

FSSUROAO

Ultrasonic Proximity-Sensing Module

Specification



Description

FSSUROAO is a cost-effective non-contact ultrasonic module. Through special algorithm, it can accurately measure the cup height and water height. Because of the characteristics of acoustic wave, it will not be affected by ambient light, material and color.

It is mainly designed for water supply related applications. It can know the height of all kinds of cups and the amount of water being poured. It is suitable for liquid level detection applications, such as Water dispenser.

Features

Integrated driver and receiver solutions for ultrasonic sensing
Ultrasonic transducer operating at 40 kHz center frequency
Use I2C to adjust relevant application parameters
Close range detection (2-30cm)

Application

- Water dispenser
- Beverage machine
- Coffee machine
- Liquid level detection related / contactless applications

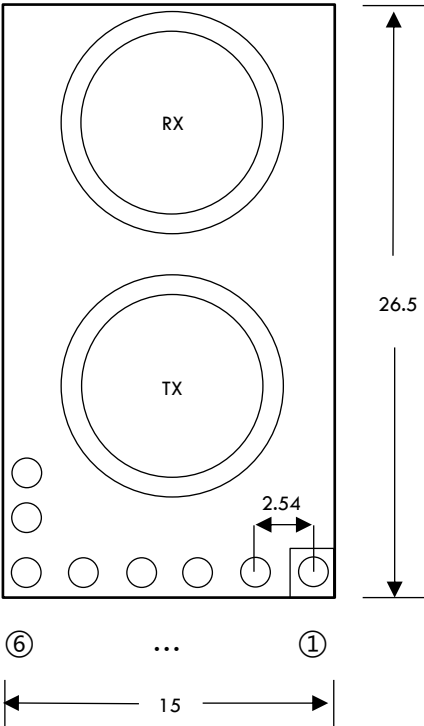
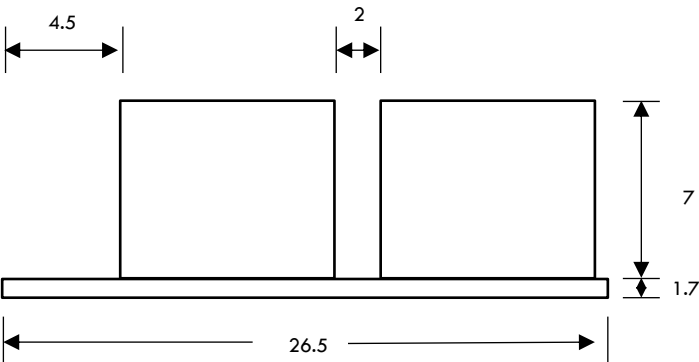
Maximum Ratings

Parameter	CONDITIONS	MIN	MAX	UNIT
Supply Voltage	AVDD	-0.5	3.6	V
	VDD (I/O interface)	-0.5	3.6	V
Operating Junction Temperature	Ambient, biased	-40	125	°C
Storage Temperature	Ambient, unbiased	-40	125	°C

Recommended Operating Conditions

Parameter	Characteristics
Power supply voltage	3.0V ~ 3.6V
Frequency	40±1 KHz
Working Distance	2cm ~ 30cm
Measurement Accuracy	± 2 cm
Control Interface	I2C
FoV	60
Operating temperature	-20 ~ 85°C

