TECHNICAL DATA SHEET

Gemalto Intelligent OEM Document Reader AT10Ki

Product Use

With built-in high-performance processing and networking the Gemalto Intelligent OEM Document Reader AT10Ki is designed for cloud and virtual computing environments. The AT10Ki OEM inspects and images travel documents, including electronic travel documents and 1D and 2D barcodes used by the airline industry on boarding passes and cell phones. The reader's low profile and simple shape make it ideal for integration with self-service kiosks, counters and eGates at airports and other locations such as railway and cruise terminals.

The Intelligent "i" series readers include an embedded Arm® processor running Linux® meaning that for networked mode all the document processing is carried out on the reader. Ready for the cloud the Gemalto AT10Ki OEM uses web style encrypted JSON messaging to simplify application development, deployment and maintenance. For the customer this means:

- The AT10Ki OEM can connect to any mobile device, phone or tablet (you can create reader farms)
- The reader can be used in pool mode connecting to multiple devices
- A single computer can connect to multiple readers
- Flexible install options
- Lower development and life time IT costs
- Direct connection with Software as a Service (SaaS) and enterprise back-end applications

Designed for use in demanding airport self-service scenarios, it also serves banking, hospitality, government and any other industries where you need accurate and reliable document and ID verification and reading.

The design of the Gemalto AT10Ki OEM is based on detailed and exhaustive analysis of field experience and numerous deployed projects. Especially designed for self-service customers the new "landing lights" LED feedback arrangement naturally encourages the correct placement and use of the reader, which leads to faster customer processing and reduced passenger frustration. The virtually flat top with new user instruction decals makes the reading area clearly visible when presenting a paper or cell phone boarding pass or passport.

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Functions include:

- Quickly and simply connect the Gemalto AT10Ki to your network, tablets, phones and enterprise SaaS applications
- Create a personal meet and greet experience by accessing the closest document reader from your tablet or mobile device using pools of Gemalto AT10Ki readers
- Complete integrated system, reader, on-board application, OS, device management, network protocols and security built-in for your faster development and deployment
- Use of modern web interfaces and cloud/virtualized workstations reduces total cost of ownership for IT systems using document readers
- Whether you deploy mobile, portable or fixed point workstations the WiFi, POE/Ethernet and USB3 connections provide installation flexibility
- Management capabilities provide on-site or off-site provisioning of readers
- No PC required for network mode – reducing costs
- Reads 1D and 2D barcodes (BCBP) from paper and mobile devices
- A unique progress bar with Tick / Cross indicators make reading a document intuitive, helping to direct the user during a read and visually show the result of the read. Many user customizable features and "anywhere" placement make the reader simple to use and reduce customer stress during self-service
- More accurate document verification & face recognition due to glare/OVD suppression, high quality images and true-color image processing when used with add-on document authentication and live face recognition engines
- Fast document processing, ease of placement and hands free RFID reading even on multiple stapled books allows operators to focus on the passenger resulting in faster passenger processing and improved detection of travelers of concern
- Optional support for biometrically enabled travel documents and driving licenses containing contactless integrated circuit chips (eIDs, eDLs and ePassports)

FEATURES

- On board dual core Arm® Cortex® A9 processor with Linux® OS runs image processing and RFID functions in reader
- USB3.1, Ethernet, WiFi & Bluetooth® interfaces
- Web-API host interface, Web-UI browser interface and legacy USB modes of operation
- Data security built in by design
- Easy connection to enterprise and SaaS applications for document authentication and verification, hotel property management systems and biometrics management
- Full management and diagnostic interfaces
- "Landing lights" & tick/cross user LEDs and new silk screen design makes document placement and reading very intuitive even for infrequent users
- Hoodless operation in most environments using proprietary ambient light removal algorithms – even on UV images
- Reads ID cards and barcodes placed at any rotation on the glass and presents images correct way up based on features in document
- Low scratch, low-iron glass with oleophobic coating for low maintenance & easy cleaning
- Corning® Gorilla® Glass (optional) to improve durability
- Reads and images multiple types of documents in Visible, Infra-red and Ultra-violet light using 24-bit color and true-color image matching technology to provide vibrant accurate colors and images can be saved in BMP, PNG or JPEG format
- Anti-glare technology eliminates image artifacts due to reflective laminates or OVDs
- OCR data capture of the Machine Readable Zone (MRZ) & 1D/2D barcode reading from paper and mobile boarding passes
- Auto-triggering of document capture – presence of document is automatically detected
- Optional document spine hold down clip and optional hood
- Powered from USB, Power over Ethernet (POE) or external power supply
- Windows® 7, Windows® 8.1 , Windows® 10, iOS, macOS, Android™ and Linux® compatible[1]
- Internally sealed optical chamber prevent dust ingress

[1] For USB Mode operation USB-C or external PSU is required to activate rear panel peripheral USB ports or when running under Linux and macOS

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Reading Capability

The Gemalto Intelligent OEM Document Reader AT10Ki 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, 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

Reads using optional RFID antenna from contactless chips and eID according to:

- 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 to ISO18013 parts 2 &3 and ISO/CEI TR 19446) 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

