Document reader Regula 70X7

The reader is intended for automatic scanning of passports, IDs, visas, driver's licenses and other identification documents.

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

A small-sized reader for desktop use. Hard plastic body. The device is connected to a PC via a USB cable. 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.

Functionality

- Capturing and processing images:
    - supported document formats:
        - ID-1
        - ID-2
        - ID-3
        - other documents with maximum size 87×128 mm
    - automatic detection of a document in a scanning zone
    - automatic scanning after document detection
    - elimination of glare from laminate and holograms
    - 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

Operation

1. The optical reader automatically detects a document in the scanning area of the device.
2. Document images are captured in white illumination mode.
3. **Regula Document Reader SDK** processes data.
4. Results of the verification are ready for further use.

Application

- Visa support agencies and consulates
- Tourist agencies
- Car rental and leasing companies
- Cellular companies
- Event-agencies
- Financial institutions
- Ticket offices
- Insurance companies
- Casino security service

Additional functions

- Multicolour LED indicator of the device status: red, yellow, green

Delivery Set

- Regula Document Reader SDK
- USB cable for connecting the reader to a PC

Functionality		7017	7017.100	7017.110	7017.111	7027	7027.100	7027.110	7027.111	7037	7037.100	7037.110	7037.111
Optical reader light sources	White	+	+	+	+	+	+	+	+	+	+	+	+
	Infrared		+	+	+		+	+	+		+	+	+
	Ultraviolet 365 nm			+	+			+	+			+	+
	Coaxial white				+				+				+
Reader of radio frequency identification devices (RFID)						+	+	+	+	+	+	+	+
Smart card reader										+	+	+	+

Optical reader

- Scanning area, mm — 87×128: full passport page
- Video sensor:
    - type — CMOS
    - colour model — RGB
    - number of megapixels — 5
    - resolution, ppi — 470 ± 3%
    - frame size, pixels — 2592×1944

Reader of radio frequency identification devices (RFID) for models Regula 7027.XXX, 7037.XXX

- Supported standards — ISO 14443: type A and B
- Data exchange rate, Kbaud — 106, 212, 424, 848
- Reading an RFID tag regardless of its position in the document
- Anti-collision: reading an RFID tag according to the MRZ

Smart card reader for model Regula 7037.XXX

- Supported standards — 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

Device technical specifications

- Overall dimensions (length×width×height), mm:
    - **Regula 7017, 7027** — 148×130×95
    - **Regula 7037** — 148×140×95
- Weight, not more than, kg — 0,8
- Power supply voltage from a USB port, V — 5
- Current consumption, A:
    - **Regula 7017**— 0,6
    - **Regula 7027, 7037**— 1

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 87×128 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 1.7, 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 externalfingerprint 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	+		
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)

Machine Readable Zone (OCR MRZ)

Invisible text (OCR Security text)

White

IR

UV

RFID-chip (Radio-frequency identification)

DG10

DG12

DG1

DG11

Document data readout: textual data readout

Visual zone

Portrait

Signature

"Ghost" portrait

RFID-chip (Radio-frequency identification)

Portrait

Fingerprint

Signature
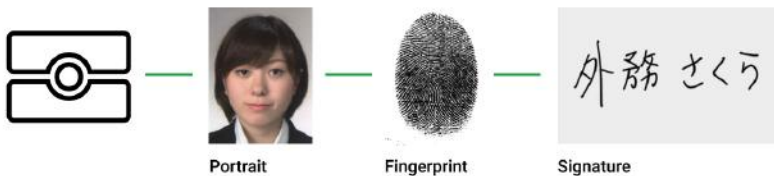
Document data readout: graphic data readout

White

Labels: White pattern, IPI, Comparing text data

Performed security checks in white light

White   IR

Labels: IR visibility photo & "Ghost" portrait, IR visibility blank, IR visibility fill, IR B900

Performed security checks in infrared light

http://www.regulaforensics.com/

UV

SULTANATE OF OMAN

Type / State OMN / Passport No. M00000000

Given Names YOUSUF MUBARAK SAID AL HABSI

Occupation GOVERNMENT OFFICIAL

Sex M / Place of Birth: MUSCAT

Date of Birth 10-10-2000 / ID No. 123456789

Date of Expiry 09-07-2010 / Date of Issue 10-07-2005

Issuing Authority MUSCAT

Exp. Date: 09-07-2006

SPECIMEN

P<OMNYOUSUF<MUBARAK<SAID<<AL<HABSI<<<<<<<<<<<<
YOUSUF MUBARAK SAID AGOMERSIMENo.: M00000000
M00000000040MN0010104M06070961234566789<<<<78

UV fibers

UV fibers

UV pattern

Security text

UV dull paper photo

UV dull paper MRZ
False luminescense in MRZ

UV dull paper blank
False luminescense in blank

Performed security checks in ultraviolet light

White

"Ghost" portrait

IR

PASSPORT SPECIMEN / P / AUS / Document No. E0995915
CITIZEN
JANE
AUSTRALIAN
07 JUN 1979
F
MELBOURNE
25 DEC 2008
25 DEC 2018
AUSTRALIA
Jane Citizen

P<AUSCITIZEN<<JANE<<<<<<<<<<<<<<<<<<<<<<<<<<<
E0995915<6AUS7906075F1812257<40009370L<<<<08

Inkjet printing
Photo embedding type

IR visibility photo
Photo embedding type

UV

Coaxial white

UV dull paper photo
Photo embedding type

Retroreflective protection

Checking photo embedding type: printing or attachment

White

White pattern check

IR visibility elements in blank

IR

UV

UV pattern

False luminescence in blank
UV dull paper blank

Coaxial white

Retroreflective protection

Checking the blank of the document

White

Personal data comparison

IR

IR visibility fill

IR B900

OCR Security text

False luminescense in personal data

UV

UV dull paper in MRZ
False luminescense in personal data

Coaxial white

Retroreflective protection

Checking the personal data

Viewing the passport from IRS database

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