Advanced Card Systems Ltd.
Card & Reader Technologies

ACR128

Dual Interface Reader

A Product Presentation

www.acs.com.hk

Rundown

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Product Overview

ACR128 Dual Interface Reader

Belonging to the Contactless Product Family – an extension to the product line while also supporting Contact interface

Multi-application reader designed to interface with a PC for conventional smart card applications

Product Features

What are the Key Features of ACR128?

Intelligent Support
Hybrid and Combi Cards

Smart Card Interface
PICC (Contactless)
SAM, ICC (Contact)

Device Firmware Upgradeable
Through RS232 upgrade cable

High-Speed Transaction
106 kbps – 848 kpbs (Max

Supported Card Types
ISO 14443 Type A & B
Mifare Classic
ISO7816 Class A, B cards

User Controllable Peripherals
Bi-Color LED
Buzzer (on request)

Others/Misc
Power saving modes
Auto PPS (PICC)

Protocols & Standards
ISO7816 T= 0 & 1 Contact
ISO 14443 Parts 1-4
Contactless
Native T=CL
PCSC and CCID
USB V2.0 (12 Mbps)

PC/SC Standard

- A specification that can facilitate the interoperability necessary to allow ICC*/PICC* to be effectively utilized in PC environment
- Offers common PC programming interfaces and control mechanisms, like PC/SC application

*(Integrated Circuits Card)
*(Proximity Integrated Circuit(s) Card)

Intelligent Support on Combi and Hybrid Cards

- For Combi Card, if it is inserted into the contact card slot, ICC interface will be used and PICC interface will be disabled, as well as PSSC Polling function for PICCs.
- For Hybrid Card, if it is inserted into the contact card slot, both ICC and PICC interfaces will be used to access the Hybrid card.

Combi card = ONE IC chip shares two interfaces
Hybrid card = TWO IC chips for two interfaces

Power saving mode

- Antenna power is only turned on if required
- Most of time the antenna is turned off
- User is able to control the period of time for turning the antenna on/off
- For ACR120, the antenna is always turned on

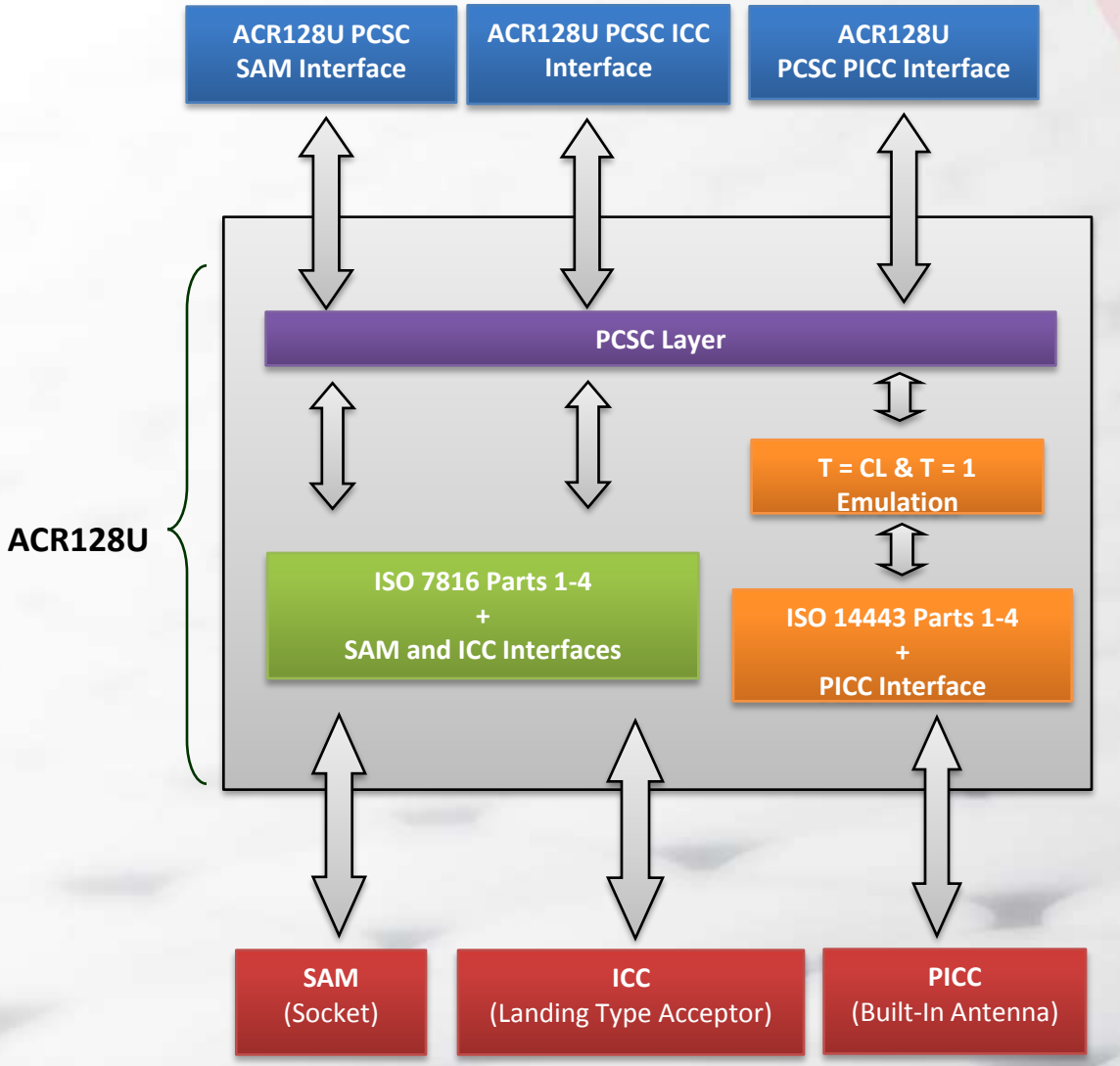
Auto PPS (PICC)