Reader Physical Interfaces

- USB 3.1 with USB Type-C™ connector, SuperSpeed up to 5 Gbps Gen 1 Specification Revision 1.0
- 10/100/1000 Mbps Ethernet to IEEE® 802®.3
- WiFi IEEE 802.11b/g/n standards up to 150Mbps with WPA/WPA2/WEP
- Bluetooth® v2.1, v3.0 and v4.0 (classic/Low Energy) future enhancement for local device management
- Optional ISO 14443 (13.56MHz) Type-A and Type-B RFID eMRTD reader. All standardized rates, up to 848 Kbps, read-out times depend on RFID tag, operating system and amount of data stored in the chip
- Integrated USB 2.0 Hub in USB mode – 2 ports for external peripherals connected to upstream USB3 port via the hub[1]
- Integrated USB 2.0 Hub in Networked mode – 4 ports for external peripherals for keyboard/mouse, etc not available to the host computer[1]

Software Interface in Networked Mode

There are two interfaces available over the network interfaces; a Web-API which enables data and management of the reader in web applications and a management console accessed using a browser (the Web-UI):

- The Web-API uses encrypted JSON messages to configure the read sequence and retrieve data and events from the reader. The onboard SDK provides image processing, OCR decode, barcode and eDocument processing.
- Device discovery shows all the readers on the network and allows selection of a specific reader
- The Web-UI provides a browser interface to manage the reader including parameter configuration, test and diagnostics
- Gemalto Messaging SDK supports the Web-API with Java 8, Android, Swift 4 (iOS), Visual C++® and Visual C#® sample applications & libraries

Software Interface in USB Mode

- Uses the same API interface as other Gemalto document readers using Gemalto Document Reader SDK
- Simple high level API for quick program development or detailed low level API for fine control of all reader functions.
- 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, ICAO security protocols, which data groups to read, barcode types, etc.
- API provides control of configuration and operational parameters
- SDK includes 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#®
- PC/SC interface provides support to other card types such as Mifare™

Device Security

Security has been designed into the Gemalto Intelligent OEM Document Reader AT10Ki so that you don't have to implement it which leads to faster and cheaper PII compliance:

- Software updates are protected by digital signatures and secure server preventing unauthorized applications from being loaded
- Data is protected in flight using AES-256 with Diffie-Hellman key exchange and server authentication (customer installed shared secrets)
- WiFi protected by WPA/WPA2 protocols
- Only authorized connections can be made to the reader via proprietary protocols
- Personal data is not stored in the reader

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Device Management

The Gemalto AT10Ki family provides:

- Device provisioning capability for on-site & off-site network setup including network parameters, credentials, local descriptions, etc
- Web-UI interface to manage the device, networks, certificates and keys
- Web-API interface to manage keys and certificates and show/select available readers
- mDNS device discovery (Bonjour)

Software Upgrade

- Software updates can be pushed to the reader via the Web-API over the network or locally using the Web-UI
- Reader can check in for updates with a customer hosted update server, either automatically or in when prompted via Web-API (available Q2 2019)
- All updates are digitally signed by Gemalto ensuring integrity & security

Identity Document Verification Option

Additional software provides Identity Document Verification which uses 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
- 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
- Direct connection options with IDV and authentication back-end SaaS (available Q2 2019)

Illumination

The reader illuminates documents in multiple wavelengths:

- Near IR B900: 880nm, +/-5%
- White visible: 430-700nm
  Ultraviolet (UVA): 365nm

Resolution

- Sensor: 10 Megapixels, CMOS, RGB 24 bit color
- High resolution 700 DPI imaging

Regulatory

- FCC Part 15 Class A
- CB report
- US & CA NRTL (pending)
- CE - RED, LVD & EMC
- EU WEEE, REACH & RoHS Directive

Environment

- Humidity: 20 to 95% (R.H. non-condensing)
- Temperature: -10° to 50° C operating; -20° to 50° C storage
- IP52 rating for dust ingress protection in the optical chamber (pending)

Minimum PC Specification in USB mode

Gemalto Document Reader SDK must be installed on a customer-supplied PC, some aspects of 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 bit[1]
- macOS (limited SDK functionality)[1]

Minimum host Specification in Networked mode

In Networked mode Gemalto provides a thin Messaging API layer which can be installed on:

- Windows® 7, Windows® 8.1 or Windows® 10 operating systems, 32 or 64 bit
- Builds for Ubuntu and CentOS LTS, 32 & 64 bit
- iOS 11.4 and macOS for iPhone and iPads, etc
- Android™ 4.1.x for mobile phones and tablets with network connectivity
- Java JVM v8

Mechanical

- Length: 17.1 cm (6.7")
- Width: 14.5 cm (5.7")
- Height: 6.5 cm (2.6")
- Weight: 1.1 kg (2.4 lbs)
- Low scratch, low-iron glass with oleophobic coating for low maintenance & easy cleaning
- Optional Corning® Gorilla® Glass to improve durability

Status Indicators

The readers provide user feedback via the following status indicators:

- Yellow Progress Bar pulsing - Ready to place a new document
- Yellow Progress Bar incrementing – Performing a read, keep document still on the glass
- Yellow Progress Bar stopped – Document can be removed from glass
- Red Cross – Indicates a Read Error
- Green Tick - Indicates a Valid Read
- The readers perform a power-up self-test and indicate failure using status LEDs.

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Power

Powered from USB port, Power over Ethernet or via universal input external power supply[1]:

- External PSU:
  Input voltage 100 - 240 VAC plus/minus 10%, Frequency 47 - 63 Hz
  Detachable IEC320 AC mains power cable
- Power Interface to IEEE® 802®.3af for a Powered Device (PD) typically 36-48V. Only for networked mode operation
- From a single USB 3 (900mA) or USB 2.0 (500mA). Requires at least 1.5A using USB Type-C for optimum performance. Only for USB mode operation

Service & Maintenance

- One-year warranty
- Annual maintenance agreement available

Contact Gemalto

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