	Error	Support
PC_to_RDR_IccPowerOn	RDR_to_PC_DataBlock	0	0	Yes
PC_to_RDR_IccPowerOff	RDR_to_PC_SlotStatus	0	0	Yes
PC_to_RDR_GetSlotStatus	RDR_to_PC_SlotStatus	0	0	Yes
PC_to_RDR_XfrBlock	RDR_to_PC_DataBlock	0	0	Yes
PC_to_RDR_GetParameters	RDR_to_PC_Parameters	0	0	Yes
PC_to_RDR_ResetParameters	RDR_to_PC_Parameters	0x40	0	NO
PC_to_RDR_SetParameters	RDR_to_PC_Parameters	0x40	0	NO
PC_to_RDR_Escape	RDR_to_PC_Escape	0x40	0	NO
PC_to_RDR_IccClock	RDR_to_PC_SlotStatus	0x40	0	NO
PC_to_RDR_T0APDU	RDR_to_PC_SlotStatus	0x40	0	NO
PC_to_RDR_Secure	RDR_to_PC_DataBlock	0x40	0	NO
PC_to_RDR_Mechanical	RDR_to_PC_SlotStatus	0x40	0	NO
PC_to_RDR_Abort	RDR_to_PC_SlotStatus	0	0	Yes
PC_to_RDR_SetRateAndClock	RDR_to_PC_RateAndClock	0x40	0	NO

Messages that are NOT supported will return a Status Word of "6A81" (command not supported).

Notes on ISO/IEC 7816 Message Construction

Please refer to:
ISO/IEC 7816-3 "Cards with contacts - Electrical interface and transmission protocols"
Section 10 "Protocol T=0, half-duplex transmission of characters"
Section 10.3.2 "Command header"
Section 12.2 Command-response pair transmission by T=0
PC/SC Workgroup – "Interoperability Specification for ICCs and Personal Computer Systems" parts 1 through 10.

The general form of a message is:

Class	Ins	P1	P2	P3	P3 Data

In the context of this document, the "Class" byte differentiates between a CCID/PCSC message (Class = 0xFF in our case) and an RF IDeas internal command (Class = 0xFA). The "Ins" byte specifies a specific command or command family. Parameters "P1" and "P2" are used by the command. The "P3" byte specifies the number of data bytes ("P3 Data") that follow the header in the transmission.

In the case where there is no data to send along with the header, only 4 bytes should be sent.

Class	Ins	P1	P2

In the "short APDU" used by the RF IDeas reader, a "P3" byte of zero implies that 256 bytes follow as "P3 Data". The RF IDeas CCID reader has a Bulk Endpoint IN/OUT capacity of 64 bytes. The host to reader data consists of a 10-byte CCID header and a 5-byte 7816 header (when "P3 Data" follows). Therefore, the maximum P3 value is practically limited to 49 bytes (64 - 10 - 5). The inbound (reader to host) response consists of the 10-byte CCID header and the 7816 response data. Therefore, the response data is practically limited to 54 bytes (64 - 10).

Methods of Returning the Card ID

There are currently three methods of retrieving the "Card ID" from the reader.

1. The ISO 7816 message (Class 0xFF) as "PC_to_RDR_XfrBlock" data, Get UID, returns the Card ID Header and the Card ID in the "RDR_to_PC_DataBlock" response.
2. The internal "GetQueuedID" ISO 7816 message(s) (Class 0xFA). See the SDK user's guide

for details. This is nearly the same as method 1 but requires more commands.

3. The internal "GetActiveID" ISO 7816 message (Class 0xFA). See the SDK user's guide for details. Methods 1 and 2 are preferred over this legacy method.

For method 1 above (preferred), up to 42 bytes are returned. This consists of 8 Card ID Header bytes, a maximum of 32 Card ID bytes, and the 2-byte Status Word.

