



Kiosk ePassport Reader

User Guide

Document: DT-01822
Revision E
Date: June 2017

Important Notices

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Electromagnetic Compatibility (EMC)

The Products are designed to be immune to levels of interference generated within an office environment and not to interfere with other equipment. In order to provide this level of compatibility the Product, its cabling and PSU or its installations, must not be modified in any way.



Modifications or changes to the Product, the interface cables or the power supply not expressly approved by the manufacturer could void the User's authority to operate the Product and/or break local laws or regulations.



In some situations AC line transients or Electrostatic Discharge may cause a loss of communication between the document reader and the host application. If this occurs, it may be necessary to restart the host application, or unplug and reconnect the USB cable, or power cycle the document reader in order to restore operation.

For further regulatory information or copies of certificates contact your local Gemalto representative.

EMC Compliance Europe



The Product meets the following European Council Directives:

- Scanner: EMC (2004/108/EC), RFID Option RE&TTE (1999/5/EC)
- PSU: EMC (2004/108/EC), LVD (2006/95/EC)

FCC/Canada Radio Frequency Rules and Regulations

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide a reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

NO MODIFICATIONS. Modifications to this device shall not be made without the written consent of Gemalto. Unauthorized modifications may void the authority granted under Federal Communications Commission Rules permitting the operation of this device.

FCC Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC ID: MESPV351515

Canada Notice

This device complies with Industry Canada’s licence exempt RSSs. Operation is subject to the following two conditions:

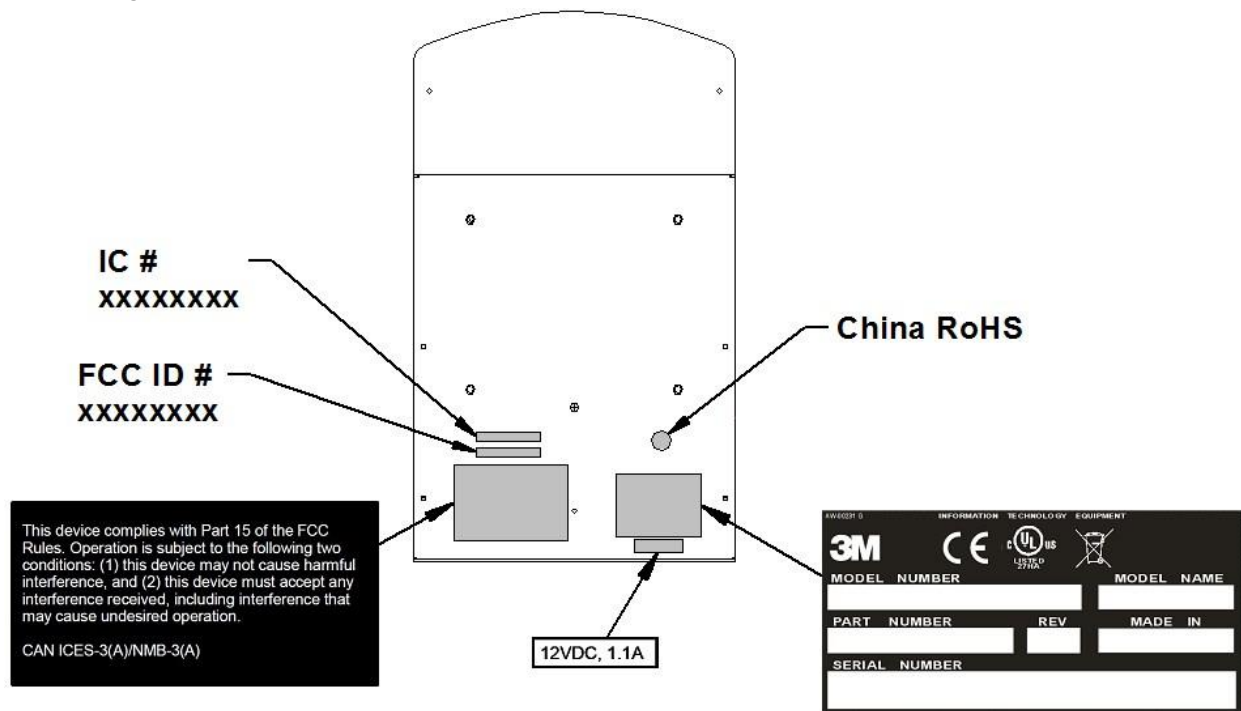
- (1) This device may not cause interference, and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Canadian ID: 22832 – PV351515

Safety Label Locations



Note: Depending on the reader model, some labels may not be present.

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Safety Information



Read, understand, and follow all safety information contained in these instructions prior to using any reader. Retain these instructions for future reference.

The safety labels are affixed to the underside of each reader.

Intended Use

The Gemalto Kiosk ePassport Reader optically scans passports, ID cards and other travel documents. It also reads Contactless Integrated Circuit chips integrated into travel documents. The reader is intended to be used in a dry indoor environment only, physically installed within a self-service kiosk that provides a mechanical housing and limits user access to placing travel documents on the glass imaging surface. It has not been evaluated for other uses, such as stand-alone desktop use or other environmental conditions.

Explanation of Product Safety Label Symbols	
	Warning: Indoor Dry Location Use Only
	Attention: Refer to Instructions
	The Waste Electrical and Electronic Equipment Directive (WEEE Directive) is the European Community directive 2012/19/EU on waste electrical and electronic equipment (WEEE) which, together with the RoHS Directive 2002/95/EC, became European Law in February 2003.

Explanation of Signal Word Consequences	
 WARNING:	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
 CAUTION:	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or property damage.

 **WARNING**

To reduce the risk associated with hazardous voltage which, if not avoided, could result in death or serious injury:

Do not use the reader with any AC power supply other than a Gemalto approved AC power supply.

Do not open the reader/power supply. There are no user serviceable parts or adjustments inside.

Do not use AC power supply and/or power cord if damaged.

Product is to be serviced by Gemalto service personnel only. No user serviceable parts or adjustments inside.

Do not modify or attempt to modify the reader and/or AC power supply.

Use only in an indoor dry location.

Do not use the product in an outdoor and/or wet environment.

 **CAUTION**

Dispose of electronic waste in accordance with all applicable local and government regulations

Introduction

This document describes the features and functions of the following readers:

- Gemalto Kiosk Full Page Reader, model # PV35-00-17-00-01
- Gemalto Kiosk ePassport Reader, model # PV35-02-17-00-01

This manual is intended to be used by kiosk hardware developers and integrators. It provides mechanical and electrical specifications required to incorporate the readers into a kiosk as well as guidance on the operation, troubleshooting and maintenance of the readers.

Features Overview

The Gemalto Kiosk Full Page Reader and Gemalto Kiosk ePassport Reader are a family of intelligent optical character recognition (OCR) and full-image capture devices that provide automated data capture from a variety of personal identification documents. They read data from documents encoded with:

- machine-readable text
- 1D barcodes
- 2D barcodes
- Extended Access Control (EAC) 1.01 specification support
- contactless integrated circuit (IC) chips (optional)
- cell phone/PDA detection
- barcode reading from cell phone/PDA
- customized client requirements
- document rotation detection and processing support

The readers capture full page document images using:

- Visible color illumination
- Near-infrared (B900 band) illumination
- Ultra violet illumination

The readers perform optical character recognition on identity documents including those that conform to International Civil Aviation Organization (ICAO) 9303 specifications and send data from the document to a host computer over a Universal Serial Bus (USB) connection.

