



Advanced Card Systems Ltd.
Card & Reader Technologies



Company Profile

Chairman's Message

Advanced Card Systems Holdings Limited, a listed company on the Hong Kong Stock Exchange (HKEX), is one of a select group of global companies at the forefront of the smart card revolution. It is a revolution which has seen continued rapid growth in the acceptance and use of various smart card related technologies, with analysts predicting nearly 25% compound annual growth rates in such areas as the smart card & reader market, over the next few years. Smart card related technologies are now being used in fields as diverse as telecom, banking, national identity card, automatic fare collection and e-commerce, with more and more users taking advantage of the efficient, fast and secure options provided by smart cards and readers.

The world's third and Asia Pacific's number one supplier of smart card readers used with PCs, ACS has the technology, expertise and global networks to bring the next generation of smart card versatility to users around the world. When ACS was established in 1995, it was among the pioneers of the industry. Now it exports its products to satisfy customers in over 100 countries in the world. In 2009, it received the Best Practices Award: Product Quality Leadership Award for Smart Card Readers, from Frost & Sullivan. ACS is moving forward with the reputation as a major international player, known for its cutting-edge design and technology, reliability, and cost-effectiveness. ACS is determined to stay at the forefront when it comes to providing the best possible technology and equipment to support the expanding smart card revolution.



Denny Wong Yiu Chu
Chairman & CEO

Corporate Profile

Mission

To become a leading provider of card and reader technologies in the world market.

Vision

Combine scientific spirit and Confucius thoughts to build a sustainable electronic and IT business that is green in order to achieve the dual purposes of business growth and environmental protection.

Corporate Culture

Keep Promise

We deliver our commitments to our business partners and to one another in our company simply because we practice in our company how we should behave in our daily life.

Be Reasonable

When we deal with our business partners, something may happen beyond what either party anticipates. No contract will be good enough to deal with all unexpected situations. We want to work with business partners with mutual trusts and enter into simple business contracts with them. In the event that a contract turns out to be in our favour but not fair to our partner, we would not take advantage of our partner.

Emphasize on Quality

Based on the annual customer satisfaction surveys, feedbacks from customers regarding ACS products and services have been excellent. We received the 2009 Best Practices Award "Product Quality Leadership Award for Smart Card Readers" from Frost & Sullivan. However, we are not satisfied. We realize that in order to gain the same level of trust from our customers on quality as our western counterparts, our products must be superior. Generally speaking, Asia has no advantage over Europe and USA in the image of quality it portrays.

Respect and Develop Employees

We are in a business reliant on knowledge workers. Their voice must be listened to. Employees with insufficient relevant experience should be trained, guided and provided a lot of opportunities to learn, rather than be instructed.

Asia Pacific's top supplier of PC-Linked Readers
- Frost & Sullivan



Smart cards for various secure applications.



Smart Cards & Smart Card Operating Systems

- e-Healthcare
- Network Security
- e-Banking
- Loyalty Program
- Transportation
- Access Control

Smart Cards & Smart Card Operating Systems

ACS develops and provides smart cards with its smart card operating system (ACOS) as intellectual property. Often noted for their ‘secure and elegant’ architecture, ACOS cards uncover the powerful potential of smart cards, enabling a single card to support multiple applications, from physical/network access control to payment applications. The security level requirement of these applications is, in turn, met by ACOS cards via multilevel secured access hierarchy.

One of these cards, the ACOS5 Cryptographic Smart Card, is especially designed for RSA public-key cryptographic operations that are essential in smart card PKI, digital signature, etc.