The 7816 message header bytes (4 bytes) sent to the reader would be:

Class	Ins	P1	P2	P3	P3 Data
FF	CA	00	00	xx	

Response:

Byte 0,1	Byte 2,3	Byte 4	Byte 5	Byte 6	Byte 7	Bytes 8 to (N+8)	SW1	SW2
CardTypeL/H	IDAgeL/H	IDOvrn	[RFU]	ID BitCnt	ID ByteCnt (N)	Card ID[N]	90	00

This data combines the data returned from several of the internal SDK commands. The number of Card ID bytes returned corresponds to the ID BitCnt and is NOT a fixed quantity. The Card ID bytes are left justified, little endian.

User-mode Application Usage

The following code illustrates the parameters that are passed to key Microsoft Windows Smart Card API (WinSCard API) functions to achieve communications. Specification of a "shared" connection with the protocol "T0" is used for the "connect" function. The "transmit" function then specifies the T=0 protocol.

Using the WinSCard API, the user first must establish a "context" and then "connect" to the reader using that context.

Data exchange with the reader and other OS status information gathering concerning the reader may then be performed.

When a user session is complete, a "disconnect" should be performed followed by a release of the "context".

Using the WinSCard API, the reader communication code will resemble the following example:

```
SCARDCONTEXT hContext = NULL;
SCARD_READERSTATE readerState;
SCARDHANDLE hCard = NULL;
BYTE bSendBuffer[256];
DWORD dwSendLength;
BYTE bRecvBuffer[256];
DWORD dwRecvLength;
DWORD dwActiveProtocol;
LONG lResult;
WORD wIDAge, wIDOvrn, wCardType, wIDBitCount, wIDByteCount;
DWORD dwState;
int i;
BYTE *puc;


lResult = SCardEstablishContext( SCARD_SCOPE_USER, NULL, NULL, &hContext );
if( lResult != SCARD_S_SUCCESS ) exit(1);

memset( &readerState, 0, sizeof(readerState) );
readerState.szReader = “RFIDeas CCID Card Proxy 0”;
readerState.dwCurrentState = SCARD_STATE_UNAWARE;

lResult = SCardConnect(
                      hContext, //__in    SCARDCONTEXT hContext,
                      readerState.szReader, //__in    LPCSTR szReader,
                      SCARD_SHARE_SHARED, //__in    DWORD dwShareMode,
                      SCARD_PROTOCOL_T0, //__in    DWORD dwPreferredProtocols,
                      &hCard, //__out   LPSCARDHANDLE phCard,
                      &dwActiveProtocol //__out   LPDWORD pdwActiveProtocol
                      );
if( lResult != SCARD_S_SUCCESS ) exit(1); // or something else more appropriate


// Build a T=0 command message to “Get UID”
bSendBuffer[0] = 0xFF; // CLA
bSendBuffer[1] = 0xCA; // INS
bSendBuffer[2] = 0; // P1
bSendBuffer[3] = 0; // P2
bSendBuffer[4] = 0; // P3

dwRecvLength = sizeof( bRecvBuffer );
dwSendLength = 4; // We don’t need to send P3 as there is no data following the Header.

lResult = SCardTransmit(
                        hCard, //__in        SCARDHANDLE hCard,
                        SCARD_PCI_T0, //__in        LPCSCARD_IO_REQUEST pioSendPci,
                        bSendBuffer, //__in LPCBYTE bSendBuffer,
                        dwSendLength, //__in        DWORD cbSendLength,
                        NULL, //&ioRecvPci, //__inout_opt LPSCARD_IO_REQUEST pioRecvPci,
                        bRecvBuffer, //__out_bcount(*pcbRecvLength) LPBYTE pbRecvBuffer,
                        &dwRecvLength //__inout     LPDWORD pcbRecvLength
                        );
if( lResult != SCARD_S_SUCCESS ) exit(1); // or something else more appropriate
```

```
wCardType = ((WORD)bRecvBuffer[1] << 8) + (WORD)bRecvBuffer[0];
wIDAge = ((WORD)bRecvBuffer[3] << 8) + (WORD)bRecvBuffer[2];


wIDOvrn = (WORD)bRecvBuffer[4];
wIDBitCount = (WORD)bRecvBuffer[6];
wIDByteCount = (WORD)bRecvBuffer[7];

printf( "CardType: %04X, IDAge: %u, IDOvrn: %u, IDBits: %u, IDBytes: %u\n",
        wCardType, wIDAge, wIDOvrn, wIDBitCount, wIDByteCount );
printf( "Card ID:" );
puc = &bRecvBuffer[8];
for(i = 0; i < wIDByteCount; i++) printf(" %02X", (WORD)*(puc++) );
printf("\n");


SCardDisconnect(
                hCard, //__in    SCARDHANDLE hCard,
                SCARD_LEAVE_CARD //__in    DWORD dwDisposition
                );
hCard = NULL;

SCardReleaseContext( hContext );
hContext = NULL;

exit(0);
```

