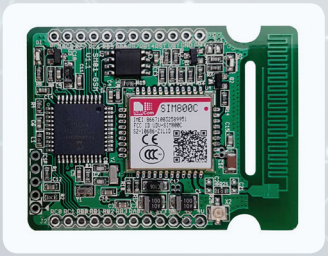
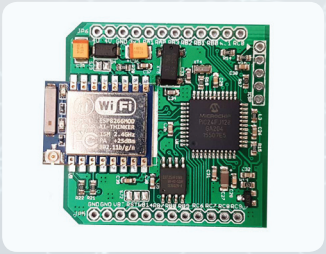
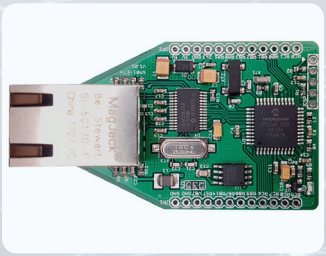
SM01 Series

Processor Modules With Integrated Connectivity For IoT





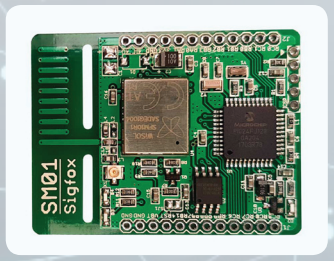


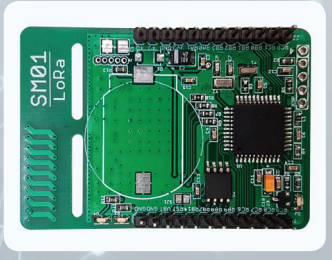
Balance of performance & power

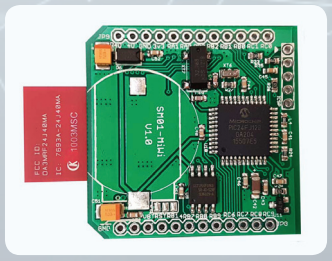
Low cost and easy to use

Saves time to market

Features rich







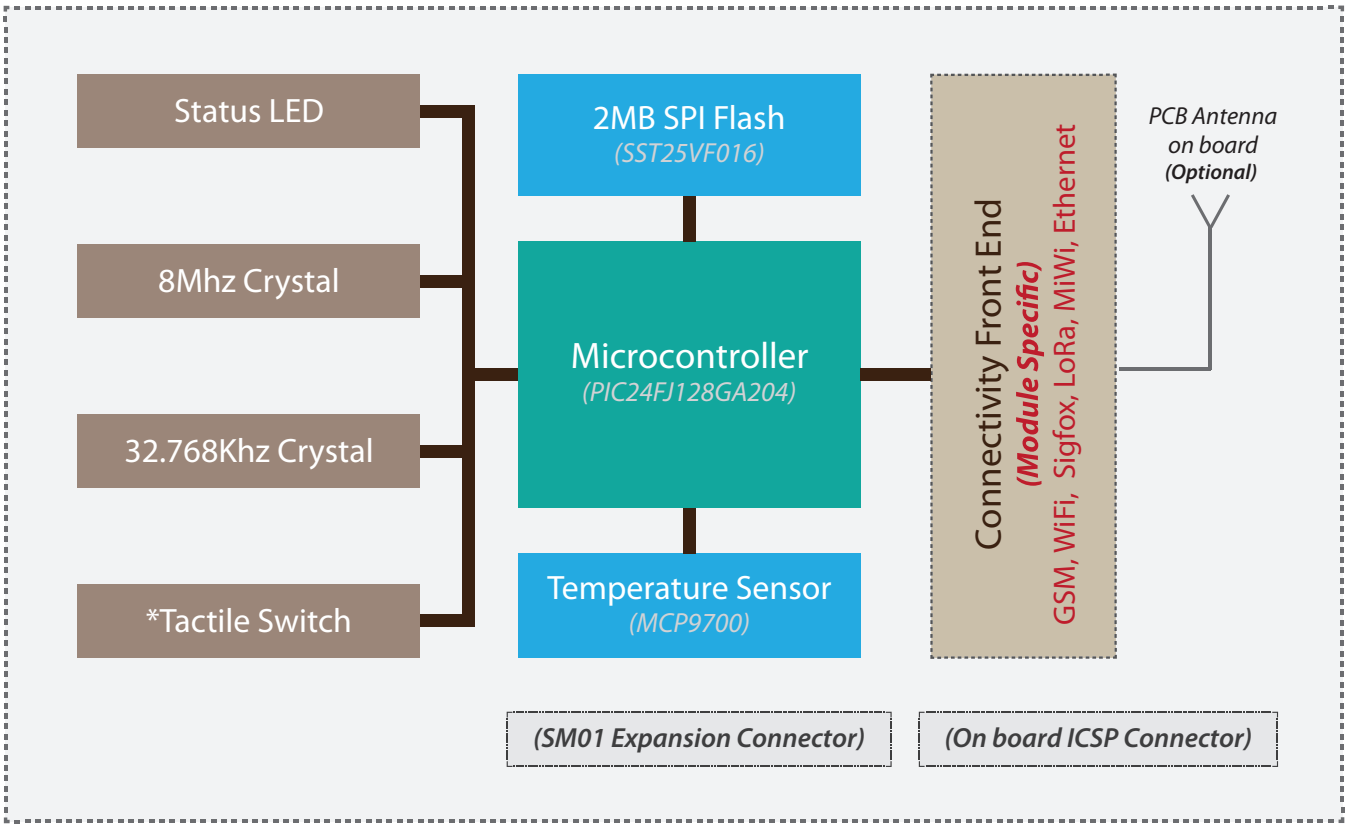
Introduction

Recent growth in AI, cloud computing and Internet of Things (IoT) have created a whole raft of opportunities in every field. SciFlair has developed Axino IOT platform (www.axino.co) and designed SM01 communication modules to offer connectivity to IoT devices. All SM01 series modules have identical microcontroller, hardware add-ons, expansion connector and software libraries which makes application development and code migration seamless across SM01 family.