- Whenever a PICC is recognized by the reader
- Change the communication speed between the PCD and PICC by the Maximum Connection Speed
- The Maximum Connection Speed depends on the card types

Product Features

- ACR128U is built based on a more advanced architecture
- Suitable for high speed transactions requirement
- Suitable for highly secure environment

ACR128 Architecture



Product Value

What are the Key Benefits of ACR128?

Save Costs
Single reader provides additional design and cost-saving benefits for systems integrators and card users.

High Security
SAM on board (Contact Interface)

PICC Support
Supports both Type A and B cards

High-Speed Transaction
Baud rate up to 848 Kbps (contactless)

Contemporary Styling & Durability
Easy to replace SAM
Card alignment tray for contactless card
Landing type contact connector

Ease of integration
PCSC interface
Native T=CL support

Ease of Technology (Migration/Upgrade)
Quick and easy migration from contact to contactless technology
Firmware upgradable

Product Application

In what areas can we apply ACR128?

Transportation

Payment System
(ePurse, etc.)

Campus Facility
Management

Electronic Passport
(ICAO)

Network Access

Physical Access Control

How to Use ACR128 - Overview

Sample Scenario: Electronic Passport

Software

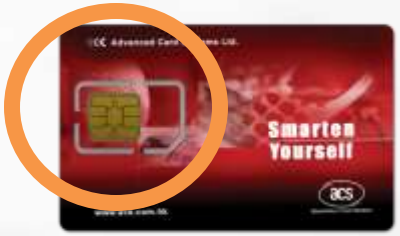
Entry records from e-Passport will reflect on the counter/terminal's screen.

How to Use ACR128 - Overview

Sample Scenario: Key Diversification

UID: DC 71 46 96

Default key: FF FF FF FF FF FF



ACOS6 SAM Card inserted in the device

DES Operation

PRI_KEY = 00 .. 00 (16 zeros)

DIV_KEY = 30 FB 9B DF 2E 62

Becomes the authentication key for the MIFARE card.

Thank You!!!

More information on:

http://www.acs.com.hk/acr128.php