Utility Commands

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Commands

Internal ISO-7816 Messages

This section details the "internal" commands (instructions, INS) that may be used to configure the reader's operational parameters and query the reader for information. The messages are constructed as in the example above except the "Class" byte is 0xFA for all of the internal commands.

The returned "Status Word" may be one of the following:

SW1	SW2	Definition
90	00	Success
6D	00	Invalid Instruction
6B	00	P1, P2 Incorrect
67	00	P3 Incorrect
6A	82	Card Not Found

Also note that in the case where no data is returned, some of the commands will echo the INS byte before the Status Word while others will not.

Get Active ID - Command 0x00

This command retrieves information on the card that is currently on the reader. This data expires within about one second after the card has left the field so the preferred method would involve using the queued ID facilities which are not so time critical.

Class	Ins	P1	P2	P3	P3 Data
FA	00	LEN	xx	xx	

Response if a card is present:

00	IDdata[LEN]	90	00

Response if NO card is present:

00	00 x LEN	6A	82

The “LEN” is the requested return data length of the “IDdata” which includes a 4-byte header so LEN should always be >= 4. To retrieve 32 bytes of a card ID, set LEN to 36.

IDdata[LEN] = IDdataHeader[4], IDData[LEN - 4].

IDdataHeader[4] = [LEN – 4], IDBitCnt, RFU, RFU = IDByteCnt, IDBitCnt, RFU, RFU.

Get Configuration Block - Command 0x01

Each Card Type in the reader’s card search list has five 8-byte blocks of data associated with the processing of that particular Card Type. The Card Type configuration data for any one Card Type is accessed by “framing” the data group into an “SDK” buffer. The selection of the Card Type data group is accomplished using “Set Active SDK Index” command described later. Once the Card Type data group has been copied into the SDK buffer, the individual 8-byte Blocks can be fetched using this command. The “BLK” parameter specifies which 8-byte block (0 through 4) will be fetched.

Class	Ins	P1	P2	P3	P3 Data
FA	01	BLK	xx	xx	

Response:

01	CfgData[8]	90	00

Set Configuration Block - Command 0x81

Once the configuration block has been fetched by the user, it may be modified and written back to the SDK buffer RAM using this command. The data is not written to non-volatile memory until the “Commit” command is issued. It is possible for the user to write a configuration block without first reading it but it is usually wise to fill known locations with well understood data while ensuring that unknown locations are left in the original state.

Class	Ins	P1	P2	P3	P3 Data
FA	81	BLK	xx	08	CfgData[8]

Response:

81	90	00

Commit Configuration RAM to Flash - Command 0x02

Configuration data may be "set" without committing the RAM-based variables to non-volatile storage. If the user needs the data to survive a power or reset cycle, this command should be issued. If multiple blocks of configuration data need to be written to the reader, the user may issue this command just once after all of the data is written. If a "Set LUID" has been used and the user wants the LUID written to non-volatile storage, the "bSvLuid" byte should be set to a non-zero value (preferrably 0xFF).

Class	Ins	P1	P2	P3	P3 Data
FA	02	bSvLuid	xx	xx	

Response:

90	00

Restore Factory Defaults - Command 0x03

This command will restore all of the configuration data to the factory default values and save the data to non-volatile storage (a "commit" is not needed).

