

Advanced Card Systems Ltd.



ACR30 Smart Card Reader/Writer



TECHNICAL SPECIFICATIONS

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ACR30 Smart Card Reader/Writer

1.0 Introduction



The ACS Smart Card Reader/Writer ACR30 is a device for the communication between a computer (for example, a PC) and a smart card. It is designed for the PC environment, and is the ultimate smart card peripheral for a PC, available in both serial version and USB version.

The ACR30 Reader/Writer establishes a uniform interface from the computer to the smart card for a wide variety of cards. By taking care of the card specific particulars, it releases the computer software programmer of getting involved with the technical details of the smart card operation, which are in many cases not relevant for the implementation of a smart card system.

The ACR30 Smart Card Reader/Writer is also very simple to use and install. It is ideal for electronic commerce, home banking or e-purse facilities, secure computer access or any of a multitude of other applications.

2.0 Features

- USB PnP or serial interface to PC with simple command structure
- Read and write all microprocessor cards (MCU) with T=0 and T=1 protocols
- Read and write popular memory card types
- Certificate of conformance: ISO 7816-1/2/3, CE, FCC, Microsoft WHQL (ACR30U), EMV certified
- ISO7816-1/2/3 compatible smart card interface
- Support commonly used memory cards (I2C, SLE4406, SLE4418/28, SLE4432/42)
- Support PPS (Protocol and Parameters Selection) with 9600 – 96000 bps in reading and writing smart cards

3.0 Supported Card Types

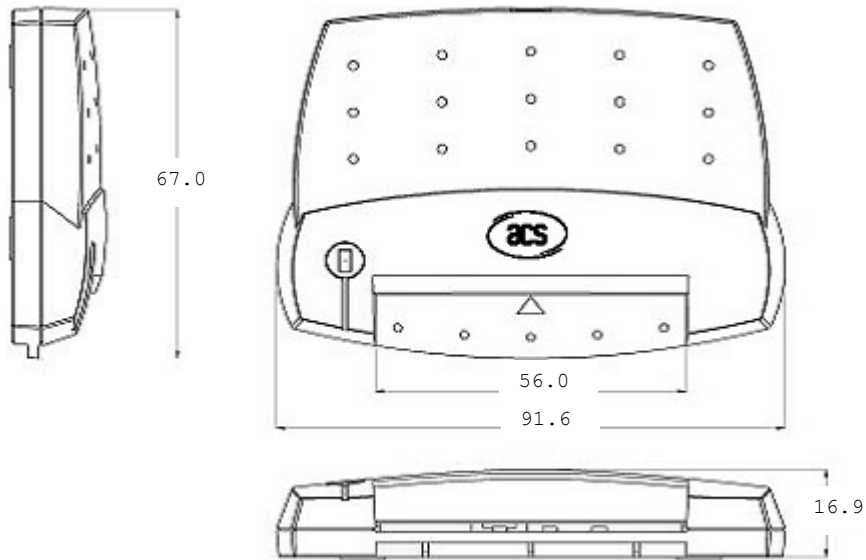
3.1 MCU Cards

The ACR30 can operate MCU card with T=0 and T=1 protocol. The table presented in Appendix A (reference manual) explains which card type selection value must be specified for the various card types supported by the reader.

3.2 Memory-based smart cards (synchronous interface)

- '104' type EEPROM non-reloadable token counter cards, including: GPM103, SLE 4406, SLE5536, ST1305, ST1335
- Cards following the I²C bus protocol (free memory cards) such as Atmel AT24C01/02/04/08/16, SGS-Thomson ST14C02C, 14C04C
- SLE4432/4442 intelligent 256 bytes EEPROM with write protect function: SLE 4432, SLE 4442
- SLE 4418/4428 intelligent 1K bytes EEPROM with write-protect function: SLE 4418, SLE 4428

4.0 Technical Specification



Power supply

Supply voltage Regulated 5V DC
 Supply current < 100mA (without smart card)

Serial Communication Interface

Type..... RS-232C, five lines: RxD, TxD, CTS, DTR, GND
 Power source..... From PS/2 mouse interface
 Speed 9600 – 115200 bps

Universal Serial Bus Interface

Power source..... From USB
 Speed 1.5 Mbps (Low Speed)

Smart Card Interface

Standard ISO 7816 1/2/3, T=0 and T=1
 Supply current max. 50mA
 Smart card read / write speed 9600 – 96000 bps
 Short circuit protection +5V / GND on all pins
 The presence of the smart card power supply voltage is indicated through a green LED on the reader
 CLK frequency 3.6864 / 4 MHz
 Card connector..... Contact
 Card insertion cycles min. 100,000

Physical Specifications

Dimensions..... 67.0mm (L) x 91.6mm (W) x 16.9mm (H)
 Color Transparent Blue
 Weight 85g (± 5g allowance for cable) – Cyberfrog casing
 Cable length, cord, connector..... 1.5 meters, Fixed (non-detachable), RS-232C/ USB A

Operating Conditions

Temperature 0 - 50° C
 Humidity..... 40% - 90%

Standard/Certifications

ACR30U/S: EMV Level 1, ISO7816-1/2/3, CE, FCC, NETS
 ACR30U:Microsoft WHQL 98, ME, 2K, NT 4.0, XP

OS

Windows 98, ME, 2K, NT (Serial), XP

OEM

OEM-Logo possible, customer-specific colors, casing, and card connector



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