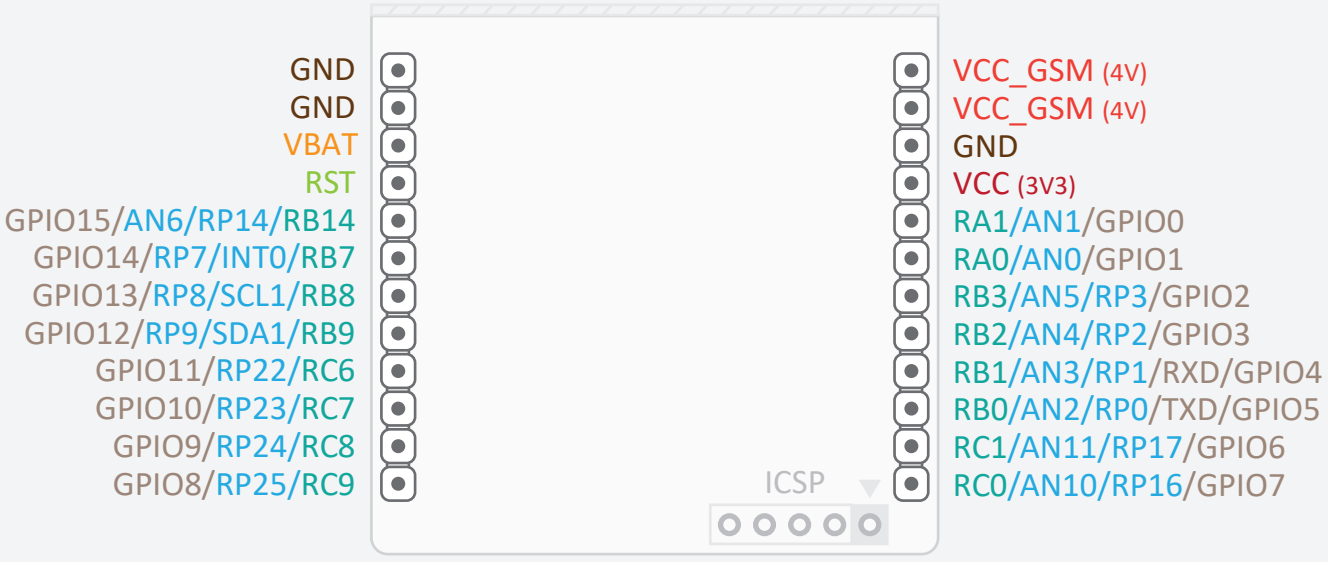
Hardware Features

- Microchip 16 bit microcontroller
- 128KB program flash
- 8KB RAM
- RTC with Vbat for backup
- Hardware based Cryptographic Engine
- 4MB on board SPI flash
- On board analog temprature sensor
- On board 8Mhz primary and 32.768Khz secondary crystal

SM01 Hardware Block Diagram



SM01 Expansion Connector



Note: TXD,RXD and GPIOs are only avalible via SM01 libraries funtions.

SM01 Software Libraries

The SM01 software libraries provide building blocks to ease the development of IoT applications. Inspite of each SM01 series module has its own library with communication front-end driver and functionality different from other, the APIs are identical for all modules.

SM01 Library Features

- Communication front-end driver and esay to use APIs to send and receive data to/ from cloud.
- FOA (Firmware Over Air) support on selected versions of libraries to transparently upload firmware to device from cloud.
- Implementation of ezCom Client to send and receive data to Sciflair communication server.
- Common features across all version:
  1. Low-level interfaces to use real time clock & calendar.
  2. Console module to get device information, send commands, upload firmware or debug application over serial port.
  3. interfaces to use Tick Module for time keeping and time measurement.
  4. High-level interfaces to easily read and write data to on-board SPI flash.
  5. GPIOs control and other helper functions to ease the development.

Table below shows supported functionalities for all libraries versions:

	SM01 -GSM	SM01 -WiFi	SM01 -ETH	SM01 -LoRa	SM01 -Sigfox	SM01 -MiWi
Communication Front-End Driver	GSM	WiFi	Ethernet	LoRa	SIGFOX	MiWI
Firmware Over Air	✓	✓	✓	–	–	–
ezCom Client	✓	✓	✓	–	–	–
SM01 Common Drivers	✓	✓	✓	✓	✓	✓
	RTCC (Real Time Clock Calendar)					
	Tick Module (Timekeeping and time measurements)					
	UART Debug/Console					
	On board SPI Flash					
	GPIOs Control					

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