

Konarak smart IoT WATER METER



Introduction

Konarak smart IoT water meter is an innovator in low-power wide-area network (LPWAN) technologies that power the M2M telemetry and Internet of Things. Konarak smart IoT uses the Wi-Fi standard that is based on Narrow Band radio technology and operates in the license-free Sub-1 GHz frequency bands. Konarak smart IoT devices connected to the Konarak smart IoT Platform via the Wi-Fi protocol use significantly less power and operate over larger distances compared to other wireless technologies which require more power and work best in the short-range. Numerous devices send data through bi-directional Wi-Fi base stations. The base stations then detect, demodulate and transfer received messages to the Konarak smart IoT Head-End System (HES) which is a part of the Konarak smart IoT Platform. Konarak smart IoT Meter Data Management (MDM) system is a Konarak smart IoT Platform application that requests or collects, validates and processes data (e.g. consumption data or events and alarms) and shares it with suppliers, utility management companies and consumers. The HES and MDM systems have API that allows exchanging data with the customer applications such as billing systems, customer care systems and solutions for data analytics.

Plug-and-play IoT devices, Wi-Fi modems with the pulse, ADC inputs and high-performance bi-directional base stations allow deploying Wi-Fi networks for IoT applications rapidly (sometimes within hours) in any part of the world. Konarak smart IoT technology and the Wi-Fi standard may be applied for Automated Meter Reading (AMR) systems, Advanced Metering Infrastructure (AMI) solutions, wireless alarm and security systems, industrial monitoring and control, smart agriculture and other wireless sensor network solutions.

The Konarak smart IoT team has extensive practical experience in the rollout of large systems with hundreds of Wi-Fi devices within a single project, and as a result, all our R&D activities are focused on the challenges that we meet in numerous use scenarios.

This document describes the Konarak smart IoT Water Meter and also provides a general overview of Konarak smart IoT technology and the Wi-Fi standard for IoT communication.

OVERVIEW

Efficient

Konarak smart IoT Water Meter Sensor has a battery-powered transceiver with low power consumption.

Intelligent

Real-time usage data is gathered wirelessly and processed automatically. Data is accessible from your Mobile API.

The decoder will be provided for different servers to get end decrypted data.

APPLICATIONS

Water metering

Frequent reporting provides a detailed usage overview.

Leakage and usage detection

Konarak smart IoT Water Meter Sensor can be configured to send alerts when leakage/usage is detected.

Tampering detection

The sensor sends an alert when magnetic tampering is detected.

FEATURES

- Long range wireless data transmission
- Optical detection of the water meter rotating gear movement
- Magnetic detection of the water meter magnetic dial movement
- Pre-installed long-life battery
- Water metering
- Backflow detection
- Removal detection*
- Tamper alert
- Leakage/usage detection
- Configurable reporting interval
- Maintenance-free - install & forget
- Easy installation
- Average life 5 years*
- Secure communication

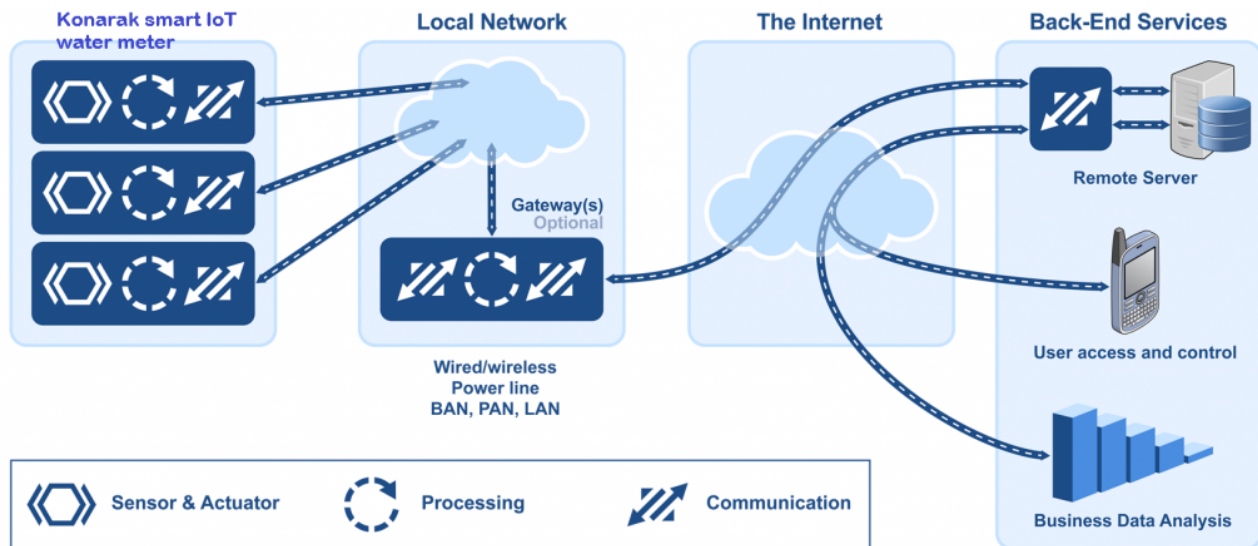
* Lifetime depends from the reading method (optical or magnetic), device location and reporting interval. With optical reading and hourly reporting the minimal expected lifetime is 2 years.

SPECIFICATIONS

Diameter:	15mm onwards
Activation:	OTAA/ABP
Coverage:	Upto 30m in indoor area and 50-100m in outdoor
Transmission speed:	Upto 300Mbps
Operating temperature:	-20°C ... +65°C
Communication range:	up to 5km outdoor depends on gateway
Tx power:	up to 22Mw
WAN Technology:	-3G,3.5G, 3.7G, and 4G LTE firmware and router configurations remotely.
MAC Layer:	Wi-Fi MPDU
Physical Layer:	802.11
Power:	Built-in battery 8500 mAh. Upto 5 years.
IP Rating:	IP54
Communication:	Wi-Fi

* Communication range is dependent on the location of the sensor and nearest base station.

System Architecture



About Konarak smart IoT water meter

Konarak Industria Pvt. Ltd, belonging to Klas Group of Companies from Bangalore, was started in the year 1980 as a Precision Manufacturing Company. With a history of more than 25-years, Konarak has acquired the reputation as reliable suppliers of precision Engineering components and Assemblies to many OEM applications in the Indian market.

Konarak has been working continuously to explore upcoming market opportunities. Backed up by a well-equipped R & D facility and Manufacturing expertise, Konarak has successfully grown into a Multi-Technology, Multi-Product company.

Konarak Developed a device which is used to monitor the amount of water being used. In India, mostly conventional mechanical reading meters are being used. A person needs to go to every meter to note down the reading and then he prepares the bill. This smart device automatically monitors the readings and sends them to the server. This data sending can be on a daily basis or as per the requirements.