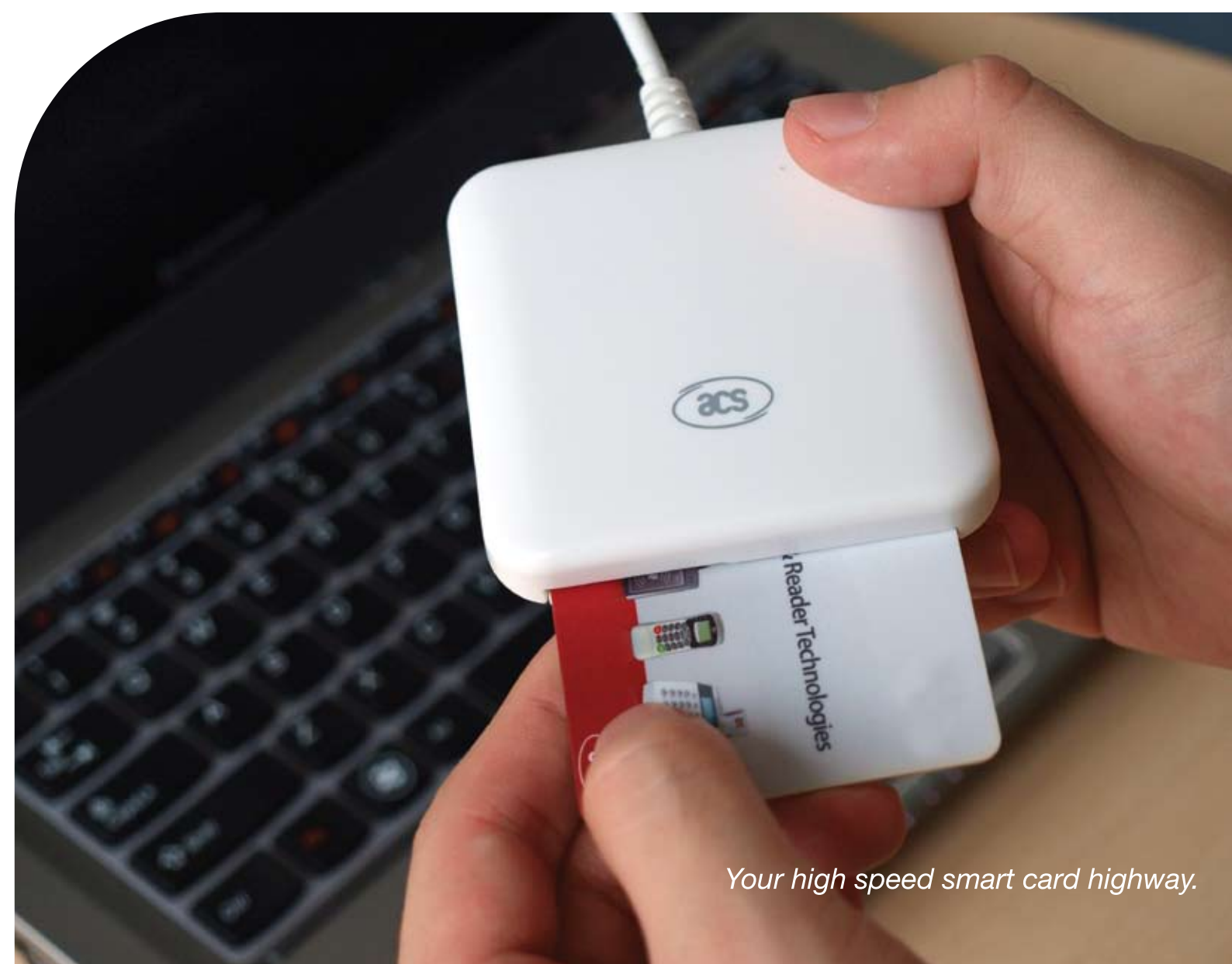
Smart Cards & Smart Card Operating Systems





