

MEAS WEATHER SHIELD FOR ARDUINO/Genuino MOTHER BOARD

Digital Humidity Sensor
Digital Pressure Sensor
Digital Temperature Sensor
Digital Humidity and Pressure Sensor
Digital Thermopile Sensor

General Description

The MEAS weather shield for ARDUINO/Genuino mother board provides the necessary hardware to interface the HTU21D digital relative humidity sensor; MS5637 digital barometric pressure sensor; temperature system sensor (TSYS01); MS8607 digital relative humidity and digital pressure sensor; TSD305-1C55 digital thermopile sensor, all from TE Connectivity (TE) to any system that utilizes ARDUINO/Genuino mother board compatible expansion ports configurable for I²C communication.

The HTU21D sensor is a self-contained humidity and temperature sensor that is fully calibrated during manufacturing. The sensor can operate from 1.5V to 3.6V, has selectable resolution, low battery detect, and checksum capability. The HTU21D has a low power stand-by mode for power-sensitive applications.

The MS5637 sensor is a self-contained pressure and temperature sensor that is fully calibrated during manufacturing. The sensor can operate from 1.5V to 3.6V. The sensor module includes a high-linearity pressure sensor and an ultra-low power 24 bit Σ ADC with internal factory-calibrated coefficients.

The Temperature System Sensor (TSYS)01 series is a self-contained temperature sensor that is fully calibrated during manufacturing. The sensor can operate from 2.2V to 3.6V. The TSYS01 has a low power stand-by mode for power-sensitive applications.

The MS8607 sensor is a self-contained pressure, humidity and temperature sensor that is fully calibrated during manufacturing. The sensor can operate from 1.5V to 3.6V. The MS8607 is ideal for weather station applications embedded into compact devices and any applications in which pressure, humidity and temperature monitoring is required.

The TSD305-1C55 is a contactless temperature measurement system located in a TO5 package. The TSD includes an infrared sensor (thermopile) and a sensor signal conditioner.

Specifications

HTU21D

- Measures relative humidity from 0% to 100%
- Measures temperature from -40°C to 125°C
- I²C communication
- Fully calibrated
- Fast response time
- Selectable resolution 8-12 bit resolution for humidity; 11-14 bit resolution for temperature)
- Very low power consumption

MS5637

- Measures pressure from 300 mbar to 1200 mbar
- Measures temperature from -40°C to 125°C
- I²C communication
- Fully calibrated
- Fast response time
- Very low power consumption

MS8607

- Operating pressure range: 300 to 1200 mbar
- Measures relative humidity from 0% to 100%
- Measures temperature from -40°C to 125°C
- Extended pressure range 10 to 2000 mbar
- Fast response time
- I²C communication
- Very low power consumption

TSYS01

- Measures temperature from -40°C to 125°C
- I²C communication
- Fully calibrated
- Fast response time
- Very low power consumption
- 24/16 bit resolution for temperature

TSD305-1C55

- Measures temperature from 0°C to 100°C
- I²C communication
- Contactless temperature measurement
- Fully calibrated
- Up to ±1°C accuracy
- Operating Temperature Range: -10°C ... +85°C
- Low current consumption

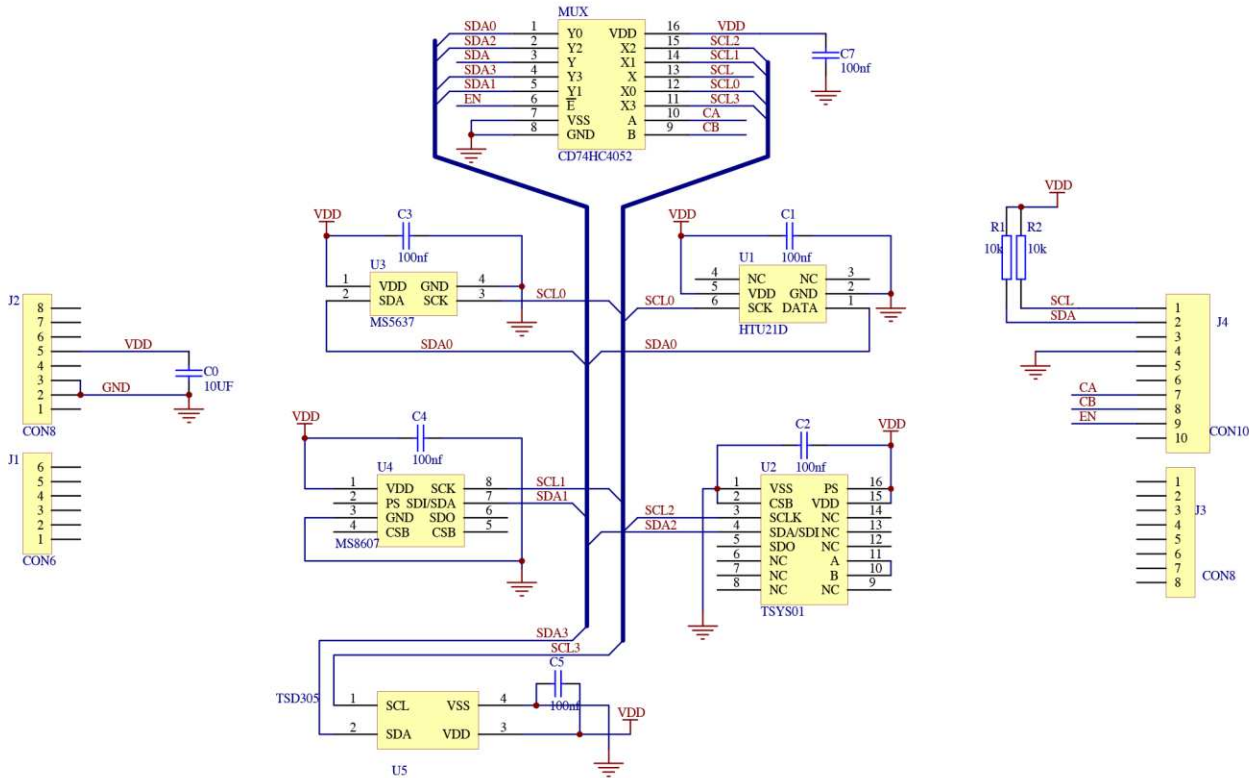
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Digital Weather Shield Sensor

Performance

- 0% to 100% relative humidity range (HTU21D sensor)
- Operating pressure range: 300 to 1200 mbar (MS5637 sensor)
- Operating pressure range: 300 to 1200 mbar and 0% to 100% relative humidity range at the same time (MS8607 sensor)
- Measures temperature from -40°C to 125°C, accuracy from 0.1°C to 0.5°C (TSYS0101 sensor)
- Contactless temperature measurement from 0°C to 100°C (TSD305-1C55)
- Compatible with the ARDUINO/Genuino setting

Schematic



Dimensions (mm)

