

# PRODUCT CATALOGUE 2023-2024





Identification & Payment Technologies

#### AdvancedCardSystems

AdvancedCardSystems



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



Global Excellence in Smart Card & ader Technologie

## **CORPORATE PROFILE**

Advanced Card Systems Ltd. (ACS, wholly owned subsidiary of SEHK: 2086), founded in 1995, is Asia Pacific's top supplier and one of the world's top 3 suppliers of PC-linked smart card readers, as well as the winner of the Product Quality Leadership Award for Smart Card Readers from Frost & Sullivan. ACS was listed in Forbes Asia's "Best Under a Billion" list, an inter-industry list comprised of 200 top-performing publicly listed companies in Asia Pacific, with sales between US\$5 million and US\$1 billion for several years. ACS develops a wide range of high-quality smart card reading/writing devices, smart cards and related products and distributes them to over 100 countries worldwide.

ACS develops and provides smart card operating systems (COS) and readers to facilitate the implementation of smart card-based systems for various applications and industries. ACS products are compliant with major industrial standards, ensuring safe and compatible operations. Products are divided into five product families: Smart Cards & Smart Card Operating Systems, Smart Card Readers, Smart Card Reader Modules, Automatic Fare Collection Terminals, and FIDO® Devices. ACS also offers customization for some of these products, to meet specific needs of customers.



## PRODUCTS

## SMART CARDS & SMART CARD OPERATING SYSTEMS

ACS develops and provides smart cards with a proprietary smart card operating system (ACOS). 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. ACOS cards meet the security requirements of these applications via multilevel secured access hierarchy.

One of these cards, the ACOS5-EVO, is the latest addition to the ACOS5 Series, that provides additional features such as support for ECC and RSA algorithms and extended APDU.



				NEW	NEW	les	VISA
		ACOS3	ACOS6-SAM	ACOS5-EVO	CryptoMate EVO	ACOSJ	ACOSJ-V
Form Factor							
Card - Contact Only		•	•	٠		•	٠
Card - Contactless O	nly	•		٠		•	•
Card - Combi (Contac	t and Contactless)			•		•	•
Token - Contact Card	and LISB Full Speed	·		-	•		
Communication Speed					, i i i i i i i i i i i i i i i i i i i		
Contact Interface		up to 202.2 khos	up to 222.2 kbps	up to 446.4 kbps	up to 446.4 kbps	up to 625 kbps	up to 625 kbps
Contact Interface		up to 223.2 kups	up to 223.2 kops		up to 440.4 top5		up to 020 kbp3
Memory (EEPBOM Size)		up to 848 kbps		up to 424 kbps		up to 848 kops	up to 848 kbps
Contact Interface		22 KB/ 72 KB/ 256 KB	64 KB	192 KB	192 KB	95 KB	60 KB
Contactless Interface		8 KB	04 100	192 KB	102110	95 KB	60 KB
Combi Interface		8 KB		192 KB		95 KB	60 KB
Protocol							
Contact Interface	T = 0	•	•	•	•	• (Default)	٠
	T = 1			• (Default)	(Default)	•	
Contactless Interface	T = CL	•		•		•	•
Certifications / Complian	ce						
Contact Interface	ISO 7816 - 1/2/3	•	•	•	•	•	•
	ISO 7816 - 4		•	•	•	•	•
	ISO 7816 - 8/9			•	•		
Contactless Interface	ISO 14443 - 1/2/3/4	•		•		•	•
	ISO 14443 Type A	•		•		<ul> <li>(Default)</li> </ul>	•
	ISO 14443 Type B					•	
Common Criteria EAL	5+	Chip Level Combi/Contactless		Chip Level	Chip Level	Chip Level	Chip Level
Global Platform 2.2.1						•	•
Java Card Classic 3.0	.4					•	•
Visa VSDC							•
FIPS 140-2 (US)				FIPS Compliant	FIPS Compliant		
File Systems				•	•		
Iransparent/Binary Fi	e	•	•				
Linear Variable Record	4	•	•				
Cyclic File	1			•	•		
Cryptographic Capabilitie	S		•				
3DES		56/112 bits	56/112/168 bits	56/112/168 bits	56/112/168 bits	56/112/168 bits	56/112/168 bits
AES			128/192 bits	128/192/256 bits	128/192/256 bits	128/192/256 bits	128/192/256 bits
RSA				Up to 4096 bits	Up to 4096 bits	Up to 2048 bits	Up to 2048 bits
ECC				Up to 521 bits	Up to 521 bits	Up to 384 bits	
HASH				SHA1, SHA224, SHA256 SHA384, SHA512	SHA1, SHA224, SHA256 SHA384, SHA512	SHA1, SHA224, SHA256 SHA384, SHA512	SHA1, SHA224, SHA256 SHA384, SHA512
CMAC				•	•		
SCP02						•	•
Mutual Authentication		•	•	•	•	•	•
Secure Messaging		•	•	•	•	•	•
Random Number Ger	nerator	•	•	•	•	•	٠
EEPROM Endurance	~	0					
100,000 Read/Write (	Dycles	Contact	•	•	•	•	•
Data Retention	DycleS	Combi/Contactiess		•	-	•	•
10 Years		•	•				
30 Years		-	÷	•	•	•	•

