



Advanced Card Systems Ltd.
Card & Reader Technologies

ACR38T-H1 Smart Card Reader



Technical Specifications V1.00



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1.0. Introduction

Sporting a new sleek case, the ACR38T-H1 SIM-sized smart card reader is a small USB device that delivers more than it meets the eye. A powerful reader that packs a lot in feature despite its size, it has all the functionalities of a standard-sized ACR38 PC-linked Smart Card Reader.

1.1. Smart Card Reader

ACR38T-H1 supports ISO 7816 Class A, B, and C smart cards and works with most memory cards and microprocessor cards with the T=0 and T=1 protocol.

This device houses the powerful ACR38 core, which has been proven to support highly demanding smart card applications. It also features a USB Full Speed interface and a smart card read/write speed of up to 344 Kbps. Highly durable, ACR38T-H1 can last for at least 30,000 card insertion cycles.



1.2. Ease of Integration

ACR38T-H1 has PC/SC and CCID compliance that make for its seamless interoperability and use across different platforms, particularly in computer-based environments. In addition, ACR38T-H1 may now be used on mobile devices running the Android™ platform with versions 3.1 and later.

With its numerous features, ACR38T-H1 can be used in different applications such as e-Banking, e-Payment, and Network Security.



2.0. Features

- USB Full Speed Interface
- Plug and Play – CCID support brings utmost mobility
- Smart Card Reader:
 - Support ISO 7816 Class A, B, and C (5 V, 3 V, 1.8 V) SIM-sized cards
 - Supports microprocessor cards with T=0 and T=1 protocol
 - Supports memory cards
 - Supports PPS (Protocol and Parameters Selection)
 - Features Short Circuit Protection
- Application Programming Interface:
 - Supports PC/SC
 - Supports CT-API (through wrapper on top of PC/SC)
- Supports Android™ 3.1 and later¹
- Compliant with the following standards:
 - EN 60950/IEC 60950
 - ISO 7816
 - PC/SC
 - CCID
 - CE
 - FCC
 - WEEE
 - RoHS
 - REACH
 - VCCI (Japan)
 - Microsoft® WHQL

¹ Uses an ACS-defined Android Library



3.0. Supported Card Types

3.1. MCU Cards

The ACR38T-H1 operates with MCU cards following either the T=0 or T=1 protocol.

3.2. Memory-based Smart Cards

The ACR38T-H1 works with several memory-based smart cards such as:

- Cards following the I2C bus 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
- Cards with secure memory IC with password and authentication, including:
 - Atmel®: AT88SC153 and AT88SC1608
- Cards with intelligent 1 KB EEPROM with write-protect function, including:
 - Infineon®: SLE4418, SLE4428, SLE5518 and SLE5528
- Cards with intelligent 256-byte EEPROM with write-protect function, including:
 - Infineon®: SLE4432, SLE4442, SLE5532 and SLE5542
- Cards with '104' type EEPROM non-reloadable token counter cards, including:
 - Infineon®: SLE4406, SLE4436, SLE5536 and SLE6636
- Cards with intelligent 416-bit EEPROM with internal PIN check, including:
 - Infineon®: SLE4404
- Cards with Security Logic with Application Zone(s), including:
 - Atmel®: AT88SC101, AT88SC102 and AT88SC1003

