



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

# ACR38U PocketMate Smart Card Reader



Technical Specifications V1.10



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## 1.0. Introduction

ACR38U PocketMate is a smart card reader that has more to it than meets the eye. As small and elegant looking as it is, this smart card reader is capable of supporting demanding smart card applications using full-sized contact smart cards. It provides the perfect balance between reliable functionality and design aesthetics to meet your security needs in many fields, including e-Banking, e-Payment, and e-Government.

### 1.1. Smart Card Reader

ACR38U PocketMate supports ISO 7816 Class A, B, and C smart cards (5 V, 3 V, and 1.8 V) and microprocessor cards with the T=0, T=1 protocol. In addition, it supports a wide variety of memory cards in the market, including the Department of Defense Common Access Card (CAC). This makes it ideal for a broad range of solutions, such as PIV Application, Physical and Logical Access Control, Digital Signature, and Online Banking.

It connects with computers through its USB Full Speed interface and has a smart card read/write speed of 344 Kbps. This small device proves to be a powerful smart card reader as it houses the ACR38 core, which has been proven to support highly demanding smart card applications.



### 1.2. Ingenious Design

The highly compact ACR38U PocketMate is specifically designed to be brought and used anytime, anywhere. No larger than a standard USB token, it transforms into a smart card reader for full-sized contact smart cards with just a single swivel motion.

### 1.3. Ease of Integration

Being a PC/SC and CCID compliant device, ACR38U PocketMate can easily be integrated in a PC environment. Its drivers are compatible with Windows®, Linux® and Mac OS®. In addition, ACR38U PocketMate may now be used on mobile devices running the Android™ platform with versions 3.1 and above.

With its various features, ACR38U PocketMate is the perfect smart card reader for your smart card solution.



## 2.0. Features

- USB 2.0 Full Speed Interface
- Plug-and-Play – CCID support brings utmost mobility
- Swivel Motion Design
- Smart Card Reader:
  - Supports ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V) cards
  - Supports CAC (Common Access Card)
  - 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 above<sup>1</sup>
- Compliant with the following standards:
  - FIPS 201
  - TAA
  - EN60950/IEC 60950
  - ISO 7816
  - CE
  - FCC
  - VCCI
  - PC/SC
  - CCID
  - EMV 2000 Level 1
  - Microsoft® WHQL
  - RoHS 2
  - REACH

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<sup>1</sup> PC/SC and CCID support are not applicable



## 3.0. Supported Card Types

### 3.1. MCU Cards

ACR38U PocketMate operates with MCU cards following either the T=0 or T=1 protocol. It also works with CAC cards, ideal for US PIV and PKI applications.

### 3.2. Memory-based Smart Cards

ACR38U PocketMate works with several memory-based smart cards such as:

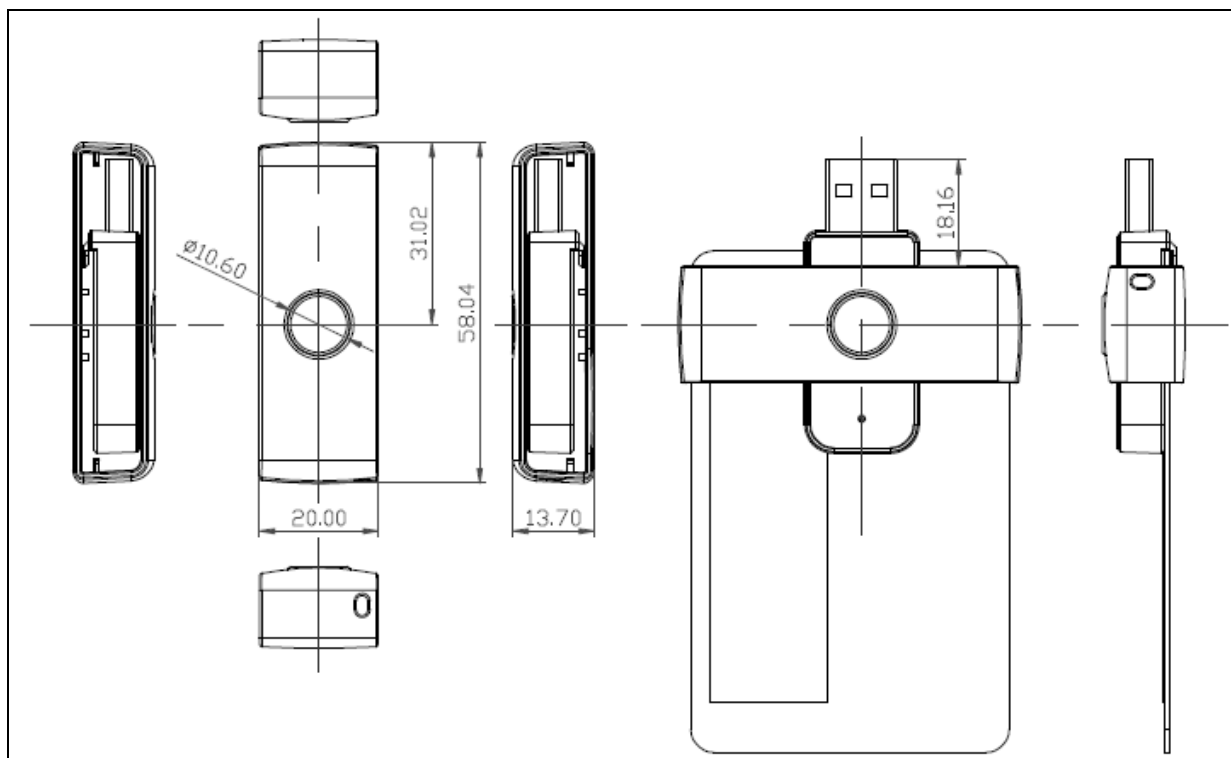
- Cards following the I2C bus protocol (free memory cards) with maximum 128 bytes page with capability, including:
  - Atmel®: AT24C01/02/04/08/16/32/64/128/256/512/1024
  - SGS-Thomson: ST14C02C, ST14C04C
  - Gemplus: GFM1K, GFM2K, GFM4K, GFM8K
- Cards with secure memory IC with password and authentication, including:
  - Atmel®: AT88SC153 and AT88SC1608
- Cards with intelligent 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
- 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  
CLK Frequency.....4 MHz  
Card Connector .....Contact  
Card Insertion Cycles.....Min. 100,000

### Physical Specifications

Dimensions .....58.0 mm (L) × 20.0 mm (W) × 13.7 mm (H)  
Color .....Black  
Weight.....12 g

### Built-in Peripheral

LED.....1 LED, Green

### Operating Conditions

Temperature.....0 °C – 50 °C  
Humidity .....Max. 90% (non-condensing)  
MTBF .....500,000 hrs

### Application Programming Interface

PC/SC  
CT-API (through wrapper on top of PC/SC)

### Certifications/Compliance

FIPS 201, TAA, EN60950/IEC 60950, ISO 7816, CE, FCC, VCCI, PC/SC, CCID, EMV 2000 Level 1, RoHS 2, REACH, USB Full Speed  
Microsoft® WHQL for Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2



### Device Driver Operating System Support

Windows® CE, Windows® 98, Windows® ME, Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2  
Linux®, Mac OS®, Android™ 3.1 and above



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