The base functionality for the different readers varies:

Gemalto Kiosk Full Page Reader

- full page visible, ultra violet (UV) and infrared (IR) imaging
- optical character recognition (OCR)
- 1D and 2D barcode reading

Gemalto Kiosk ePassport Reader

The Gemalto Kiosk ePassport Reader includes all the functionality of the Full Page model and can also detect and read information encoded on contactless integrated circuits in passports and ID cards. The reader:

- reads ISO 14443 Type A and Type B ICs

unsigned long MMM_GetOCR_TextItem returns the character string data for a specific item. For example “@mrz_line_1” and “@mrz_line_2” are the top and bottom MRZ lines on a two-line document.

DT-01675

Gemalto Authentication System Software Developer's Reference

Facilitates the comparison of graphical elements of scanned documents to known reference images.

Sample Function:

RetrieveTextItem retrieves the text string for the named item.

DT-01714

Gemalto ePassport Reader SDK Developer's Reference

Facilitates the integration of ePassports into a document handling system.

Sample Function:

Active_Authentication performs the active authentication process using the public key retrieved from data group 15.

DT-01757

Radio Frequency Skin API Specification

Facilitates the extraction of information from ePassports.

Sample Function:

unsigned long MMM_GetRF_File reads a data group from the card embedded in the travel document. The entire data group is returned in the data buffer.

DT-01762

Logical Data Structure Skin API Specification

Facilitates the manipulation of data found on ePassports.

Sample Function:

unsigned long MMM_LDS_ValidActiveAuthenticationSignature verifies the digital signature returned from a radio frequency (RF) chip in response to an active authentication request.

These documents encompass the range of tools for use by programmers to develop applications for the Gemalto Inspection Reader and Gemalto Full Page Reader family.

Some of the SDKs and APIs are complimentary, used together to perform specific tasks:

- access all optical character recognition (OCR) results, images and authentication results (Gemalto Authentication System SDK and OCR Skin API)
- access a RF chip, retrieving various fields and verifying passive authentication (Gemalto ePassport Reader SDK and RF Skin API)

Two of the kits are used alone for specific applications:

- decode ICAO data groups from ePassports (Logical Data Structure Skin API)

- retrieve USB data streams, decode and access data/images

Product Description

The readers are self-contained devices designed to be incorporated into a self-service kiosk terminal. The main hardware features are:

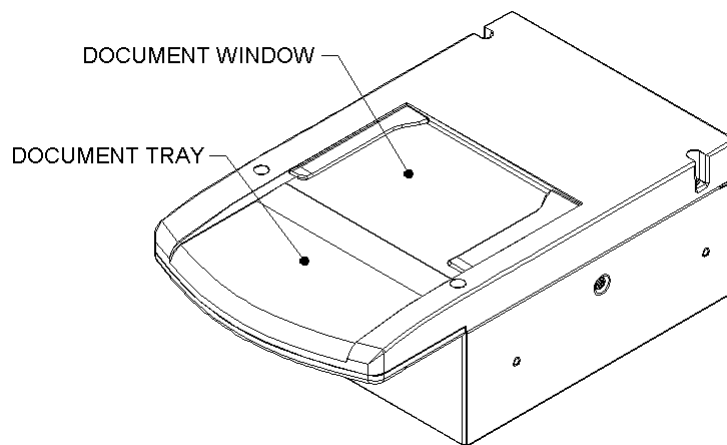
- A document window and tray for placement of documents to be read
- A back panel containing communication, status light emitting diode (LED) and power connection ports
- Attachment points for mounting the readers to a kiosk chassis

Document Tray and Window

The document window is a glass surface measuring 132mm x 88mm located on top of the reader. Users place documents on the document tray, imaging side down, and slide them to the back of the document window to scan them. Guides on the document tray help align the document and keep it pressed onto the glass window. The document window is slightly larger than ICAO 9303 requirements to accommodate oversized documents.

Keep the document tray and window clean to ensure optimum operation of the reader. See [Cleaning](#) on page 22 for more information.

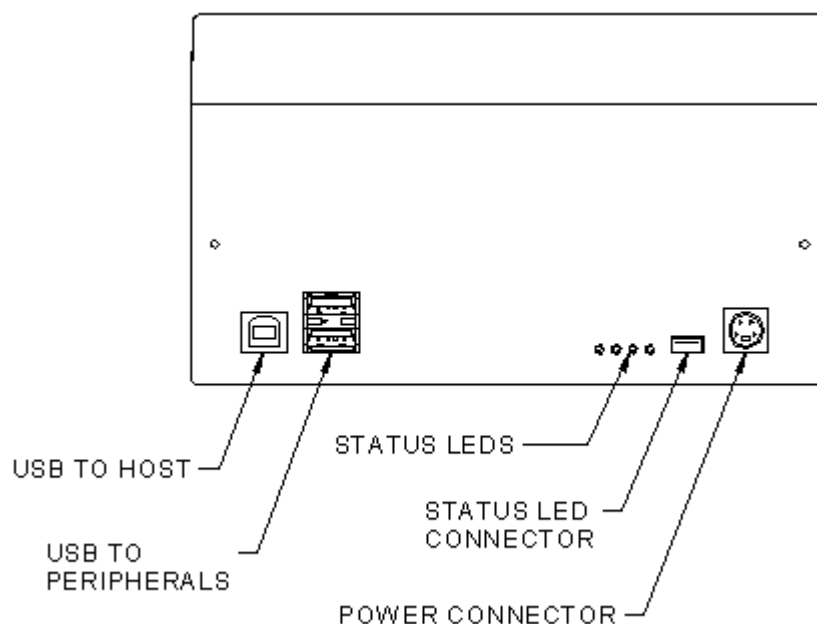
Figure 4: Document Tray and Window



Back Panel

The back panel features the USB communication ports, status light emitting diodes (LEDs), a connector to drive a secondary set of status LEDs and a power supply connector.

Figure 5: Back Panel Ports



USB Ports

Communication to and from the host PC is via USB 2.0. The USB host interface is a standard Type B connector. The reader does not draw any power from the host.

A built-in USB hub and two auxiliary USB 2.0 Type A connectors allow you to connect additional USB peripherals such as a mouse, keyboard, etc. The two USB peripheral connectors are capable of supplying +5V DC at a total of 500mA to the peripherals (e.g. 500mA to a single peripheral, 250mA to each of two peripherals, etc.).

Status Indicator LED's

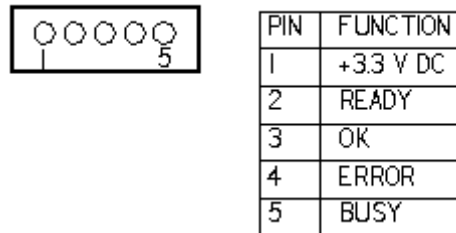
The status LEDs are intended to assist a technician to install and debug the reader, and indicate the reader status and the result of scanning a document. They are not visible by a user.

Table 1: Indicator LEDs

Ready (Green)	The reader is ready to scan a document (when connected to the host application).
Busy (Amber)	The reader is scanning a document and processing the data.
OK (Green)	A known document type was presented and processing was successful.
Error (Red)	The document is of an unknown type or did not process properly.

A five-pin header is provided to drive a remotely-located status LED display on the kiosk, or to allow the kiosk hardware to monitor the status of the reader. The reader connector is designed to mate with Molex part number 0874390600 housing and 87421 crimp terminals. The remote status LED's are assumed to have a common anode at +3.3V. The reader will pull connector pins to ground through 200-ohm resistors, supplying approximately 7.5mA per LED. Pin assignment of this connector is shown in the following figure.

