



Affordable energy and water for everyone

# ZONOS™ FullProtect

A comprehensive enterprise-level communication security protection including a Key Management Solution (KMS), connected to any Public Key Infrastructure (PKI).

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The ZONOS module FullProtect provides a Key Management System (KMS) developed for projects demanding extended security mechanisms for connecting a wide variety of IoT devices with different security requirements. It delivers state of the art KMS functionality for managing cryptographic keys and certificates including support of real-time encryption and decryption of data. A Hardware Security Module (HSM) is the core of the ZONOS module which provides a maximum of protection for the cryptographic keys as well as hardware-accelerated cryptographic operations.

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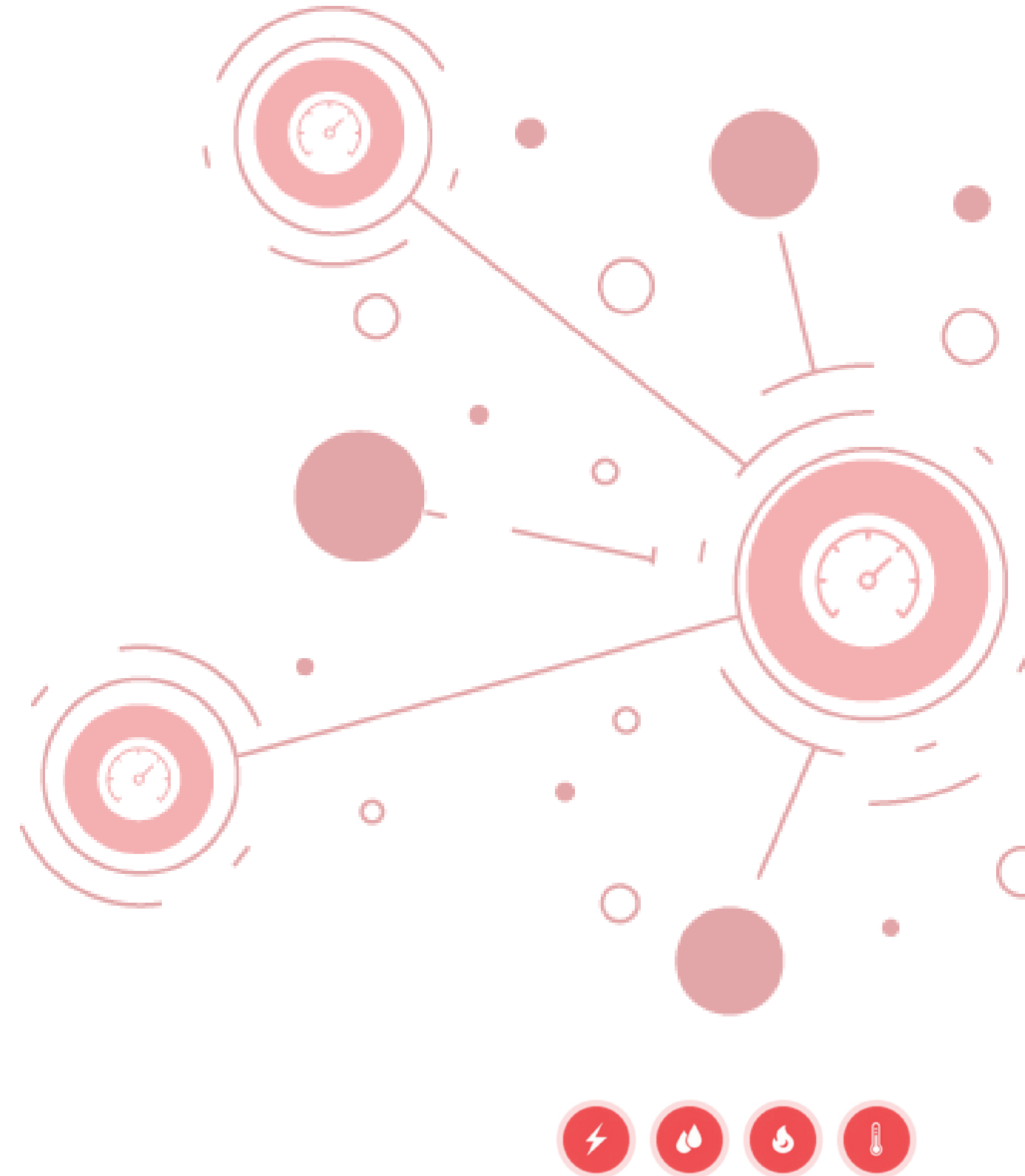
### **Secure Key Storage and Management:**

ZONOS module FullProtect implements secure storage of keys and secure management of certificates over the entire life-cycle for whatever application or device you are connecting to the ZONOS IoT Platform.

### **Support of DLMS Security Suite 0, 1, and 2:**

ZONOS module FullProtect implements full support for the high-end security solution for DLMS (Smart Metering). The module covers key and certificate management as well as encryption and decryption of DLMS data streams in hardware.

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## Use Cases

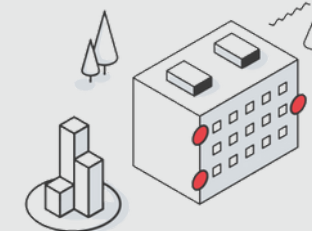
### SMART RESIDENTIAL METERING

Utility companies must remain cost efficient and avoid lock-ins to certain meter vendors when managing large volumes of residential meters. We offer solutions that cover the management of meters, connectivity, and data and customer applications.



