

# DS18B20 High Temperature Waterproof Digital Sensors

SEN-11050

## Product Overview

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For the most up-to-date information, visit [www.mouser.com](http://www.mouser.com) or the supplier's website.

## Description

The SparkFun DS18B20 Waterproof Temperature Sensor is a sealed digital temperature probe with an easy 1-wire interface that measures precise temperatures in wet environments. It provides 9bit to 12bit (configurable) temperature readings that indicate the device's temperature. The layout interface for the sensor is Red (connects to VCC), Black (connects to GND), and White (connects to SIG).



Through the 1-wire interface, information is sent to/from the DS18B20 so that only one wire (and ground) needs to be connected from a central microprocessor to a DS18B20. Without using an external power source, the conversions can be derived from the data line for the power for reading, writing, and performing temperature. Multiple DS18B20s can exist on the same 1-wire bus because each DS18B20 contains a unique silicon serial number. This allows for placing temperature sensors in many different places.

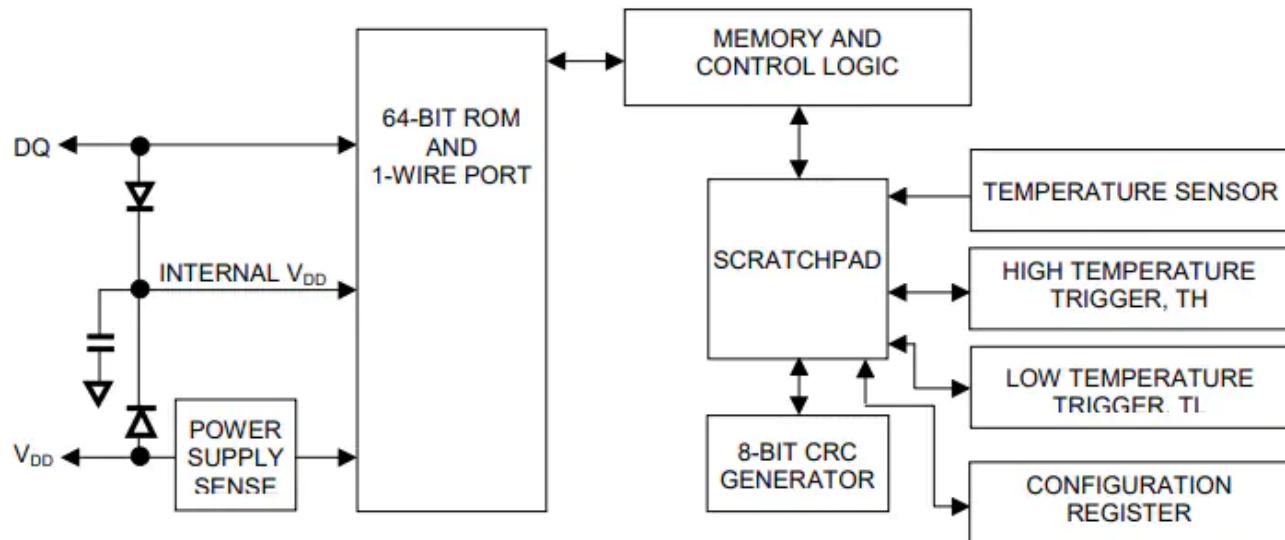
## Features

- 3V-5.5V input voltage range
- Waterproof
- -55°C to 125°C temperature range
- $\pm 0.5^\circ\text{C}$  accuracy from -10°C to 85°C
- No external components are required
- Zero standby power required
- 9bit to 12bits programmable thermometer resolution
- Converts 12bit temperature to digital word in 750ms (max.)
- User-definable, nonvolatile temperature alarm settings
- 1-wire interface requires only one port pin for communication
- Probe 7mm in diameter and 26mm long
- 6 feet overall length (including wire)

## Applications

- Thermostatic controls
- Industrial systems
- Consumer products
- Thermometers
- Any thermal sensitive system

## Block Diagram



## Close-up view



## Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/sparkfun/ds18b20-waterproof-sensors/>