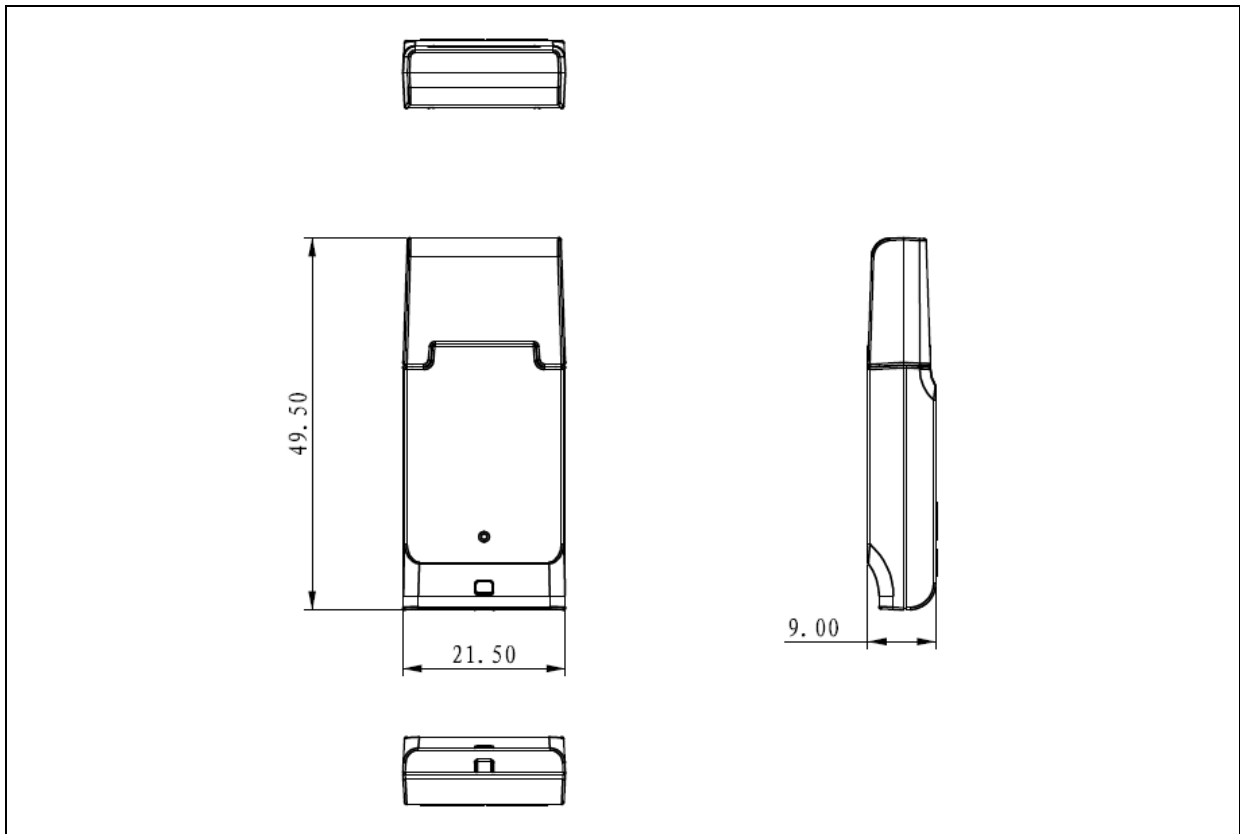


4.0. Typical Applications

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



5.0. Technical Specifications



Physical Characteristics

Dimensions 49.5 mm (L) × 21.5 mm (W) × 9.0 mm (H)
 Weight..... 8.4g
 Color Black

USB Host Interface

Protocol..... USB CCID
 Connector Type..... Standard Type A
 Power Source..... From USB port
 Speed..... USB Full Speed (12 Mbps)
 Supply Voltage..... 5 V

Contact Smart Card Interface

Number of Slot 1 SIM-sized Card Slot
 Standard ISO 7816 Parts 1-3, Class A, B, C (5 V, 3 V, 1.8 V)
 Protocol..... T=0; T=1; Memory Card Support
 Supply Current Max. 50 mA
 Smart Card Read/Write Speed..... 9.6 Kbps – 344 Kbps
 Short Circuit Protection (+5) V/GND on all pins
 Clock Frequency 4 MHz
 Card Connector Type..... Contact
 Card Insertion Cycles..... Min. 30,000

Built-in Peripheral

LED Green

Application Programming Interface

PC-linked Mode..... PC/SC
 CT-API (through wrapper on top of PC/SC)

Operating Conditions

Temperature..... 0 °C – 60 °C
 Humidity Max. 90% (non-condensing)
 MTBF 500,000 hrs



Certifications/Compliance

EN 60950/IEC 60950, ISO 7816, USB Full Speed, PC/SC, CCID, CE, FCC, WEEE, RoHS, REACH, VCCI (Japan), Microsoft® WHQL

Device Driver Operating System Support

Windows® Embedded Compact 7, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® 10

Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2

Linux®, Mac OS®, Solaris, Android™ 3.1 and later



6.0. Opening the SIM card cover

1. Open the SIM card cover from the back part of the reader.



2. Pull out the back cover from the top end.





3. Remove the cover completely to insert/remove the SIM card to/from the reader.



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