



Advanced Card Systems Ltd.
Card & Reader Technologies

APG8201 PINhandy 1 OTP Generator



Technical Specifications



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 surge of online presence resulting from people's reliance on the web for performing online transactions has made the practice of creating and keeping track of unique and complicated passwords difficult and inconvenient. As a result, many use simple universal log-in details, without recognizing inherent security attacks that take advantage of such practice. Causing distress and loss to victims worldwide, these attacks aim to steal confidential information and use them to perpetuate fraud. Nevertheless, the reliable APG8201 PINhandy 1 OTP Generator acts as a

powerful tool to prevent these occurrences.

What is APG8201 PINhandy 1?

APG8201 PINhandy 1 is a portable and cost-efficient smart card device that can perform authentication for various applications either on PC-linked or standalone mode. It is capable of managing One Time Passwords, Challenge-Response Authentication Codes, and Transaction Data Signing (PKI digital signatures) based on the security keys stored in EMV cards.

How does APG8201 PINhandy 1 work?

APG8201 PINhandy 1 uses a two-level authentication process, which requires the cardholder to insert the EMV card into the device and enter a PIN using the built-in pin-pad. Verifying both the card and PIN code, APG8201 generates a one-time password that can only be used once for each online transaction as in banking logon and telephone ordering.

Why is APG8201 PINhandy 1 secure?

APG8201 PINhandy 1 is compliant with major banking, computing and safety standards such as Mastercard® Chip Authentication Program (CAP), Mastercard® PIN-/Perso-less Authentication (PLA), VISA Dynamic Passcode Authentication (DPA) and EMV Level 1. It is specially designed to safeguard users from emerging fraud attacks like Card-not-Present (CNP) fraud and Man-in-the-Middle attacks. It also provides proof that a card is present during an OTP generation process.

Likewise, APG8201 PINhandy 1 supports Secure PIN Entry (SPE) to assure secure PIN entry and PIN change while on PC-linked mode. On standalone mode, the PIN is securely entered into the device and kept from being exposed to vulnerable PC's or workstations, hence eliminating the possibility of a Virus/Trojan getting hold of the PIN.

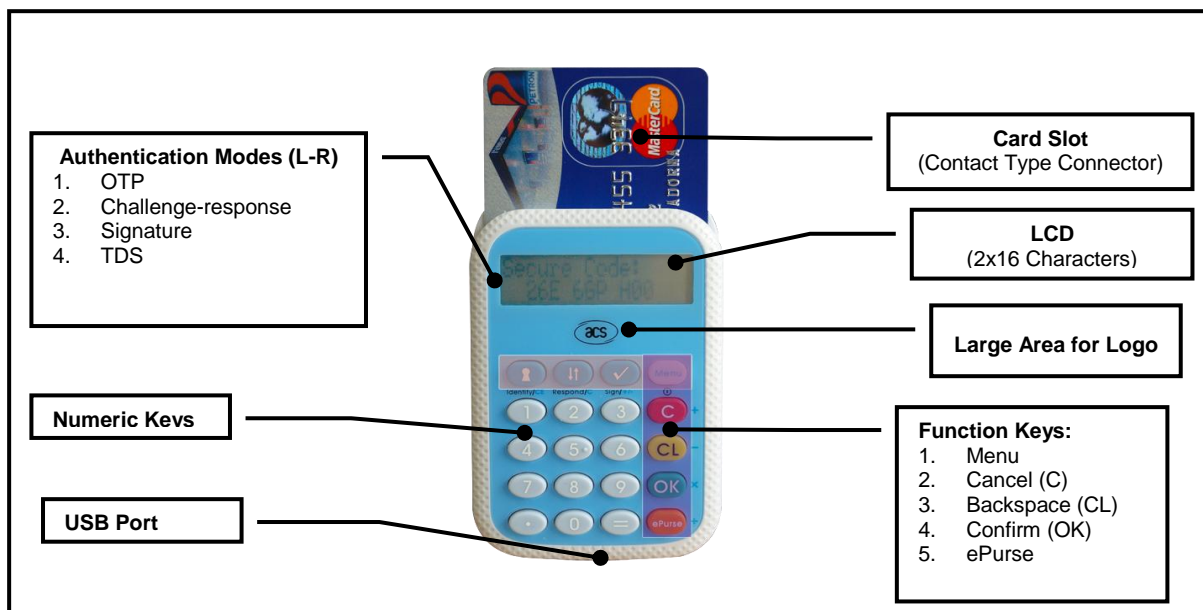
How can APG8201 PINhandy 1 help you save money?

