chanhvinh.com

SENSIRION
THE SENSOR COMPANY

Data Sheet SCC30-DB

Humidity and Temperature Sensor Module

- Relative humidity and temperature output
- Superior sensor performance, typical accuracy RH: ±3%, T: ±0.3°C
- Fully calibrated and processed digital signal output
- 2.4 to 5.5V supply voltage range

Product Summary

The RH/T sensor module SCC30-DB is specifically designed to meet the most demanding requirements of home appliance applications as well as from other applications, which require sensing remotely from the main control board. It offers the superior sensor performance of capacitive type sensor elements and a very attractive price/performance ratio due to Sensirion's latest generation of highly integrated humidity and temperature sensors (SHT3x).

All in all, the SHT3x platform incorporates more than ten years of knowledge of Sensirion, the leader in the humidity sensor industry.

Customer Benefits:

- High reliability & excellent long-term stability due to capacitive type sensor
- Versatile low cost sensor module
- Broad and competent application support by Sensirion.

1 Product Description

The SCC30-DB is a humidity and temperature sensor module with digital I2C output, consisting of a SHT30-DIS humidity and temperature sensor mounted on a PCB with connector.

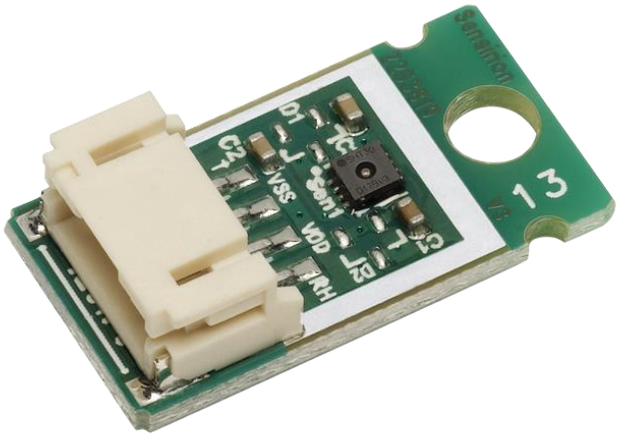


Figure 1 SCC30-DB

chanhvinh.com

2 Sensor Specifications

Relative Humidity

Parameter	Condition	Typical Value	Units
Accuracy Tolerance[1]	10 to 90 %RH	±3	%RH
Operating Range	non-condensing environment[2]	0-100	%RH
Hysteresis	-	< ±0.8	%RH
Long Term Drift[3]	-	< 0.25	%RH/yr
Response time[4]	τ 63%	8	s

Table 1 Relative Humidity Performance Specification

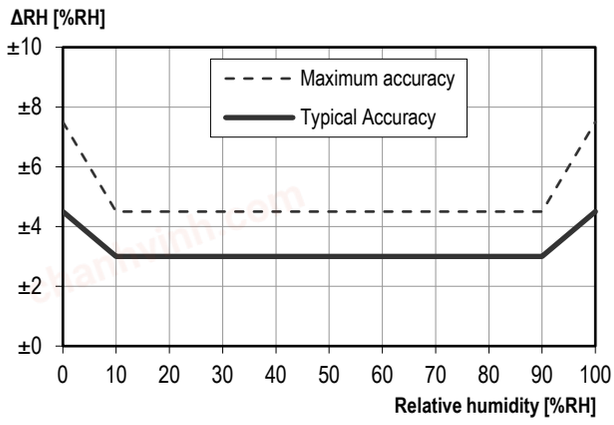


Figure 2 Relative Humidity Accuracy Specification.

Temperature

Parameter	Condition	Typical Value	Units
Accuracy Tolerance	0 to 65°C	±0.3	°C
Operating Range	-	-20 to +85	°C
Storage Range	-	-25 to +85	°C
Long Term Drift	-	< 0.04	°C/yr
Response Time[5]	τ 63%	45	s