PRODUCT CODE	ACOS3	ACOS3X	ACOS3 Combi/Contactless	ACOS6	ACOS6-SAM	ACOS7 Combi/Contactless	ACOS10	ACOS10 Combi/Contactless	ACOS5-64	CryptoMate64
Form Factor										
Card - Contact Only	•	•		•	•		•		•	
Card - Contactless Only			•			•		•		
Card - Contact and Contactless			•			•		•		
Token - Contact Card and USB Full Speed										•
Communication Speed										
Contact interface 9,600 - 223,200 bps	•	•	•	•	•	•	•	•	•	•
Contactless interface 106,000 - 848,000 bps			•			•		•		
Memory										
EEPROM Size	32KB/72KB	256KB	8KB	64KB	32KB	8KB	32KB	8KB	64KB	64KB
Protocol										
Contact interface T = 0	•	•	•	•	•	•	•	•	•	•
Contactless interface T = CL			•			•		•		
Certifications / Compliance										
Contact Interface	ISO 7816 - 1/2/3	•	•	•	•	•	•	•	•	•
	ISO 7816 - 4			•	•	•	•	•	•	•
	ISO 7816 - 8/9								•	•
Contactless Interface ISO 14443 Type A			•			•		•		
Common Criteria EAL5+			(Chip Level)			(Chip Level)		(Chip Level)	(Chip Level)	(Chip Level)
PBOC 2.0 e-Deposit/e-Purse (China)							•	•		
Ministry of Construction (China)						•				
File Systems										
Transparent/Binary File	•	•	•	•	•	•	•	•	•	•
Linear Fixed Record	•	•	•	•	•	•	•	•	•	•
Linear Variable Record				•	•	•	•	•	•	•
Cyclic File				•	•	•	•	•	•	•
Cryptographic Capabilities										
DES/3DES	•	•	•	•	•	•	•	•	•	•
3K3DES					•				•	•
AES - 128 bits					•				•	•
AES - 192 bits									•	•
AES - 256 bits									•	•
RSA - 512 to 4096 bits (in 256-bit step)									•	•
SHA-1, SHA-256									•	•
Mutual Authentication	•	•	•	•	•	•	•	•	•	•
Secure Messaging	•	•	•	•	•	•	•	•	•	•
Random Number Generator (FIPS 140-2)	•	•	•	•	•	•	•	•	•	•
EEPROM Endurance										
100,000 Read/Write Cycles	•	•		•	•		•			
500,000 Read/Write Cycles			•			•		•	•	•
Data Retention										
10 Years	•	•	•	•	•	•	•	•	•	•

Asia Pacific's top supplier of PC-Linked Readers
- Frost & Sullivan



Your high speed smart card highway.

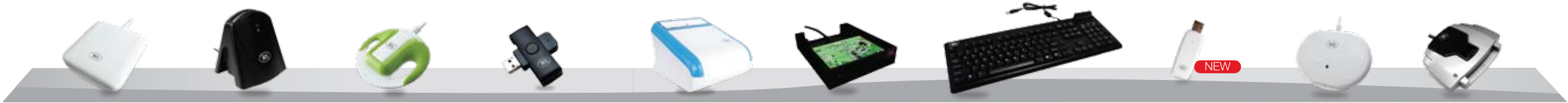


PC-Linked Smart Card Readers

- e-Healthcare
- Network Security
- e-Banking
- Loyalty Program
- e-Government
- Access Control

PC-Linked Smart Card Readers

ACS develops and provides high quality and reliable PC-linked smart card readers, which are based on various industry standards such as PC/SC (Personal Computer/Smart Card) and EMV (Europay, MasterCard and Visa). ACS PC-linked readers are ideal for providing individual authentication for security applications such as e-government services, e-commerce, banking services, healthcare management, digital signature, internet lottery and mobile telecommunication applications.