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#### SMART CARD READERS -))) CONTACT

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

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Engineered to be compact and easily portable, ACS SIM-sized Contact Card Reader excel in digital signature and personal identification applications, combining convenience with powerful functionality.



#### SIM-SIZED

The optimal companion of digital certificates

### **ULL-SIZED**

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A wide selection of reliable and exceptional readers designed for security applications

		© NEW	NEW	
	ACR39T-A1 / ACR39T-A5	ACR40T-A1 / ACR40T-A5	ACR40T-A6 / ACR40T-A7	ACR3901T-W1
Physical Characteristics				
Dimensions (mm)	49.5 x 21.5 x 9.0	48.9 × 17.7 × 8.0 (A1) 44.7 × 17.7 × 8.0 (A5)	49.5 × 17.7 × 8.0 (A6) 45.9 × 17.7 × 8.0 (A7)	66.0 x 24.0 x 14.0
Weight (g)	8.5 (A1) / 7.0 (A5)	6.8 (A1) / 5.3 (A5)	8.1 (A6) / 6.2 (A7)	17.0
Host Interface			- X - 1 X - 1	
USB (Full Speed)	ACR39T-A1 USB Type-A	ACR40T-A1 USB Type-A USB Type-C	ACR40T-A6 USB Type-A	ACR3901T-W1 USB Type-A
Bluetooth 4.0				•
Contact Smart Card interface				
ISO 7816 (Class A, B and C)	•	•	•	•
MCU Cards, T=0 and T=1	•	•	•	•
Memory Cards	•	•	•	•
Smart Card Read/Write Speed (kbps)	600	600	600	600
Card Form	SIM-Sized	SIM-Sized	SIM-Sized	SIM-Sized
Card Slot	1	1	1	1
Upgradeability				
Firmware Upgradeable		•	•	•
Built-In Peripherals				
LED	1	1	1	2
Button			•	•
Certifications/Compliance				
PC/SC, CCID, WHQL	•	•	•	•
CE, FCC, UKCA	•	•	•	•
VCCI (Japan)	•	•	•	•
RoHS, REACH	•	•	•	•
Bluetooth				•
MTBF (hours)	500,000	500,000	500,000	500,000
Supported OS Platforms				
Windows®	•	•	•	•
macOS	•	•	•	PC-Linked Mode
Linux®	•	•	•	PC-Linked Mode
Android™	•	•	•	•
iOS/ iPadOS (iOS16 or above)	•	•	•	•





## SMART CARD READERS -CONTACT »)) 88

With its ability to accommodate a wide variety of smart cards, the ACS full-sized smart card reader stands out as a durable and adaptable solution, making it an optimal choice for organizations and governments in search of secure and efficient smart card-based systems.

