

Workstation for document reading Regula 70X9



Full page passport reader with no moving parts inside.

Automatic reading and authenticity verification of passports, IDs, visas, driver's licenses and other identification documents.

Optical character recognition, reading of barcodes, RFID and SmartCard chips.

Full data processing onboard with a built-in PC.

A small-sized compact reader for desktop use. The body is made of hard plastic. Full data processing onboard with a built-in PC. Video output for connection to an external monitor. Four USB ports for connection of external devices. LAN connection. No moving parts. Reliable, convenient and easy-to-use.

The device allows capturing images in white, infrared, ultraviolet and coaxial lights. Certain models are equipped with modules for reading RFID chips and smart cards. The device is supplied with software development kit (SDK) for easy integration into existing end-user systems.

Reader Regula 70X9 can be optionally equipped with a built-in USB Multi Touch Monitor.

Functionality

- Capturing and processing images
 - supported document formats
 - ID-1
 - ID-2
 - ID-3
 - other documents with maximum size 88×128 mm
 - automatic detection of a document in a scanning zone
 - automatic scanning after document detection
 - elimination of glare from laminate and holograms in white and IR light
 - compensation of external light hitting during image capture in ultraviolet light (*Smart UV*)
 - automatic selection of UV illumination intensity according to the document type
 - search and cropping of a document image from a general image
- The MRZ detection and recognition
- Recognition and reading of 1D and 2D barcodes
- Automatic recognition of a document type
- Processing graphic fields
- OCR of the visual zone
- Reading RFID tags
- Analyzing and comparing text data
- Automatic authenticity verification of a document

Operation

1. The optical reader automatically detects a document in the scanning area of the device.
2. Document images are captured in different illumination modes. At the same time data is read from RFID tags and smart cards.
3. **Regula Document Reader SDK** processes data.
4. Results of the verification are ready for further use.

Application

- Border control services
- Aviation security services
- Law-enforcement agencies
- Immigration services
- Financial institutions
- Hotels
- Car rental and leasing companies
- Cellular companies
- Business centers security service
- Event-agencies
- Medical institutions
- Tourist agencies

- Ticket offices
- Visa support agencies and consulates
- Insurance companies
- Casino security service

Additional functions

- Video output for connection to an external monitor
- Four USB ports for connection of external devices
- LAN connection
- Programmable indicators of the device status:
 - multicolour LED indicator - red, yellow, green
 - buzzer

Delivery Set

- **Regula Document Reader SDK**
- Windows 10

WORKSTATION FOR DOCUMENT READING REGULA		Model					
		7029.111-5A	7039.111-5A	7029.111-5	7039.111-5	7029.111-18	7039.111-18
Optical reader							
Light sources	White	+	+	+	+	+	+
	Infrared 870 nm	+	+	+	+	+	+
	Infrared 950 nm	optionally	optionally	optionally	optionally	optionally	optionally
	Ultraviolet 365 nm	+	+	+	+	+	+
	Coaxial white	+	+	+	+	+	+
Camera sensor, megapixels		5				18	
Image resolution, ppi		470 ± 5%		500 ± 5%		860 ± 10%	
Frame size, pixels		2592×1944				4908×3684	
Scanning area, mm		88×128 – full passport page					
Video sensor type		CMOS					
Color model		RGB					
Color depth, bit		24					
RFID Reader (details)		+	+	+	+	+	+
Smart Card Reader (details)			+		+		+
Built-in PC (details)		+	+	+	+	+	+
Technical Specifications							
Scratch resistant glass (Sapphire)		optionally					
Dimensions (L×W×H), mm		179×160×13 5	190×160×13 5	179×160×13 5	190×160×13 5	179×160×13 5	190×160×13 5
Weight, kg, max		1.5					
Power supply from USB port, V		19					
Certificates							
CE		+	+	+	+	+	+
Climatic Conditions							
Relative air humidity		35...85% (non-condensing)					
Air temperature, °C		+5...+40					
IP rating		IP20					
RFID Reader							
Standards supported		ISO 14443: type A and B					
Data exchange rate, Kbaud		106, 212, 424, 848					
RFID tag positioning		RFID reading regardless of tag position in the document					
Anti-collision		reading an RFID tag according to the MRZ					

