Advanced Card Systems Ltd.
Card & Reader Technologies

ACR38-IPC
Smart Card Reader

Technical Specifications

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1.0. Introduction

ACR38-IPC is the latest addition to the ACR38 PC-Linked Smart Card Reader Series. Combining secure smart card reader technology functionalities with a sleek and modern design, ACR38-IPC is the perfect peripheral for your smart card applications.

1.1. Smart Card Reader

ACR38-IPC supports ISO 7816 smart cards and works with memory cards and microprocessor cards with the T=0 and T=1 protocol.

1.2. Modern Design

The new sleek and stylish design of ACR38-IPC makes it stand out from ordinary smart card readers. This trendy 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 R/W speed of 344Kbps. Highly durable, ACR38-IPC can last for at least 100,000 card insertion cycles.

1.3. Plug-and-Play

ACR38-IPC is easy to install, use, and integrate in a PC environment. It is PC/SC and CCID compliant, and its drivers are compatible with Windows Operating Systems, Linux and MAC. ACR38-IPC can be used in numerous operations for Banking and Payment, Physical and Logical Access Control, Transportation, and e-Government applications.

2.0. Features

- USB 2.0 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) cards
    - Read and write support to all microprocessor cards with T=0 or T=1 protocols
    - Supports memory cards:
        - I2C bus Protocol Cards (1K bits to 1024K bits)
        - Secure Memory cards (Atmel AT88SC153 and AT88SC1608)
        - Memory Card with Secure Logic (AT88SC101/102/103)
    - Support SLE 4404/06/18/28/32/36/42, SLE 5518/28/32/36/42, SLE 6636
    - Support PPS (Protocol and Parameters Selection)
    - Short Circuit Protection
- Compliant with the following standards:
    - EN60950/IEC60950
    - PC/SC
    - CCID
    - RoHS
    - CE
    - FCC
    - Microsoft WHQL
    - VCCI

3.0. Supported Card Types

3.1. MCU Cards

The ACR38-IPC operates with any MCU card following either the T=0 or T=1 protocol.

3.2. Memory-Based Smart Cards

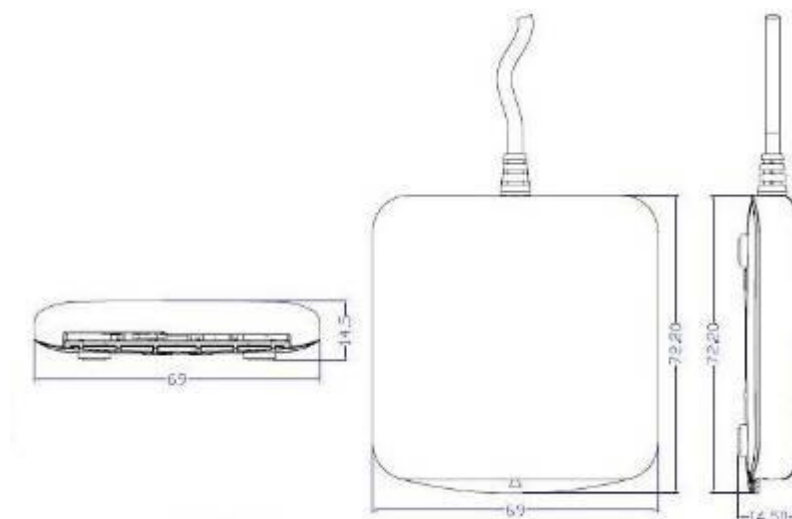The ACR38-IPC works with several memory-based smart cards such as:

- 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

- 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
Speed.. 12 Mbps

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. 344,086 bps
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.................................... Contact
Card insertion cycles .... min. 100,000

Physical Specifications
Dimensions.. 72.2 mm (L) x 69 mm (W) x 14.5 mm (H)
Color... White
Weight... 65 g (± 5 g allowance for cable)
Cable length, cord, connector .... 1.5 meters, Fixed (non-detachable), USB A

Operating Conditions
Temperature.. 0 - 50° C
Humidity .... 40% - 80%
MTBF .... 500,000 hrs.

Certifications/Compliance
EN 60950/IEC 60950, EMV 2000 Level 1, PC/SC, CE, FCC, VCCI, CCID, 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