



Advanced Card Systems ACS ACR39T-A5 Smart Card Reader Owner's Manual

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Advanced Card Systems Ltd.
Card & Reader Technologies

ACR39T-A5
(USB Type C)
Smart Card Reader
Technical Specifications V1.03



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Introduction

The ACR39T-A5 hails new and modern technology in the world of smart card readers. It is a SIM-sized smart card reader that packs a lot of features. Being a compact and powerful smart card reader, the ACR39T-A5 brings together sophisticated technology with modern design to meet rigorous requirements in various smart card-based applications.

1.1. Smart Card Reader

The ACR39T-A5 supports ISO 7816 Class A, B, and C smart cards (5 V, 3 V, and 1.8 V) and works well with most memory cards and microprocessor cards with the T=0 and T=1 protocol. It also features a USB Full Speed interface (with USB Type C connector) and a smart card read/write speed of up to 600 Kbps. This makes it ideal for a broad range of solutions, such as Physical and Logical Access Control, Digital Signature, and Online Banking.



1.2. Ease of Integration

The ACR39T-A5 has PC/SC and CCID compliance, making it easy to install and use as it is specifically designed to be integrated into any computer-based environment. Its drivers are compatible with operating systems such as Windows®, Linux®, Mac OS®, and Solaris. In addition, the ACR39T-A5 may now be used with mobile devices running the Android™ platform versions 3.1 and later. With its numerous features, the ACR39T-A5 is clearly the perfect smart card reader for your smart card solution.

Features

- USB 2.0 Full Speed Interface
- USB Type C Connector
- Plug and Play – CCID support brings utmost mobility
- Includes protective USB cap
- Smart Card Reader:
 - Contact Interface:
 - Supports 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 later ¹
- Compliant with the following standards:
 - EN 62368/IEC 62368
 - CE
 - FCC
 - RoHS
 - REACH
 - UKCA
 - VCCI
 - WEEE
 - ISO 7816
 - PC/SC
 - CCID
 - Microsoft® WHQL

¹Uses an ACS-defined Android Library

Supported Card Types

3.1. MCU Cards

ACR39T-A5 operates with MCU cards following either the T=0 or T=1 protocol.

3.2. Memory-based Smart Cards

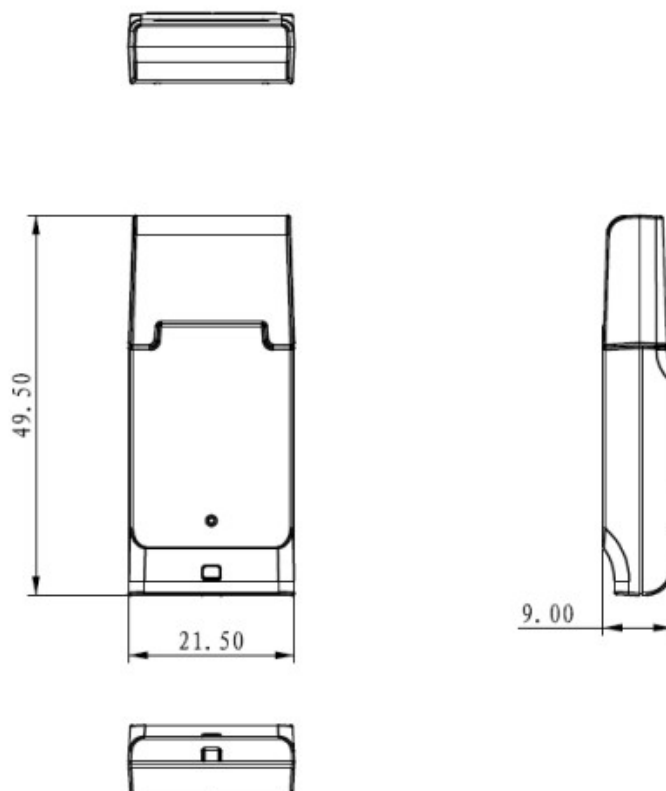
ACR39T-A5 works with several memory-based smart cards such as:

- 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

Typical Applications

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

Technical Specifications



Physical Characteristics

Dimensions 49.5 mm (L) × 21.5 mm (W) × 9.0 mm (H)

Weight 7g

Color Black

USB Host Interface

Protocol USB CCID

Connector Type..... Standard Type C

Power Source..... From USB port

Speed USB 2.0 Full Speed (12 Mbps)

Supply Voltage 5 V

Contact Smart Card Interface

Number of Slot 1 SIM-sized Card Slot

Standard ISO 7816 Parts 1-4, 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 – 600 Kbps

Short Circuit Protection (+5) V/GND on all pins

Clock Frequency 4.80 MHz

Card Connector Contact

Card Insertion Cycles Min. 20,000

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 62368/IEC 62368, CE, FCC, RoHS, REACH, UKCA, VCCI, WEEE, ISO 7816, USB 2.0 Full Speed, PC/SC, CCID, Microsoft® WHQL

Device Driver Operating System Support

Windows® 7, Windows® 8, Windows® 8.1, Windows® 10, Windows® 11
Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012,
Windows® Server 2012 R2, Windows® Server 2016
Linux®, Mac OS®, Solaris, Android™ 3.1 and later



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 into/from the reader.



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ACR39T-A5 – Technical Specifications

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Documents / Resources

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