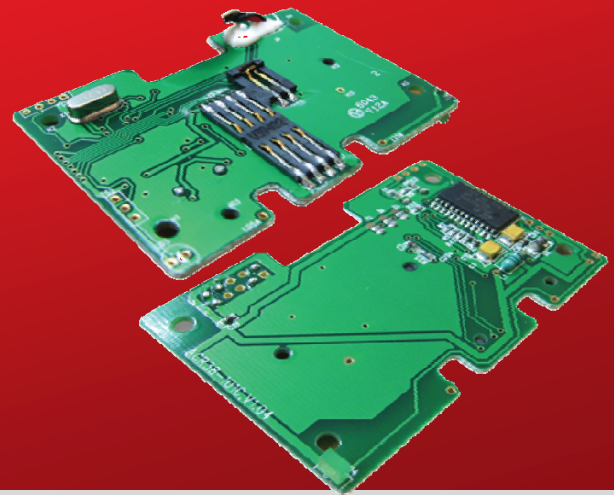




**Advanced Card Systems Ltd.**  
Card & Reader Technologies

# ACM38 (Module)



Technical Specifications



## Table of Contents

<b>1.0.</b>	<b>Introduction .....</b>	<b>3</b>
<b>2.0.</b>	<b>Smart Card Reader Features.....</b>	<b>4</b>
<b>3.0.</b>	<b>Supported Card Types.....</b>	<b>5</b>
3.1.	MCU Cards .....	5
3.2.	Memory-based Smart Cards.....	5
<b>4.0.</b>	<b>Typical Applications .....</b>	<b>6</b>
<b>5.0.</b>	<b>Technical Specifications .....</b>	<b>7</b>



## 1.0. Introduction

The ACM38 module offers solutions for secured access control based on pc-linked smart card readers. It is a smart card reader module that supports USB full speed, and acts as an interface that facilitates communication between a computer and a smart card.

The ACM38 provides a secured environment with its data encryption function. It is a cost-effective smart card reader module that can be integrated in different equipments that will make use of smart card technology.





## 2.0. Smart Card Reader Features

The table below summarizes the features of the ACM38:

Features	Firmware 1.10	Firmware 1.12c
1. PS/SC	✓	✓
2. CCID	✗	✓
3. WHQL Certified Drivers	✓	✓
4. RoHS	✓	✓
5. EMV Level 1	✓	✓
6. ISO 7816 (Class A, B, C)	✓	✓
7. MCU Card Support (T=0, T=1)	✓	✓
8. Memory Card Support	✓	✓
9. USB Full Speed	✓	✓
10. Short Circuit Protection	✓	✓



### 3.0. Supported Card Types

#### 3.1. MCU Cards

The ACM38 is PC/SC compliant and supports ISO 7816 5V, 3V and 1.8 (Class A, B, and C) smart card and MCU cards following either the T=0 and T=1 protocol.

#### 3.2. Memory-based Smart Cards

The ACM38 supports the following memory cards:

Types of Memory Cards	Firmware 1.10	Firmware 1.12c
1. 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	✓	✓
2. Cards with secure memory IC with password and authentication, including: Atmel: AT88SC153 and AT88SC1608	✓	✓
3. Cards with intelligent 1k bytes EEPROM with write-protect function, including: Infineon: SLE4418, SLE4428, SLE5518 and SLE5528	✓	✓
4. Cards with intelligent 256 bytes EEPROM with write-protect function, including: Infineon: SLE4432, SLE4442, SLE5532 and SLE5542	✓	✓
5. Cards with '104' type EEPROM non-reloadable token counter cards, including: Infineon: SLE4406, SLE4436, SLE5536 and SLE6636	✓	✓
6. Cards with Intelligent 416-Bit EEPROM with internal PIN check, including: Infineon: SLE4404	x	✓
7. Cards with Security Logic with Application Zone(s), including: Atmel: AT88SC101, AT88SC102 and AT88SC1003	x	✓

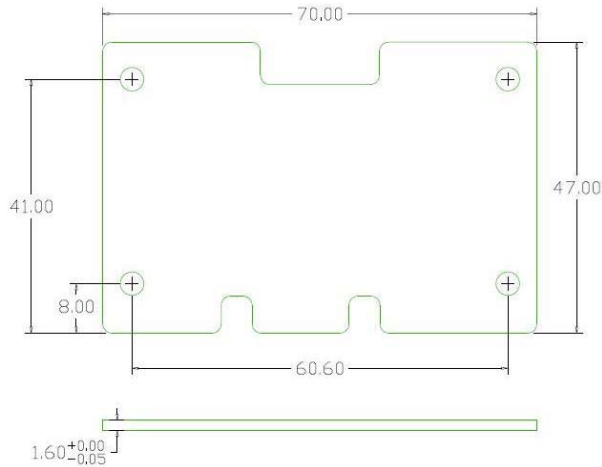


## 4.0. Typical Applications

- 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 Specifications



### Universal Serial Bus Interface

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

### 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 ..... max. 250,000 bps (FW 1.10)  
..... max. 344,086 bps (FW 1.12c)  
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 ..... Contact  
Card insertion cycles ..... min. 100,000

### (Optional) SAM Card Interface

Card connector ..... Sliding

### Physical Specifications

Dimensions ..... 47.0mm (L) x 70.0mm (W) x 1.6mm (H)

### Operating Conditions

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

### Certifications/Compliance

EN 60950/IEC 60950, EMV 2000 Level 1, PC/SC, CCID<sup>1</sup>, 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



<sup>1</sup>Supported by FW1.12c