

MARKLAND

MZR 02

FBI FAP 20 Biometric
Smart Card Reader



Fingerprint Recognition

Format	Optical fingerprint
Capture Mode	Press
Capture Speed	< 0.5 sec
Fake Finger Detection	Supported
Liveness Detection	Supported
FBI Compliant	FAP 20
Sensor	LES
Camera	COMS
Resolution	500 dpi
Grayscale	≥210 grayscales
Image Size	300*400 pixel
Supported Image Formats	JPEG,BMP, WSQ (FBI-approved)

Contactless Smart Card Interface

Card Size	- ID-1 (Full size) - Tokens - NFC-enabled smartphones
Card Types	National e-ID Cards, Residence Permits, Driver's Licenses, Health Cards, Payment Cards, Transit Cards, Access Control Cards, NFC Tags, Mobile Phones with NFC
Standards	- ISO/IEC 14443 Type A & B Parts 1-4 - ISO/IEC 18092 (NFC)
Supported Card Types	- ISO 14443 Type A & B - MIFARE™ (Classic, Ultralight, Ultralight C, MIFARE PLUS, DESFire, DESFire EV1 2/4/8k) - FeliCa™ - NFC Forum Tag types 1, 2, 3, 4

MZR 02

Biometric ID Reader

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Operating Frequency	13.56 MHz
Reading Distance	Up to 50 mm (Depending on tag type)
Read / Write Speed	Up to 848 kbps (ISO14443)
Supported NFC Mode	Card Reader/Writer

Contact Smart Card Interface

Card Size	ID-1 (Full size)
Card Types	National ID Cards, Residence Permits, Driver's Licenses, Health Cards, EMV Chip Cards (Banking)
Standards	ISO/IEC 7816 Part 1 to 4
Supported Card Types	Class A: 5V; Class B: 3.3V; Class C: 1.8V
Protocols	Asynchronous: T=0, T=1
Insertion Cycles	10,000
Interface Speed	Up to 600 kbps
Clock Frequency	up to 12 MHz
Detection	Card present switch; Automatic power on/off; Short circuit protection
8-Pin Handling	C4/C8 supported; ID-1 Sliding Contact Socket (8 pin)

Host Interface

Protocol	USB CCID
Connector Type	USB Type- A connector; 150 cm cable
Speed	USB 2.0 Full Speed (12 Mbps)
Supply Voltage	5VDC
Current Consumption	Max. 400 mA
USB Firmware Upgrade	Supported

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Physical Characteristics

Dimension	102.5 x 67 x 29.5 mm
Weight (±5 g)	195 g
Status Indicator	Green & Red LED

Operating Conditions

Operating Temperature	0° to 50° C
Operating Humidity	10-95% rH
Storage Temperature	-25° to 85° C

Certification & Compliance

Certifications	CE, RoHS, Microsoft® WHQL, FBI PIV-071006, Mobile ID FAP 20
Compliance	ISO/IEC 7816, ISO/IEC 14443, USB 2.0 Full Speed, USB CCID

Drivers & Support

Driver Supported OS	- Windows® 7/8/10/11 (32/64 bit) - Server 2008/2012/2016/2019 - Windows XP - macOS 10.9.x - 12.2.x - Linux 2.6.x, 3.x, 4.x, 5.x (32/64 bit) - Android 4.0 and higher
Supported APIs	PC/SC - API

Warranty

Warranty	1 year
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