

MEAS HTU21D SENSOR FOR GROVE SYSTEM

Digital Humidity and Temperature Sensor

The HTU21D provides the necessary hardware to interface the HTU21D digital relative humidity and temperature sensor to any system that utilizes Grove 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 module works in 5V external, and the sensor has selectable resolution, low battery detection, and checksum capability. The HTU21D has a low power stand-by mode for power-sensitive applications.

Performance

- 0% to 100% relative humidity range
- -40°C to 125°C temperature range
- Very low power consumption
- Operates in 5V.
- Fast response time – 5 seconds typical
- Built-in heater for fast recovery from saturation
- Recovers fully from condensation
- Fast conversion time – 14ms typical

Specifications

- Measures relative humidity from 0% to 100%
- Measures temperature from -40°C to 125°C
- I²C communication
- Fully calibrated
- Fast response time
- Selectable resolution
- Very low power consumption

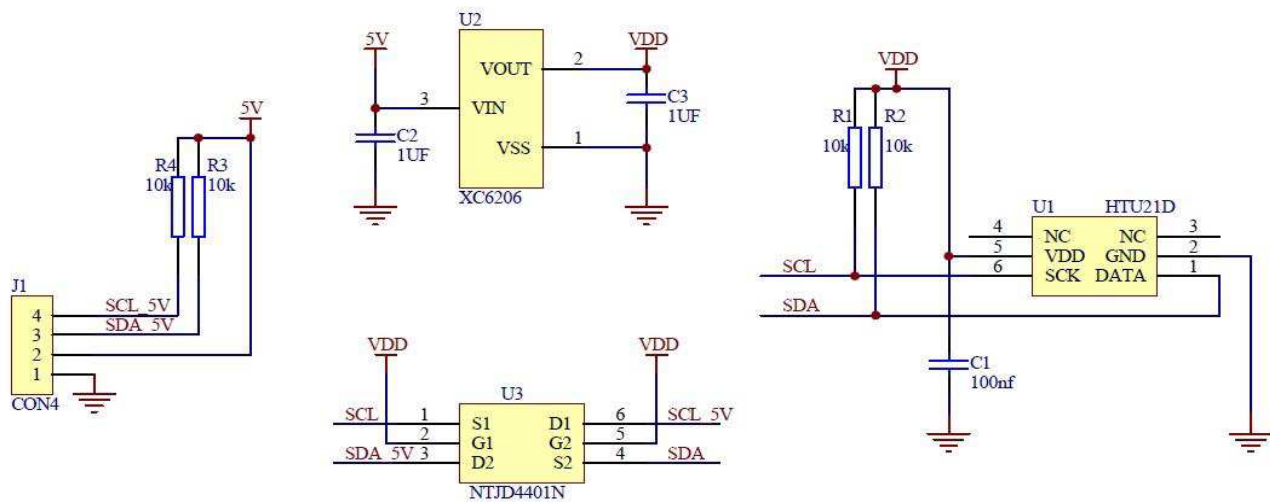
Features

- 4-pin Grove compatible connector
- I²C interface
- Selectable 8-12 bits resolution for humidity
- Selectable 11-14 bits resolution for temperature

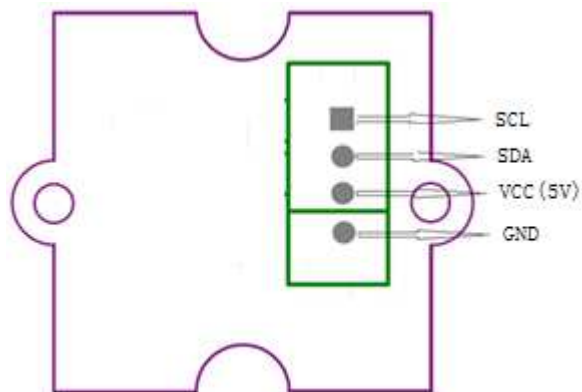
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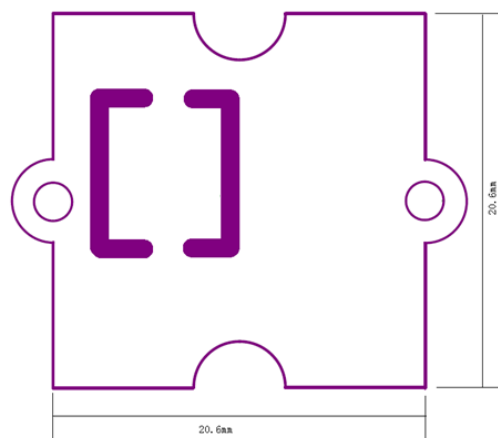
Schematic



Connector Pin Assignments (I²C Communications)



Dimensions (mm)



Detailed Description

I²C Interface:

The HTU21D Grove compliant module can interface to the host in I²C model with 5V supply, it has a Grove compatible four pins port connector configured for I²C.

External Control Signals 5V supply:

The IC operates as an I²C slave using the standard 2-wire I²C connection scheme. As IC is power rated at 3.6V, the board integrates necessary fixture such as a regulator and electrical level shift so that the SCL and SDA signals could be driven directly from an external 5V I²C lines and power supply.

Reference Material

Detailed information regarding operation of the IC:

- [HTU21D Datasheet](#)

Ordering Information

| Description | Part Number |
|--------------------|-------------|
| HTU21D GROVE BOARD | DPP301G000 |

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