



Advanced Card Systems Limited

Card and Reader Technologies

TECHNICAL SPECIFICATIONS

APG82 PINhandy OTP generator





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APG82 PINhandy

1.0 Introduction



Fraud on credit and debit cards has a high financial cost to card holders, banking industry and society, which can reach billions of dollars annually. Counterfeit card fraud, card-not-present (CNP) fraud, identity theft on cards are repeatedly threatening and victimizing consumers and businesses. Cardholders are often unaware of the purchases which were not made by them until the statements arrive. And most of the financial cost is largely borne by the banking industry, which is immeasurable!

To fight against fraud, reduced incidence and cost of chargebacks, APG82 PINhandy One Time Password (OTP) generator can be what you are looking for.

What is APG82 PINhandy?

APG82 PINhandy OTP generator is a compact, completely standalone, low-cost, handheld smart card device that contains a numeric keypad and a display. Certified with stringent international standards as **Mastercard® Card Authentication Program (CAP)** and **VISA Dynamic Passcode Authentication (DPA)**, and **EMV Level 1**, you can use the device in a variety of payment and bank applications.

How APG82 PINhandy works?

Using two-factor authentication, the cardholder inserts the EMV payment card (something you have) in the APG82 PINhandy, enters the PIN (something you know) using the device keyboard and a dynamic one-time password is generated and showed on the APG82 PINhandy display. Cardholder can then use this password to perform secure online transactions, telephone orders or e-banking logons.

Why APG82 PINhandy is secure and can minimize cost of specialized programming?

Having no physical connection to the cardholder's internet authentication device like PC, Macintosh, or smart phone, the unconnected mode of APG82 PINhandy makes it impossible for hackers to steal the sensitive information in the card. Also as APG82 PINhandy is a standalone device, specialized programming like software drivers is not required.

Why APG82 PINhandy is durable?

Replaceable batteries allow users to reuse PINhandy after the run down of battery, rather than to scrap it and create electronic waste.

2.0 Features

- ◆ Operate in unconnected (standalone) mode
- ◆ Tactile keypad with silicon rubber keys (10 numeric plus 4 function keys)
- ◆ High-contrast, 16-character, 2-line LCD (character format: 5 x 8 dots)
- ◆ Powered with 2 AAA replaceable batteries
- ◆ Intelligent battery management for a life expectancy of 5 years (depending on usage)
- ◆ Allow only semi-insertion of cards, which avoids cardholders from leaving their cards behind
- ◆ Compatible with ISO-7816 Class A,B,C (5V, 3V, 1.8V) cards
- ◆ Support of T=0 and T=1 MCU cards
- ◆ Support PPS (Protocol and Parameters Selection) with 1743 – 250,000 bps in reading and writing smart cards
- ◆ Manage OTP (One Time Password), challenge-response and transaction data signing
- ◆ Tamper-evident seal to indicate unauthorized intrusion
- ◆ Compact and handheld size: 81.00mm (L) x 72.90mm (W) x 15.27mm (H)
- ◆ Light and portable weight: 35g (without batteries); 60g (with batteries)

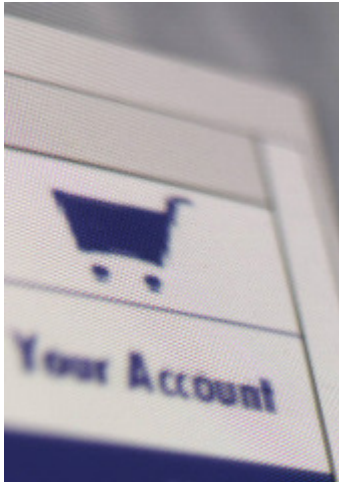


3.0 International Compliance and Certifications

- ◆ MasterCard® Card Authentication Program (CAP)
- ◆ VISA Dynamic Passcode Authentication (DPA)
- ◆ EMV Level 1
- ◆ CE
- ◆ FCC
- ◆ RoHS Compliant
- ◆ ISO-7816 – 1/2/3

4.0 Typical Applications

- ◆ e-Banking
- ◆ e-Commerce
- ◆ Telephone Order

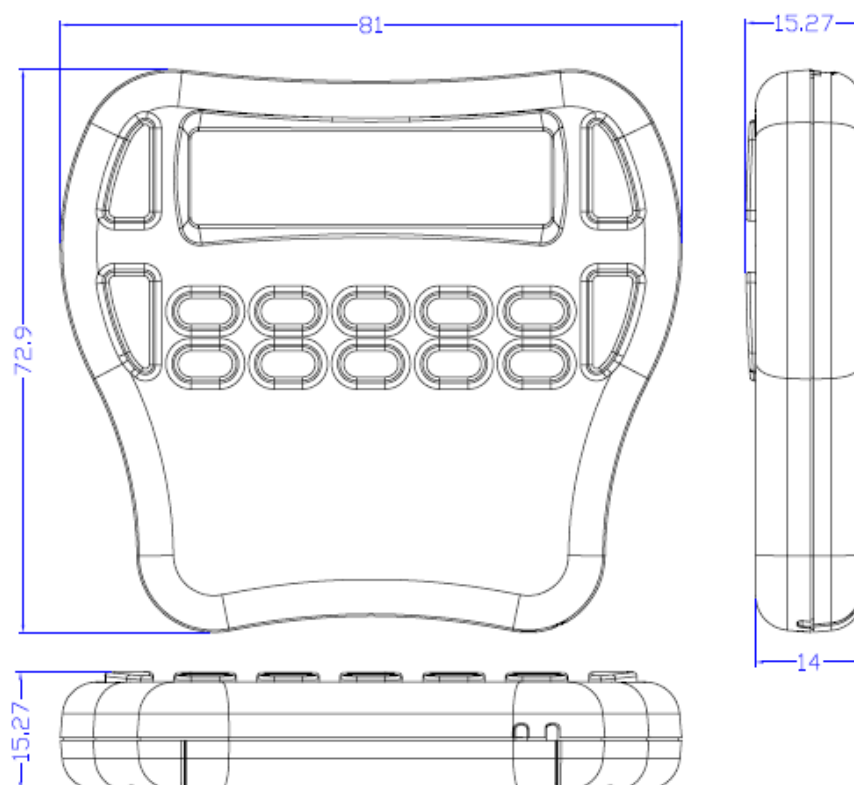




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5.0 Technical Specification



Power supply

Supply voltage 2 x AAA batteries (replaceable)
Supply current..... < 100mA (without smart card)

Smart Card Interface

Standard ISO 7816 1/2/3, T=0 and T=1
Supply current..... max. 50mA
Smart card voltage..... 1.8V, 3V or 5V
Smart card read / write speed 1743 – 250,000 bps
Short circuit protection +5V / GND on all pins
CLK frequency..... 4 MHz
Card connector sliding contacts (8 contacts)
Card insertion cycles..... min. 100,000

Human Interfaces

Keypad 14 keys (10 Numeric keys, 4 function keys)
LCD Display..... 16-character, 2-line LCD (character format: 5 x 8 dots)

Physical Specifications

Case Color..... White
Device Dimensions 81.00mm (L) x 72.90mm (W) x 15.27mm (H)
Weight 35g(without battery); 60g(with batteries)

Operating Conditions

Temperature 0 - 50° C
Humidity..... 40% to 80%, non-condensing

Compliance/Certifications

MasterCard® CAP, Visa DPA, EMV Level 1, CE, FCC, RoHS Compliant, ISO 7816-1/2/3



OEM

OEM-Logo possible, customer-specific colors, casing and card connector, types of cards supported, multilingual font support