



IDnomic Embedded Security

# CardOS OTP-Calculator One Time Password generation with CardOS



Trusted partner for your Digital Journey

**Atos**

# Great convenience by supporting technical standard

A product for sophisticated requirements - CardOS OTP-Calculator offers a simple and highly secure method to calculate One Time Passwords with CardOS smart cards

## Overview

CardOS® OTP-Calculator offers an efficient and user friendly, easy to use tool for generating One Time Passwords (OTP). The calculation is performed securely on CardOS smart cards, based on established standards.

CardOS OTP-Calculator is a member of the CardOS product family. One Time Passwords, valid for a single login to a server or application, provide a secure authentication solution.

CardOS OTP-Calculator offers a simple and user-friendly solution to calculate OTPs on CardOS smart cards and thus allows fulfilling the demand for 2-factor authentication.

Following the standard RFC 4226 (HOTP / OATH) the generated OTP can be applied to a number of standard authentication services.

CardOS OTP-Calculator is intended to support the smartcard-based OTP generation for the use with any user device which does not provide an own smart card reader.

CardOS OTP-Calculator, combined with the secure smart card operating system CardOS, offers an efficient and secure solution for the creation of authentication credentials.

CardOS OTP-Calculator can be used with CardOS cards enrolled for the sole purpose of OTP generation, as well as with cards used for general ID purposes like employee IDs at companies and organizations, student batches and signature cards.

## Description

CardOS OTP-Calculator provides an effective implementation for OTP generation. The OTP calculation is implemented according to RFC 4226 (HOTP / OATH). For that purpose the CardOS smart card receives a special OTP application. This application on the CardOS card holds the OTP information shared with the authentication service for which the OTP is to be generated. This shared information (shared secrets and synchronization information) is stored on the CardOS smart card during card personalization and the synchronization of the user's card credentials with the authentication service.

One CardOS smart card can hold the information for several authentication servers. The CardOS OTP application can not only be stored on a pure OTP card, but also on a PKI card holding cryptographic keys and certificates for encryption and signature purposes as well. So the use of e.g. employee batches is possible.

CardOS OTP-Calculator provides the user interface to operate the on-card OTP generation. This on-card OTP calculation ensures the most secure OTP generation. The shared secrets used for the calculation are protected by the powerful security mechanism of the CardOS operating system. The ownership of the smart card together with the PIN secured access to the smart card ensure the safe 2-factor authentication. Thus the CardOS OTP-Calculator enables secure, smart card based generation of One Time Passwords for all user devices without smart card readers or NFC smart card connectivity.

## Current Versions

- CardOS OTP-Calculator V1.0

## Technical data

### Supported Standards:

- RFC 4226 / HOTP

### Supported smart card Operating Systems:

- CardOS V5.0
- CardOS V5.3
- CardOS DI V5.3

### Supported Languages:

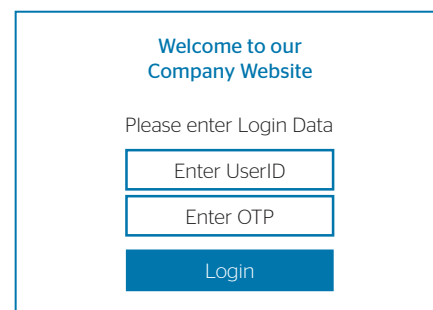
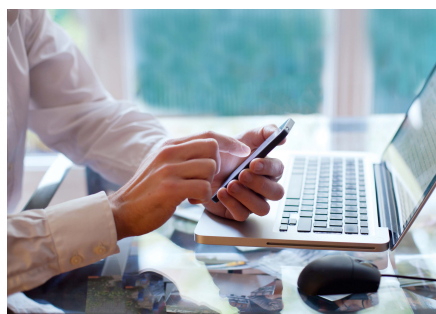
- English

### Supported Authentication Services:

- Servers supporting HOTP / OATH (RFC 4226), e.g. Atos DirX Access

## Further information for integration

Shared Information for OTP generation needs to be stored in the respective backend authentication service, e.g. Atos DirX Access or other backend service supporting HOTP / OATH (RFC 4226).



Application requires Logo

Calculate One Time Password and Enter OTP for Authentication

Find out more about us  
[atos.net/cardos](https://atos.net/cardos)

Atos, the Atos logo, AtosISyntel, and Unify are registered trademarks of the Atos group, October 2020. 2020 Atos. Confidential information owned by Atos, to be used by the recipient only. This document, or any part of it, may not be reproduced, copied, circulated and/or distributed nor quoted without prior written approval from Atos.

CT-201016-AS-CardOS\_OTP\_FS\_en3