

Thales Gemalto OEM Document Reader KR9000

Identity & Biometric Solutions



Product Use

The Gemalto OEM Document Reader KR9000 is used to inspect and image travel documents, including electronic travel documents and 1D and 2D barcoded boarding passes (BCBP) used by the airline industry. The reader's simple shape fits easily into self-service kiosks, counters and eGates.

The flat top, no hood design makes document and mobile phone/tablet placement very easy for untrained and infrequent users.

With a standard 400 DPI camera it also is available with a high resolution 10 megapixel (Mp) camera providing images up to 720 dots per inch (DPI) for superior document authentication.

Functions include:

- Optional support for biometrically enabled travel documents containing contactless integrated circuit chips
- OCR data capture and/or document authentication using additional software packages
- Reads 1D and 2D barcodes from paper and mobile devices
- KR9000 automatically detects when a document is placed and initiates optical reading, MRZ decoding, barcode reading and reads the contactless chip if present



Features

- Multiple document reading and imaging using true-colour image matching
- Anti-Glare technology eliminates image artifacts due to laminate or OVDs
- Multiple wavelength illumination – Visible, Infra Red, Ultra Violet and Gemalto Confirm™ Security Laminate
- Anywhere placement of ID cards
- Configurable image resolution up to 400 or 720DPI
- OCR data capture of the Machine Readable Zone (MRZ)
- Complete access to OCR data and images captured via Software Development Kit (SDK)
- Access to images as BMP, PNG or JPEG format
- Hoodless operation in many environments, hood supplied with Hi-Res models¹
- Auto-triggering of document capture – presence of document is automatically detected
- Windows® 7, Windows® 8.1, Windows® 10, macOS and Linux® compatible²
- USB 2.0 high speed compatible
- Integrated USB 2.0 Hub – 2 ports for external peripherals (magnetic strip reader, 2D barcode gun, etc.)²
- Rugged design, no moving parts and internally sealed optical chamber to prevent dust ingress
- Carbon (optional) glass coating to help reduce scanning surface scratching
- Powered from a single USB or external power supply²

Gemalto OEM Document Reader KR9000

Identity & Biometric Solutions

Comprehensive Software Features

- Uses the same API interface as other Thales document readers using Gemalto Document Reader SDK
- Flexible software interface allows host application to select which illumination sources to use, image type, image compression, photo extraction, reflection or ambient light elimination, color enhancement, which data groups to read, etc.
- Configuration via file or api, can be configured in field and saved
- Simple high level API for quick program development or detailed low level API for fine control of all reader functions. SDK provides full configuration API
- Contactless IC reading for ePassports (LDS 1.7 & 1.8) including basic access control (BAC), passive/active authentication (PA/AA), Chip Authentication (CA), Terminal Authentication (TA), extended access control (EAC v1/v2), supplementary access control (SAC) and PACE-CAM are supported. The SDK provides writing capability using APDUs
- Contactless IC reading for eDL & iDL (electronic driving licenses) up to DG14 including basic access control (BAP v1), Password Authenticated Connection Establishment (PACE), passive/active authentication (PA/AA), Chip Authentication (CA), Terminal Authentication (TA), supplementary access control (SAC) and extended access control (EAC v1) are supported
- ICAO 9303 checksum, IR ink and UV dull validation
- Full SDK including DLLs, code examples, utilities and demonstration programs. Can be used with Visual C++®, Java® and Microsoft® .NET Framework for Visual Basic® .NET and Visual C#®

Reading Capability

The Gemalto Document Reader KR9000 reads the following documents:

- ICAO compliant documents in near infrared (IR) per ICAO 9303 specification
- One line Driving Licenses in near infrared (IR) per ISO18013 part 2 specification
- 1D barcodes (2 of 5 interleaved, 2 of 5 industrial, Code 128, Code 39, UPC-A, EAN-8 and EAN-13)
- 2D barcodes used on BCBP and other documents (PDF 417, QR Code®, DataMatrix™ and Aztec formats) from paper documents and many mobile devices

Illumination

Accurate, true-color images, with anti-glare and ambient light interference technology to reduce OVD and laminate reflections therefore improving image quality leading to better face match scores & OCR read rates. The reader illuminates documents in multiple wavelengths and lighting orientations:

- Near IR B900: 880nm, +/-5%
- White visible: 430-700nm
- Ultraviolet (UVA): 365nm
- Gemalto Confirm™ Security Laminate (optional)

ePassport (RFID) Option

Reads from and writes to contactless chips and eID according to:

