Advanced Card Systems Ltd.
Card & Reader Technologies

ACR38U PocketMate Smart Card Reader

Technical Specifications V1.13

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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 and 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 compter-based environment. Its drivers are compatible with operating systems such as Windows®, Linux®, Mac OS® and Solaris. In addition, ACR38U PocketMate may now be used on mobile devices running the Android™ platform with versions 3.1 and later.

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 J-LIS 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 later[1]
- Compliant with the following standards:
  - EN 60950/IEC 60950
  - ISO 7816
  - USB Full Speed
  - EMV™ Level 1 (Contact)
  - PC/SC
  - CCID
  - CE
  - FCC
  - WEEE
  - RoHS 2
  - REACH
  - FIPS 201 (USA)
  - TAA (USA)
  - J-LIS (Japan)
  - VCCI (Japan)
  - Microsoft® WHQL

[1] *Uses an ACS-defined Android Library*

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

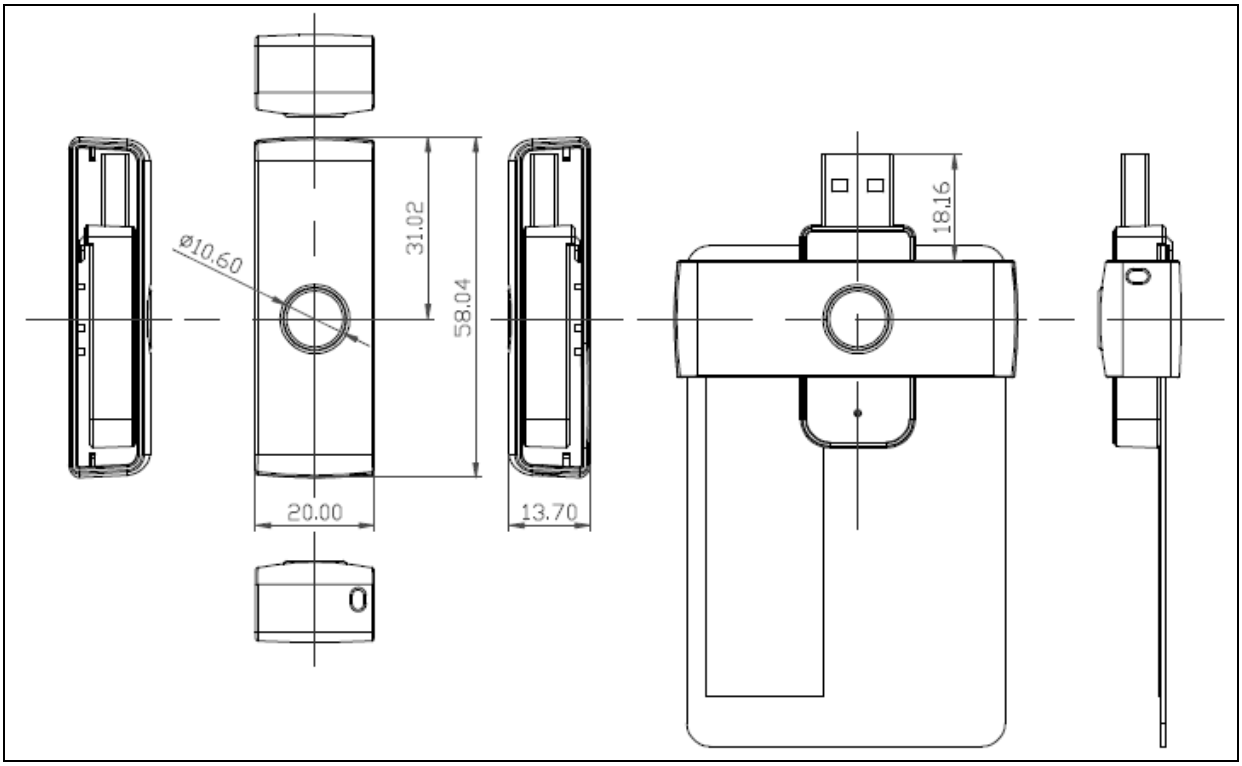
ACR38U PocketMate works with several memory-based smart cards such as:

- 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



Physical Characteristics	
Dimensions	58.0 mm (L) × 20.0 mm (W) × 13.7 mm (H)
Weight	12 g
Color	Black
USB Host Interface	
Protocol	USB CCID
Connector Type	Standard Type A
Power Source	From USB port
Speed	USB Full Speed (12 Mbps)
Supply Voltage	5 V
Contact Smart Card Interface	
Number of Slots	1 Full-sized Card Slot
Standard	ISO 7816 Parts 1-3, Class A, B, C (5 V, 3 V, 1.8 V)
Protocol	T=0; T=1; Memory Card Support
Supply Current	Max. 50 mA
Smart Card Read/Write Speed	9.6 Kbps – 344 Kbps
Short Circuit Protection	(+5) V/GND on all pins
Clock Frequency	4.0 MHz
Card Connector Type	Contact
Card Insertion Cycles	Min. 100,000
Built-in Peripheral	
LED	Green
Application Programming Interface	
PC-linked Mode	PC/SC
	CT-API (through wrapper on top of PC/SC)
Operating Conditions	
Temperature	0 °C – 60 °C
Humidity	Max. 90% (non-condensing)
MTBF	500,000 hrs

Certifications/Compliance

EN 60950/IEC 60950, ISO 7816, USB Full Speed, EMV™ Level 1 (Contact), PC/SC, CCID, CE, FCC, WEEE, RoHS 2, REACH
FIPS 201 (USA), TAA (USA), J-LIS (Japan), VCCI (Japan), Microsoft® WHQL

Device Driver Operating System Support

Windows® Embedded Compact 7, Windows® ME, Windows® 98, Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® 10
Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2
Linux®, Mac OS®, Solaris, Android™ 3.1 and later