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# Smart Plug with Proximity Cloud Reference Design

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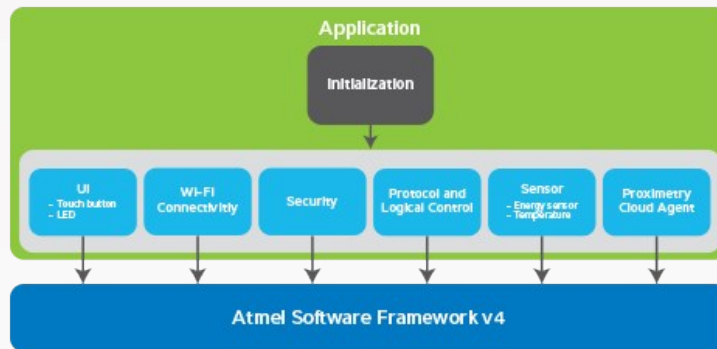
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## Introduction

The Atmel® Smart Plug is a reference design targeting any secure Internet of Things (IoT) design. It contains all the core functionality required for a secure Internet-connected product. The Smart Plug is a Wi-Fi-enabled power plug that can be controlled in three ways: locally using the capacitive touch button, using a mobile App with Wi-Fi connection (with or without cloud), or using on/off timing scheduled via a mobile App. The design is based on the Atmel SmartConnect ATSAMW25 module, as well as an ECC508A crypto device, to realize ARM® Cortex®-M0+ microcontroller (MCU) processing, Wi-Fi connection, Atmel CryptoAuthentication™ with ultra-secure hardware-based key storage and Atmel QTouch® capacitive touch buttons. It also features the ATM90E26 device, which is a sensor for energy metering functions. Three models are available: US, EU and Chinese standards.

This design targets an Atmel Cloud (by Proximity) version, which allows control of the unit through a mobile app and through the Atmel Cloud. Two other firmware variants are available: One with cloud integration for the Chinese market using the [JD Smart Cloud solution](#), and one [cloudless version](#), which allows control of the unit through a local Wi-Fi network. Note that all hardware options supports all versions of the firmware.

## Block Diagram



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Atmel SMART:

- [Atmel SMART - Smart Plug with Proximity Cloud](#)

Atmel cloud portal on Proximity:

- <https://atmelcloud.proximity.com/>

Mobile Apps:

- Android app for local Wi-Fi control (Download from [Google Play](#))



## Key Features

- **Proximity connectivity solutions with low footprint Agent library and SDK**
- **Proximity AMP v2.6 protocol optimized for low bandwidth and lossy sensor networks**

- Automatic device registration
- Remote control, scheduled control, and group operation with the Cloud
- Mutual authentication with the Proximity Cloud using X.509 certificates
- Device sensors data collection and UI for browsing historical data on graphs

## Ordering Information

Ordering Code	Atmel Store Availability <sup>1</sup>	Unit Price <sup>2</sup>	Buy Online
ATSMARTPLUG-CN		Varies	<a href="#">Check Distributor</a>
ATSMARTPLUG-EU		Varies	<a href="#">Check Distributor</a>
ATSMARTPLUG-US		Varies	<a href="#">Check Distributor</a>

<sup>1</sup>Backlog orders can be placed for items currently not available.

<sup>2</sup>Suggested retail price per unit for budgetary use only.

ATSMARTPLUG-CN: China (type I), ATSMARTPLUG-EU: EU (type F), ATSMARTPLUG-US: US and Canada (type B)



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