PRODUCT CODE	ACR38U-I1	ACR38U-H1	ACR38U-J1	ACR38U-N1	ACR33U	ACR38F	ACR38K	ACR38T-D1	ACR3801	ACR38U-A4
Physical Characteristics										
Dimensions (mm)	72.2 x 69.0 x 14.5	71.5 x 80.0 x 80.0	65.5 x 68.2 x 13.7	58.0 x 20.0 x 13.7	103.5 x 85.0 x 59.9	125.0 x 101.5 x 25.5	445.0 x 160.0 x 40.0	67.6 x 23.0 x 8.0	63.5 x 88.0 x 17.0	73.0 x 96.5 x 19.0
Weight (g)	65.0	174.0	65.0	12.0	310.0	140.0	650.0	12.0	145.0	95.0
Host Interface										
USB (Full Speed)	•	•	•	•	•	•	•	•	•	•
Contact Smart Card Interface										
ISO 7816	•	•	•	•	•	•	•	•	•	•
MCU Cards, T=0 and T=1	•	•	•	•	•	•	•	•	•	•
Memory Cards	•	•	•	•	•	•	•	•	•	•
Smart Card Read/Write Speed (kbps)	344	344	344	344	344	344	344	344	344	250
Card Form	Full-Sized	Full-Sized	Full-Sized	Full-Sized	Full-Sized	Full-Sized	Full-Sized	SIM-Sized	Full-Sized	Full-Sized
Card Slot	1	1	1	1	2	1	1	1	1	1
Built-In Peripherals										
LED	1	2	1	1	3	1	1	1	1	1
Buzzer					•					
SAM Slot					3					1
Certifications/Compliance										
PC/SC	•	•	•	•	•	•	•	•	•	•
CCID	•	•	•	•	•	•	•	•	•	
WHQL	•	•	•	•	•	•	•	•	•	•
EMV Level 1	•	•	•	•		•	•	•		•
FIPS 201									•	
TAA									•	
MTBF (hours)	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
REACH	•		•							
VCCI	•	•	•	•	•			•		•
CE, FCC	•	•	•	•	•	•	•	•	•	•
RoHS	•	•	•	•	•	•	•	•	•	•
Supported OS Platform										
Windows 98	•	•	•	•		•	•	•	•	•
Windows 2000, XP, Vista, 7	•	•	•	•	•	•	•	•	•	•
Windows Server 2003, Server 2008, Server 2008 R2	•	•	•	•	•	•	•	•	•	•
MAC	•	•	•	•	•	•	•	•	•	•
Linux	•	•	•	•	•	•	•	•	•	•
Android	•	•	•	•	•	•	•	•	•	

Asia Pacific's top supplier of PC-Linked Readers
- Frost & Sullivan



Bring the contactless technology into your business.



Contactless Readers

Contactless Readers

ACS offers a series of contactless smart card readers/writers to address the growing popularity of and demand for contactless applications. Hinged upon the 13.56 MHz RFID technology, these readers are developed to support various contactless protocols such as ISO 14443 Type A and B, Mifare®, FeliCa and NFC, to facilitate their use in a wide range of applications.