Class	Ins	P1	P2	P3	P3 Data
FA	03	xx	xx	xx	

Response:

90	00

Get Device ID - Command 0x04 / 0x05

These 2 commands return exactly the same data except for the command acknowledgement byte. The returned data contain the reader LUID, the main application FW version, and the bootloader FW version within the main FW. This data references the Control CPU of the reader. The preferred method to get all FW versions is the "Get Micro FW Version" command(s) described later which provides access to the RF CPU as well. This command is the only way to read the LUID.

Class	Ins	P1	P2	P3	P3 Data
FA	04	xx	xx	xx	

Response:

04/05	wLUIDL	wLUIDH	VMin|V0	VMajH|VMajL	BLV3	BLV2	BLV1	BLV0	90	00

Set LUID - Command 0x06

A logical reader identifier may be assigned to the reader using this command. After this command is issued, the LUID may be committed to non-volatile storage using the "Commit" command with the "bSvLuid" parameter set to a non-zero value.

Class	Ins	P1	P2	P3	P3 Data
FA	06	xx	xx	02	Luid[2] (little endian)

Response:

06	90	00

Get Active SDK Index - Command 0x09, Sub Command 0x01

In the pcProxPlus reader, this command retrieves information about the currently "framed" SDK configuration group in the card search list. It also returns the total number of card definitions in the card search list.

Class	Ins	P1	P2	P3	P3 Data
FA	09	01	xx	xx	

Response:

09	01	NDX	N	00	CTL	CTH	Priority	90	00

"NDX" is the currently "framed" card search list index (0-based).
"N" is the total number of card definitions in the card search list.
"CTH/L" is the "Card Type" of the current SDK "frame".
"Priority" is the priority of this card type used in the case of "dual-technology" card conflicts.

Set Active SDK Index - Command 0x09, Sub Command 0x81

The pcProxPlus readers use a confguration group (of blocks) to define each card in the search list. The user works on just one configuration group at a time and this group must be "framed" into an SDK buffer and the "index" (into the list of configuration groups) is specified using this command. The return data reflects the same parameters as the "Get Active SDK Index" command for the "NDX" just selected.

Class	Ins	P1	P2	P3	P3 Data
FA	09	81	NDX	xx	

Response:

09	81	NDX	N	00	CTL	CTH	Priority	90	00

Copy Configuration - Command 0x09, Sub Command 0x82

There are 4 locations where Card Type data groups exist. One Card Type data group exists in RAM as the SDK working buffer. "N" Card Types are kept in three non-volatile storage areas. The "Factory Default" area is read-only. The "User Default" area is read/write. The "Power-on User Default" area is also read/write.

Class	Ins	P1	P2	P3	P3 Data
FA	09	82	xx	04	SRC, DST, BNDX, ENDX

"SRC" (source) and "DST" (destination) each specify one of the four storage areas.
0 - RAM
Since there is only 1 RAM "frame", BNDX must equal ENDX.
1 - User Power-on Default Flash
2 - User Default Flash
3 - Factory Default Flash (read only)

"BNDX" (beginning index) and "ENDX" (ending index) specify the Card Type group index of both the source and the destination. These parameters may range from 0 to (N-1) where N is the number of Card Types in the search list.

Response:

09	82	SRC	DST	BNDX	ENDX	90	00

If SRC = DST, no operation is performed.
If DST = 3 (Factory Defaults), no operation is performed.
When SRC or DST = 0 (RAM), it is best to specify BNDX = ENDX as only one index will be used.
If SRC = 0 (RAM) and DST is any Flash area, the current SDK buffer is copied to Flash using the BNDX only. Multiple copies of the RAM data will NOT be made across multiple Flash indexes.
If DST = 0 (RAM), the SDK index is set to ENDX before the copy from any Flash area is performed.

Get Micro FW Version - Command 0x09, Sub Command 0x03

There are at least 2 microprocessors (CPUs) in the pcProxPlus readers. Each has multiple module version numbers. This command allows the user to fetch the version numbers of interest.

