



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

# ACR122T USB Token NFC Reader



Technical Specifications V2.06



## Table of Contents

1.0.	Introduction .....	3
2.0.	Features .....	4
3.0.	Typical Applications.....	5
4.0.	Technical Specifications.....	6



## 1.0. Introduction

The ACR122T is the token version of the ACR122U, the world's first NFC card reader compliant with the CCID standard. It is developed based on the 13.56 MHz RFID technology and the ISO/IEC 18092 NFC standard. It supports not only MIFARE® and ISO 14443 Type A and B cards but also FeliCa® and NFC tags.

Because of its compact size and great portability, you can bring the ACR122T and conveniently use it in public areas such as a coffee shop or use it at home to securely login to your notebook, load your e-Purse, check your balance, and pay for a product or service you ordered.





## 2.0. Features

- USB 2.0 Full Speed Interface
- Smart Card Reader:
  - Contactless Interface:
    - Read/Write speed of up to 424 Kbps
    - Built-in antenna for contactless tag access, with card reading distance of up to 30 mm (depending on tag type)
    - Supports ISO 14443 Part 4 Type A and B cards, MIFARE, FeliCa, and all four types of NFC (ISO/IEC 18092 tags)
    - Built-in anti-collision feature (only one tag is accessed at any time)
- Built-in Peripheral:
  - User controllable bi-color LED
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- Supports Android™ 3.1 and later<sup>1</sup>
- Compliant with the following standards:
  - EN60950/IEC 60950
  - ISO 18092
  - ISO 14443
  - PC/SC
  - CCID
  - CE
  - FCC
  - RoHS 2
  - VCCI (Japan)
  - KC (Korea)
  - Microsoft® WHQL

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<sup>1</sup> Uses an ACS-defined Android Library



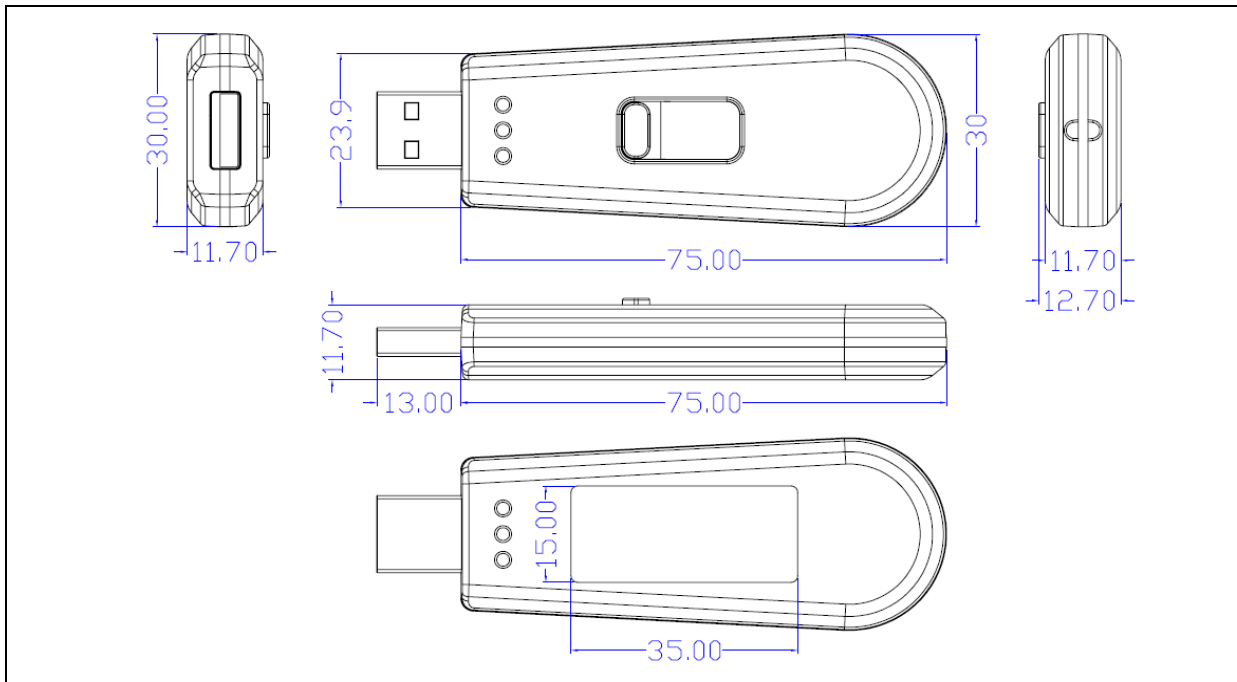
### 3.0. Typical Applications

- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Transportation
- Network Security
- Access Control
- Loyalty Program





## 4.0. Technical Specifications



### Physical Characteristics

Dimensions .....	75.0 mm (L) x 30.0 mm (W) x 12.7 mm (H)
Weight .....	15 g
Color .....	Pearl White
Material .....	Polycarbonate (PC)
Casing .....	Extractable USB plug

### 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
Supply Current .....	Max. 200 mA
.....	50 mA (standby)
.....	100 mA (normal)

### Contactless Smart Card Interface

Standard .....	ISO 14443 A and B Parts 1-4, ISO/IEC 18092 (NFC), MIFARE and FeliCa
Protocol.....	T=CL
.....	FeliCa protocol
Operating Frequency .....	13.56 MHz
Operating Distance .....	Up to 30 mm (depending on tag type)
Smart Card Read/Write Speed.....	106 Kbps, 212 Kbps, 424 Kbps

### Built-in Peripheral

LED .....	1 bi-color, Red and Green
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### Application Programming Interface

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

### Operating Conditions

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

### Certifications/Compliance

EN60950/IEC 60950, ISO 14443, ISO 18092, USB Full Speed, PC/SC, CCID, CE, FCC, RoHS 2, VCCI (Japan), KC (Korea), Microsoft® WHQL



**Device Driver Operating System Support**

Windows® CE 5.0, Windows® CE 6.0, Windows® 2000, Windows® XP, Window Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® 10  
Windows® Server 2003, Windows® Server 2003 R2, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2  
Linux®, Mac OS®, Android™ 3.1 and later



Android is a trademark of Google Inc.  
FeliCa is the contactless IC card technology developed by Sony Corporation.  
FeliCa is a registered trademark of Sony Corporation.  
Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.  
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