PRODUCT CODE	ACR122U	ACR122T	ACR122S	ACR122L / ACR1222L	ACR1251U	ACR1222U-J4	ACR1283L	ACR123	ACR1281U nPA	ACR1281U-C1/ACR1281S-C1	ACM1281S1-Z8
Physical Characteristics											
Dimensions (mm)	98.0 x 65.0 x 12.8	75.0 x 30.0 x 9.9	120.5 x 72.0 x 20.4	133.0 x 88.0 x 20.0 (Main Body Only)	98.0 x 65.0 x 12.8	85.0 x 54.0 x 10.0	133.0 x 88.0 x 20.0 (Main Body Only)	159.0 x 100.0 x 24.0 (Main Body Only)	120.5 x 72.0 x 20.4	120.5 x 72.0 x 20.4	70.0 x 45.3
Weight (g)	70.0	15.0	150.0	195.0 (Main Body) 245.0 (Base Stand)	70.0	40.0	195.0 (Main body) 245.0 (Base stand)	275.0 (Main body) 245.0 (Base stand)	150.0	150.0	27.7
Operation Modes											
PC-Linked	•	•	•	•	•		•	•	•	•	•
Stand-Alone						•	•				
Host Interface											
USB (Full Speed)	•	•		• (ACR1222L)	•	•	•		•	• (ACR1281U-C1)	
Serial (RS232)			•	• (ACR122L)				•		• (ACR1281S-C1)	•
External Power Adapter				• (ACR122L)							
Contactless Smart Card Interface											
ISO 14443 Type A and B	•	•	•	•	•		•	•	•	•	•
ISO/IEC 18092 (NFC)	•	•	•	•	•						
MiFare	•	•	•	•	•		•	•	•	•	•
FeliCa	•	•	•	•	•						
Smart Card Read/Write Speed (kbps)	106, 212, 424	106, 212, 424	106, 212, 424	106, 212, 424	106, 212, 424	212	106, 212, 424, 848	106, 212, 424, 848	106, 212, 424, 848	106, 212, 424, 848	106
Reading Distance (mm)	50	30	50	50	50	10	50	100	50	50	50
FeliCa Mobile Devices						•					
Extended APDU Support									•	•	
Contact Smart Card Interface											
ISO 7816										•	
MCU Cards, T=0 and T=1										•	
Memory Cards										•	
Smart Card Read/Write Speed (kbps)										115.2	
Card Form										Full-Sized	
Upgradeability											
USB Firmware Upgrade				• (ACR1222L)	•	•	•	•	•	•	
Built-In Peripherals											
LCD Resolution				128 x 32			128 x 32	128 x 64			
Graphical LCD for Multiple Languages				• (16 alphanumeric characters x 2 lines)			• (16 alphanumeric characters x 2 lines)	• (16 alphanumeric characters x 4 lines)			
Keypad							12-Key				
LED	1	1	2	4	1	2	4	4	2	2	1
Buzzer	•		•	•	•	•	•	•	•	•	•
SAM Slot			1	3	1		4	3		1	
Tamper Switch							•	•			
Real Time Clock							•				
Secure Mifare Key Storage							•	•	•	•	•
Embedded NFC <Text / URI / Smart Poster> Application	Upon Request		Upon Request	Upon Request	Upon Request						
Certifications/Compliance											
PC/SC	•	•		• (ACR1222L)	•		•		•	• (ACR1281U-C1)	
CCID	•	•		• (ACR1222L)	•		•		•	• (ACR1281U-C1)	
WHQL	•	•		• (ACR1222L)	•		•		•	• (ACR1281U-C1)	
VCCI	•	•	•	•	•		•	•	•		
CE, FCC	•	•	•	•	•	•	•	•	•	•	
RoHS	•	•	•	•	•	•	•	•	•	•	•
qPBOC / EMVCo CL L1									Upon Request	Upon Request (ACR1281U-C1)	
Germany nPA								•	•		
EMV Levels 1 and 2								•			
NFC Forum Certification Mark					•						
Supported OS Platforms											
Windows 98	•	•	•	• (ACR122L)				•			•
Windows 2000, XP, Vista, 7	•	•	•	•	•	•	•	•	•	•	•
Windows Server 2003, Server 2008, Server 2008 R2	•	•	•	•	•		•	•	•	•	•
Windows CE	•	•									
MAC	•	•		• (ACR1222L)	•		•	•	•	• (ACR1281U-C1)	
Linux	•	•	•	•	•		•	•	•	•	•
Android	•	•		• (ACR1222L)	•		•	•	•	• (ACR1281U-C1)	

Asia Pacific's top supplier of PC-Linked Readers
- Frost & Sullivan



Combining smart card and fingerprint technologies for superior security.



Smart Card / Fingerprint Readers



Smart Card/ Fingerprint Readers

- e-Healthcare
- Network Security
- e-Banking & e-Payment
- Access Control
- e-Government
- Public Key Infrastructure

Smart Card / Fingerprint Readers

The ACS line of smart card / fingerprint readers combines the smart card reader and fingerprint sensor technologies into one secure platform. By cooperating with leading biometric sensor and algorithm suppliers, ACS provides a high level of security and convenience for applications within the government, corporate, financial and healthcare sectors.

