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DFR0524 5.5 HDMI OLED-Display with Capacitive Touchscreen V2.0
DFR0550 5" TFT-Display with Touchscreen V1.0

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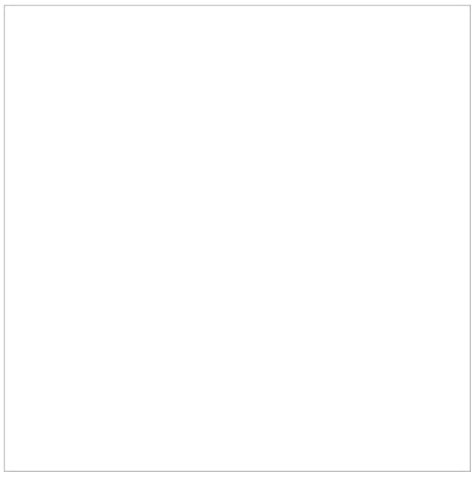
SKU:SEN0370



Introduction

This is a non-contact liquid level sensor with status indicator and adjustable sensitivity. It is especially suitable for detecting liquid level of all sorts of non-metal small diameter pipes(outer diameter D≤10MM). The status feedback of the sensor can be given in real-time. Besides that, the sensor comes with a 4pin sensor adaptor that can directly collect digital signal, convenient for connecting with Arduino or other main-controllers. This liquid level sensor can be widely used in liquid detection of water dispenser, small pipes, and perfusion tubes.

This non-contact liquid level sensor is developed on advanced signal process technology by high-speed signal processing chip. It can measure the liquid level of a closed container without the influence of container wall thickness, and will not be affected by corrosive liquids like strong acid and alkali, or other impurities.

Working Principle

A Non-contact liquid level sensor is used for detecting whether there is liquid by water induction capacitor. When there is no liquid approaching the sensor, there will be some certain static capacitance to ground on the sensor due to the presence of distributed capacitance. When the liquid level rises slowly to approach the sensor, the liquid parasitic capacitor will be coupled to the static capacitance so that the final capacitance value will increase. The changed capacitance signal will be input to the control IC for signal conversion, by which to transform the changed capacitance value into the variation of certain electric signal. Then the degree of the variation can be detected and determined through specific algorithms. When the variation exceeds a threshold value, it means the liquid level reaches the sensing point.

Specification

- Power Supply: 5~24V
- Output: switch quantity

DFR0591 raspberry pi e-ink display module V1.0

DFR0592 DC Motor Driver HAT

DFR0604 I O Expansion HAT for Pi zero V1.0

DFR0566 IO Expansion HAT for Raspberry Pi

DFR0528 UPS HAT for Raspberry Pi Zero

DFR0331 Romeo for Edison Controller

DFR0453 DFRobot CurieNano - A mini Genuino Arduino 101 Board

TEL0110 CurieCore intel® Curie Neuron Module

DFR0478 FireBeetle ESP32 IOT Microcontroller(V3.0) Supports Wi-Fi & Bluetooth

DFR0483 FireBeetle Covers-Gravity I O Expansion Shield

FireBeetle Covers-24×8 LED Matrix

TEL0121 FireBeetle Covers-LoRa Radio 433MHz

TEL0122 FireBeetle Covers-LoRa Radio 915MHz

TEL0125 FireBeetle Covers LoRa Radio 868MHz

DFR0489 FireBeetle ESP8266 IOT Microcontroller

DFR0492 FireBeetle Board-328P with BLE4.1

DFR0498 FireBeetle Covers-Camera&Audio Media Board

DFR0507 FireBeetle Covers-OLED12864 Display

DFR0508 FireBeetle Covers-DC Motor & Stepper Driver

DFR0511 FireBeetle Covers-ePaper Black&White Display Module

DFR0531 FireBeetle Covers-ePaper Black&White&Red Display Module

DFR0536 Micro bit Gamepad Expansion Board

DFR0548 Micro bit Driver Expansion Board

ROB0148 micro: Maqueen for micro:bit

ROB0150 Micro bit Circular RGB LED Expansion Board

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- Response Time: 500ms
- Operating Temperature: -5~105°C
- Suitable Pipe Diameter: ≤10mm
- Liquid Level Error: ±1.5mm
- Material: ABS
- Waterproof Performance: IP65

