



**Advanced Card Systems Ltd.**  
Card & Reader Technologies

# ACR38K

## Smart Keyboard

## Smart Card Reader



Technical Specifications



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## 1.0. Introduction

ACR38K Smart Keyboard combines the functionalities of a smart card reader and a PC keyboard into one, enabling easy implementation of smart card-based solutions in a PC environment. The ACS smart card readers utilize the latest microchip technology bringing you high security for your confidential files in a convenient and easy way.



and a smart cards R/W speed of 344 kbps. This highly durable device can last for at least 100,000 card insertion cycles.

### 1.1. Smart Card Reader

ACR38K Smart Keyboard supports ISO 7816 Classes A, B, and C smart cards. Also, it works with different memory cards and microprocessor cards with T=0 and T=1 protocol. It features a USB Full Speed interface

### 1.2. Easy Installation

ACR38K Smart Keyboard is easy to install, use, and integrate in a PC environment. It is PC/SC and CCID compliant, and its drivers are compatible with Window, Linux, and MAC operating systems. The ACR38K Smart Keyboard is a powerful component that is ideal to be used for Security, e-Banking and e-Payment, 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
  - Has 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 1024 Kbits)
    - Secure Memory cards (Atmel AT88SC153 and AT88SC1608)
    - Memory Card with Secure Logic (AT88SC101/102/1003)
  - Supports SLE 4404/06/18/28/32/36/42, SLE 5518/28/32/36/42, SLE 6636
  - Supports PPS (Protocol and Parameters Selection)
  - Has Short Circuit Protection
- Compliant with the following standards:
  - EN60950/IEC60950
  - PC/SC
  - CCID
  - RoHS
  - CE
  - FCC
  - Microsoft WHQL



## 3.0. Supported Card Types

### 3.1. MCU Cards

The ACR38K operates with any MCU card following either the T=0 or T=1 protocol.

### 3.2. Memory-Based Smart Cards

The ACR38K 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

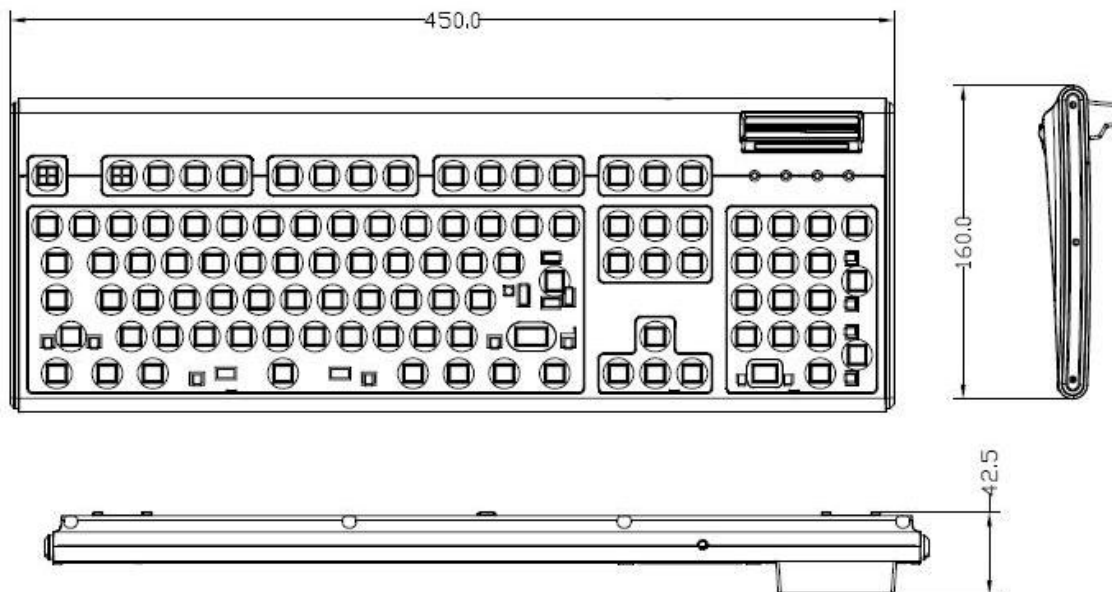


## 4.0. Typical Applications

- 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 blue LED on the reader*  
CLK frequency ..... 4 MHz  
Card connector ..... Contact  
Card insertion cycles ..... min. 100,000

### Physical Specifications

Dimensions ..... 445.0 mm (L) x 160.0 mm (W) x 40.0 mm (H)  
Number of Keys ..... 104  
Color ..... Black  
Weight ..... 650 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, CCID, RoHS, USB Full Speed  
Microsoft © WHQL 2000, Server 2003, XP, Vista, Server 2008, Server 2008 R2, 7

### Device Driver Operating System Support

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