Banks can now efficiently distribute APG8201 PINhandy 1 to individual customers in bulk/volume without the concern for handling sensitive data. Complicated device issuance or re-issuance strategies are no longer needed, hence lowering the overall implementation cost. Finally, it does not need any specialized programming to work, enabling one to easily integrate it to existing applications.



2.0. Features

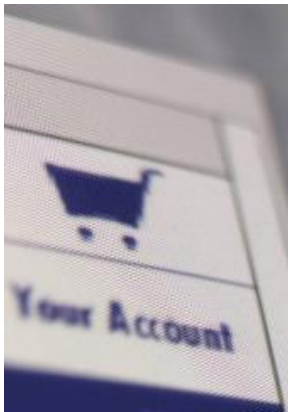
- PC-linked and Standalone Modes
- Support for OTP (One Time Password), Challenge-Response and Transaction Data Signing Modes
- 2 CR2032 Batteries on Standalone Mode
- USB Connection for PC-linked Mode
- Intelligent Battery Management or a Life Expectancy of 5 Years (depending on usage)
- USB 2.0 Full Speed (12 Mbps)
- Full-Sized Microprocessor Cards (T=0, T=1 Protocols) Support
- ISO-7816 Class A Cards Support
- Acceptance for Semi-insertion of Cards
- PPS (Protocols and Parameters Selection) Support
- PC/SC 2.01 Secure PIN Entry (SPE) Support
- Key Symbol on LCD to Recognize SPE Mode
- Graphical LCD for Logos and Multiple-language Characters
- Monotone Buzzer
- Value-Added Calculator and ePurse Function
- Durable Tactile Keypad with 20 Silicon Rubber Keys
- Tamper Indication Seal to Indicate Unauthorized Intrusion
- Handheld Device with Compact and Portable Design
- Short Circuit Protection
- MasterCard® Chip Authentication Program (CAP)
- MasterCard® PIN/Perso-less Authentication (PLA)
- VISA Dynamic Passcode Authentication (DPA)
- UK APACS
- EMV Level 1
- CE
- FCC
- RoHS
- ISO-7816
- PC/SC 2.01 Secure PIN Entry
- Microsoft® WHQL
- CCID





3.0. Typical Applications

- e-Banking
- e-Payment
- Dynamic One-Time Password
- Remote Authentication
- Digital Signature





4.0. Technical Specifications

Power Supply

Supply Voltage.....Standalone Mode: 2 x CR2032 Batteries (Replaceable)
..... PC-Linked Mode: USB

Universal Serial Bus Interface

Type USB Full Speed, Four Lines: +5V, GND, D+ and D-
Power Source..... USB-Powered
Speed..... 12 Mbps

Smart Card Interface

Standard..... ISO 7816 Class A (5V), T=0 and T=1
Supply Current..... Max. 50mA
Smart Card Read/Write Speed 1743 – 250,000 bps
Short Circuit Protection..... +5V / GND on All Pins
CLK Frequency..... 2 MHz
Card Connector Contact
Card Insertion Cycles Min. 100,000

Human Interface

Keypad 20 Keys
LCD Display Graphical LCD for Logos and Multiple-language Characters
..... (1 line for 6 Chinese/16 alphanumeric characters, 128x24 pixels)
Tamper Evidence Tamper Indication Seal beneath Screw
Buzzer Monotone Buzzer

Physical Specifications

Case Color White
Dimensions..... 95.00mm (L) x 60.00mm (W) x 11.00mm (H)
Weight..... 49g (with Batteries)
Cable Length, Cord, Connector 1.5 meters, Black, Detachable, and USB B

Operating Conditions

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

Operating Systems

For PC-Linked Mode: Windows Vista, XP, 2K, Linux

Compliance/Certifications

MasterCard® CAP, MasterCard® PLA, Visa DPA, EMV Level 1, CE, FCC, RoHS, ISO 7816, PC/SC 2.01, Microsoft® WHQL, CCID



Other Features

Other Features Built-in Calculator Function, ePurse