

Flame Sensor User Manual

1. Features

Voltage comparator chip	LM393 (wide voltage range)
Detection wavelength	760nm-1100nm
Operating voltage	3.3V-5.3V
Detection angle	0 degree-60 degree
Operating temp.	-25°C-85°C
Dimensions	29.2mm*11.2mm
Fixing hole size	2.0mm

2. Applications

This module can be applied to fire detection system, fire-fighting robot, fire alarm system, etc.

3. Interfaces

Pin No.	Symbol	Descriptions
1	DOUT	Digital output
2	AOUT	Analog output
3	GND	Power ground
4	VCC	Positive power supply (3.3V-5.3V)

4. How to use

We will illustrate the usage of the module with an example of fire detection by connecting a development board.

- ① Download the relative codes to the development board.
- ② Connect the development board to a PC via a serial wire and the module to the development board. Then, power up the development board and start the serial debugging software.

Here is the configuration of the connection between the module and the development board.

Port	STM32 MUC pin
DOUT	GPIOA.4
AOUT	GPIOA.6
GND	GND
VCC	3.3V

Port	Arduino pin
DOUT	D2
AOUT	A0
GND	GND
VCC	5V

Here is the configuration of the serial port.

Baud rate	115200
Data bits	8
Stop bit	1
Parity bit	None

- ③ The detected result can be checked by a signal indicator on the module. The signal indicator will turn on, when the sensor is close to a fire. And it will turn off, when the sensor is away from the fire.
- ④ Start the serial debugging software, and you can find the serial output changes along with the distance from the sensor to the fire.

Notice: The flame sensor is designed to detect fire only, but it is not fireproof itself. When using it, please keep a safe distance from the fire to avoid burning out.