

DERMALOG

Fingerprint Scanner ZF 1+

Verifying identity with match-on-card feature.



Outstanding Features

- > Supports all MCU-based cards
- > Additional liveness detection
- > Excellent quality for both wet and dry fingerprints

Key Benefit

The perfect solution for any authentication system with integrated fingerprint biometrics based on smart cards.

ZF1+ Smart Card Reader – Verifying Identity by Fingerprint and MCU-Based Card.

The perfect solution for any authentication system with integrated fingerprint biometrics based on smart cards.

DERMALOG's ZF1+ Smart Card Reader extends the outstanding qualities of the DERMALOG ZF1 fingerprint scanner – combining a space-saving design with easy handling. The self-explanatory ZF1+ guides users how to place their finger in the correct position automatically. Furthermore, the ZF1+ recognizes and captures wet and dry fingerprints flawlessly.



Fingerprints

The optical scanner provides a 500 dpi fingerprint image (PIV and BSI-TR-03121 certified). Due to the automated fingerprint optimization, results are fully applicable even in poor conditions (in case of both wet and dry fingerprints).



Liveness Detection

High security is ensured by the latest liveness detection technology. Exclusive security features detect fake fingerprints or manipulation.

Product Features

- > Supports all MCU-based cards (Micro Controller Unit)
- > Excellent quality for both wet and dry fingerprints
- > Robust against interfering light sources
- > High quality fingerprint images – no reference images required
- > No initialization required – for fast capturing
- > Liveness detection to prevent attacks using fake fingers (optional purchase)
- > Easy to use fingerprint capturing
- > Durable platen glass and a rugged scanner surface



Ease of Use

The device combines usability with easy handling. The self-explanatory ZF1 design guides users in an intuitive way how to put the fingers on the scanner correctly.

Smart Card Reader

Once the card holders' fingerprints are captured and saved on the smart card, they can easily identify themselves as the legitimate owners by putting the card into the reader and their finger on the fingerprint scanner.



Certified Image Quality

The German Federal Office for Information Security has certified the DERMALOG ZF1+ fingerprint scanner according to the BSI-TR-03121 standard since it is used for storing information in German ePassports. The ZF1+ furthermore meets the criteria of AFIS Image Quality Standard Appendix F.

Specifications Fingerprint Scanner ZF1 + Smart Card Reader

Technical Features

Fingerprint scanning window size	25 mm × 18 mm
Optical scanning area	24.4 mm × 16.3 mm
Image resolution	480 × 320 pixels, 500 dpi
Bit Depth	8 bit, 256 gray levels
Raw fingerprint image file size	Approx. 160 kByte
WSQ compressed	Approx. 18 kByte
Interface	USB 2.0 high-speed with 1.8 meters standard USB cable
Dimensions (H × W × D)	60 mm × 99 mm × 49 mm
Weight (including USB cable)	235 g
Operating temperature	-10 °C to +55 °C (14 °F to 131 °F) at a humidity of 20-75% non-condensing
Storage temperature	-10 °C to +60 °C (14 °F to 140 °F) at a humidity of 10-90% non-condensing
Light source	Infrared light-emitting diode (LED)
Supply	DC 4.5-5.5 V / 200 mA (USB powered)
Certificates	CE, BSI-TR-03104, FBI-PIV, FCC Part 15 Subpart B Class A

Smart Card Reader

Standard/certifications	ISO 7816-1/2/3, PC/SC, EMV 2000, CCID, WHQL
Supported card types	5 V, 3 V, and 1.8 V smart cards
Supported protocols	T=0, T=1

SDK Features

NIST quality check	NFIQ 1.0: calculation of the NIST quality from a given image. The quality is calculated in the NRQ range from 1 (good quality) to 5 (bad quality) using the official NIST standard NFIQ 2.0: calculation of the NIST quality from a given image. The quality is calculated in the NRQ range from 100 (good quality) to 0 (bad quality) using the official NIST standard
WSQ compression	FBI-certified
Operating systems	Windows, Linux, Android

Head Office

DERMALOG Identification Systems GmbH
Mittelweg 120
20148 Hamburg
Germany

Berlin Office

DERMALOG Identification Systems GmbH
Kronenstraße 1
10117 Berlin
Germany

Dubai Office

DERMALOG FZE
Business Center, Al Shmookh Building
UAQ Free Trade Zone
Umm Al Quwain, U.A.E.

Malaysia Office

DERMALOG AFIS Asia Sdn Bhd
8-4, 8th Floor, Bangunan Malaysia RE
No. 17, Lorong Dungun
Damansara Heights
50490 Kuala Lumpur

Philippines Branch Office

DERMALOG Identification Systems GmbH
7/F Unit B 8 Rockwell
Hidalgo Drive, Rockwell Center
Makati City 1210
Philippines

Singapore Office

DERMALOG Singapore Technical Services Pte. Ltd.
Southbank
883 North Bridge Road, #17-02
198785 Singapore



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