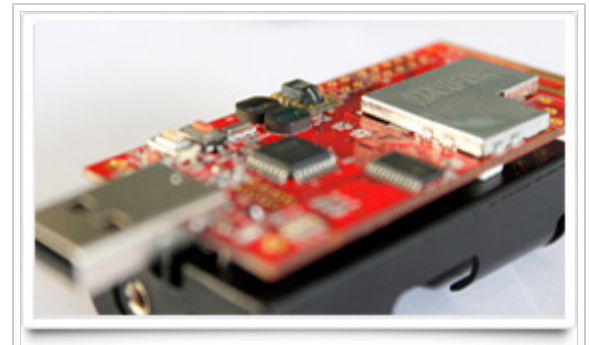


XM1000

From Advantic System

The **XM1000** is the new generation of mote modules, based on "TelosB" technical specifications, with upgraded 116Kb-EEPROM and 8Kb-RAM and integrated Temperature, Humidity and Light sensors. The mote has the following general characteristics:

- IEEE 802.15.4 (http://en.wikipedia.org/wiki/IEEE_802.15.4) WSN platform
- [TI MSP430F2618](#) Microcontroller
- [TI CC2420](#) Radio Transceiver
- [TinyOS 2.x](#) and [ContikiOS](#) Compatible
- Temperature, Humidity, Light sensors
- User & Reset Buttons
- 3xLeds
- USB Interface
- 2xAA Battery Holder



XM1000

Type: Mote (<http://en.wikipedia.org/wiki/Motes>)

As with the original CM5000, this product is specially suitable not only as a low-cost environmental wireless sensor node, but also as a very useful research platform for developers, as it includes in the same hardware module all the needed functionalities: sensor readings, processor power and wireless communication potential. The 116Kb-EEPROM and 8Kb-RAM makes it ideal for complex applications that require additional memory such as OTAP reprogramming or micro-dpws implementation.

Warning: To avoid damage to this device, make sure to remove batteries before plugging it to the host computer's USB port.

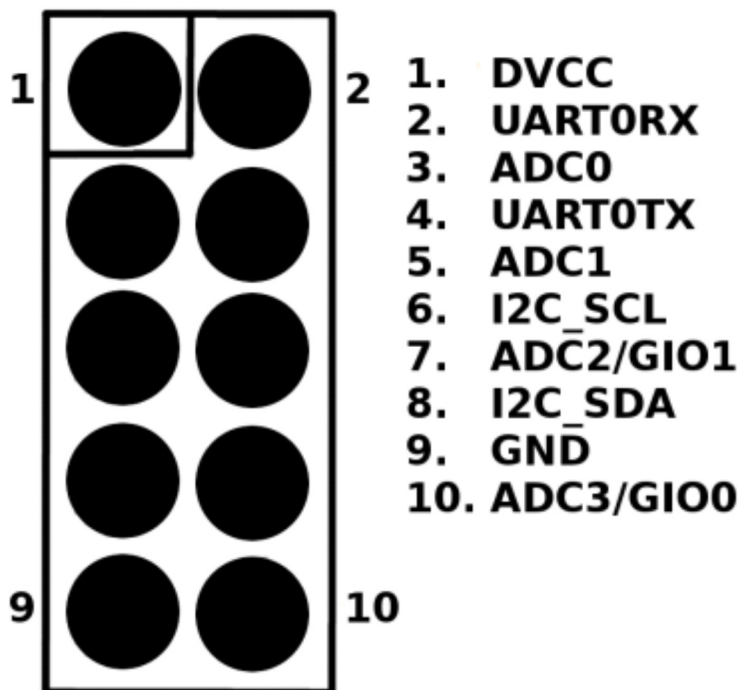
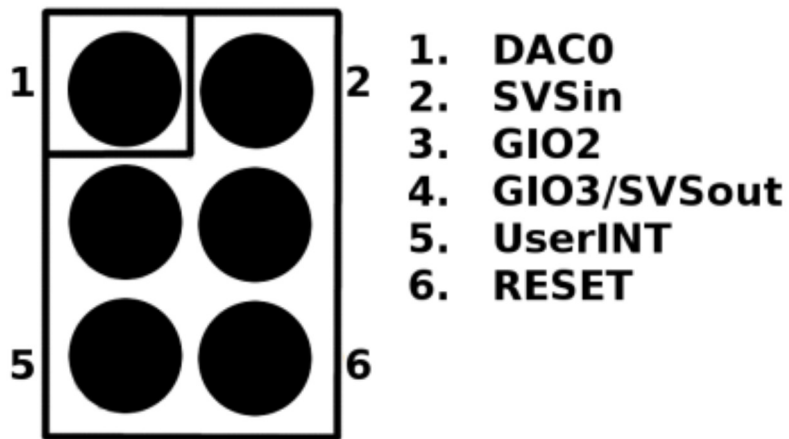
Features

