



Advanced Card Systems Ltd.
Card & Reader Technologies

ACR38U PocketMate

Smart Card Reader



Technical Specifications



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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 (5V, 3V, and 1.8V), microprocessor cards with the T=0, T=1 protocol, and common memory cards in the market. 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 older Windows operating systems, as well as Linux and Mac OS.



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 (5V, 3V, 1.8V) cards
 - Reads and writes onto all microprocessor cards with T=0 and T=1 protocol
 - 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)
 - Supports SLE 4404/06/18/28/32/36/42, SLE 5518/28/32/36/42, SLE 6636
 - Supports PPS (Protocol and Parameters Selection)
 - Features Short Circuit Protection
- Compliant with the following international standards:
 - EN60950/IEC60950
 - PC/SC
 - CCID
 - RoHS
 - CE
 - FCC
 - Microsoft WHQL
 - EMV 2000 Level 1



3.0. Supported Card Types

3.1. MCU Cards

ACR38U PocketMate operates with MCU cards following either the T=0 or T=1 protocol.

3.2. Memory-Based Smart Cards (Synchronous Interface)

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

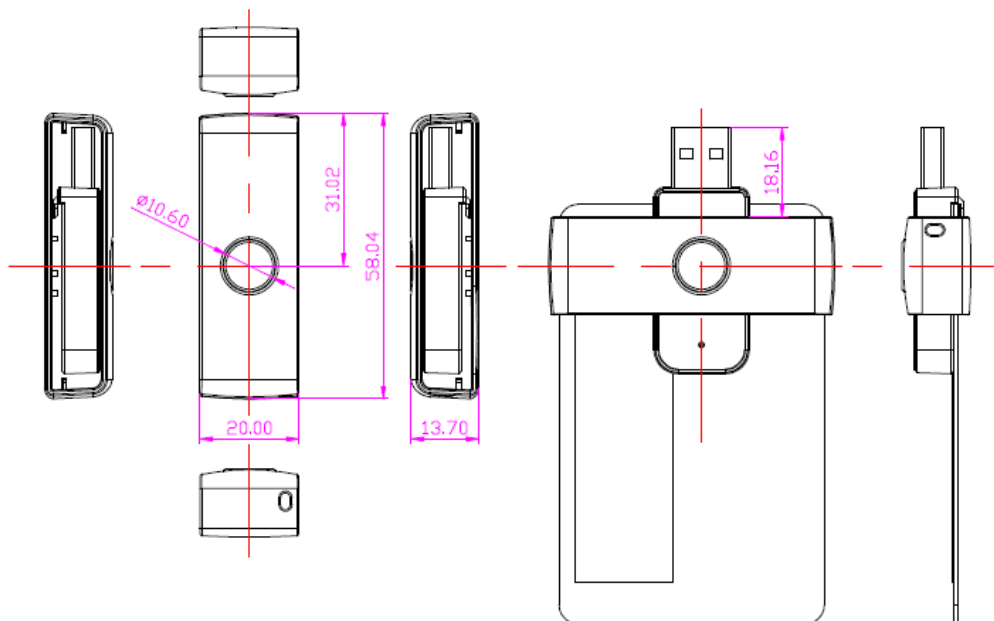
- Cards following the I2Cbus protocol (free memory cards) with maximum 128 bytes page with capability, including:
 - Atmel: AT24C01/02/04/08/16/32/64/128/256/512/1024
 - SGS-Thomson: ST14C02C, ST14C04C
 - Gemplus: GFM1K, GFM2K, GFM4K, GFM8K
- Cards with secure memory IC with password and authentication, 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 1,953-344,086 bps
Short circuit protection +5 / 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 58 mm (L) x 20 mm (W) x 13.7 mm (H)
Color Black
Weight 12 g

Operating Conditions

Temperature 0 – 50 °C
Humidity 10% - 90%

Certifications/Compliance

EN 60950/IEC 60950, EMV2000 Level 1, ISO 7816, PC/SC, CCID, RoHS, CE, FCC
USB Full Speed, Microsoft WHQL 2000, XP, Vista, 7

Device Driver Operating System Support

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