	(C) NEW	3 NEW		E ().	
	ACR40U-A1 / ACR40U-AF	ACR40U-B1 / ACR40U-BF	ACR39U-U1 / ACR39U-UF	ACR39U-N1 / ACR39U-NF	ACR39U-H1
Physical Characteristics					
Dimensions (mm)	55.0 × 65.0 × 9.0	58.5 x 67.6 x 62.5	72.2 x 69.0 x 14.5	58.0 x 20.0 x 13.9	71.5 x 80.0 x 80.0
Weight (g)	40.0	65.0	65.0 (U1) / 56.0 (UF)	12.0 (N1) / 10.0 (NF)	174.0
Host Interface					
USB (Full Speed)	ACR40U-A1 USB Type-A USB Type-C	ACR40U-BF USB Type-A ACR40U-BF	ACR39U-U1 USB Type-A	ACR39U-N1 USB Type-A ACR39U-N5 USB Type-C	ACR39U-H1 USB Type-A
Bluetooth 4.0					
Contact Smart Card interface					
ISO 7816 (Class A, B and C)	•	•	•	•	•
MCU Cards, T=0 and T=1	•	•	•	•	•
Memory Cards	•	•	•	•	•
Smart Card Read/Write Speed (kbps)	600	600	600	600	600
Card Form	Full-Sized	Full-Sized	Full-Sized	Full-Sized	Full-Sized
Card Slot	1	1	1	1	1
Upgradeability					
Firmware Upgradeable Built-In Peripherals	•	•			
LED	2	2	1	1	2
LCD					
Keypad					
Buzzer					
Certifications/Compliance					
PC/SC, CCID, WHQL	•	•	•	•	•
EMV Level 1 (Contact)	•	•	•	•	•
J-LIS (Japan)	•	•	•	•	
CE, FCC, UKCA	•	•	•	•	•
VCCI (Japan)	•	•	•	•	•
KU (Korea)	•	•	•	•	•
ROHS, REACH	•	•	•	•	•
MTRE (bourg)	500.000	500.000	500.000	500.000	500.000
Supported OS Platforms	500,000	300,000	300,000	500,000	300,000
Windows	•		•	•	•
macOS		•	•	•	•
Linux			•		
Android	•	•	•	•	•
iOS/ iPadOS (iOS16 or above)	•	•	•	•	•

Plug and Play •----Hassle-free user experience

as

<sup>O</sup>O Compact and Portable

Various form factors with compact design

Compatible Support various OS platforms





## SMART CARD READERS -CONTACTLESS & DUAL INTERFACE

ACS offers contactless smart card readers/writers to address the growing 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. Additionally, ACS provides dual interface readers that allow for the integration of both contact and contactless technologies into a single device and card, consolidating traditionally separate applications.

ACS dual interface readers facilitate the seamless integration of contact and contactless technologies, delivering a unified user experience. The readers simplify system design and expand the flexibility of applications.



	ACR1
	ACR
Physical Characteristics	
Dimensions (mm)	120.5
Weight (g)	140.0 (AC 150.0 (A
Processor	
Processor	
Power	
USB Powered	
Host Interface	
USB (Full Speed)/Serial (RS-232)	ACR1281U-C1 USB Type-A
Contactless Smart Card Interface	
ISO 14443 Type A and B	
ISO/IEC 18002 (NEC)	Tan
ISO 15603	149
Mifaro	
FeliCa	
Smart Card Bead/Write Speed (kbps)	106, 2
Beading Distance (mm) (depends on tag type)	
Extended APDU Support	
NEC Beader/Writer Mode	
NEC Card Emulation Mode	
NEC Keyboard Emulation Mode	
Contact Smart Card Interface	
ISO 7816 (Class A, B and C)	
MCLL Cards T=0 and T=1	
Smart Card Read/Write Speed (kbps)	
Upgradeability	
Firmware Upgradeable	
Built-In Peripherals	
LED	
Buzzer	
SAM Slot	
Certifications/Compliance	
PC/SC, CCID, WHQL	ACR12
CE, FCC, UKCA	
J-LIS, VCCI, MIC (Japan)	
RoHS, REACH	
Supported OS Platforms	
Windows	
macOS	ACR12
Linux	
Android	ACR12
iOS/iPadOS (iOS16 or above)	







## SMART CARD READERS -CONTACTLESS & DUAL INTERFACE

The ACS contactless reader series features 13.56MHz RFID technology for seamless communication with contactless cards and devices. With diverse form factors, compatibility, and robust performance, they enable versatile solutions for access control, payment systems, ticketing applications, and more.

