Advanced Card Systems Ltd.
Card & Reader Technologies

# ACR38T- IBS Plug-in Card Reader

Technical Specifications



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# Table of Contents

# 1.0. Introduction

The ACR38T-IBS CCID is a stylish plug-in (SIM-sized) smart card reader/writer. It has the full functionalities of ACR38 CCID Smart Card Reader and supports smart cards that conform to GSM 11.11 specification.

It is an extremely light and compact USB full speed device, with a weight of only 10 grams and has a release button for plug-in smart cards. The ACR38T is a highly portable smart card PC peripheral, as it plugs into the USB port and requires no additional cable or wiring. It is ideal for Internet Banking, Payment Systems and Network Security.

## 1.1. About RoHS Compliance

The RoHS (**R**estriction **o**f **H**azardous **S**ubstance) Directive restricts the use of six hazardous materials in the manufacturing of various types of EEE (Electrical and Electronic Equipment), including:

- Lead,
- Mercury,
- Cadmium,
- Hexavalent chromium,
- Polybrominated biphenyl (PBB) and
- Polybrominated diphenyl ether (PBDE).

RoHS compliance means the protection to the environment and your future generations from these restricted irritants, carcinogens and toxins.

# 2.0. Features

- Conforms to: EN 60950/IEC 60950, ISO-7816, CE, FCC, Microsoft WHQL, EMV 2000 Level 1
- PC/SC and CCID compliant
- Support GSM 11.11 specification
- Supports ISO-7816 Class A, B and C (5V, 3V, 1.8V) cards
- Read and write support to all microprocessor cards with T=0 or T=1 protocols
- Supports memory-based smart cards
- Support PPS (Protocol and Parameters Selection) with 1,953 – 344,086 bps in reading and writing smart cards
- USB full speed interface to PC
- Short Circuit Protection
- RoHS Compliant

# 3.0. Supported Card Types

## 3.1. MCU Cards

The ACR38T-IBS CCID operates with an MCU card following either the T=0 or T=1 protocol.

## 3.2. Memory-Based Smart Cards (Synchronous Interface)

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

- 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

- Cards with secure memory IC with password and authentication, including:

  Atmel: AT88SC153 and AT88SC1608

- Cards with intelligent 1k bytes EEPROM with write-protect function, including:

  Infineon: SLE4418, SLE4428, SLE5518 and SLE5528

- Cards with intelligent 256 bytes 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

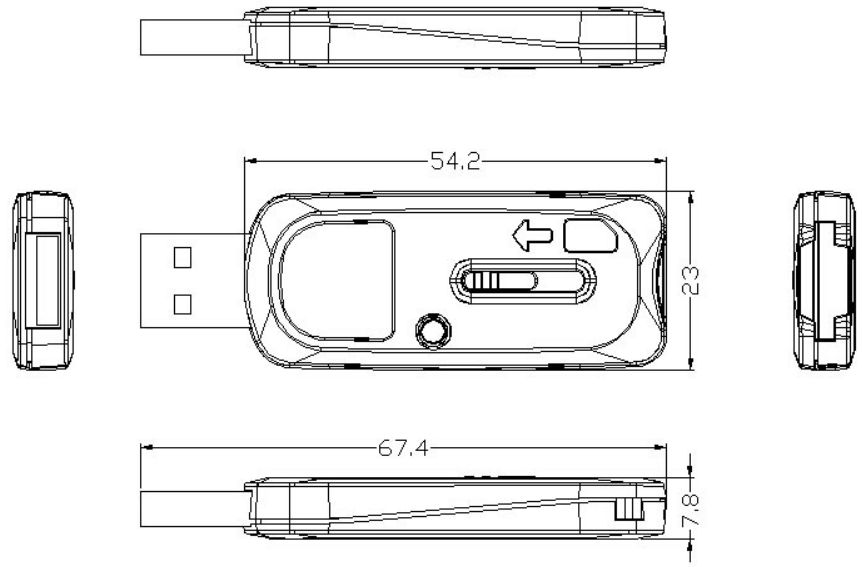
- Cards with Security Logic with Application Zone(s), including:

  Atmel: AT88SC101, AT88SC102 and AT88SC1003

# 4.0. Typical Applications

- Home Banking and Home Shopping
- Electronic Commerce
- Checking the balance of account of re-loading an electronic purses
- Network access control
- S/W locking
- Digital signature
- Loyalty and promotions
- Stored value
- Identification
- Ticketing
- Parking and toll collection
- Online gaming

# 5.0. Technical Specification




## Universal Serial Bus Interface

Type ..... USB full speed, four lines: +5V, GND, D+ and D-
Power source ..... From USB
Speed ..... 12 Mbps (Full Speed)

## Smart Card Interface

Standard ..... ISO-7816 Class A, B and C (5V, 3V, 1.8V), T=0 and T=1
Supply current ..... max. 50mA
Smart card read / write speed ..... 1,953 – 344,086 bps
Short circuit protection ..... +5V / 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 Contact
Card insertion cycles ..... min. 100,000

## Case

Dimensions ..... 67.4mm (L) x 23.0mm (W) x 7.8mm (H)
Color ..... Red
Weight ..... 10 g

## Operating Conditions

Temperature ..... 0 - 50° C
Humidity ..... 40% - 80%

## Standard/Certifications

EN 60950/IEC 60950, RoHS Compliant, EMV Level 1, USB Full Speed, ISO-7816, PC/SC, CCID, CE, FCC, Microsoft WHQL 2000, XP, Vista

## Device Driver Operating System Support

Windows® 98, ME, 2000, XP, Vista, Server 2003, 7