



8-bit Microcontrollers

MC9S08GW

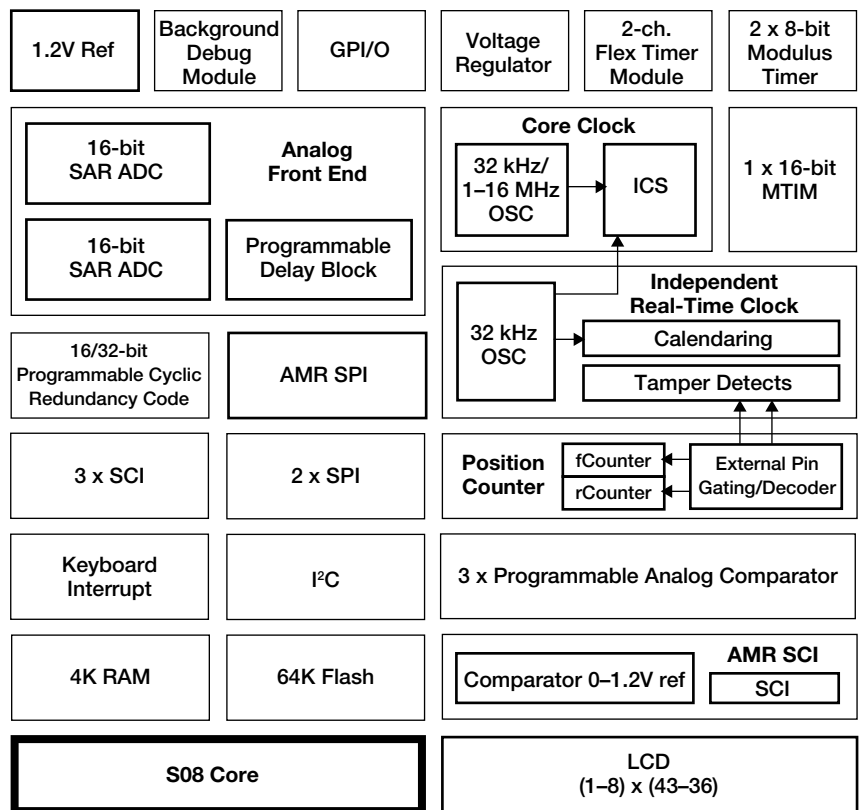
Overview

The MC9S08GW is a low-power 8-bit microcontroller family based on the proven S08 core and is designed for use in gas, water and heat flow meters, as well as single-phase electricity meters. Two independent 16-bit SAR ADCs with a programmable delay block and a position counter with automatic flow sensor decoding make this family ideal for a variety of utility metering and industrial applications. In addition, the flexible LCD controller enables it to be highly integrated. The MC9S08GW family comes with a full suite of hardware and software tools to help make development quick and easy, including a cost-effective Tower module for getting started fast.

Target Applications

- Single-phase electricity meters
- Gas, water and heat flow meters
- Industrial flow measurement and control

9S08GW 64/32 Block Diagram



Development Tools

TWR-S08GW64

Cost-effective development board that is part of the Freescale Tower System, a modular development platform that enables rapid prototyping and re-use through reconfigurable hardware.

TWR-S08GW64-KIT

Solutions-based development kit includes TWR-S08GW64 controller module, TWR-SER serial module and TWR-ELEV elevator modules.

CodeWarrior Development Studio for Microcontrollers v10.0

Special Edition Complimentary CodeWarrior Development Studio for Microcontrollers is a single tool suite that supports software development whether it is targeted at Freescale's 8-bit or 32-bit microcontrollers. Designers can further accelerate application development with the help of Processor Expert, which is an award-winning rapid application development tool integrated into the CodeWarrior tool suite.

Features	Benefits
Low Power and Secure	
Improved low-power S08 core	Helps achieve low power consumption and offers high performance through the entire voltage range
Position counter (pCounter)	Provides automatic sensor decoding and flow counting in low-power modes for longer battery life
Independent real-time clock (iRTC)	Runs on battery power supply and 32 kHz crystal, enabling accurate time keeping and calendaring
Tamper detection on iRTC	Ensures physical safety and prevents meter tampering
Rich Integration	
Two independent 16-bit SAR ADC with programmable delay block	Enables electricity metering application and provides hardware support for current measurement phase shift compensation
pCounter with automatic sensor decoding and flow counting	Enables integration for flow meter applications
AMR serial communications port	Enables glueless connection for 5V communications modules such as ZigBee® and WiMAX
Programmable cyclic redundancy check (CRC)	Ensures robust metering applications
Flexible LCD module	Provides a full-featured, user-friendly metering solution that supports up to 288 segments
Comprehensive Ecosystem	
Single-phase electricity meter reference design	Provides a complete turnkey solution to shorten time to market
Flow meter reference design	Provides a complete solution for gas and water flow meters
Low-cost Tower System module	Get started quickly with very little hardware investment
CodeWarrior v10.0 support	Develop code faster and easier

Package Options

Part Number	Package	Temp.
MC9S08GW64CLH	64 LQFP	-40°C to +85°
MC9S08GW64CLK	80 LQFP	-40°C to +85°
MC9S08GW32CLH	64 LQFP	-40°C to +85°
MC9S08GW32CLK	80 LQFP	-40°C to +85°

Learn More: For current information about Freescale products and documentation, please visit freescale.com/S08GW.