

PRODUCT INFORMATION

TinyTIM™ Bluetooth Wireless Smart Sensor Module



- IEEE-1451 compliant
- Interoperable with other IEEE-1451 devices
- Bluetooth Class 2 (30 meters)
- DB37 connector for easy interface of sensor inputs
- Battery or external power
- Small, compact, rugged
4.17"W x 1.26"H x 4.25"L
- Optional mounting brackets

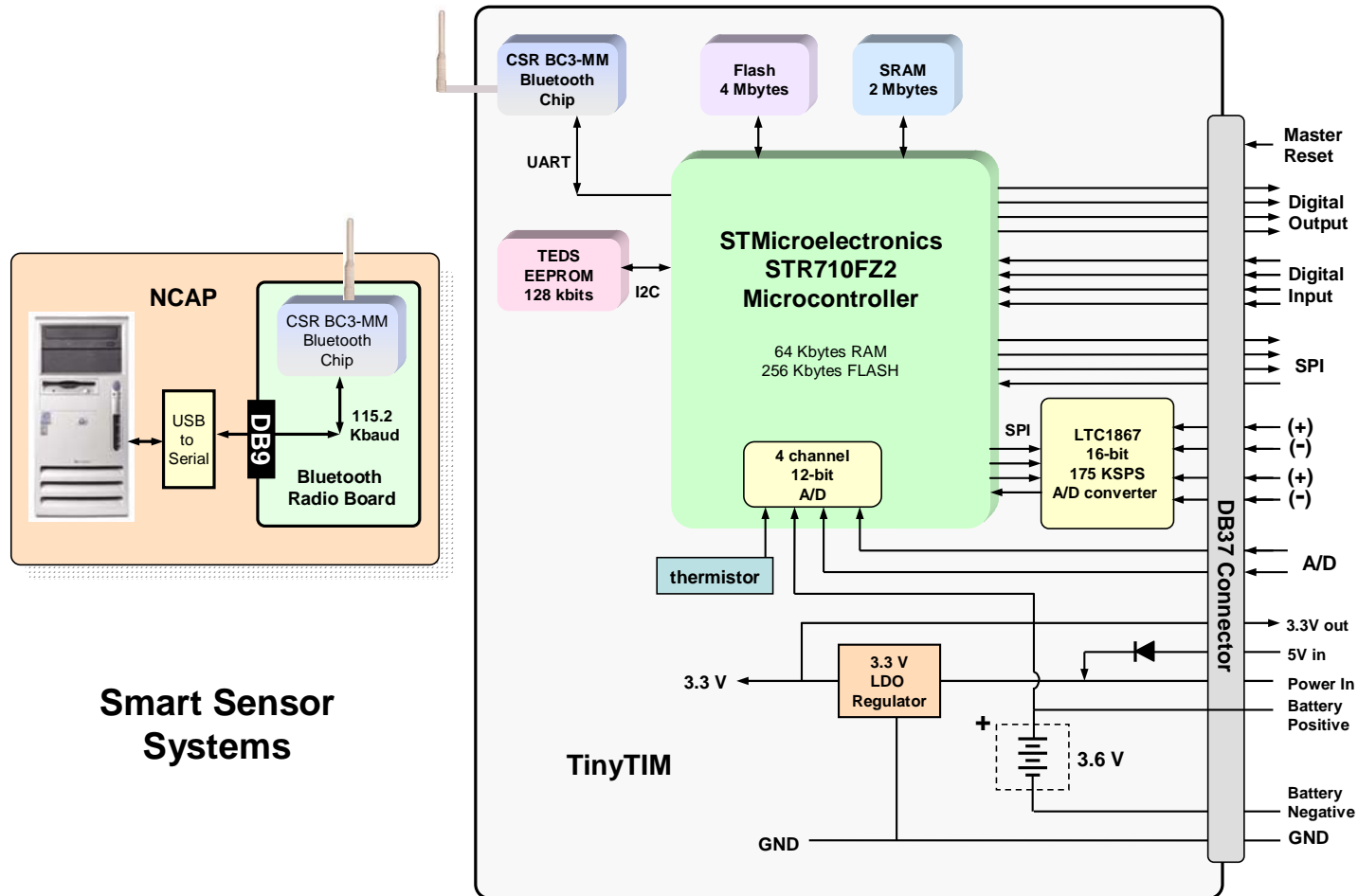
Imagine the ability to easily integrate wireless sensor modules from different manufacturers in the same wireless sensor network. That's our TinyTim™ Bluetooth Smart Sensor Module. TinyTim™ is compliant with the emerging IEEE-1451 Wireless Standard which allows it to communicate with any other IEEE-1451 compliant device. You can now mix and match devices from more than one manufacturer in the same network with ease and without a major engineering effort. Simply interface the sensor to Smart Sensor Systems TinyTim™ Bluetooth Smart Sensor Module and let TinyTim™ do the talking.

