



Advanced Card Systems Ltd.
Card & Reader Technologies

ACR38DT DualKey



Technical Specifications



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1.0. Introduction



Due to the rising demand of e-working methods such as remote office and home banking, and the increasing risk of unauthorized access to private network, it is time to properly secure access to PCs, desktops, and Intranet and Extranet networks. The ACR38DT offers both solutions based on a SIM-sized combi smart card (contactless and contact card) for logical and physical access control.

The ACR38DT Contactless/Contact DualKey is an extension of the ACR38T SIMTracker II. It has full ACR38T functionalities with value-added contactless features.

1.1. Plug-in (SIM-sized) card reader

Compliant with the GSM 11.11 specification, the ACR38DT is an extremely compact USB full speed device compatible with the ACR38 smart card reader, and is designed to access SIM-sized smart cards (Plug-in cards). With a size of only 78.73 mm x 21.50 mm x 11.00 mm, it is highly suitable for portable applications. It is plugged into the PC's USB port and requires no additional cable or wiring, making it perfectly suitable for smart card-based applications in the PC environment.

1.2. Contactless Features

While the ACR38DT serves as a contactless card, the embedded antenna coil enables the contactless part of the SIM-sized combi card to work as a contactless card to communicate with contactless readers.

The ACR38DT DualKey is a reliable and effective high quality reader, designed for convenient use and harmony with other PC peripherals. It is ideal for electronic commerce, physical access control, home banking or e-purse facilities, secured computer access, transportation and GSM applications.



2.0. Smart Card Reader Features

The table below summarizes the features of the ACR38DT:

Features	Firmware 1.10	Firmware 1.12c
1. PC/SC	✓	✓
2. CCID	✗	✓
3. WHQL Certified Drivers	✓	✓
4. CE and FCC	✓	✓
5. RoHS	✓	✓
6. EMV Level 1	✓	✓
7. ISO 7816 (Class A, B, C)	✓	✓
8. MCU Card Support (T=0, T=1)	✓	✓
9. Memory Card Support	✓	✓
10. USB Full Speed	✓	✓
11. Short Circuit Protection	✓	✓
12. Combi-card Support	✓	✓



3.0. Supported Card Types

3.1. MCU Card Support

The Contact Smart Card Interface of the ACR38DT supports ISO 7816 5 V, 3 V and 1.8 V (Class A, B, and C) smart cards and MCU cards following either the T=0 and T=1 protocol.

The ACR38DT also acts as a contactless smart card if a SIM-sized combi-card is inserted in the SIM Card Slot. The embedded antenna coil inside the reader enables the contactless part of the SIM-sized combi-card to work as a contactless card to communicate with contactless readers.

3.2. Memory-based Smart Cards

The ACR38DT also supports the following memory cards:

Type of Memory Cards	Firmware 1.10	Firmware 1.12c
1. Cards following the I2Cbus protocol (free memory cards) with maximum 128 bytes page with capability, including: Atmel: AT24C01/02/04/08/16/32/64/128/256/512/1024 SGS-Thomson: ST14C02C, ST14C04C Gemplus: GFM1K, GFM2K, GFM4K, GFM8K	✓	✓
2. Cards with secure memory IC with password and authentication, including: Atmel: AT88SC153 and AT88SC1608	✓	✓
3. Cards with intelligent 1k bytes EEPROM with write-protect function, including: Infineon: SLE4418, SLE4428, SLE5518 and SLE5528	✓	✓
4. Cards with intelligent 256 bytes EEPROM with write-protect function, including: Infineon: SLE4432, SLE4442, SLE5532 and SLE5542	✓	✓
5. Cards with '104' type EEPROM non-reloadable token counter cards, including: Infineon: SLE4406, SLE4436, SLE5536 and SLE6636	✓	✓
6. Cards with Intelligent 416-Bit EEPROM with internal PIN check, including: Infineon: SLE4404	x	✓
7. Cards with Security Logic with Application Zone(s), including: Atmel: AT88SC101, AT88SC102 and AT88SC1003	x	✓

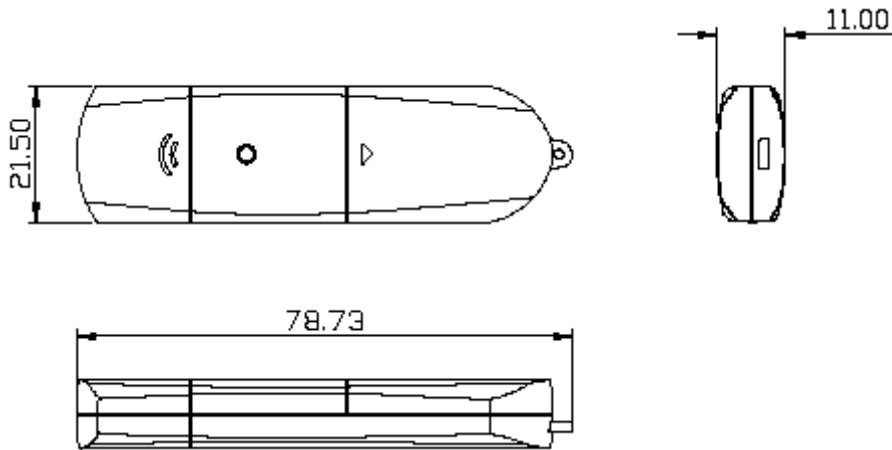


4.0. Typical Applications

- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Public Key Infrastructure
- Network Security
- Access Control
- Loyalty Program



5.0. Technical Specifications



Universal Serial Bus Interface

Type USB full speed, four lines: +5 V, GND, D+ and D-
Power source From USB

Smart Card Interface

Standard ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V), T=0 and T=1
Supply current max. 50 mA
Smart card read / write speed max. 250,000 bps (FW 1.10)
..... max. 344,086 bps (FW 1.12c)

Short circuit protection +5 V / GND on all pins

The presence of the smart card power supply voltage is indicated through a green LED on the reader

CLK frequency 4 MHz
Card connector Sliding
Card insertion cycles min. 10,000

Physical Specifications

Dimensions 78.73 mm (L) x 21.50 mm (W) x 11.00 mm (H)
Standard color Silver
Weight 16 g

Operating Conditions

Temperature 0 – 50 °C
Humidity 10% - 90%
MTBF 500,000 hrs

Certifications/Compliance

EN 60950/IEC 60950, EMV 2000 Level 1, PC/SC, CE, FCC, CCID¹, RoHS Compliant, USB Full Speed
Microsoft © WHQL 2000, Server 2003, XP, Vista, Server 2008, Server 2008 R2, 7

Device Driver Operating System Support

Windows © 98, ME, 2000, Server 2003, XP, Vista, Server 2008, Server 2008 R2, 7
Linux, Mac



¹Supported by FW1.12c