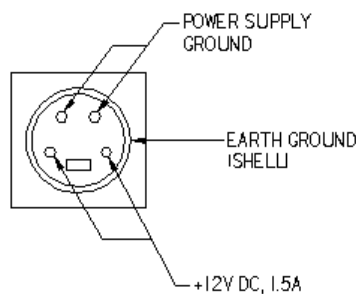
Figure 6: Status LED Connector



Power Connector

The reader must be connected to a Underwriters Laboratory (UL)-Listed DC power supply capable of providing +12V DC at 1.1A. The connector pinouts are shown in the following figure.

Figure 7: Power Supply Connector

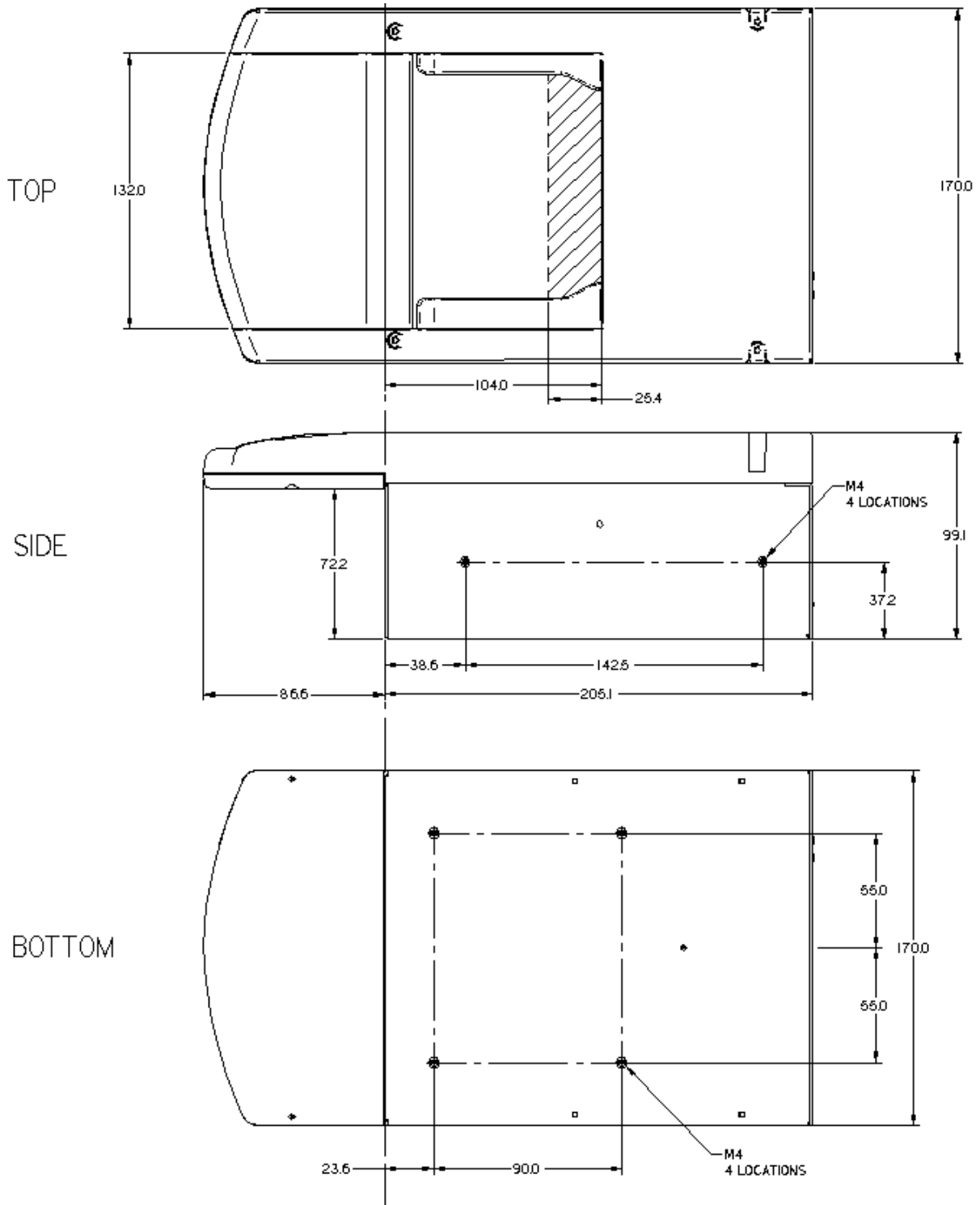


Mounting Points

The readers contain eight M4 threaded mounting bosses, two on each side and four on the bottom, as shown in the following figure. The preferred mounting points are on the bottom. If the side mounting points are used, care must be taken in the design of the kiosk mounting surfaces to ensure that tensile stress is not placed on the reader chassis. The M4 hardware should protrude into the reader chassis no more than 8mm.

At the factory, all eight bosses are filled with threaded plastic inserts to prevent dust entry into the enclosure.

Figure 8: Mounting - Mechanical Detail



Installing the Hardware

Before installing the hardware, consider the following:

- proper procedure for unpacking the reader
- proper kiosk design

Unpacking the Reader

Each reader package consists of:

- 1 reader
 - 1 test card
 - 1 USB communication cable
 - Power supply and line cord
 - 1 Scotch-Brite™ Microfiber Cleaning Cloth
1. Remove the contents from the box and separate the components from the packing material.
 2. Verify that all the parts described have been received. If any parts are missing, contact Gemalto Global Technical Services (GTS).
For more information, see Appendix D: Customer Service on page 29.
 3. Store the packaging in the event that the reader may require reshipment to Gemalto for maintenance.

Note: Allow the reader to come to room temperature for a minimum two hours before operation, if it has been stored below room temperature.

Kiosk Design Considerations

The reader is designed to be mounted behind the kiosk front panel with only the document tray protruding. The front panel must provide an opening to allow users to insert their documents and hold them flat on the document glass for scanning. The opening should form a box, open at the front and closed at the top, sides and back.

To better illustrate this, a typical kiosk concept is shown in the following figures. It is recommended that the material forming the document cavity and the front fascia around the reader be non-metallic (e.g. Polycarbonate) to avoid affecting the RF performance. This is illustrated in red in the following figures. The cutaway view shows the reader mounted to the bottom surface of the kiosk chassis, with the plastic insert forming the document cavity. The document cavity must allow sufficient clearance for a user's hand to hold the document down on the glass.

To assist in the mechanical design, 3D CAD models of the reader are available in all popular formats. Contact your sales representative or GTS for details.