Outline



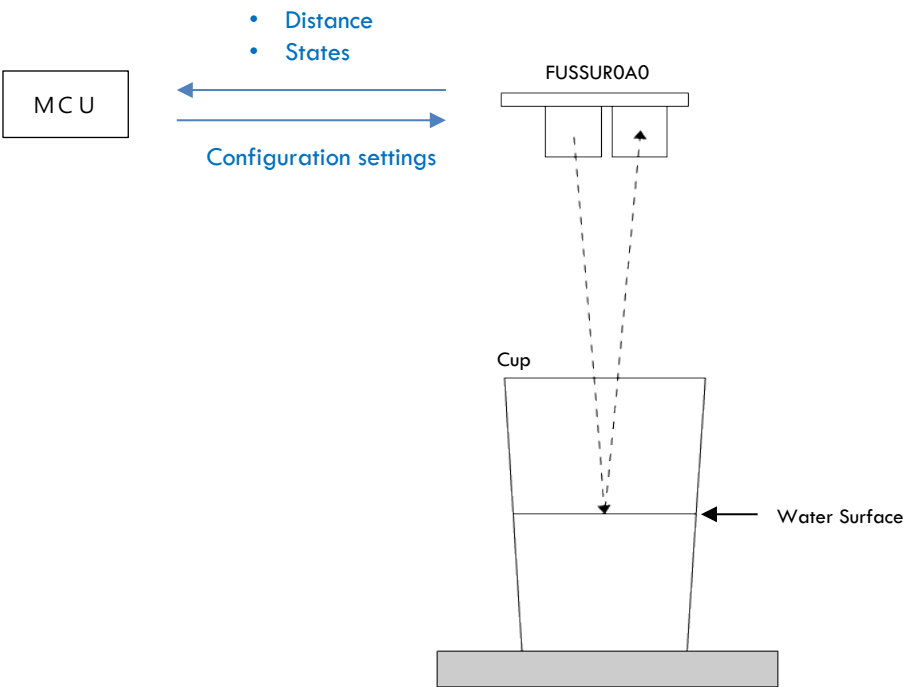
No.	Pin Name
①	3.3V
②	GND
③	SDA
④	SCL
⑤	Undefined
⑥	Undefined

Unit : mm

Application example

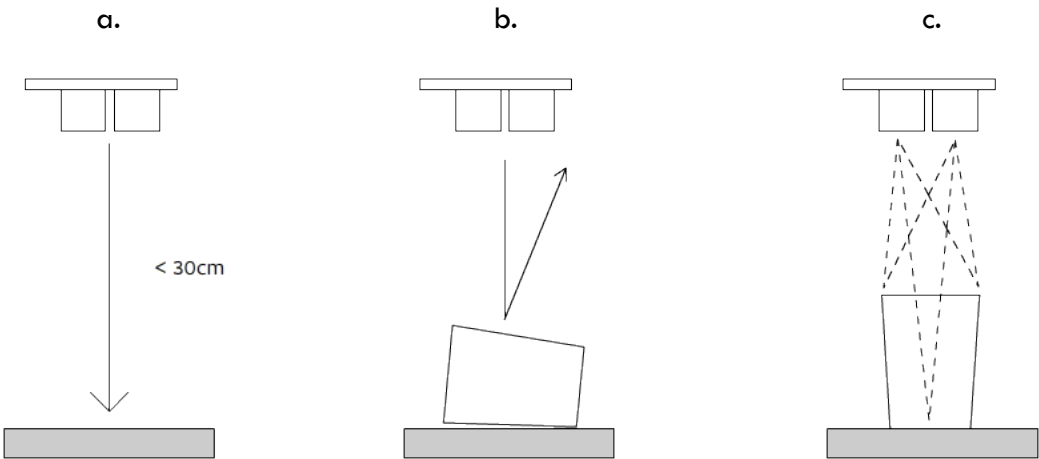
FSSUR0A0 uses I2C communication to obtain the distance value and status from the module, and can also operate the module configuration to control the module (* 1). As shown in the figure below, the cup detection and water supply application are shown. When the cup comes in, the module will know that the cup is in the detection state and know the height of the liquid level when adding water. The output is the distance value, which can control the amount of water according to the customer application (* 2).

* 1 for operation details, please contact the sales for application note
* 2 if you have special application requirements, please contact us: <http://www.socle-tech.com/contact.php>



Object Positioning

- The sensor can accurately detect the state of the object:
- a) The distance is less than 30cm
 - b) Since the reflector is not perpendicular, the sound wave will not accurately reflect back to the sensor
 - c) Recommendation method



Date	Version	Description
20200929	1.0	Initial version