

ID card reader Regula 72X3



The document reader enables duplex scanning of ID-1 documents, e.g. ID cards, driver's licenses, bank cards, social security cards and other documents.

The product is intended for automatic reading and authenticity verification of questioned documents.

The document reader provides the capability of text data recognition, reading barcodes, RFID tags and smart cards.

Regula 72X3 is designed in plastic body as a compact size device for desktop use. The reader is connected to a PC with the help of a USB-3.0 cable.

The document reader allows single pass duplex scanning and capturing images of documents in white, infrared, ultraviolet, transmitted white and transmitted infrared lights. The device is equipped with an RFID and smart cards readers, optionally — with a magnetic stripe reader. Regula 72X3 is supplied with a software development kit (SDK) for easy integration into existing end-user systems.

Functionality

- Capturing and processing images
 - supported document formats
 - ID-1
 - other documents with maximum size 87×56 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
 - 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. An ID-card falls down inside the reader.
2. Document images are captured in different illumination modes. At the same time data is read from RFID tags.
3. **Regula Document Reader SDK** processes data.
4. Results of the verification are ready for further use.
5. When the reading process is finished, the card automatically comes out of the reader so that it can be removed from the device.

Application

- Financial institutions
- Hotels
- Car rental and leasing companies
- Cellular companies
- Business centers security service
- Event-agencies
- Medical institutions
- Ticket offices
- Insurance companies

Additional functions

- USB-2.0 port available for connecting other devices
- Programmable multicolour status LED indicator
- Buzzer

Delivery Set

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

Functionality		Model							
		7203.100	7203.110	7213.100	7213.110	7223.100	7223.110	7233.100	7233.110
Optical reader light sources	Visible (white)	+	+	+	+	+	+	+	+
	Infrared 870 nm ± 15	+	+	+	+	+	+	+	+
	Ultraviolet 365 nm		+		+		+		+
Reader of radio frequency identification devices (RFID)						+	+	+	+
Smart card reader				+	+			+	+

Optical document reader

Images for document authenticity verification are captured in:

- Light sources:
 - Scanning zone, mm — $87 \times 57 \pm 1$
 - Sensors:
 - type — CMOS, 5MP
 - colour model — RGB
 - colour depth, bit — 24
 - resolution, dpi — 700 ± 10
- Ultraviolet light (UV luminescence)
- Infrared light
- Visible light
- Visible light with elimination of glare from laminate and holograms
- Transmitted infrared light (optional)
- Transmitted visible light

Reader of radio frequency identification devices (RFID) for models Regula 7223.XXX, 7233.XXX

- Supported standards — ISO 14443: RFID chips of 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 7213.XXX, 7233.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

Magnetic stripe reader (optionally)

- Magnetic stripe card thickness, mm, max — 1,37
- Speed of scanning a magnetic stripe card, m/s — 0,13-1,27
- Number of magnetic tracks — 3

Device technical specifications

- Dimensions (length×width×height), mm — 166×123×125
- Weight, kg — 0,8

- Power supply from AC adapter (AC 100–240 V / DC 5 V):
 - supply voltage, V — 5
 - nominal current, A, min — 1,2
- Connection interface — USB 3.0

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	<ul style="list-style-type: none"> • ID-1 (identity card) • other document formats up to 56×87 mm 	+		
Scanning process	<ul style="list-style-type: none"> • automatic detection of a document in a scanning zone • automatic scanning after document detection • search and cropping of a document image from a received image • duplex scanning 	+		
Machine readable zone (MRZ)				
Supported MRZ formats	<ul style="list-style-type: none"> • in conformity with ICAO 9303: <ul style="list-style-type: none"> ◦ 30×3 • in conformity with ISO IEC 18013 (IDL): <ul style="list-style-type: none"> ◦ 30×1 • support of special MRZ data structure for documents of certain countries 	+		
Features	<ul style="list-style-type: none"> • 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 	+		
Barcodes				
Supported formats	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • barcode format check 			+
Automatic document type recognition				
Order of document type recognition	<ul style="list-style-type: none"> • Country→Type→Series 		+	+
Features	<ul style="list-style-type: none"> • receiving a document template from the SDK database containing the following information: <ul style="list-style-type: none"> ◦ text and graphic fields position ◦ availability of barcodes and security features ◦ authenticity verification and its parameters ◦ RFID-chip availability 		+	+