- ISO 14443 13.56MHz Type-A and Type-B using a PC/SC interface
- ePassport support for ICAO 9303 LDS 1.7 & 1.8 and PKI using included SDK
- Dual antennas capable of reading shielded passports
- iDL & eDL reading and access control for driving licenses to ISO 18013 parts 2&3 and ISO/CEI TR 19446 using included SDK
- All standardized rates, up to 848 Kbps, read-out times depend on RFID tag, operating system and amount of data stored in the chip
- PC/SC interface provides support to other card types such as Mifare™ (drivers for all supported OS)
- SDK certified to BSI TR-03105 Parts 5.1 and 5.2

Identity Document Verification Option

Additional software can authenticate an identity document using optical pattern matching to:

- Identify documents based on the type and country of origin
- Match security features captured from a document against a database of trusted security features including UV, IR, Visible and Gemalto Confirm™ laminate patterns
- Check for presence of UV dull paper
- Verify that areas are blank, devoid of patterns, text or printed matter
- Check photo in chip against photo on data page

Gemalto OEM Document Reader KR9000

Identity & Biometric Solutions

Quality Assurance Option

- Check photo in chip against photo on data page
- Positional quality assurance (QA) – assures document is printed to applicable ISO, ICAO or customer standards
- Measures skew, left margin, line spacing, character spacing, line length, print contrast, stroke width and distance from each character to the bottom of the document

VIZ Data Capture Option

Additional software can decode the OCR text in the visible zone (HRZ) from identity documents as well as many driving licenses:

- Automate data entry, no more manual typing or photocopying
- Form filling, including into web pages
- Can auto fill forms
- Increased accuracy for data entry
- Global coverage for documents

Resolution

- Standard 400 DPI image resolution, 3.1 Megapixel sensor
- High Resolution 720 DPI option, 10 Megapixel sensor¹
- Internal image processing RGB 36 bit color system

Status Indicators

The reader provides user feedback via the following status indicators:

- Red - Read Error LED
- Green - Valid Read LED
- Yellow - Busy LED, progressing document
- Blue - Ready LED

The API provides for audible feedback via the computer speaker.

The reader performs a power-up self-test and indicates failure using status LEDs.

Minimum PC Specification

Software must be installed on a customer-supplied PC, some aspects of the read speed may be affected by PC specification. The following minimum configuration is recommended:

- 2 GHz Pentium® 4 CPU (Intel Core 2 Duo recommended)
- 1 GB DRAM
- USB 2.0
- 60 MB of Hard Drive space for software
- Windows® 7, Windows® 8.1 or Windows® 10 operating systems, 32 or 64 bit
- Builds for Ubuntu and CentOS LTS, 32 & 64 bit²
- macOS (limited SDK functionality)²

Security

- Slot for Kensington® Security Lock

Standard Dimensions

- Length: 19.0 cm (7.5")
- Width: 16.2 cm (6.4")
- Height: 12.3 cm (4.8")
- Weight: 1.1 kg (2.4 lbs)

Regulatory

- FCC Part 15 Class A
- UL, UL-C
- CB report
- CE - RED, LVD & EMC
- EU WEEE, REACH & RoHS Directives

Environment

- Humidity: 20 to 95% (R.H. non-condensing)
- Temperature: -10° to 50° C operating; -20° to 50° C storage
- IP50 rating for dust ingress protection in the optical chamber

Firmware Upgrade

- Upgradeable firmware via USB 2.0 interface
- Non-volatile memory for configuration and calibration accessed via USB 2.0 interface

Gemalto OEM Document Reader KR9000

Identity & Biometric Solutions

Power

Powered from a single USB 2.0 port or via optional universal input external power supply²:

- Power consumption: 5 volts DC, 500mA (when USB 2.0 powered)

External PSU:

- Input voltage 100 - 240 VAC plus/minus 10%
- Frequency 47 - 63 Hz
- Detachable IEC320 AC mains power cable
- Locking 3 pin connector

Service & Maintenance

- One-year warranty
- Annual maintenance agreement available
- Each reader is supplied with one Microfibre cleaning cloth

¹ Hood and external power supply required for high resolution camera option

² External power supply required to activate rear panel peripheral USB ports or when working under Linux and macOS

Microsoft, Windows, Visual C++, Visual C# and Visual Basic are registered trademarks of Microsoft Corporation in the United States and other countries. Java is a registered trademark of Oracle and/or its affiliates. Celeron and Intel are trademarks of Intel Corporation in the U.S. and/or other countries. Data Matrix is a trademark of Robotic Vision Systems, Inc. (RVS). Ubuntu is a registered trademark of Canonical Ltd. Linux is a registered trademark of Linus Torvalds. Kensington is a registered trademark of ACCO Brands. QR Code is a registered trademark of DENSO WAVE INCORPORATED. MIFARE is a trademark of NXP Semiconductors. macOS is a trademark of Apple Inc., registered in the U.S. and other countries.

This document is subject to change without notice.