### SUBMETERING

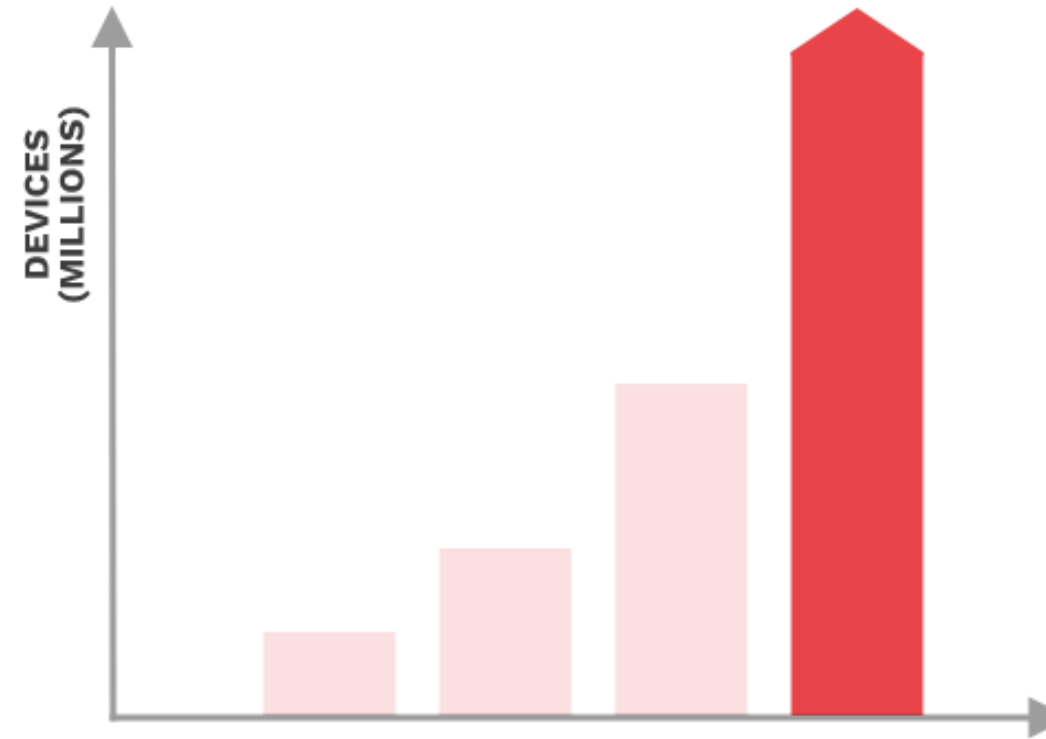
We support the immense functionality required to configure, manage, and control meters used in industrial and commercial applications scenarios. Our solutions provide utility companies with high-grade security capabilities to protect critical resources.



### INDUSTRIAL METERING

We provide end-to-end solutions with the capability to read and control meters – even beyond the utility company’s operated meter. Our technology gathers the information necessary to create accurate invoices that the utility can bill to their customers.





**MULTI-UTILITY CAPABILITY**

The IoT Platform supports a wide range of smart meter types, including electricity, water, gas, heat, and cooling utilities. It is capable of communicating with both residential and industrial meters, offering versatile solutions for various utility needs.

**SCALABLE SOLUTION, USED FOR MILLIONS OF METERS**

The IoT Platform is capable of handling several billion meter readings per day, with the ability to process and read data in short intervals. Our product team is continuously working on state-of-the-art system upgrades to further increase the volume of daily meter readings.

**MULTI-VENDOR AND MULTI-COMMUNICATION TECHNOLOGY SUPPORT**

We offer complete multi-vendor and multi-technology integration, providing out-of-the-box capabilities for over 200 different types of smart meters and devices. Our open solution supports any communication technology, ensuring seamless integration across a wide range of devices and systems.





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## **KEY BENEFITS**

### **MANAGING KEYS**

The ZONOS Module FullProtect is responsible for the management of the entire life-cycle of cryptographic keys. This includes secure import and export, monitoring of the key's expiration date or crypto period, key renewal, key revocation and key termination. The ZONOS FullProtect integrates with HSMs of different manufacturers to fulfill the highest requirements for protecting cryptographic keys.

### **MANAGING CERTIFICATES**

ZONOS FullProtect integrates with PKIs to be able to request, renew, validate and revoke certificates.

### **HARDWARE ENCRYPTION AND DECRYPTION OF DATA STREAMS**

The ZONOS FullProtect implements hardware-accelerated encryption and decryption of data streams by utilizing the capabilities of the HSMs. Beside the increased performance this also provides the highest level of protection for the cryptographic keys.

With ZONOS FullProtect, you gain comprehensive key and certificate management capabilities, hardware acceleration for data encryption and decryption, and seamless integration with existing systems. This versatile solution ensures the security and integrity of your smart metering infrastructure.

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## **ZONOS FULLPROTECT FEATURES**

- Life-cycle management for cryptographic keys
- Cryptographically secured import and export of keys
- Role-based access control to restrict the access to keys to authorised users
- Certificate management with interface to Public Key Infrastructures (PKI)
- Hardware-accelerated encryption and decryption of data streams like required by DLMS protocol
- Scalable solution based on clustering approaches
- RESTful API for easy integration

## **ADVANTAGES**

- Plug and play key management
- Hardware-accelerated encryption and decryption of DLMS APDUs
- Full support of cryptographic operations for DLMS Security Suite 0, 1 and 2
- Integrated certificate management







## We're Cuculus

Enabling utilities and organizations to successfully transition to a new era of providing and managing electricity, water, and gas.

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