	NFC®	181	E	
	NEW		NEW	
	ACR1552U-M1 / ACR1552U-MF	ACR1252U-M1 / ACR1252U-MF	WalletMate	ACR1251T
Physical Characteristics				
Dimensions (mm)	98.0 x 65.0 x 12.8	98.0 x 65.0 x 12.8	98.0 x 65.0 x 12.8	75.0 x 30.0 x 12.7
Weight (g)	89.0	81.0	81.0	15.8
Processor				
Processor	32 bit	32 bit	32 bit	8 bit
Power USB Powered	•	•	•	•
Battery Powered				
Host Interface USB (Full Speed)/Serial (RS-232)	ACR1552U-M1 USB Type-A	ACR1252U-M1 USB Type-A	WalletMate USB Type-A	ACR1251T USB Type-A
Bluetooth 4.0				
Contactless Smart Card Interface				
ISO 14443 Type A and B	•	•	•	•
ISO 15693	•	•	•	•
Mifare	•	•	•	•
FeliCa	•	•	•	•
Smart Card Read/Write Speed (Kbps) Reading Distance (mm) (depends on tag type)	106, 212, 424, 848	106, 212, 424	106, 212, 424	106, 212, 424
Extended APDU Support	•	•	•	•
NFC Reader/Writer Mode	•	•	•	•
NFC Card Emulation Mode	•	•	•	
NFC Keyboard Emulation Mode	•			
Firmware Upgradeable	•	•	•	•
Built-In Peripherals				
LCD	4 bi seleve	1 bi selece	t bi colour	1 bi colour
Buzzer	•	•	•	i bi colodi
SAM Slot	1	1		
Certifications/Compliance				
PC/SC, CCID, WHQL	•	•	•	•
CE. ECC. UKCA	•	•		•
J-LIS (Japan)	•	•	•	
VCCI, MIC (Japan)	•	•	•	•
TELEC (Japan)	•	•		
Bluetooth	•	•	÷	÷
Supported OS Platforms				
Windows	•	•	•	•
macOS	•	•	•	•
Android			•	





Subject to change without prior notice

### Contactless Card Reader



ACS develops smart card reader solutions in embeddable form. These smart card reader modules are designed to be integrated into embedded systems, which include smart card readers, ATM machines, kiosks, and gaming machines. SAM slots add layers of security to the modules. This product line offers both contact and contactless reader module options to help it add value to a wide range of applications.

		ACM12521L-72 /		
	ACM1252U-Y3	ACM1252U-Z6	ACM1281S-C7	ACM39U-Y3
hysical Characteristics				
Dimensions (mm)	55.0 x 45.0 x 5.1 (Main Board)	52.0 x 20.0 x 5.3	106.6 x 67.0 x 16.0	70.0 x 82.0 x 10.0
	91.0 x 49.5 x 5.1 (Antenna Board)			
Weight (g)	26.6	3.7 (ACM1252U-Z2) 3.5 (ACM1252U-Z6)	20.8	32.0
lost Interface				
USB (Full Speed)	•	•	ACM1281U-C7	٠
Serial (RS-232)			ACM1281S-C7	
Connector Type	SMT	Micro USB (ACM1252U-Z2) 6pins FPC (ACM1252U-Z6)	2.54mm Pitch (ACM1281U-C7) 2.54mm Pitch & 2.5mm Pitch (ACM1281S-C7)	1.25mm Pitch
ontact Smart Card Interface				
ISO 7816 (Class A, B and C)				•
MCU Cards, T=0 and T=1				•
Memory Cards				•
Smart Card Read/Write Speed (kbps)				600
Card Form				Full-Sized
ISO 14442 Time A and R	•	•	•	
ISO/IEC 18092 (NEC)	•	•	Tag Type 1/2/4	
Mifare	•	•	•	
FeliCa	•	•		
Smart Card Read/Write Speed (kbps)	106, 212, 424	106, 212, 424	106, 212, 424, 848	
Reading Distance (mm)	up to 50	up to 30	up to 50	
Extended APDU Support	•	•	•	
NFC Reader/Writer Mode	•	•	•	
NFC Peer-to-Peer (P2P) Mode	•	•		
NFC Card Emulation Mode	•	•		
pgradeability				
Firmware Upgradable	•	•	•	
CAM Clot	Lloop Regulast			
I ED	1 bi-colour	1 bi-colour	2	2
Buzzer	•		•	
Certifications/Compliance				
PC/SC, CCID, WHQL	•	•	ACM1281U-C7	•
CE, FCC	•	•	•	•
VCCI (Japan)	•			
MIC (Japan)		ACM1252U-Z2		
RoHS, REACH	•	•	•	•
upported OS Platforms		-		
vvindows	•	•	•	•
macOS	•	•	ACM1281U-C7	•
Android	•		ACM128111.07	•
iOS/iPadOS (iOS16 or above)	•	•	AGIN12010-07	•
	-	-		-



