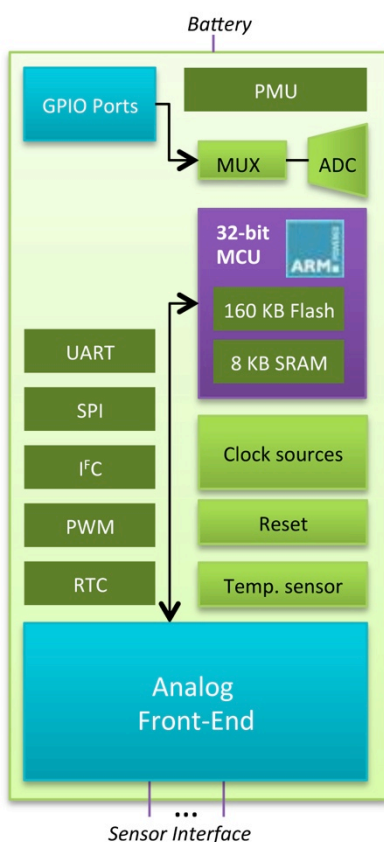![indie SEMICONDUCTOR logo]

Clemens Features

- ARM M0 32-Bit MCU
- 160kB Flash RAM
- 8kB SRAM
- One 16-bit Sigma-Delta ADC
- Two 14-bit DACs
- Integrated Power management
- 18 GPIO control pins
- RTC with Date/Time/Alarm
- 12MHz RC Oscillator
- Buffered 32.768 kHz Clock
- 10kHz Auxiliary Clock
- UART, I^{2}C, SPI interfaces
- 3V Battery or USB Powered

Recommended Applications

Battery

Sensor Interface

Commercial and Home Medical Applications

iND87202 - "Clemens"
General Purpose ARM M0 uC with Advanced AFE

Device Description

Clemens is part of indie's line of ARM M0-based microcontrollers specifically tuned for the medical applications space. It is a highly integrated M0 with advanced analog front end (AFE), capable of being used in systems with the most advanced chemical analysis requirements for commercial and home medical applications

Clemens contains a high performance 32-bit ARM M0 core with 160kB of flash RAM and 8kB of SRAM. A real time clock (RTC), 12MHz RC oscillator, 32kHz sleep mode clock, 10kHz auxiliary clock, and watchdog timer are all fully integrated on die for high performance, low power design.

The high performance analog front end (AFE) consists of a state of the art 16-Bit sigma-delta ADC and two 14-Bit DACs, which together allow for fast, highly precise chemical measurements with low calibration requirements.

Clemens includes integrated power management and is capable of running entirely off a 3V battery. No other components are required for power regulation of the IC, creating an efficient, low cost design.

Clemens also easily interfaces to any other discrete SoCs through standardized UART, I^{2}C, or SPI interfaces and provides 18 GPIO controls to interface with other on-board components.

The entire device is packaged in a low-cost 7x7mm QFN package and operates from -40C to +85C. Clemens has been certified in medical devices and is currently available in mass production quantities.

Ordering Information

Device Ordering Name	Platform	Temp Range	Package	Pins
iND87202 Clemens	Commercial and Home medical glucose appliances	-40 C to +85C	7x7 mm QFN	48 Pins @ 0.5 mm Pitch