PRODUCT CODE			AET62	AET65
Physical Characteristics				
Dimensions (mm)			121.5 x 54.0 x 28.5	85.0 x 70.0 x 35.0
Weight (g)			170.0	194.0
Host Interface				
USB (Full Speed)			•	•
Contact Smart Card Interface				
ISO 7816				•
MCU Cards, T=0 and T=1				•
Memory Cards				•
Smart Card Read/Write Speed (kbps)				250
Card Form				Full-Sized
Contactless Smart Card Interface				
ISO 14443 Type A and B			•	
ISO/IEC 18092 (NFC)			•	
MiFare			•	
FeliCa			•	
Smart Card Read/Write Speed (kbps)			106, 212, 424	
Reading Distance (mm)			30	
Fingerprint Scanner Interface				
Fingerprint Capture			Strip/Swipe	Strip/Swipe
Active Sensor Size (mm)			9.6 x 0.2	9.6 x 0.2
Image Resolution (dpi)			508	508
Template Extraction and Matching (via default UPEK algorithm)			Onboard	Onboard
Match Mode			1:1	1:1
3rd-Party Fingerprint Algorithm Support			•	•
Built-In Peripherals				
LED			1	2
SAM Slot			Upon Request	•
Certifications/Compliance				
PC/SC			•	•
CCID			•	
WHQL			•	•
BioAPI 1.1			•	•
Windows Biometric Framework			•	•
CE, FCC			•	•
RoHS			•	•
Supported OS Platforms				
Windows XP, Vista,			•	•
Windows 7			•	•
Windows Server 2003, Server 2008, Server 2008 R2			•	•
Linux			Upon Request	

Subject to change without prior notice

Asia Pacific's top supplier of PC-Linked Readers
- Frost & Sullivan



Fast and secure transactions, on demand.



Smart Card Readers with PIN-Pad



Smart Card Readers with PIN-Pad

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- e-Healthcare
- Network Security
- Loyalty Program
- e-Government
- Transportation
- e-Banking

Smart Card Readers with PIN-Pad

ACS develops and provides secure PIN-pad smart card readers, with each having a built-in keypad, an LCD and a host of other features. This type of reader is ideal for applications where a simple PC-linked smart card reader does not meet the user’s security requirements, such as PIN entry and the confirmation of transaction details.



PRODUCT CODE	ACR83U	ACR89U
Physical Characteristics		
Dimensions (mm)	81.0 x 46.0 x 12.0	181.0 x 77.0 x 30.5
Weight (g)	65.0	235.0
Processor		
Processor	8 Bit	32 Bit
Embedded Platform		Free RT
Operation Modes		
PC-Linked	•	•
Stand-Alone		•
Host Interface		
USB (Full Speed)	•	•
Serial (RS232)		•
External Power Adapter		•
Contact Smart Card Interface		
ISO 7816	•	•
MCU Cards, T=0 and T=1	•	•
Memory Cards		•
Smart Card Read/Write Speed (kbps)	250	250
Card Form	Full-Sized	Full-Sized
Card Slot	1	2
Contactless Smart Card Interface		
ISO 14443 Type A and B		Optional
MiFare		Optional
Felica		Optional
Smart Card Read/Write Speed (kbps)		106, 212, 424, 848
Reading Distance (mm)		30mm at 106kbps
Memory		
User-Programmable		512 KB
Firmware Memory		384 KB
Upgradeability		
On-Board Firmware Upgradeable		•
Built-In Peripherals		
LCD (pixel)	96 x 16	128 x 64
Graphical LCD for Multiple Languages	• (16 alphanumeric characters x 2 lines)	• (21 alphanumeric characters x 8 lines)
Keypad	14-Key	20-Key
LED		4
Buzzer		•
Tamper Switch		•
Real Time Clock		•
Rechargeable Battery (Li-ion)		•
SAM Slot		3
Detachable Thermal Printer		Optional
Certifications/Compliance		
PC/SC	•	•
PC/SC 2.0 Part 10 - Secure PIN Entry	•	•
CCID	•	•
WHQL	•	•
EMV Level 1	•	•
CE, FCC	•	•
RoHS	•	•
Supported OS Platforms		
Windows 98	•	•
Windows 2000, XP, Vista, 7	•	•
Windows Server 2003, Server 2008, Server 2008 R2	•	•
MAC	•	•
Linux	•	•
Android	•	•