Class	Ins	P1	P2	P3	P3 Data
FA	09	03	CPU	01	Module

Response:

09	03	CPU	Module	V3	V2	V1	V0	90	00

Main CPU - “CPU” = 0x00
Main CPU “Modules”:
Application Module = 0x00
Bootloader Module = 0x01

RF CPU - “CPU” = 0x01
RF CPU “Modules”:
Application Module = 0x00
Bootloader Module = 0x01
Radio Bundle = 0x02

The returned “version” is 4 bytes of binary data, MSByte first (big endian). Which could be read as version “V3.V2.V1.V0”.

Get RF Micro Card Type List - Command 0x09, Sub Command 0x04

The RF CPU in the pcProxPlus reader is capable of reading many more “Card Types” than are in the card search list configuration memory. This command will retrieve a list of the supported 2-byte Card Types (little endian), 4 at a time. Multiple calls, incrementing “NDX” from zero until a Card Type of 0x0000 is found in the group of 4, gives the complete list. Values of “NDX” outside of the reader capacity will return all zeros in the Card Type array. This list is specific to the “Radio Bundle Module” version.

Class	Ins	P1	P2	P3	P3 Data
FA	09	04	NDX	xx	

Response:

09	04	NDX	CT[4][2]	90	00	90	00

Get Part Number String - Command 0x0C, Sub Command 0x01

This command is used to return the reader model number (in ASCII format). Multiple calls, incrementing “BLK” from zero until a NULL terminator (0x00) is found in the data, gives the complete string. At present, the model numbers are restricted to 24 bytes so at most only 3 calls should be required.

Class	Ins	P1	P2	P3	P3 Data
FA	0C	01	BLK	xx	

Response:

0C	PNdata[8]	90	00

Get Queued ID - Command 0x0C, Sub Command 0x02

This command retrieves the last card ID data, one 8-byte block at a time. The BLK parameter specifies which 8-byte block (4 max, numbered 0 through 3) will be returned. Thus it takes four of these commands to retrieve the full 32-byte capacity. The "Get ID Age and Overrun Data" command should be issued first to get the actual card ID size and determine if the "Age" even warrants fetching the ID data.

Class	Ins	P1	P2	P3	P3 Data
FA	0C	02	BLK	xx	

Response:

0C	QIDdata[8]	90	00

QIDdata[8] is returned LSByte first such that:
QIDdata[0][8]: QIDdata[1][8]: QIDdata[2][8]: QIDdata[3][8] represents a 32-byte card ID, LSByte first.

Get ID Age and Overrun Data - Command 0x0C, Sub Command 0x02

This command returns data associated with the current "Queued ID". The "Flags" parameter can specify further action to be taken on the queued ID data after the current data is returned.

Class	Ins	P1	P2	P3	P3 Data
FA	0C	02	04	01	Flags

Flags:

Bit 0 SET will clear the Overrun counter, card ID and Bitcount, and set the Age to 0xFFFF.

Bit 1 SET will clear the Hold Timer to allow immediate access to a new card read.

Response:

0C	AORdata[8]	90	00

AORdata[8] data structure:

AgeL	AgeH	OvrnCnt	IDBitCnt	[RFU]	[RFU]	[RFU]	HoldTmr

The AgeH/L specify how long the current card ID has been in queue in 48msec units.

The OvrnCnt indicates how many card reads were missed since the last use of the "Get Queued ID" command.

The IDBitCnt gives the valid bit count in the queued ID buffer. This may be useful in determining how many 8-byte blocks need to be read using the "Get Queued ID" command.

Beep Now - Command 0x0C, Sub Command 0x03

This command will produce an immediate audible indication to the user. The "N" parameter species how many beeps are produced and whether the beeps are "long" or "short". If bit 7 is SET, the beeps are of long duration, otherwise they are of short duration. Bits 0-2 specify how many beeps are produced (max of 7). If "N" is zero, zero beeps are produced but there are better ways to waste time.