Table 2 Temperature Performance Specification

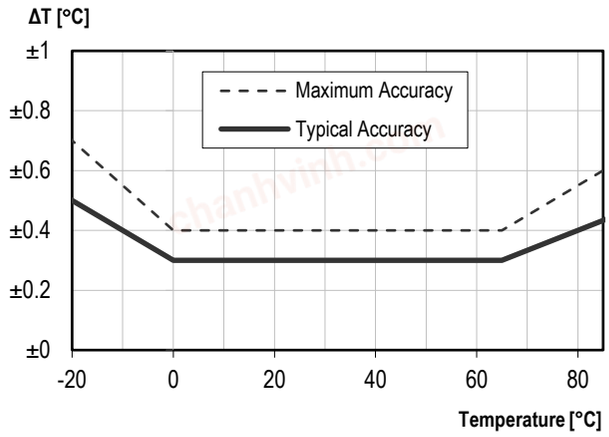


Figure 3 Temperature Accuracy Specification

[1] For definition of typical and maximum accuracy tolerance, please refer to the document "Sensirion Humidity Sensor Specification Statement".
[2] Condensation shall be avoided because of risk of corrosion and leak currents on the PCB.
[3] Typical value for operation in normal RH/T operating range, see section 2.1. Maximum value is < 0.5 %RH/yr. Value may be higher in environments with vaporized solvents, out-gassing tapes, adhesives, packaging materials, etc. For more details please refer to Handling Instructions.
[4] Time for achieving 63% of a humidity step function, valid at 25°C and 1m/s airflow. Humidity response time in the application depends on the design-in of the sensor.
[5] Response time is measured when the sensor is exchanged between water reservoirs of different temperatures

chanhvinh.com

2.1 Recommended Operating Conditions

The sensor shows best performance when operated within recommended normal temperature and humidity range of 5 °C – 60 °C and 20 %RH – 80 %RH, respectively. Long-term exposure to conditions outside normal range, especially at high humidity, may temporarily offset the RH signal (e.g. +3%RH after 60h kept at >80%RH). After returning into the normal temperature and humidity range the sensor will slowly come back to calibration state by itself. Prolonged exposure to extreme conditions may accelerate ageing.

3 Electrical Specifications

3.1 Electrical Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units	Comments
Supply voltage	V_{DD}		2.4	3.3	5.5	V	
Power-up/down level	V_{POR}		1.8	2.1	2.4	V	
Slew rate change of the supply voltage	$V_{DD,slew}$		-	-	20	V/ms	Voltage changes on the VDD line between $V_{DD,min}$ and $V_{DD,max}$ should be slower than the maximum slew rate; faster slew rates may lead to reset;
Supply current	I_{DD}	idle state (single shot mode)	-	0.2	2.0	µA	Current when sensor is not performing a measurement during single shot mode
		idle state (periodic data acquisition mode)	-	45	-	µA	Current when sensor is not performing a measurement during periodic data acquisition mode
		Measuring	-	800	1500	µA	Current consumption while sensor is measuring
		Average	-	2	-	µA	Current consumption (operation with one measurement per second at lowest repeatability, single shot mode)

Table 3 Electrical specifications, values measured at 25°C.

chanhvinh.com

3.2 Timing Specifications

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units	Comments
Power-up time	t_{PU}	After hard reset, $V_{DD} \geq V_{POR}$	-	0.5	1.5	ms	Time between VDD reaching VPOR and sensor entering idle state
Soft reset time	t_{SR}	After soft reset.	-	0.5	1.5	ms	Time between ACK of soft reset command and sensor entering idle state
Measurement duration	$t_{MEAS,l}$	Low repeatability	-	2.5	4.5	ms	The three repeatability modes differ with respect to measurement duration, noise level and energy consumption.
	$t_{MEAS,m}$	Medium repeatability	-	4.5	6.5	ms	
	$t_{MEAS,h}$	High repeatability	-	12.5	15.5	ms	

Table 4 System timing specifications, valid from -40 °C to 125 °C and VDDmin to VDDmax

3.3 Absolute Minimum and Maximum Ratings

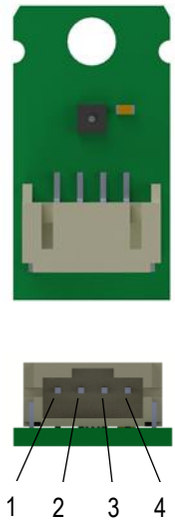
Stress levels beyond those listed in Table 5 may cause permanent damage to the device or affect the reliability of the sensor. These are stress ratings only and functional operation of the device at these conditions cannot be guaranteed.