| Item | Specification | Description |
|------------------|--------------------------------|---------------------------------|
| Processor | | |
| Processor Model | TI MSP430F2618 | Texas Instruments MSP430 family |
| Memory | 116KB | Program flash |
| | 8KB | Data RAM |
| | 1MB | External Flash (ST® M25P80) |

| | | |
|--|---------------------------------------|--|
| ADC | 12bit resolution | 8 channels |
| Interfaces | UART, SPI, I2C USB | Serial Interfaces External System Interface (FTI® FT232BM) |
| Radio | | |
| RF Chip | TI CC2420 | IEEE 802.15.4 2.4GHz Wireless Module |
| Frequency Band | 2.4GHz ~ 2.485GHz | IEEE 802.15.4 (http://en.wikipedia.org/wiki/IEEE_802.15.4) compliant |
| Sensitivity | -95dBm typ | Receive Sensitivity |
| Transfer Rate | 250Kbps | IEEE 802.15.4 (http://en.wikipedia.org/wiki/IEEE_802.15.4) compliant |
| RF Power | -25dBm ~ 0dBm | Software Configurable |
| Range | ~120m(outdoor), 20~30m(indoor) | Longer ranges possible with optional SMA antenna attached |
| Current Draw | RX: 18.8mA TX: 17.4mA Sleep mode: 1uA | Lower RF Power Modes reduce consumption |
| RF Power Supply | 2.1V ~ 3.6V | CC2420 Input Power |
| Antenna | Dipole Antenna / PCB Antenna | Additional SMA connector available for extra antenna |
| Sensors | | |
| Light 1 | Hamamatsu® S1087 | Visible Range (560 nm peak sensitivity wavelength) |
| Light 2 | Hamamatsu® S1087-01 | Visible & Infrared Range (960 nm peak sensitivity wavelength) |
| Temperature & Humidity | Sensirion® SHT11 | Temperature Range: -40 ~ 123.8 °C Temperature Resolution: : ± 0.01(typical) Temperature Accuracy: ± 0.4 °C (typical) Humidity Range: 0 ~ 100% RH Humidity Resolution: 0.05 (typical) Humidity Accuracy: ± 3 %RH (typical) |
| Electromechanical Characteristics | | |
| Dimensions | 81.90mm x 32.50mm x 6.55mm | Including USB connector |
| Weight | 17.7g | Without batteries |
| Power | 3V (2xAA Battery Holder Provided) | MICREL® MIC5207 Power Regulator |

Expansion Connector

The XM1000 includes an expansion connector, that allows the access to a number of pins in the microcontroller.



Resources

- [TinyOS® Code Examples](#)
- XM1000 TinyOS® Platform Installation (http://www.advanticsys.com/shop/documents/1331215249_XM1000v6.zip)
- XM1000 ContikiOS® Platform files (http://www.advanticsys.com/shop/documents/1347278134_contiki-xm1000-v2012-08-29.rar)

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