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Smart Plug Reference Design

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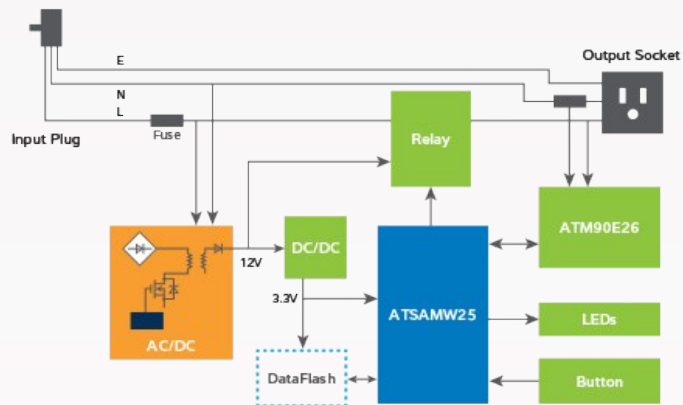
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Introduction

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

Block Diagram



+ Click to enlarge image

Atmel START:

- [Atmel START - Smart Plug](#)

Mobile apps:

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



Key Features

- Local Wi-Fi network solution
- Dedicated hardware for secure authentication and key storage
- Secured communication via Wi-Fi with ATSAMW25 module
- Power and energy metering function with Smart Energy ATM90E26
- QTouch capacitive touch button

• the-Air-Upgrade (OTA) firmware upgrade

Ordering Information

Ordering Code	Atmel Store Availability ¹	Unit Price ²	Buy Online
ATSMARTPLUG-CN		Varies	Check Distributor
ATSMARTPLUG-EU		Varies	Check Distributor
ATSMARTPLUG-US		Varies	Check Distributor

¹Backlog orders can be placed for items currently not available.

²Suggested 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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