Smart Card Reader	
Standards supported	ISO/IEC 7816-1, -2, -3, -4; EMV2000 4.1, Level 1
Data exchange rate, Kbaud	2-500
Smart card type	asynchronous, T = 0 and T = 1

Built-in PC	
CPU	Intel® Core™ with active fan heatsink
RAM	at least 8 GB
SSD	at least 120 GB
HDMI	+
Network connection	Intel 10/100/1000
USB 2.0 ports	2
USB 3.0 ports	2

Document reader software development kit (SDK)

SDK (**Full**) consists of three modules:

- Basic – supplied together with a device by default
- VizOCR – reading textual fields from a document page
- AAC – automatic authenticity control

VizOCR and AAC modules are optional and used to extend the functionality of Basic module.

Updates for SDK are provided regularly. Basic module has unlimited support. VizOCR and AAC are updated on subscription basis.

Functionality		Full SDK modules		
		Basic (supplied by default)	VizOCR	AAC
Document image capture and processing				
Document formats	• ID-1 (identity card) • ID-2 (passport card, visa) • ID-3 (passport) • other document formats up to 88×128 mm	+		
Scanning process	• document detection sensor • automatic scanning after document detection • elimination of glare from laminate and holograms for white and infrared illumination • compensation of external light hitting during image capture in UV light (Smart UV) • automatic intensity selection of UV illumination for a certain document type • search and cropping of a document image from a received image	+		
Machine readable zone (MRZ)				
Supported MRZ formats	• in conformity with ICAO 9303: ◦ 44×2 ◦ 30×3 ◦ 36×2 • in conformity with ISO IEC 18013 (IDL): ◦ 30×1 • support of special MRZ data structure for documents of certain countries	+		
Features	• search for the MRZ along the whole document image • MRZ recognition in infrared and white light • control of check digits and data structure in conformity with the requirements of ICAO 9303 and BSI TR-03105 Part 5.1 • evaluation of MRZ quality specifications in conformity with ICAO 9303, ISO 7501, 1831, 1073-2 standards	+		
Barcodes				
Supported formats	• 1D: Codabar, Code39 (+extended), Code93, Code128, EAN-8, EAN-13, IATA 2 of 5 (Airline),	+		

	- Interleaved 2 of 5 (ITF), Matrix 2 of 5, STF (Industrial), UPC-A, UPC-E 2D: PDF417, Aztec Code, QR Code, Datamatrix			
Authentication	barcode format check			+
Automatic document type recognition				
Order of document type recognition	Country→Type→Series		+	+
Features	- receiving a document template from the SDK database containing the following information: - text and graphic fields position - availability of barcodes and security features - authenticity verification and its parameters - RFID-chip availability - a reference image from Information Reference Systems «Passport», «Autodocs», «Frontline Documents System» - processing of the received document images in compliance with the sample, including document image rotation by the angle given in the sample		+	+
Graphic fields processing				
Types of graphic fields	- portrait of the document holder - signature - barcode - fingerprint, etc.	+		
Features	- cropping and displaying graphic fields as separate images in compliance with the sample of the corresponding document - automatic searching of faces on the document image and cropping the document holder portrait if the document type is not recognized - document image rotation according to the document holder portrait position	+		
OCR of the visual zone				
Recognition of character sets	- Central European and Eastern European Latin (1250) - Cyrillic (1251) - Western European Latin (1252) - Greek (1253) - Turkish (1254) - Baltic (1257) - other fonts of any size		+	
Features	- dictionary support (name, surname, address, country, etc.) - automatic text division into separate fields (e.g. dividing the address into postal code, country, state, etc.) - recognition of dates with complex formats - recognition of characters from different character sets in one line		+	
RFID SDK				
Supported RFID-chip standards	- ISO/IEC 14443-2 (type A and B) - ISO/IEC 14443-3 (MIFARE® Classic Protocol) - ISO/IEC 14443-4	+		
Data access modes	Direct	+		