Asia Pacific's top supplier of PC-Linked Readers
- Frost & Sullivan



Security and convenience for your IT applications.



PC-Linked Readers with Mass Storage



PC-Linked Readers with Mass Storage



- e-Government
- e-Banking and e-Payment
- Public Key Infrastructure
- Network Security
- GSM Management
- VoIP
- Data Storage

PC-Linked Readers with Mass Storage

ACS has realized the importance of integrating flash memory into smart card readers, hence the development of PC-linked readers with mass storage. Designed for SIM-sized smart cards (Plug-in cards) access and data or application storage, it is ideal for GSM solutions such as GSM management software and VoIP applications, electronic payment systems, home banking, and transportation.

PRODUCT CODE	ACR100I	ACR101I
Physical Characteristics		
Dimensions (mm)	76.0 x 26.0 x 23.4	75.0 x 26.0 x 11.7
Weight (g)	20.0	15.0
Form Factor	Extractable USB Connector	Extractable USB Connector
Host Interface		
USB (Full Speed)	•	•
Contact Smart Card Interface		
ISO 7816	•	•
MCU Cards, T=0 and T=1	•	•
Memory Cards	•	•
Smart Card Read/Write Speed (kbps)	344	344
Card Form	SIM-Sized	SIM-Sized
Mass Storage		
Built-In Flash Memory (GB)	2	
Expandable Memory		2GB MicroSD Card
Additional Features		
Partitionable Memory	•	
Contactless Feature	Embedded Mifare 1K Chip	Embedded Mifare 1K Chip
Certifications/Compliance		
PC/SC	•	•
CCID	•	•
HID	Upon Request	Upon Request
WHQL	•	•
MTBF (hours)	500,000	500,000
VCCI	•	•
CE, FCC	•	•
RoHS	•	•
Supported OS Platforms		
Windows 98	•	•
Windows 2000, XP, Vista, 7	•	•
Windows Server 2003, Server 2008, Server 2008 R2	•	•
MAC	•	•
Linux	•	•
Android	•	•

Subject to change without prior notice

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- Frost & Sullivan



Mastercard CAP and Visa DPA certified reader.



Dynamic Password Generators



Dynamic Password Generators



- Dynamic One-Time Password
- Remote Authentication
- e-Banking & e-Payment
- Digital Signature

Dynamic Password Generators

ACS develops and provides highly secure and reliable dynamic password generators that comply with industry standards such as EMV 2000 Level 1 (Europay, MasterCard® and Visa), MasterCard® CAP (Chip Authentication Program), MasterCard® PLA (Pin-less/Perso-less Authentication) and VISA DPA (Dynamic Passcode Authentication). The device can be used in a variety of payment and banking applications, and its offline mode inhibits hackers from accessing information in the card. It is a portable device that needs no software installation, making it easily transportable for both home and office use.



