

White Paper: Maturus Vault - Cold Storage Crypto Wallet

1. Executive Summary

The Maturus Vault is a secure, offline cold storage crypto wallet solution developed and maintained by Maturus Finance GmbH, a regulated financial services provider registered with BaFin. The wallet is designed to protect digital assets against cyber threats, unauthorized access, and online vulnerabilities by keeping private keys completely offline.

2. Introduction

As the adoption of cryptocurrencies expands globally, so too does the need for institutional-grade custody solutions. Online (hot) wallets, while convenient, are inherently vulnerable to hacks and data breaches. To address this risk, Maturus Vault provides a cold wallet solution that ensures maximum asset security by operating completely offline.

3. Features

3.1 Offline Key Storage

- Private keys are never connected to the internet.
- Keys are generated and stored in air-gapped environments.

3.2 Regulatory Compliance

- Maturus Finance GmbH is BaFin-registered (ID: 10121978).
- AML/KYC procedures are implemented in line with EU and German regulatory standards.

3.3 Multi-Asset Support

- Bitcoin (BTC), Ethereum (ETH), and ERC-20 tokens supported.
- Modular architecture enables support for future assets.

3.4 Hardware-Backed Security

- Utilizes tamper-proof HSMs (Hardware Security Modules).

- Encrypted backups stored in geographically separated locations.

3.5 Dual Control & Audit Trails

- Dual authorization for transactions.
- Full audit trail for regulatory reporting and internal oversight.

4. Technology Stack

- Hardware Security: Custom-built, offline HSMs with FIPS 140-2 Level 3 certification.
- Signing Process: Offline signing with QR-based transaction encoding/decoding.
- Backup & Recovery: Shamir's Secret Sharing for encrypted key partitioning.
- Monitoring Tools: Non-intrusive monitoring via read-only blockchain observers.

5. Use Cases

- Institutional Custody: Secure treasury holdings for crypto hedge funds and banks.
- Corporate Treasury: Long-term cold storage for enterprises adopting crypto.
- Personal High-Value Storage: Family offices and HNWIs seeking offline protection.

6. Regulatory & Compliance Assurance

Maturus Vault is designed in full alignment with EU and BaFin regulatory requirements, offering compliant custody for digital assets. As of June 2025, Maturus Finance GmbH is registered under BaFin with identifier 10121978, authorized to offer crypto custody services under §1 Abs. 1a Satz 2 Nr. 6 KWG.

7. Client Onboarding & Access Control

Clients undergo comprehensive onboarding including:

- AML/KYC checks
- Risk assessment
- Wallet configuration and dual-key signing setup

Access to wallet interfaces is role-based, with multi-factor authentication and biometric options.

8. Security Protocols

- Air-gapped environments for wallet operation
- Secure enclave-based key generation
- Cryptographic integrity checks for every transaction
- Disaster recovery protocols for catastrophic events

9. Legal Disclaimers

Maturus Vault is not intended for use in jurisdictions where digital asset services are restricted or prohibited. All users are required to comply with their local laws and financial regulations. Maturus Finance GmbH does not guarantee against all potential security threats and advises diversification of crypto storage strategies.

10. Contact Information

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