	• BAC • EAC • PACE • SAC			
Authentication	• active (AA) • passive (PA) • chip (CA v1, CA v2) • terminal (TA v1, TA v2)	+		
Supported applications	• ePassport (DG1-DG16) • eID (DG1-DG21) • eSign • eDL (DG1-DG14)	+		
Certificate management	• local storage • receiving certificates online through the program interface • Master List, CRL support	+		
Features	• reading RFID chips with extended length support • reading RFID chips in compliance with ICAO LDS 1.8, PKI 1.1 data formats • certified by BSI TR-03105 Part 5.1, BSI TR-03105 Part 5.2	+		
Analysis and comparison of text data				
Document areas for cross-checking of the readout data	• MRZ • VIZ • RFID-chip • barcode • contact chip (Smart Card)	+		
Verification	• validity of any dates • authenticity of names and surnames according to lists of wordstops • zero numbers of sample documents	+		
Adjustment of formats and measuring units to those used in the user OS	• date • weight • height, etc.	+		
Features	• complete or partial comparison of fields • integration of data received from several document pages • calculated field support (age, etc.) • transliteration to Latin characters in compliance with ICAO 9303 standards for comparison with the MRZ	+		
Authenticity verification				
Operation available for any document	• checking luminescence (UV Dull Paper) of: ◦ the form ◦ the MRZ area ◦ the portrait area • checking the MRZ print contrast in compliance with ICAO 9303 (IR B900 Ink)	+		
Operations available after document type recognition	• checking image patterns in white, IR and UV light • checking luminescence of UV protection fibers • detection of false luminescence • checking photo embedding type: printing or attachment • checking IR Visibility of:			+

	◦ elements of the form ◦ text data ◦ the photograph (main and additional) • detection of holograms (OVD), OVI • reading a luminescent text and comparing it with the data obtained from the MRZ and VIZ (OCR Security Text) • visualization of IPI (Invisible Personal Information) • checking retroreflective protection • checking barcode format			
Features	• checking operations are adjusted to documents with different degrees of wear and tear • the choice of checking operations depends on security features available in a questioned document			+
Additional SDK functions				
Image formats	• .BMP • .JPG • .JP2 • .PNG • .TIF • other image formats are possible on request	+		
Interoperability	• comparison modules: ◦ fingerprint images from RFID chip and external fingerprint scanner ◦ face images from document data page and/or RFID chip • Information Reference Systems «Passport», «Autodocs», «Frontline Documents System»	*		
OS compatibility	• Windows 7 (x86, x64), Windows 8, Windows 10, Windows 11, Ubuntu 20.04—24.04, Debian 11—12, RHEL 9, macOS 11+	+		
Drivers	• Microsoft certified	+		
Features	• simultaneous optical scanning and RFID chip reading • firmware upgrade via USB interface (automatic upgrade after installing new SDK version) • multilingual interface	+		
Software updates				
SDK	• twice a year	*		
Document template database	• monthly	*		

* – on request / individual agreement

Visual zone

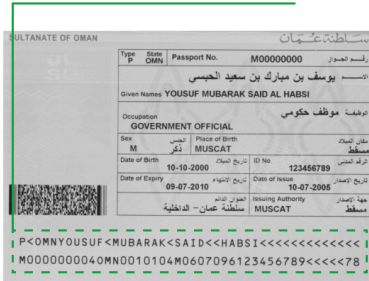
Visual Inspection Zone (OCR VIZ)

Barcode (personal data)



White

Machine Readable Zone (OCR MRZ)



IR

Invisible text (OCR Security text)