	<ul style="list-style-type: none"> ◦ a reference image from Information Reference Systems «Passport», «Autodocs», «Frontline Documents System» • document image rotation by the angle given in the template 			
Graphic fields processing				
Types of graphic fields	<ul style="list-style-type: none"> • portrait of the document holder • signature • barcode • fingerprint, etc. 	+		
Features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • ISO/IEC 14443-2 (type A and B) • ISO/IEC 14443-3 (MIFARE® Classic Protocol) • ISO/IEC 14443-4 	+		
Data access modes	<ul style="list-style-type: none"> • Direct • BAC • EAC • PACE • SAC 	+		
Authentication	<ul style="list-style-type: none"> • active (AA) • passive (PA) • chip (CA v1, CA v2) • terminal (TA v1, TA v2) 	+		
Supported applications	<ul style="list-style-type: none"> • ePassport (DG1-DG16) • eID (DG1-DG21) • eSign • eDL (DG1-DG14) 	+		
Certificate management	<ul style="list-style-type: none"> • local storage • receiving certificates online through the program interface 	+		

	<ul style="list-style-type: none"> • Master List, CRL support 			
Features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • MRZ • VIZ • RFID-chip • barcode • contact chip (Smart Card) 	+		
Verification	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • date • weight • height, etc. 	+		
Features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • checking the MRZ print contrast in compliance with ICAO 9303(IR B900 Ink) 	+		
Operations available after document type recognition	<ul style="list-style-type: none"> • checking image patterns in white, IR and UV light • checking IR Visibility of: <ul style="list-style-type: none"> ◦ elements of the form ◦ text data ◦ the photograph (main and additional) • visualization of IPI (Invisible Personal Information) • checking barcode format 			+
Features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • .BMP • .JPG • .JP2 • .PNG • .TIF • other image formats are possible on request 	+		
Interoperability	<ul style="list-style-type: none"> • comparison modules: <ul style="list-style-type: none"> ◦ 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	<ul style="list-style-type: none"> Windows 7 (x86, x64), Windows 8, Windows 10 	+		
Drivers	<ul style="list-style-type: none"> Microsoft certified 	+		
Features	<ul style="list-style-type: none"> multilingual interface 	+		
Software updates				
SDK	<ul style="list-style-type: none"> twice a year 	*		
Document template database	<ul style="list-style-type: none"> monthly 	*		

* – on request / individual agreement



Duplex scanning of documents. The front and back of an identity card in white, infrared, ultraviolet lights

The screenshot displays the 'Document Reader' application interface. The main window is divided into several sections:

- Images:** Shows three thumbnail images of the document scanned under different lighting conditions: WHITE, IR, and UV.
- Details:** A table with columns for MRZ, Visual zone, RFID-chip, Barcode, Text data comparison, Graphic data comparison, Security Features, and Messages log. It contains detailed data for the scanned document, including Document Class Code (LV), Issuing State Code (LVA), Document # (NA9991531), Date of expiry (2017-09-20), Date of issue (2012-09-21), Date of birth (1981-01-01), Personal # (01018188887), Surname (OBRAZCOVS), Given names (ANDREJS), Sex (M), Height (185 cm), Issuing Authority (PMLP RIGAS 1.NODALA), Nationality Code (XXX), and Issuing State (Latvia).
- MRZ Lines:** Shows the MRZ data for both the visual zone and the RFID-chip, with a comparison of the two.
- Results:** An 'Overall result' section showing a green circle indicating a successful scan. Below it, a table summarizes document details: Document Class (LVA), Issuing State (Latvia - Id Card (2012) #1 (+ Side B)), Document # (NA9991531), Date of birth (1981-01-01), Age (34), Date of expiry (2017-09-20), and Sex (M). It also lists the Surname and Given Names (OBRAZCOVS ANDREJS).
- RFID:** Shows the RFID image and a list of detected security features: BAC, FAC, CA, TA, AA, PA.

Text data comparison of an identity card