Figure 9: Kiosk Concept - Front View

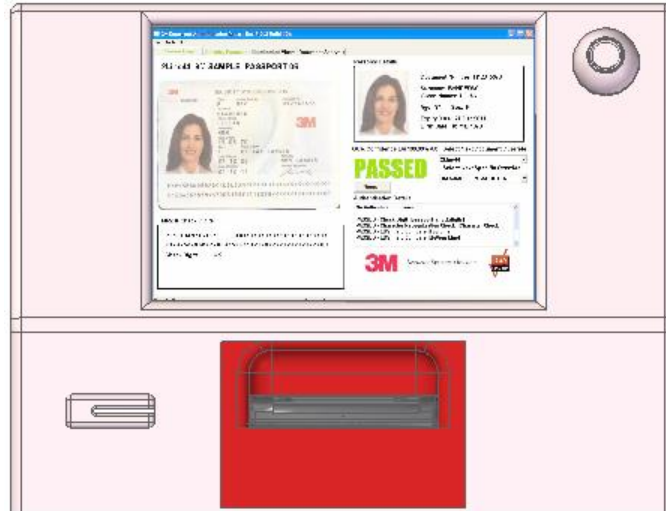
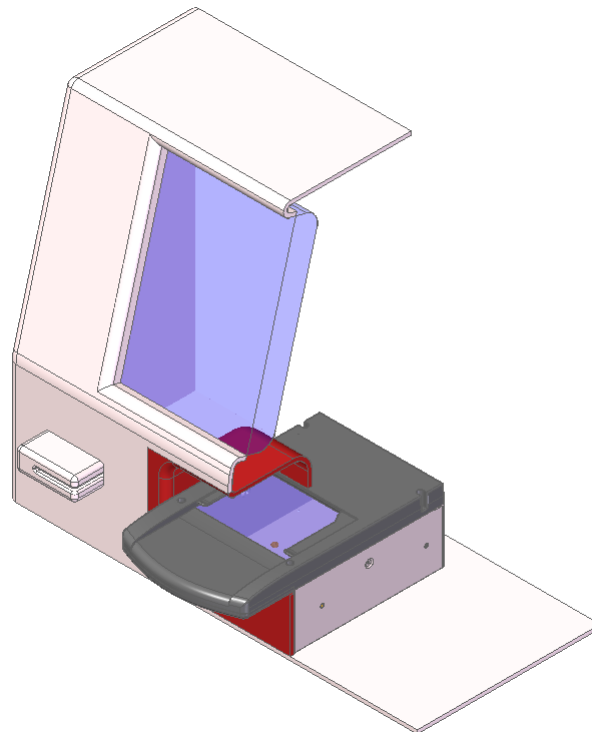


Figure 10: Kiosk Concept - Cutaway View



The reader is designed to be held in place using four M4 machine screws. See the previous section for detailed mechanical dimensions of the reader and its threaded mounting points.

When designing a kiosk to accommodate the reader, consider the following factors:

- Attach the reader using the bottom attachment points, if possible
- In ePassport models, keep metallic surfaces away from the document tray and document glass. These areas contain the radio frequency identification (RFID) antenna, and RF reading can be disrupted by the presence of metal in the RF field

- In ePassport models, the front fascia should be plastic or a non-metallic material
- In ePassport models, do not allow a metallic surface under and parallel to the document tray
- Allow sufficient clearance above the document window for the user to hold the document down on the document window
- The document window must be shielded as much as possible from direct lighting (reference mechanical drawing DT-01823), and any surfaces directly above the document window must be matte black. Failure to observe this may cause unreliable document detection.

Figure 11: Mounting - Recommended

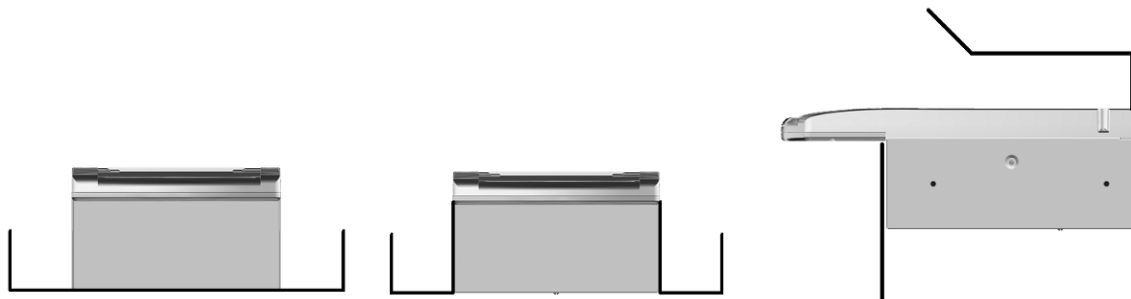
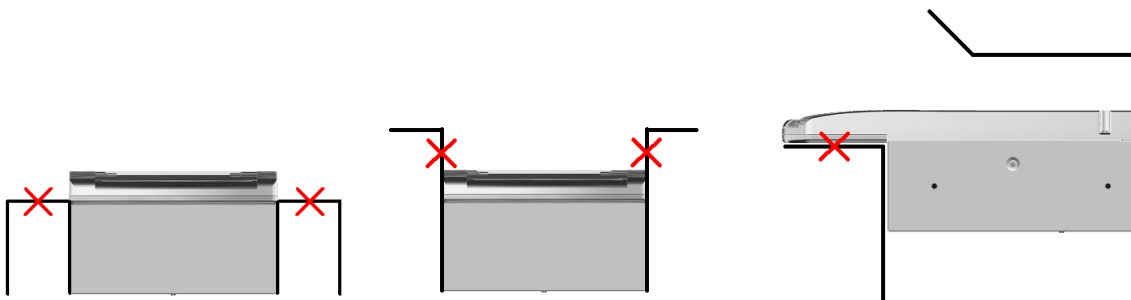


Figure 12: Mounting - Not Recommended



Note: The reader should be inclined 5° to 10° to prevent liquid from entering the kiosk and to discourage its use as a shelf.

Connecting the Power Supply

The reader is designed to be powered from a switched, UL-listed power source supplied with the kiosk and terminating in a suitable DIN connector. The reader is supplied with a power cable and power supply but does not have a power switch.

Connect the DIN connector from the power supply to the power connector at the rear of the reader, and secure or tie-off the cable as required.

Note: If you choose to use your own power supply, it must be a UL-listed device. Contact your sales representative or Gemalto Global Technical Services (GTS) for details.

Connecting to the Host System

The reader is supplied with a 2-meter USB A-B communication cable.

1. Insert the USB connector of the supplied cable into a USB port on the host system.
2. Insert the USB connector of the supplied cable into the USB port, located on the back panel of the reader.
3. Secure or tie-off the cable as required.

Installing the software

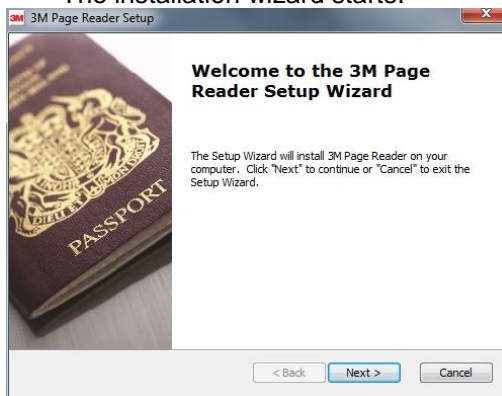
The reader package contains a Quick Start Guide with links to an online site to download the software components and documentation, consisting of:

- Gemalto software and SDK
- Reader and software documentation
- Required drivers
- Additional SDKs based on the reader model

To install the reader software:

1. Download the latest SDK software from the provided link. Click on the *Gemalto Page Reader SDK x.x.x Setup.exe* link and save the exe file to a known location on the host PC (for example, the desktop).
2. Run the downloaded .exe file.

The installation wizard starts.



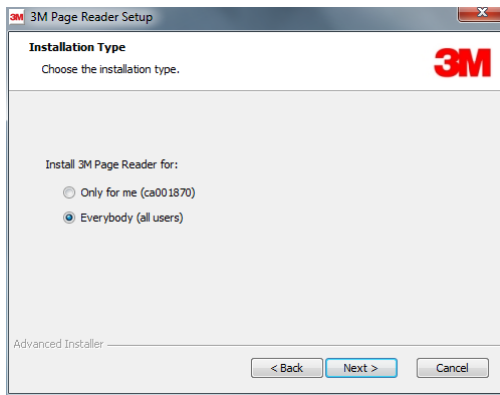
3. Click Next to proceed with the installation.