The TinyTim™ has a versatile design that provides an easy interface for most industry sensors via cable and DB37 connector. The module provides a bias/heater voltage if needed for interfacing a sensor. Download sensor ID and calibration data over the wireless interface using a utility program provided with TinyTim™. Applications are provided to read sensor data.

Internal sensors on the module constantly monitor module temperature and battery condition to proactively alert the system of any potential problem. See page 2 for more TinyTim™ Bluetooth Smart Sensor Module details.

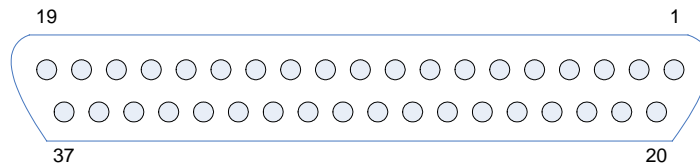
About Smart Sensor Systems, Inc.

Smart Sensor Systems is a manufacturer of sensor integration products. Our primary focus is providing smart wireless solutions for your sensor needs. Our products all implement the emerging IEEE-1451 smart sensor protocols allowing open standard interoperability. In addition to our line of off-the-shelf wireless sensor products, we provide consulting services and will do custom integration and provide OEM solutions for your sensors. We can provide custom signal conditioning, radios, and even tailor processing power to meet your needs. Contact us at info@smartsensorsystems.com for further information.



Smart Sensor
Systems

TinyTim™ Bluetooth Smart Sensor Module Rear Panel



DB37 rear panel connector

DESCRIPTION	PIN	PIN	DESCRIPTION
(Analog) 3.6V	1		
		20	BATT_NEG (Analog)
GND	2		
		21	DOUT_3 (Digital OUT)
(Analog IN) SENSOR_AIN.2	3		
		22	DOUT_2 (Digital OUT)
(Analog IN) SENSOR_AIN.3	4		
		23	DOUT_1 (Digital OUT)
(Input) SENSOR_MISO	5		
		24	DOUT_0 (Digital OUT)
(Output) SENSOR_MOSI	6		
		25	DIN_3 (Digital IN)
(Output) SENSOR_SCLK	7		
		26	DIN_2 (Digital IN)
(Input) SENSOR_SSN	8		
		27	DIN_1 (Digital IN)
(Output) SPI_CS	9		
		28	DIN_0 (Digital IN)
GND	10		
		29	GND
(Reserved 1)	11		
		30	GND
(Reserved 2)	12		
		31	GND
(Differential IN) SENSOR_CH4.N	13		
• (Channel 4 Differential Inputs)		32	GND
(Differential IN) SENSOR_CH4.P	14		
		33	GND
(Differential IN) SENSOR_CH3.N	15		
• (Channel 3 Differential Inputs)		34	EXT_RESET* (Reset LOW TRUE)
(Differential IN) SENSOR_CH3.P	16		
		35	GND
GND	17		
		36	V3.3 (3.3V output of the system)
POWER_IN	18		
		37	V3.3 (3.3V output of the system)
EXT_5V_IN	19		



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Modes of Operation

The TinyTim™ Bluetooth Smart Sensor Module can be operated in three modes:

1. Internal battery operation
2. External +5V operation
3. Charging the internal battery (does not power the power during charging)

Battery Operation

To operate on the internal battery:

1. Connect pin 1 (3.6V) to pin 18 (POWER_IN)
2. Connect any GND (pins 10, 17, 29 – 33, 35) to pin 20 (BATT_NEG)
3. NOTE: pin 19 (EXT_5V_IN) is not connected

External +5V Operation

To operate on an external +5V power supply:

1. Connect any GND (pins 10, 17, 29 – 33, 35) to the ground on the +5V power supply
2. Connect pin 19 (EXT_5V_IN) to the external +5V
3. NOTE: pins 1, 18 and 20 are not connected

Charging the Battery (does not power the module)

1. Connect the “+” of the Li-Ion battery charger to pin 1 (3.6V)
2. Connect the “-“ of the Li-Ion battery charger to any GND (pins 10, 17, 29 – 33, 35)
3. NOTE: The Universal Smart Charger supplied with TinyTim™ is wired to the correct pins on the DB37 connector for charging the battery. Plug the DB37 connector on to the module and plug the Universal Smart Charger into an AC outlet.