UV

RFID-chip (Radio-frequency identification)



Document data readout: textual data readout

Visual zone

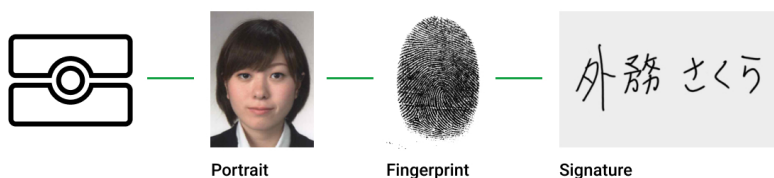


Signature



"Ghost" portrait

RFID-chip (Radio-frequency identification)



Portrait

Fingerprint

Signature

Document data readout: graphic data readout

White



Performed security checks in white light

White

IR

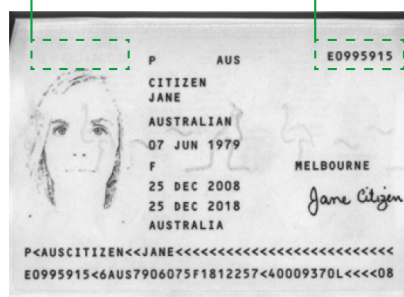


Performed security checks in infrared light

White



IR



IR

UV



Coaxial white



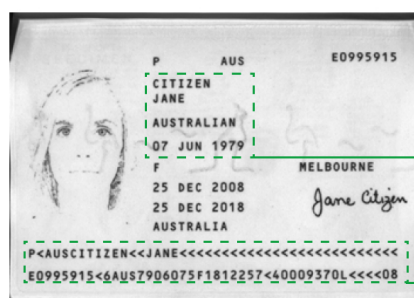
Checking the blank of the document

White

Personal data comparison



IR



False luminescence in personal data

UV



Coaxial white



Checking the personal data

The screenshot shows the Regula Document Reader software interface. The main window displays a passport from the Republic of Korea, identified as 'HONG KIL DONG'. The passport details include: Type: PM, Issuing State: KOR, Passport No.: M24403909, Surname: HONG, Given names: KIL DONG, Date of birth: 01 JAN 1975, Sex: M, Date of expiry: 10 MAR 2018, and Authority: MINISTRY OF FOREIGN AFFAIRS AND TRADE. The MRZ (Machine Readable Zone) is visible at the bottom of the passport image.

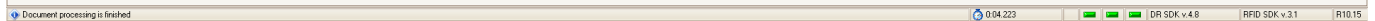
The 'Documents Database (FDS)' pane on the right shows the passport details and a list of pages (Cover, Holder's data, Front flyleaf, Page A, Page B, Page C, Page D, Page E, Page F, B). The 'Results' pane at the bottom shows the overall result (Overall result: 100%) and a list of security features (MRZ, Document type, Text data comparison, Security Features).

Viewing the passport from IRS database

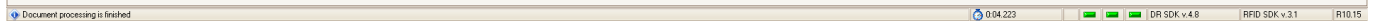
The screenshot shows the Regula Document Reader software interface. The main window displays the same passport from the Republic of Korea, identified as 'HONG KIL DONG'. The 'Details' pane on the right shows the MRZ (Machine Readable Zone) data, including: MRZ Lines, MRZ Type, Document Class Code, Issuing State Code, Surname And Given Names, Surname, Given names, Nationality Code, Sex, Date of birth, Check digit of birth date, Date of expiry, Check digit of expiry date, Document #, Check digit of document number, Personal #, Check digit of Personal #, and Final check digit.

The 'Results' pane at the bottom shows the overall result (Overall result: 100%) and a list of security features (MRZ, Document type, Text data comparison, Security Features).

MRZ of the passport



Visual zone of the passport



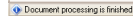
RFID-chip of the passport



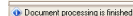
Text data comparison of the passport



Graphic data comparison of the passport



Security features of the passport



Security features of the passport