The software license is displayed.

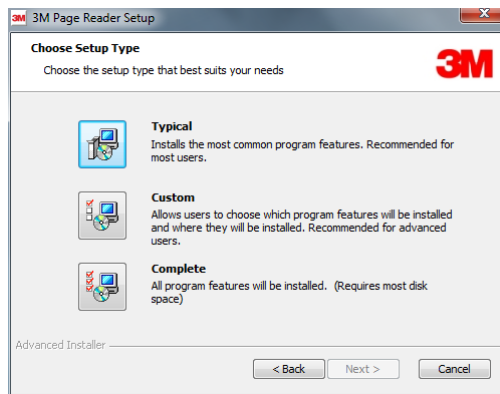


4. If you accept the License Agreement, select **I accept the terms of this license agreement**.
5. Click Next to proceed with the installation.

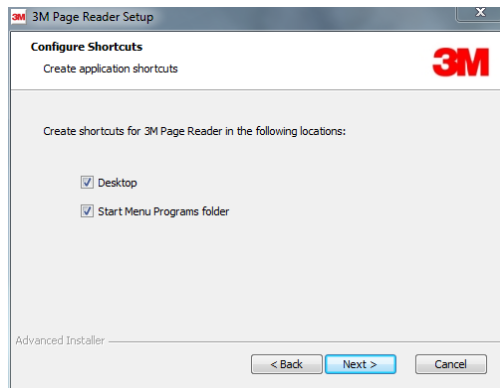
The Installation Type dialogue is displayed.



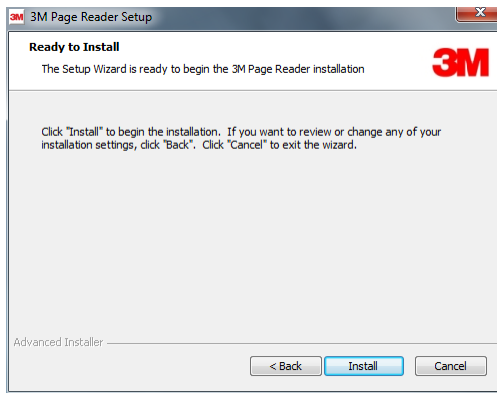
6. Select whether you want the SDK to be visible to all users or just yourself.
7. Click **Next** to proceed with the installation.
8. The Select Components screen is displayed. Click **Typical**.



9. Select the shortcuts that the installation should create.



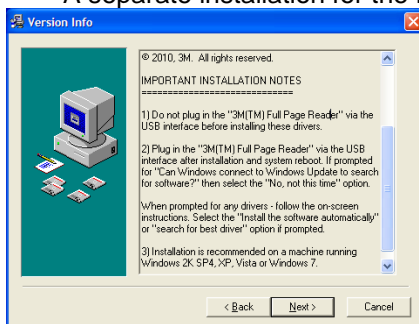
10. Click Next.
The Ready To Install window is displayed.



11. Click Install to proceed with the installation.

The wizard installs the software.

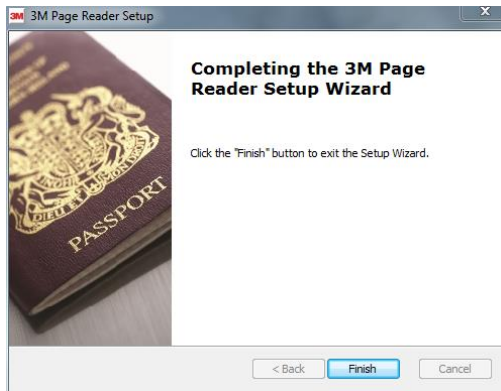
A separate installation for the reader device drivers is displayed.



12. Review the installation notes for any specific instructions.

13. Click Next to proceed with the installation.

The device drivers are installed. After the driver installation the final installation page will be displayed.



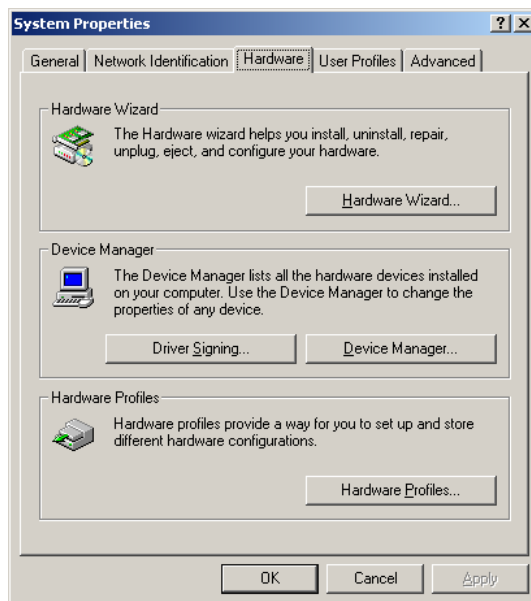
14. Click Finish.

The installation of the software and drivers is complete.

Verifying the USB Driver Installation

1. Right-click on **My Computer** and click on **Properties**.
The **System Properties** window opens.

Figure 13: System Properties window



2. Click on the **Hardware** tab, then on **Device Manager**.
The **Device Manager** window opens.
3. Expand (click on the plus sign) the entry called **Smart Card Readers**.
4. Verify that there are entries for the USB SmartCard and USB Contactless Readers (ePassport option only).

Note: If you cannot verify that the drivers have been properly installed, turn the reader off and back on and try the installation again. If verification still fails, contact Gemalto Global Technical Services (GTS).
For more information, see Appendix D: Customer Service on page 29.

Power-up Self Test

A power-up self-test occurs automatically when the reader powers up. If the reader is installed correctly and is operational, the status LEDs perform the following sequence:

- All LEDs come ON briefly at initial power-up.
- After several seconds the green LED (READY) remains ON, and all other LEDs go OFF.

The LEDs may also indicate the following common communication errors:

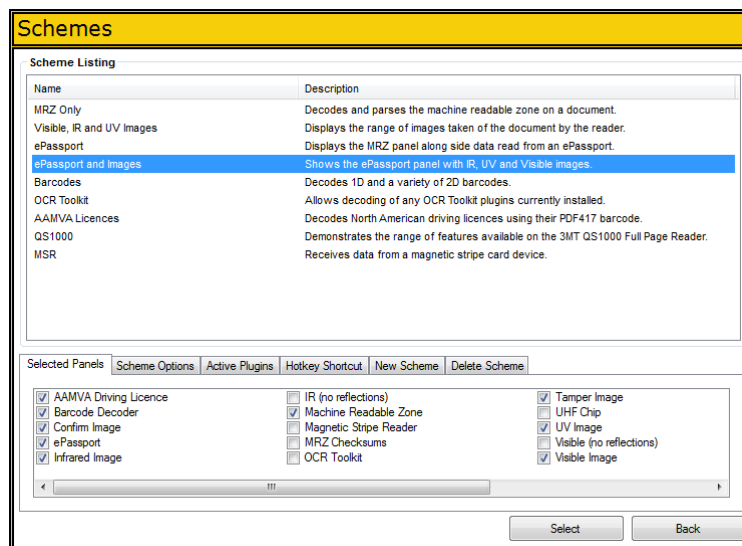
LED Behaviour	Meaning
The Ready LED flashes rapidly	No USB connection detected
The Ready and Error LEDs flash rapidly	USB 1.1 connection detected

Note: The reader will not transfer document images over a USB 1.1 host connection. However, RFID chip reading (ePassport option only) and any USB 1.1 peripherals attached to the reader will function over a USB 1.1 host connection.

