

# ATSAM4CMS32 Demo Board

**Part Number: ATSAM4CMS32-DB**



The ATSAM4CMS32-DB demonstration board uses Atmel ATSAM4CMS32 to demonstrate the high accuracy single-phase energy metering functions. The ATSAM4CMS32 is an integrated single-phase Energy Metering SoC with 100MHz, dual-core Cortex-M4 ARM processor cores. The board is ETSI format compliant and is designed to interface with CT, Rogowski and Shunt current sensors. The board can interface with ZigBee and PLC communication modules from Atmel.

The demonstration kit includes a metering demo application and Atmel Metrology library for quick out of box evaluation. The users are required to connect their own current sensors to complete the metering demo setup.

## Key Features

- Dual-core 120MHz ARM Cortex-M4 and Poly-phase Energy Metering AFE Atmel chipset
- Single-Phase Smart Meter Demonstrator
- 85V-264V Voltage range and 2-200A Current range
- Compliant with CT, Shunt or Rogowsky Coil sensors
- Opto Port Interface compliant with ANSI C12.20 protocol
- Compliant with ETSI Meter Base format
- Metering Pulses output pins (Wh, VARh, VAh)
- Battery-backed Real time clock
- Multiple tampering detection inputs
- Power fail detection
- On-board Relay Driver circuitry
- Socket for ATSHA204 Atmel Crypto Authentication device to demonstrate hardware anti-cloning and secure key storage features
- Includes 1Mb serial memory for Meter Data Storage and 32Mb for Firmware update
- Custom 102 segments Smart Meter LCD and its menu control buttons
- On-board Isolated Interface for USB and additional isolator board for JTAG
- Interfaces for Atmel 802.15.4/ZigBee and PLC module integration
- Metering Demo Application containing flexible terminal interface and Atmel Metrology Library

## Devices

ATSAM4CMS32: Dual Cortex-M4 MCU with advanced security, flexible single-phase metrology and 2MB Flash, 100-pin.

## Applications

- Data Concentrators
- Electricity Meters
- In-Home Display Units

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