

# KeySafe

A GenX Product

## **HARDWARE-BASED STORAGE OF SECURITY KEYS**

The Itron Smart Energy platform combines network infrastructure, software, and professional services to enable a range of smart grid applications. Securing communications is essential to protecting the smart grid, and safely storing cryptography keys underlies that security.

KeySafe is a tamper-resistant Hardware Security Module (HSM) that enables the secure storage and processing of cryptographic keys and certificates used by Itron applications. KeySafe provides utilities with effective protection against key compromise and theft, including insider threats. Deployed in either Itron's secure hosting facilities or a utility's own data centers, KeySafe offers redundant failover for high availability and disaster recovery.

Working in tandem with AMI or DA application modules, KeySafe offloads the cryptographic operations necessary to establish secure communications with meters and other Itron devices within the utility network. With its high-performance cryptographic engine, KeySafe performs these operations at rates that scale to the largest utility networks.

## **TAMPER DETECTION AND KEY ERASURE**

The KeySafe appliance and all enclosed circuitry are encased in a secure, tamper-resistant enclosure. KeySafe monitors this protective boundary and automatically detects and recognizes a variety of physical and electric attacks, including:

- » Extracting and analyzing data
- » Temperature attacks

- » Mechanical attacks
- » Chemical attacks
- » Tampering using electrical current

Upon detecting an attack, KeySafe immediately erases and zeroizes all sensitive data and security keys. Designed to help utilities meet stringent security mandates, KeySafe is compliant with the FIPS 140-2 Level 3 security standard.

## **SERVICES FOR KEYSAFE**

Consistent with all of its offerings, Itron offers a complete set of services to take the project from conception to conclusion. Itron can fully manage KeySafe in tandem with an existing instance of an Itron AMI or DA application suite or provide the solution to utilities to deploy in their own data center.

## KEYSAFE HARDWARE SECURITY MODULE (HSM)

### SECURITY

Cryptographic Algorithms	RSA, DSA, ECDSA (NIST & Brainpool curves) DH, ECDH (NIST & Brainpool curves) AES, Triple-DES, DES MAC, CMAC, HMAC
Hash Algorithms	SHA-1, SHA-2 Family, RIPEMD
Random Number Generation	Physical (TRNG): AIS 20/311 class PTG.2 Deterministic (DRBG): NIST SP800-90A (Hash), AIS20/31 DRG.4
Cryptographic Interfaces	PKCS#11, Java Cryptography Extension (JCE), Microsoft Crypto API (CSP), Cryptography Next Generation (CNG), SQL Extensible Key Management (SQLEKM), Cryptographic eXtended services Interface (CXI)

### SPECIFICATIONS

Interfaces	Ethernet: 2 x RJ45, 10/100/1000 Base-T USB: 2 x USB 2.0, 2 x USB 3.0 Video: 1 x DB15HD VGA connector Keyboard/pinpad: 2 x USB 2.0 (front)
Power	Input range: 100~240 VAC, 50~60 Hz AC Power requirement: Typical: 45W / 66VA Max: 50W / 70VA
Mechanical	Form Factor: 19" 1U Dimensions: 44.6 cm (17.56") W x 53.3 cm (20.98") D x 4.4 cm (1.73") H Weight: 10 kg (22.05 lbs)
Environmental	Operating temperature: +10° C to +50° C (+50° F to +122° F) Humidity: 10% to 95% relative humidity, non-condensing MTBF: 100,000 hours at +25° C (+77° F)
Approvals	RoHS II, WEEE Interference emission: EN 55022 Class B, EN 61000-3-2, EN 61000-3-3 Interference immunity: EN 55024 Equipment safety: UL, IEC 60950-1, CB certificate, CE, FCC Class B Climatic and mechanical conditions: ETSI EN 300 019 Storage Class 1.1, Transportation Class 2.1, Stationary Use Class 3.1



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