

# MTS420/400

## ENVIRONMENTAL SENSOR BOARD

- Compatible with MICAz/MICA2 Processor/ Radio Boards
- Onboard Temperature & Humidity, Barometric Pressure and Ambient Light Sensors
- Dual-Axis Accelerometer
- 64K EEPROM for User Configuration Data
- Optional GPS Module

## Applications

- Agricultural Monitoring
- Art Preservation
- Environmental Monitoring
- Sensor Location Mapping\*  
(\*GPS Equipped)



MTS400CB

## MTS420/400

Developed in conjunction with UC Berkeley and Intel Research Labs, the MTS400 and MTS420 offer five basic environmental sensing parameters and an optional GPS module (MTS420).

These sensor boards utilize the latest generation of IC-based surface mount sensors. These energy-efficient digital devices in turn provide extended battery life and performance wherever low maintenance field-deployed sensor nodes are required.

These versatile sensor boards are intended for a wide variety of applications ranging from a simple wireless weather station to a full mesh network of environmental monitoring nodes. Applicable industries include Agricultural, Industrial, Forestry, HVAC and more.

## Specifications:

### Board

- Operating temp. range: -10°C to +60°C
- Operating humidity range 0% RH to 90% RH non-condensing



MTS420CC (with GPS Module)

### Dual-axis Accelerometer

- Analog Devices ADXL202JE
- Acceleration range; resolution:  $\pm 2$  g; 2 mg at 60 Hz
- Nonlinearity: 0.2% of full scale
- Zero g bias level: 2.0 mg/°C from 25°C

### Barometric Pressure Sensor

- Intersema MS5534AM
- Pressure range; resolution: 300-1100 mbar; 0.01 mbar
- Accuracy:  $\pm 1.5\%$  at 25°C

### Ambient Light Sensor

- TAOS TSL2550D
- Spectral responsivity: 400-1000 nm, similar to human eye

### Relative Humidity & Temperature Sensor

- Sensirion SHT11
- Humidity range; resolution: 0-100% RH; 0.03% RH
- Absolute RH accuracy:  $\pm 3.5\%$  RH
- Temp. accuracy:  $\pm 0.5^\circ\text{C}$  @ 25°C

### GPS Module (MTS420CC only)

- ublox LEA-4A
- Tracking channels: 16
- L1 frequency: 1575.42 MHz C/A code
- Position accuracy: 10 m, 2D
- Reacquisition time: < 1 sec. (typ.); (<30 sec. max. blockage)

## Ordering Information

Model	Description
MTS400CB	MICA2 Weather Sensor Board with Light, Temperature, Humidity, Barometric Pressure and Seismic
MTS420CC	MICA2 Weather Sensor Board Light, Temperature, Humidity, Barometric Pressure, Seismic and GPS