Class	Ins	P1	P2	P3	P3 Data
FA	0C	03	N	xx	

Response:

90	00

Support

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Precautions

Do not mount the device directly on a metal surface. This could interfere with the RF signal and the operation of the device.

The device may not recognize valid cards in the presence of high RF fields. If current readings are erratic, take the following step:

· Move the equipment from any known transmitters nearby.

Contact Technical Support at 866.439.4884 for more information.

Before You Call Technical Support

Please make sure you've identified your reader model and credential type being used. Have this information ready so that your call will be routed to the correct specialist.

For Assistance:

Ph: 847.870.1723
E: TechSupport@RFIDeas.com

Talking To The Technician

Provide the reader model being used to the Technical Support Specialist.

Explain your problem to the specialist.

Be prepared to provide the following information:

- Error/problem explanation
- What you were doing when the problem occurred
- What steps you have taken to resolve the problem, including results from each steps

Listen and follow the steps provided by the specialist. Let the specialist know what happens when you perform the steps.

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FCC Compliance Statement

FCC ID: M9MPCPROXHUSB100 (HID USB model)
FCC ID: M9MPCPROXM101 (Indala model)
FCC ID: M9MRDR6X8X (Kantech, Indala, Casi-Rusco)
FCC ID: M9MPCPROXC101 (Casi-Rusco model)
FCC ID: M9MRFID1856I100 (MIFARE/iCLASS models)
FCC ID: M9MRDR7081 (iCLASS Module based)
FCC ID: M9MRDR7581 (iCLASS MIFARE and Other 13.56MHz)
FCC ID: M9MRDR7081AKE (iCLASS MIFARE and Other 13.56MHz)
FCC ID: M9MRDR8XX8U (Plus combo model)
FCC ID: M9MRDR8058X (Multi-protocol Combo model)
FCC ID: M9M758XCCL (MIFARE and Contact model)
FCC ID: M9MRDR80081 (Plus SIO Combo Model)
FCC ID: M9MRDR60DX (125KHz USB Dongle Model)
FCC ID: M9MBUPCPROXH100 (HID RS-232 model)
FCC ID: M9MBUPCPROXA100 (AWID)
FCC ID: M9MPCPROXP100 (Pyramid)
FCC ID: M9MRDR7P71 (FIPS 201 13.56MHz)
FCC ID: M9MRDR7L81 (Legic 13.56MHz)
FCC ID: M9MRDR7580 (iCLASS MIFARE and Other 13.56MHz)
FCC ID: M9MRDR7081AKF (iCLASS MIFARE and Other 13.56MHz)
FCC ID: M9MRDR75DX (iCLASS MIFARE and Other 13.56MHz)
FCC ID: M9MRDR758X (iCLASS MIFARE and Other 13.56 MHz)
FCC ID: M9M8058XCCL (Multi-protocol and Contact model)
FCC ID: M9M7580CCL (MIFARE and Contact model)
FCC ID: M9MRDR70EX (13.56MHz Express Model)

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The reader may not recognize value cards in the presence of high RF fields. If the current reading is erratic, the user shall take the following step: Move the equipment from any known transmitters nearby. For more information contact Tech Support at 866.439.4884.

Index

Other Products & Accessories

Software Developer's Kit
Allows independent developer's to use their application to read proximity access badge Read ID data of more than 1 billion cards in the field

PVC Label Proximity Card
Credit card size with paper release liner, 500 cards per box

Proximity Cards, Labels, Key Fobs
Complete selection of various manufacturers proximity cards, labels and key fobs. Marked with data code and ID number, available in several Wiegand formats

pcProx Read/Write Contactless
Reads and writes directly to the smart cards

pcProx Writer and Playback
Desktop read-only for iCLASS and NXP and smart cards

pcProx Playback Starter Kit
Plays back card sector data in ASCII or keystrokes

pcProx Sonar
Presence detector configured as a keyboard

PS/2 to USB Power Tap
Powers a USB RF IDeas device from a PS/2 port

Mounting Brackets
Further adjust the standard mounting of the device angle

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