Testing Reading and Communication

This test determines if the reader is functioning properly.

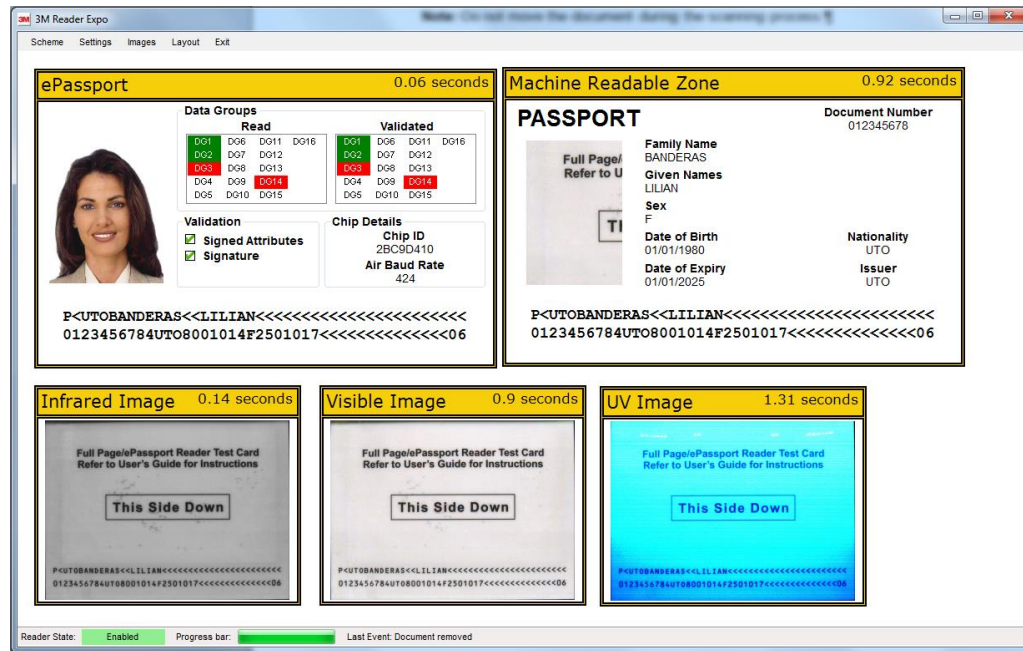
1. Start the application **Page Reader Expo** from the shortcut created during software installation.
2. Select a scheme that matches your reader. If you are unsure, select the “ePassport and Images” scheme.



3. Click **Select**.
4. Verify that the green LED (READY) is on and the test application indicates **Ready to Scan**. (The reader is ready to accept documents).
5. Select the test card DS-00031 (ePassport) or DS-00034 (Full Page) supplied with the reader.
Note: Readers with the ePassport option are supplied with test card DS-00031 containing OCR data as well as a programmed contactless chip. Readers without the ePassport option are supplied with test card DS-00034 containing only OCR data.
6. Place the test card face down on the document tray.
Note: For best reading results, align the document with the left guide.
7. Push the card to the back of the document window until it stops.
Note: Do not move the document during the scanning process.
8. Observe the LEDs during the scanning procedure.
 - The READY LED turns off and the amber LED (BUSY) turns on.
 - The amber LED (BUSY) remains on while the reader scans and processes the data.
 - The green LED (OK) turns on, indicating a successful read.
 - The READY LED turns on, indicating that the reader is ready to scan another document.

The data from the test card is sent to the host computer and the results displayed on the PC screen.

Figure 14: Successful RFID Chip Reading



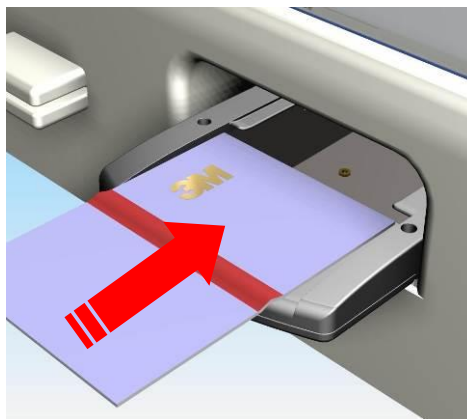
Reading Procedure

This section describes the proper document placement for travel document booklets.

Note: Hold the document open as you place it into the document slot.

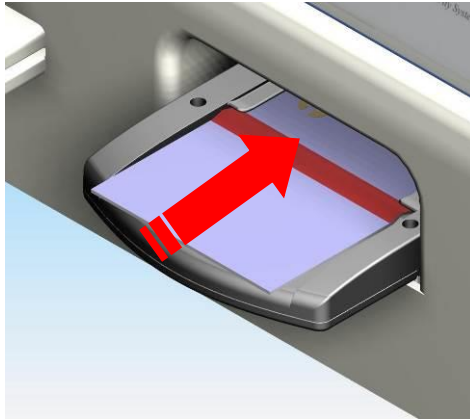
1. Place the booklet on the document platform.

Figure 15: Reading Procedure - Document Placement



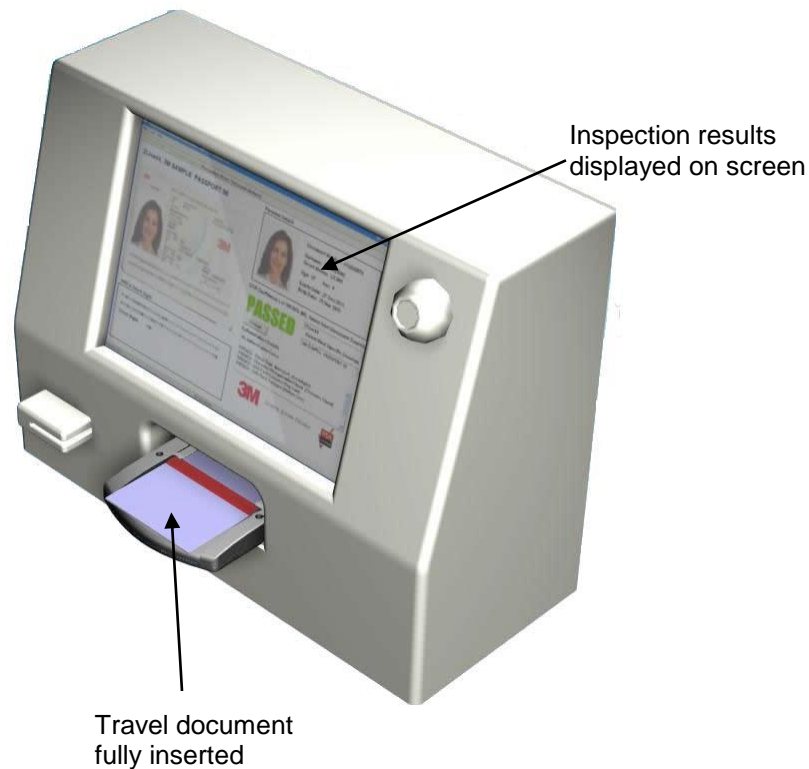
Note: You may want to use two hands to insert the document into the reader.

