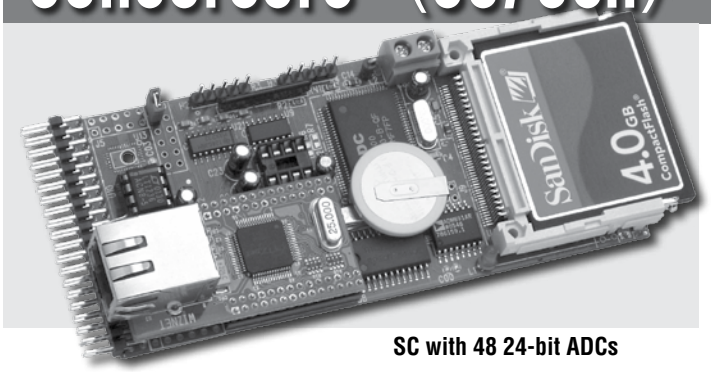
SensorCore™ (SC/SCA)

2" wide pipe-fit data-logger with 48 ADCs

NEW!



SC with 48 24-bit ADCs

Features:

- 2.0 x 4.5", 160 mA, 9-24V DC power
- Complete C/C++ programmable environment
- SC has 48 channels of 24-bit ADC inputs(LTC2448, 0-2.5V)
- SCA has 48 channels of 12-bit ADC input(ADS7852, 0-5V)
- 2 12-bit DACs on SC, 8 16-bit DAC on SCA, TTL I/Os
- CompactFlash with FAT file system support
- 40/80 MHz 186 CPU with 256 KW Flash, 256 KW SRAM
- 2 RS-232 serial ports; one can be RS232/485
- 3 16-bit timer/counters, PWM output, RTC, EE
- Hardware TCP/IP stack for 100M Based-T Ethernet

Summary

The SensorCore™(SC or SCA) is designed to fit into narrow spaces. It is a low-cost, low-power data logger for the most demanding analog data-acquisition applications.

Two versions of the 2" wide board are available: **SC** and **SCA**. The SC supports up to 48 **24-bit ADC** inputs(LTC2448, 5 KHz, 0-2.5V). The SCA can have 48 12-bit ADC inputs(ADS7852, 200 KHz, 0-5V). Four SCA boards can be stacked to provide 192 ADC inputs.

There are 2 RS232/RS485 ports, a CompactFlash interface, and a high performance 10/100M BaseT Ethernet. the SensorCore out-performs desktop-based acquisition solutions for a fraction of the price.

Measuring only 2"x4.5", the **SC**'s unique profile allows it to be installed into difficult-to-access physical locations, like pipes. Even with this limited real estate, the SC is a full-featured, stand-alone industrial embedded controller.

The **SC/SCA** is based on a high-performance C/C++ programmable x186 CPU. It integrates 3 timer/counters, 2 Async serial port, a Sync serial port, external interrupts, PIOs, and a real-time clock. The board is available with up to 512 KB of battery-backed SRAM, 512KB Flash, and 512 bytes EEPROM for non-volatile parameter storage.

The board runs on approximately 150mA at regulated 5V, and also can be powered through onboard regulator accepting 9-12V DC. Optional low-drop regulator (TPS765) can be installed to provide Power-off feature allowing low voltage(5.1V) battery operation. Two channels of 12-bit DAC(DAC7612, 0-4.096) can be installed on the **SC**. Eight channels of 16-bit DAC(LTC2600, 0-5V) can be installed on the SCA.

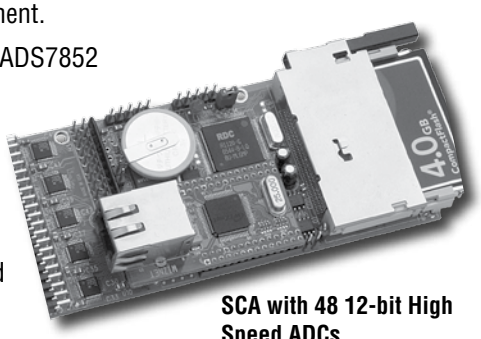
Two RS232 serial ports are available as default, and one can be configured as RS485 operation on the **SC**. An integrated high-performance 10/100-baseT hardware TCP/IP module can be installed, which allows 100KB+ access to TCP/IP networks with minimal CPU load. Sample implementations for the SensorCore allows it to be configured as a HTTP web-server, FTP server/client, etc.

A 50-pin CompactFlash receptacle can be installed to allow access to mass storage CompactFlash cards (up to 4 GB). Users can easily add mass data storage to their embedded application. C/C++ programmable software package includes FAT16 file system libraries are available. More than 1 billion 24-bit samples can be recorded in the field on a single board.

Data Acquisition

The **SC** features three LTC2448 sigma-delta ADCs, interfaced through a high speed Sync serial port. Each LTC2448 chip offers 8 ch. differential or 16 ch. single-ended input channels. A peak single-channel output rate of 5 KHz can be achieved. The LTC2448 works well directly with strain gages, current shunts, RTDs, resistive sensors, or thermocouples. A precision reference(LT1019/REF02) with a internal temperature sensor can provide local temperature measurement.

The **SCA** features six ADS7852 high speed ADCs, interfaced via parallel data bus allowing up to 200 KHz sample rate. Each ADS7852 chip offers 8 channels of 0-5V single-ended inputs.



SCA with 48 12-bit High Speed ADCs

Ordering Information

SC/SCA $169/$134/$114/$89 Qty 1/50/100/1K+

Includes: CPU, PIOs, 2 RS232s, 3 timers, EE, 256KW Flash, 64KW SRAM.
NOT including add-on options. OEM option discounts available.

Add-on Options:

1) SRAM 256KW.....$20
2) RTC and battery.....$20
3) CompactFlash Interface.....$20
4)16 ch. 24-bit LTC2448, up to 3 chips on SC.....$40x3
Or 8 ch. 12-bit ADS7852, upto 6 chips on SCA.....$20x6
5) DAC7612 on SC or LTC2600 on SCA.....$20/$40
6) Ethernet/TCP Module (i2chip).....$30
7) RS485 driver for SER1 (SC only).....$10
8) Low-drop regulator(TPS765).....$20
9) 80 MHz CPU upgrade.....$20
10) Precision Reference a)5V, b)2.5V.....$15

Typical Order Example:

SensorCore, 256KW SRAM, CF, 3 LTC2448 ADCs:
SC + 1 + 3 + 4x3= $169 + $20 + $20 + $40x3 = $329

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