Board Overview

Board Overview

Num	Label	Description
1(Left, Brown)	VOUT	Liquid Sensor Power Positive, +5V~+24V
2(Left, Blue)	GND	Liquid Sensor Power Negative
3(Left, Black)	IO1	Liquid Sensor Forward/Backward output select
4(Left, Yellow)	IO2	Liquid Sensor Level Signal Output
1(Right, Red)	VIN	Power Positive
2(Right, Black)	GND	Power Negative
3(Right, Blue)	IO1	Liquid Sensor Forward/Backward output select
4(Right, Green)	IO2	Liquid Level Signal Output

Tutorial

Requirements

- Hardware
  - DFRduino UNO R3 (or similar) x 1
  - Small Pipe Diameter Level Sensor x 1
  - Wires
- Software
  - Arduino IDE

Installation

Pipe Installation

Note:

1. The product is suitable for pipe with outter diameter 3～10mm. Diameter over 11 cannot be used with this sensor.
2. The spring plate cannot be bent over 60°.

Sensitivity Adjustment

Sensitivity Adjustment

MBT0005 micro IO-BOX

SEN0159 CO2 Sensor

DFR0049 DFRobot Gas Sensor

TOY0058 Barometric Pressure Sensor

SEN0220 Infrared CO2 Sensor 0-50000ppm

SEN0219 Gravity Analog Infrared CO2 Sensor For Arduino

SEN0226 Gravity I2C BMP280 Barometer Sensor

SEN0231 Gravity HCHO Sensor

SEN0251 Gravity BMP280 Barometric Pressure Sensors

SEN0132 Carbon Monoxide Gas Sensor MQ7

SEN0032 Triple Axis Accelerometer Breakout - ADXL345

DFR0143 Triple Axis Accelerometer MMA7361

Triple Axis Accelerometer FXLN83XX Series

SEN0072 CMPS09 - Tilt Compensated Magnetic Compass

SEN0073 9 Degrees of Freedom - Razor IMU

DFR0188 Flymaple V1.1

SEN0224 Gravity I2C Triple Axis Accelerometer - LIS2DH

SEN0140 10 DOF Mems IMU Sensor V2.0

SEN0250 Gravity BMI160 6-Axis Inertial Motion Sensor

SEN0253 Gravity BNO055 + BMP280 intelligent 10DOF AHRS

SEN0001 URM37 V5.0 Ultrasonic Sensor

SEN0002 URM04 V2.0

SEN0004 SRF01 Ultrasonic sensor

SEN0005 SRF02 Ultrasonic sensor

SEN0006 SRF05 Ultrasonic sensor

SEN0007 SRF08 Ultrasonic Sensor

SEN0008 SRF10 Ultrasonic sensor

SEN0149 URM06-RS485 Ultrasonic

SEN0150 URM06-UART Ultrasonic

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Connection Diagram

Connection Diagram

Sample Code

```
/*!
 * @File  DFRobot_Level_Sensor.ino
 * @brief  Detecting the liquid level of non-metall
 * @copyright  Copyright (c) 2010 DFRobot Co.Ltd (h
 * @licence  The MIT License (MIT)
 * @author  [liunian](yujie.hu@dfrobot.com)
 * @version  V1.0
 * @date  2020-08-13
 */
int inPin = 8;
boolean running = 0;//when running=1, the liquid is
int modePin = 9;

void setup()
{
  Serial.begin(9600);
  pinMode(inPin, INPUT);
  pinMode(modePin, OUTPUT);
  digitalWrite(modePin, running);
}

void loop()
{
  Serial.println(digitalRead(inPin));
  delay(100);
}
```

FAQ

1. The liquid level sensor doesn't work when powered on (the indicator keeps off when the liquid level reached the sensing point, and it has no response to the sensitivity adjustment.).
   1) The sensor may not be in a good connection with the power source, please check the power connection.
   2) The power cable may be reversely connected, please check it.
   3) The power module is broken, change the power module and try again.
   4) The sensitivity may be too low, increase the sensitivity to a suitbale value.

2. The indicator keeps on all the time.
   1) The sensitivity is too high, please adjust it to a suitabe value.
   2) The init parameter is revised abnormally, in this case the sensor needs to be returned to the factory for restarting init.
   3) There are impurities or other metal objects contacted with the sensor closely, please clean the sensor and keep it away from any metal objects.

For any questions, advice or cool ideas to share, please visit the DFRobot Forum.

More Documents

SEN0151 URM06-PULSE Ultrasonic

SEN0152 URM06-ANALOG Ultrasonic

Get Small Pipe Diameter Level Sensor from DFRobot Store or DFRobot Distributor.

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