Figure 16: Reading Procedure - Document Insertion



2. Push the booklet into the slot until the leading edge is all the way to the back. When the document reaches its proper position, the reader will automatically start scanning the document.
Note: Make sure the document lies flat against the document platform during reading.
3. Watch the kiosk screen to ensure the document passes inspection.

Figure 17: Reading Procedure - Inspection Results



Maintenance

The readers have no user-serviceable parts but the glass surface must be cleaned on a regular basis. For extensive repairs, return the reader to a Gemalto service depot. See Appendix D: Customer Service on page 29

Cleaning

Clean the reader regularly to ensure proper performance.

Note: Use a safe cloth that will not damage glass, such as the Scotch-Brite™ Microfiber Cleaning Cloth (provided). To reorder cleaning cloths (part number 70071086394), contact Gemalto Global Technical Services (GTS).

See Appendix D: Customer Service on page 29 for more information.

1. Clean the document window with a clean cloth.
For dirt, use a mild glass cleaner or a lightly dampened cloth (water).
Note: Do not use abrasive cleaners or solvents. These may scratch the glass or damage the plastic.
Do not use compressed air, as this may force debris into the reader.
2. Verify that there are no streaks or smudge spots remaining on the document window.
3. If required, clean the body of the reader with a lightly dampened cloth (water).

Appendix A: Specifications

Figure 18: Physical Dimensions

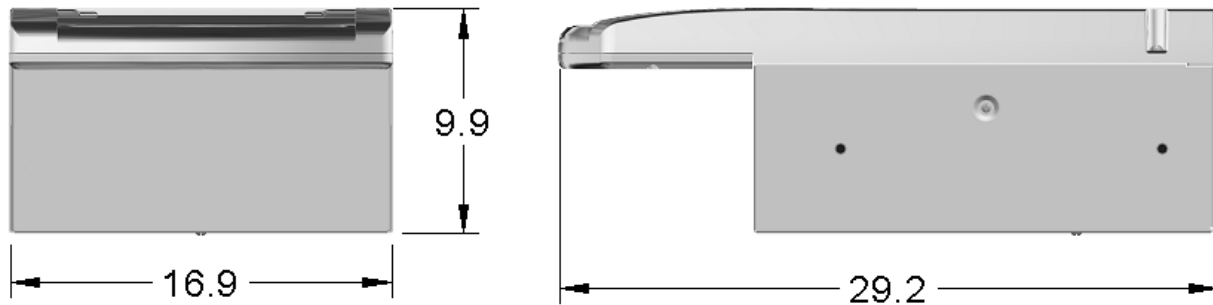


Table 2: Physical Specifications

Dimensions	Length 29.2 cm (11.5") Width 16.9 cm (6.7") Height 9.9 cm (3.9")
Weight	1.1 kg (40 ounces)

Table 3: Electrical Specifications

Input voltage	12 V DC
Power consumption	3 watts (not including USB peripherals)
Connector	4 pin Mini-DIN

Table 4: Environmental Specifications

Temperature	
Operating	0 – 40°C (32 – 104°F)
Storage	-20 – 50°C (-4 – 122°F)
Humidity	
Operating	20 – 80% non-condensing
Storage	5 – 95% non-condensing

Table 5: Communication Interfaces and Protocols

Connection	
Interface	USB 2.0, 480 Mbit/s “High Speed”
Host USB Power	Reader draws no power from host USB connector
USB connector	USB B (host), USB A x 2 (peripherals)
USB cable length	2.00 m (79")
Aux. USB power	5V DC, 500mA total (both ports combined)
RF Chip	ISO 14443-2,3,4

Table 6: Regulatory Information

Device Safety

USA	UL60950
EEA	EN60950
RoW	IEC60950
EMC – emissions	
USA	FCC Part 15, sub-part B, Class A, sub-part 15.225
Canada	ICES-003, RSS-210
EEA	EN55022 Class B
Australia	AS/NZS 3548
EMC – immunity	
EEA	EN55024
EMC	
EMC	ESTI EN 301 489-1 V1.6.1 (2005-09)
EMC	ESTI EN 301 489-3 V1.4.1 (2002-08)
EMC	ESTI EN 300 330-1 V1.5.1 (2006-04)
EMC	ESTI EN 300 330-2 V1.3.1 (2006-04)
EN50364	Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 10 GHz, used in electronic article surveillance (EAS), radio frequency identification (RFID) and similar applications.

Appendix B: Troubleshooting

Use this table to identify and correct common issues encountered when using the reader. If a problem cannot be solved using this table, contact Gemalto Global Technical Services (GTS). See Appendix D: Customer Service on page 29.

Table 7: Troubleshooting Cases

Symptom	Possible Causes	Actions
The LEDs do not come on during power up.	There is no power to the reader.	<ul style="list-style-type: none"> Verify the kiosk power source. Verify that the power cable is connected to the power supply port located on the back panel. Verify that the power cable pinouts are correct.
	The unit is damaged.	<ul style="list-style-type: none"> Follow the procedure outlined in Appendix D: Customer Service on page 29.
The reader is not communicating with host PC system.	The cable is not properly connected or USB drivers are not properly installed.	<ul style="list-style-type: none"> Verify that the USB cable is connected to the host. Verify that the USB driver is installed, page 18. Verify that only one reader is connected to the host system. Follow the procedure outlined in Chipset Updating on page 28.
The Error LED illuminates when a document is scanned.	The document is non-machine readable.	<ul style="list-style-type: none"> This is a normal condition when there is no machine readable data and only the image is captured from the document.
	The document is poorly printed.	<ul style="list-style-type: none"> The reader is designed to read documents that are poorly printed. However, some documents are of such poor quality that the reader will not be able to process the OCR data.
	High ambient light.	<ul style="list-style-type: none"> Ensure kiosk orientation is such that bright light does not fall directly on the document window.
	The unit is not configured to read the document being scanned.	<ul style="list-style-type: none"> The document may not conform to one of the known document templates contained within the software. Contact GTS.
	The document is not orientated correctly on the scanning window.	<ul style="list-style-type: none"> Ensure document is properly positioned as described in Testing Reading and Communication on page 19.
	The document is faulty or non-compliant.	<ul style="list-style-type: none"> Verify the document conforms to ICAO 9303 or OCR B font requirements.

Symptom	Possible Causes	Actions
The Ready LED is continuously blinking.	The USB cable is not connected.	<ul style="list-style-type: none"> • Verify that the cable is installed and the host PC is ON.
	The system has no USB 2.0 capability.	<ul style="list-style-type: none"> • Verify that the USB 2.0 hardware is ready. Refer to Appendix C "Check for High speed USB".
The Sales Demo application is not working.	The software is installed incorrectly.	<ul style="list-style-type: none"> • The application may already be running. Verify that only one copy of the application is running. • Remove the existing application & re-install software. For more information see the Software Installation section.
	You do not have PC Administrative rights to install the software.	<ul style="list-style-type: none"> • Consult with your IT support representative.
The LEDs do not change after reading an RF chip.	Normal	<ul style="list-style-type: none"> • This is a normal condition. RF status is displayed only on the host screen.
The reader becomes unresponsive.	Depending on the implementation of the PC application and the volume of USB traffic, AC line transients may cause unrecoverable errors in USB data transmissions.	<ul style="list-style-type: none"> • Restart the PC application or disconnect and reconnect the USB plug from either the PC or the reader.