PRODUCT CODE	APG8201	APG8202	APG8205
Physical Characteristics			
Dimensions (mm)	95.0 x 60.0 x 11.0	95.0 x 60.0 x 11.0	85.0 x 58.0 x 5.0
Weight (g)	49.0 (Device)	49.0	27.0
	40.0 (USB Cable)		
Operation Modes			
PC-Linked	•		
Stand-Alone	•	•	•
Host Interface			
USB (Full Speed)	•		
Contact Smart Card Interface			
ISO 7816	•	•	•
MCU Cards, T=0 and T=1	•	•	•
Card Form	Full-Sized	Full-Sized	Full-Sized
Smart Card Read/Write Speed (kbps)	250	250	250
Built-In Peripherals			
LCD Resolution	96 x 16	96 x 16	96 x 16
Graphical LCD for Multiple Languages	•	•	•
	(16 alphanumeric characters x 2 lines)	(16 alphanumeric characters x 2 lines)	(16 alphanumeric characters x 2 lines)
Keypad	20-Key	20-Key	20-Key
Buzzer	•	•	•
Battery	2 x Replaceable CR2032	2 x Replaceable CR2032	2 x Replaceable CR2016
Tamper Evident Seal	•	•	•
Calculator and E-Purse Function	•	•	•
Certifications/Compliance			
MasterCard ® Chip Authentication Program (CAP)	Upon Request	•	•
MasterCard ® PIN/Perso-Less Authentication (PLA)	Upon Request	•	•
VISA® Dynamic Passcode Authentication (DPA)	Upon Request	•	•
PC/SC	• (PC-Linked)		
PC/SC 2.0 Part 10 - Secure PIN Entry	• (PC-Linked)		
CCID	• (PC-Linked)		
WHQL	• (PC-Linked)		
EMV Level 1	•		
CE, FCC	•	•	•
RoHS	•	•	•
Supported OS Platforms			
Windows 98	•		
Windows 2000, XP, Vista, 7	•		
Windows Server 2003, Server 2008, Server 2008 R2	•		
MAC	•		
Linux	•		
Android	•		

Subject to change without prior notice

Asia Pacific's top supplier of PC-Linked Readers
- Frost & Sullivan



Smart solutions for transport.



Automatic Fare Collection Readers

www.acs.com.hk
info@acs.com.hk



www.facebook.com/AdvancedCardSystems
www.twitter.com/smartcardreader



Advanced Card Systems Ltd.
Card & Reader Technologies



Transportation

Automatic Fare Collection Readers

Constituting a new ACS product line, the AFC Reader provides a secure and reliable platform for the Automatic Fare Collection (AFC) System, an interoperable automated ticketing system that has revolutionized the transportation sector. The AFC reader has undergone and passed a series of stringent reliability tests to ensure its suitability for public area operations; it was tested for its water and dust proof capabilities, high temperature operating range, and shock and vibration prevention features. Finally, the AFC Reader offers highly flexible, customizable and upgradeable features powered by its 32-bit CPU platform.

		
PRODUCT CODE	ACR301	ACR320
Physical Characteristics		
Dimensions (mm)	208.0 x 142.0 x 50.0	281.0 x 168.0 x 55.0
Weight (g)	68.0	108.2
Processor		
Processor	32 bit	32 bit
Embedded Platform	Linux	Linux
Operation Modes		
Stand-Alone	•	•
Host Interface		
USB (Full Speed)	•	•
Serial (RS232)	•	•
Multi-usage I/O		Optional
Contactless Smart Card Interface		
ISO 14443 Type A and B	•	•
MiFare	•	•
Smart Card Read/Write Speed (kbps)	106	106
Reading Distance (mm)	70	70
Memory		
Flash	64 MB	512 MB
RAM	64 MB	256 MB
Upgradeability		
On-Board Firmware Upgradeable	•	•
Built-In Peripherals		
LCD (pixel)	192 x 64	640 x 480
Button	2-button	4-button
LED	3	4
Built-In Speaker	•	•
Real Time Clock	•	•
SAM Slot	2	4
GPS	•	•
Wifi	•	•
3G		•
GPRS	•	•
Other Features		
Over Voltage and Over Current Protection	Optional	Optional
Card Authenticity, Validity	Optional	Optional
Blacklist Checking	Optional	Optional
Touch Screen		Optional
Certifications/Compliance		
RoHS	•	•
CE		•
FCC		•
Dust and Water Resistance (IP54)		•

Subject to change without prior notice