## AUTOMATIC FARE COLLECTION TERMINALS

ACS develops and provides multi-interface devices to offer the convenience of cashless payment in transportation, parking and retail establishments such as fast food chains and convenience stores. These terminals support ISO 14443 Type A & B, MIFARE®, FeliCa, any of 4 types of NFC (ISO18092), Mastercard® Contactless or Visa payWave® cards/ tags, and printed or mobile barcodes. Accepting a wide range of payment options, this product line enables you to speed up operations and defend transactions against evolving threats.





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	PC	
	ME	-
NEW		

ACR35

/) sk mount)	245.0 x 135.0 x 91.0 (Main Body) 245.0 x 135.0 x 159.0 (Main Body + Back mount)
	1.01 (Main Body) 1.81 (Main Body + Back mount)
mm	Pole Dimension: 31mm, 32mm, 35mm (Both Vertical and Horizontal)
or	Arm® Cortex®-A9 Quad-Core 1GHz Processor
	Linux
	•
	9.36 VDC
o -24 VDC VDC	Reversed voltage polarity protection: up to -24 VDC Over voltage protection: up to +60 VDC
	48 W
ſ	5 seconds with full function after primary power source is lost
	•
	•
	•
	•
	106, 212, 424
	up to 50
	٠
	25 GB
	1 GB
	32 KB Up to 128 GB
	•
	4 (Size: ID-000)
	4.3" Color LCD
	480 x 272
	Capacitive Type
back)	4 with blue back-lit 6 (/locs at the front and 2pcs at the back)
buony	•
	•
	•
	•
	USB Host (Type A)
	H9-232 X 1, H9-489 X 1 2,4GHz. IFFF 802.11 b/a/n
	4G/3G/GPRS
	1 (Size: ID-000)
	10/100/1000 Mbps
	GPS, Glonass, Beidou, Galileo AGPS Support
	5.1 Dual Mode
	2 x Input + 2 x Output
	•
	•
	Fixed Key, MK/SK, DUKPT
	•
	•
	•
	•
	•
	Military Standard MIL-STD-810
	IP65
	IKU8



ACS's FIDO® certified devices are compliant with FIDO U2F and FIDO2 protocols, and aim to provide users with a speedy and safeguarded passwordless online login experience.

#### USB SECURITY KEY FIDO Alliance Certified devices

**Reliable** Robust casing design

<sup>©</sup>

**Strengthen Account Security** FIDO U2F, FIDO2, FIDO2 CTAP2 authenticators

Enable Swift Online Login Passwordless operations



Physical Characteristics	
Dimensions (mm)	29.0 × 14.5 × 10.5
Weight (g)	4.5
Cryptographic Specifications	
ECC p256	•
Resident Key Storage	200
Interface	
USB (Full Speed)	•
ISO 14443 Type A	
ISO 7816 1/2/3	
Built-In Peripherals	
Button	1 with blue back-lit
LED	1 (Blue)
Certifications/Compliance	
FIDO U2F, FIDO2 L1	•
CE, FCC, UKCA	•
RoHS, REACH	•
Common Criteria EAL6+	
Other Features	
Key Management Supported	•
Enterprise Attestation	Upon Request
Drivers and Support (OS)	
Windows	•
macOS	•
Linux	•
Android	•
iOS/iPadOS (iOS16 or above)	•
Browsers Support	
Chrome	•
Safari	•
Microsoft Edge	•
Firefox	•

	Advanced Card Systems Ltd.	
	fido 🗧	
W	PocketKey NFC <sup>W</sup> fide	
	PocketKey NFC Card	
	ISO Card (Full Size)	
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	Chip Level	
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	Upon Request	
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