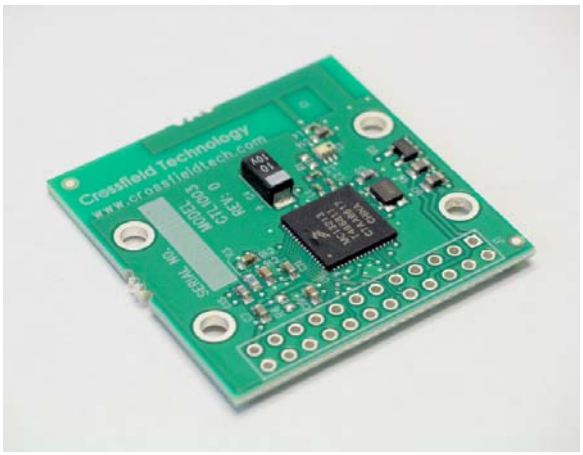


Wireless Sensor Module

Features

- IEEE 802.15.4 ZigBee™ wireless networking
- On-board PIFA antenna
- HCS08 microcontroller with 60 KB Flash and 4 KB RAM
- Three low-power modes
- MCU GPIO with programmable pullups
- Bridge excitation and sensor linearization circuitry
- Instrumentation amplifier temperature compensation (internal or external temperature sensor)
- Calibration logic with programmable lookup table
- Over/under scale limiting
- Programmable digital/analog/serial I/O
- 3.4 to 6.0 Volt operation

Applications

- Bridge sensor measurements
- Biological monitoring
- Lighting control
- Security systems
- Health care
- Industrial control

Description

Crossfield's CFT3002 Wireless Sensor Module offers an easy to implement, low power solution for system integrators that need to add wireless networking capability to their specialty sensors. Featuring an IEEE 802.15.4 transceiver and a programmable signal conditioning circuit, the CFT3002 provides a flexible interface to bridge powered sensors as well as digital, analog and serial ports to support a range of sensors or actuators. The bridge sensor output is amplified by a programmable gain amplifier which is compensated for both temperature and bridge non-linearities.

The CFT3002 is controlled by a Freescale HCS08 microcontroller with a watchdog timer. The MCU provides 4 KB of random access memory and 60 KB of flash memory. The flash memory can be locked with block protection to prevent readout or inspection. Three low power states are provided including Wait, Stop2 and Stop3. The CFT3002 provides in-circuit programmability through the HCS08 BDM interface.

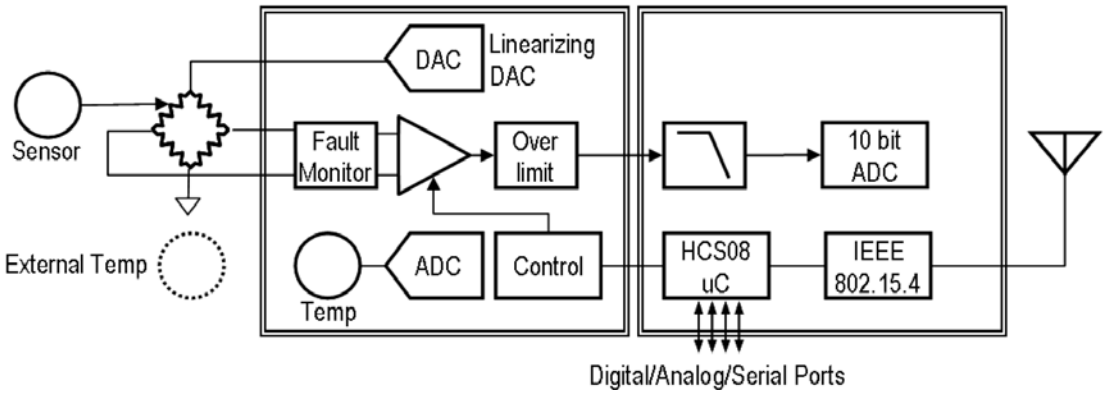
The CFT3002 provides connectivity to the MCU's 16-bit timers/pulse width modulators, four 10-bit ADC inputs, keyboard interrupts, and a serial port.

The CFT3002 supports wireless connectivity using a fully compliant IEEE 802.15.4 transceiver that provides 250 Kbps O-QPSK modulation across 16 channels in the 2.45 GHz ISM band. The transceiver is connected to a planar inverted F antenna (PIFA) on the circuit board. The IEEE 802.15.4 transceiver is ZigBee™ compliant.

The CFT3002 works in conjunction with Crossfield's CFT3003 base station transceiver and software. The CFT3003 provides an IEEE 802.15.4 compliant, mobile base station that connects to a laptop or desktop computer through a USB interface. The CFT3003 enables data to be collected from CFT3002 modules using the appropriate wireless networking software.

Contact:

Crossfield Technology
4505 Spicewood Springs Road, Suite 360
Austin, Texas 78759-8540
512-795-0220
info@crossfieldtech.com
www.crossfieldtech.com



CFT3002 Functionality

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