

OVERVIEW

The iCog Temperature and Humidity sensor uses the ST Microelectronics HTS221 capacitive digital sensor to measure temperature and humidity. Users should consult the ST HT221 datasheet for more information about the sensor.

CognIoT™ iCog™ sensor boards come fitted with an 'ID-IoT' system chip. This is an EEPROM with 1kbytes of user storage (for calibration data etc.). The ID-IoT chip contains a unique 32-bit number to identify the sensor board.



Bottom View.
iCog Ts.1 Temperature and Humidity Sensor



Top View.
iCog Ts.1 Temperature and Humidity Sensor

KEY FEATURES

The Sensor –HTS221

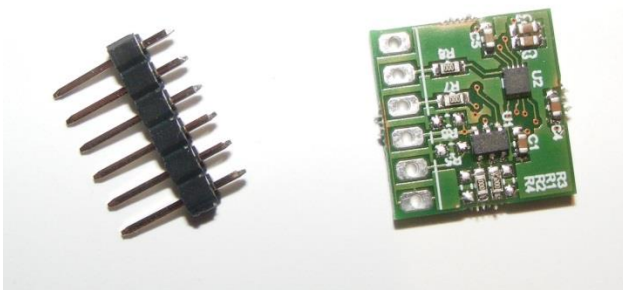
- 16-bit data
- 0 – 100% relative humidity
- $\pm 4.5\%$ accurate over 20% to 80% RH
- High relative humidity sensitivity – 0.004% rH/LSB
- Temp Accuracy: $\pm 0.5^\circ\text{C}$ over 15 to 40°C
- Temp range -40°C to 120°C
- 16-bit ADC and output data
- Output data rate from 1Hz to 12.5Hz.

ID-IoT chip – eeprom

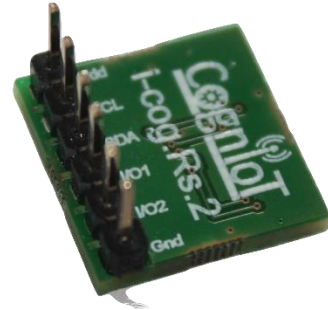
- Prewired for base I²C address
- Configurable for different addresses
 - A0,A1 address selection may be changed
 - Allows up to 4 icogs on same bus
 - See application note for details
- 1KB user data space
- 32-bit Unique ID No. (UID)
- Option to fit pull up resistors on SDA/SCL lines if required

SHIPPING AND ASSEMBLY

The iCog Sensors are shipped with a 6-way 0.1" header that should be soldered into the sensor board.



iCog and 6-way header.

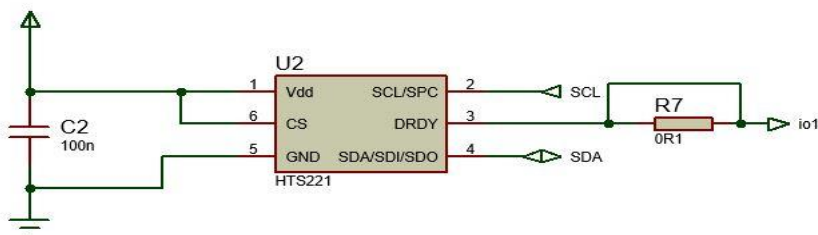
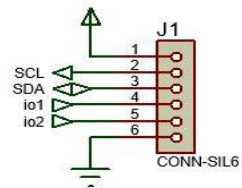
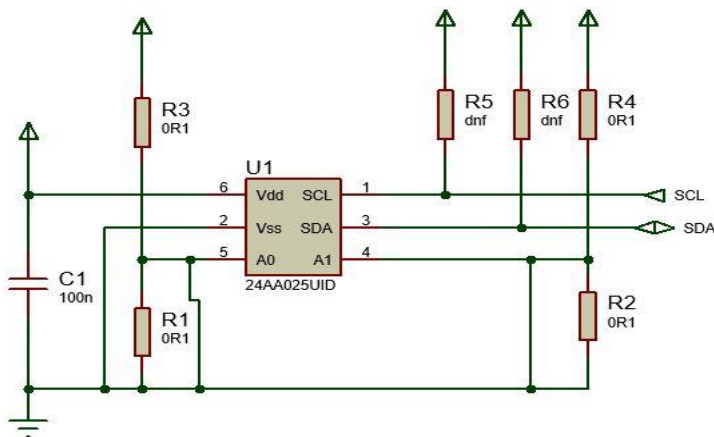


Assembled iCog sensor

DIMENSIONS

The family of iCog™ sensor boards are 15mm x 15mm

SCHEMATIC



CONNECTOR

The CognIoT™ iCog™ sensor board is connectable via a 6-way 0.1" (2.54mm) pitch header.
Pin-out is:

- 1 - Vdd (nominally 3.3V)
- 2 - SCL (I2C clock)
- 3 - SDA (I2C data)
- 4 - IO1 - dependant on fitted sensor (see schematic)
- 5 - IO2 - dependant on fitted sensor (see schematic)
- 6 - GND

ORDERING INFORMATION

Part Number	Description
iCog-Ts.1	iCog Temperature Sensor

REVISION HISTORY

Version	Date	Comment
V0.1	May 2016	First version.
V1.0	Sep 2016	Minor cosmetic changes. Images updated.