Appendix C: Check for High Speed USB 2.0

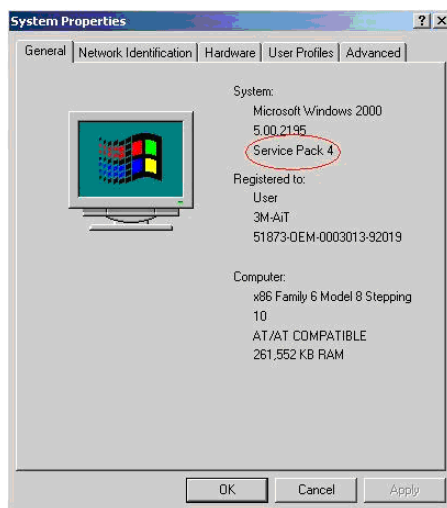
The reader is a **USB 2.0 device** that requires a Microsoft® Windows® 2000-SP4, Windows® XP or Windows® Vista operating system.

Note: The reader will not function in a USB 1.1 environment. Make sure a commercially-available USB 2.0 card is installed in your PC. For problems with your operating system, consult with your local IT representative. For other problems contact Gemalto Global Technical Services (GTS). See Appendix D: Customer Service on page 29.

Windows® 2000

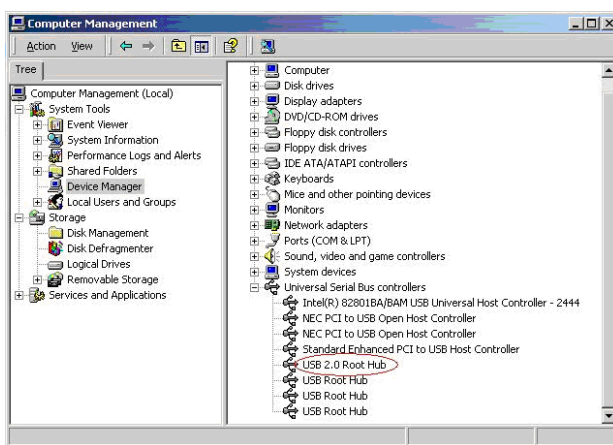
1. In Windows® 2000, right-click **My Computer** and select **Properties**.

Figure 19: System Properties window



2. Locate the version number on the **General** tab and verify that **Service Pack 4** or greater has been installed.
3. Right-click **My Computer** and select **Manage**.
4. Click on **Device Manager** in the **Tree** list.
5. Under **Universal Serial Bus controllers** locate **USB 2.0 Root Hub**.

Figure 20: Windows® 2000 SP4 Computer Management window

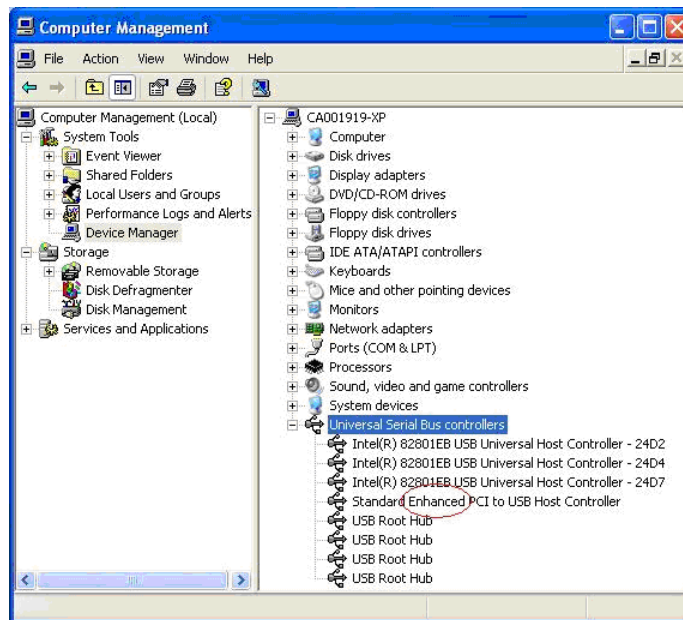


6. If your **Device Manager** displays **USB 2.0 Root Hub**, the system has high speed USB 2.0 capability.

Windows® XP

1. In Windows® XP, right-click **My Computer** and select **Manage**. Click on **Device Manager** in the **Tree** list.
2. Under **Universal Serial Bus controllers** locate an “Enhanced” entry.

Figure 21: Windows® XP Computer Management window



3. If your **Device Manager** displays **Enhanced USB Host Controller**, the system has high speed USB 2.0 capability.

Chipset Updating

The Check for High Speed USB 2.0 process determines if the PC has the correct hardware. Chipset updating ensures that the PC also has the correct driver software for that hardware.

The program **chipid.exe** is used to determine your chipset.

It is available in the install directory on your system following installation.

If the workstation uses the Intel USB chipset, follow this link to locate the latest updates:

http://downloadfinder.intel.com/scripts-df-external/Support_Intel.aspx.

Appendix D: Customer Service

If you cannot solve the problem after following the instructions on page 39, contact Gemalto's Global Technical Services (GTS).

Before contacting GTS

Be prepared to provide the information required to properly diagnose the problem:

- A detailed description of the problem
- A detailed description of the actions taken to correct the problem
- The serial number of the reader (located on the reader's bottom panel)

Contacting GTS

Once you have the above information, contact GTS via one of the following methods:

The Americas

1545 Carling Ave. Suite 700
Ottawa, ON K1Z 8P9

Telephone: +1 613 221-4948

Europe, Middle East and Africa

35 Harbour Exchange Square
London, E14 9GE

Telephone: +44 (0) 203 435 5786

Asia, Pacific and Australia

12 Ayer Rajah Crescent
Singapore 139941

Telephone: +65 6317 3427

Returning the reader for maintenance

In the event of a suspected problem with Gemalto equipment, please use the following procedure.

To return a reader for maintenance:

1. **Diagnose** – The system manager will determine that there is an actual fault with the equipment which cannot be corrected by following the procedures in this document or with local in-house knowledge.
2. **Initiate Call** – The system manager should contact Gemalto GTS via telephone, fax, or email. GTS will request a detailed description of the problem along with the serial number of the unit. **It is the customer's responsibility to include or have on hand all pertinent information.**
3. **Response/Call Back** – A GTS representative will discuss with the system manager to determine the problem. If the problem can be corrected locally by the system manager with the guidance of the GTS representative, no further action will be required.
4. **Return Authorization** – If the problem cannot be corrected via telephone assistance, the GTS representative will issue a Return Materials Authorization (RMA) number. The RMA number will be used to track the failed reader, along with verification of the location of the service depot to where it should be sent.
5. **Return** – The end user system manager will carefully disconnect the defective equipment. The reader should ideally be packaged in its original packing box. If not, a suitable box with sufficient packing material should be used to minimize damage during transit.

The RMA number should be prominently displayed on the shipping container in which the reader is being returned. This reference number will ensure prompt processing of the equipment once it arrives at Gemalto.

The CUSTOMER is responsible for insurance coverage on the reader in case of loss or damage during transit to Gemalto. The reader should be returned to the Gemalto designated service depot.

6. **Shipping Instructions** – Four copies of a commercial invoice, a packing slip, a pro forma invoice, or the following information, typed on letterhead, must be sent with the reader:
 - Description of equipment, including serial numbers
 - Quantity
 - Value and Country of Origin
 - Exporter (customer's company)
 - Consignee (Gemalto)

Please affix the instructions to the outside of the container.

7. **Repair** – When the defective equipment is received at the service depot, the reader will be repaired, tested and returned to the CUSTOMER'S central depot. Subject to unavoidable delays, this effort should not exceed 10 business days (exclusive of shipping time).