Parameter	Rating	Units
Supply voltage V_{DD}	-0.3 to 6	V
Max Voltage on pins SDA and SCL	-0.3 to VDD+0.3	V
Input current on any pin	±100	mA
Temperature range	-25 to 85	°C
ESD HBM (human body model)[6]	4	kV

Table 5 Absolute minimum and maximum ratings; values are target specs and not confirmed by measurements yet

4 Pin Assignment

The connector of the SCC30-DB is Scondar SCT2001WR-S-4P (compatible to JST part no. S4B-PH-SM4-TB).



Pin No.	Name	Description
1	SCL	Serial data; input / output
2	VSS	Ground
3	VDD	Supply Voltage
4	SDA	Serial clock; input / output

Figure 4 Connector pin assignment of the SCC30-DB module.

[6] According to JEDEC JS-001

chanhvinh.com

4.1 Typical Application Circuit

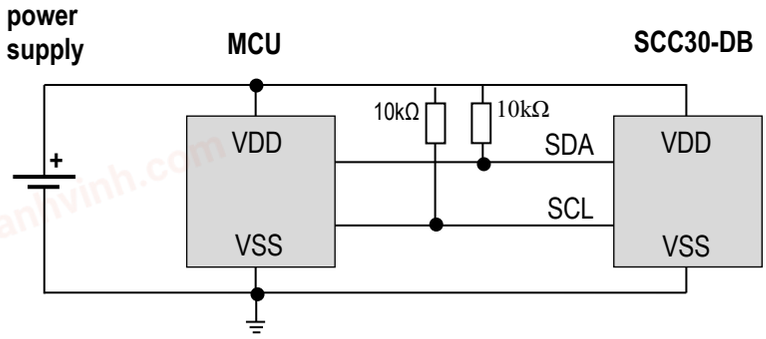


Figure 5 Typical application circuit for the SCC30-DB module.

5 Operation and Communication

The SCC30-DB supports I2C normal and fast mode. Low frequencies (below 100 kHz) are recommended for applications where the module is connected by a cable because of capacitive coupling of cables with the I2C bus. For detailed information on the I2C protocol, refer to NXP I2C-bus specification[7].
After sending a command to the sensor a minimal waiting time of 1ms is needed before another command can be received by the sensor. Furthermore, to keep self-heating below 0.1°C, the SCC30-DB should not be active for more than 10% of the time.
All SCC30-DB commands and data are mapped to a 16-bit address space. Additionally, data and commands are protected with a CRC checksum. This increases communication reliability. The 16 bits commands to the sensor already include a 3 bit CRC checksum. Data sent from and received by the sensor is always succeeded by an 8 bit CRC.
In write direction it is mandatory to transmit the checksum, since the SCC30-DB only accepts data if it is followed by the correct checksum. In read direction it is left to the master to read and process the checksum.

5.1 I2C Address

The I2C device address is given Table 6:

SCC30-DB	Hex. Code	Bin. Code
I²C address	0x44	100'0100

Table 6 SCC30-DB I²C device address.

Each transmission sequence begins with START condition (S) and ends with an (optional) STOP condition (P) as described in the I2C-bus specification.

5.2 Power-Up and Communication Start

The sensor starts powering-up after reaching the power-up threshold voltage V_{POR} specified in Table 3. After reaching this threshold voltage the sensor needs the time t_{PU} to enter idle state. Once the idle state is entered it is ready to receive commands from the master (microcontroller).
Each transmission sequence begins with a START condition (S) and ends with a STOP condition (P) as described in the I2C-bus specification. Whenever the sensor is powered up, but not performing a measurement or communicating, it automatically enters idle state for energy saving. This idle state cannot be controlled by the user.

5.3 Starting a Measurement

A measurement communication sequence consists of a START condition, the I2C write header (7-bit I2C device address plus 0 as the write bit) and a 16-bit measurement command. The proper reception of each byte is indicated by the sensor. It pulls the SDA pin low (ACK bit) after the falling edge of the 8th SCL clock to indicate the reception. A complete measurement cycle is depicted in Table 7.
With the acknowledgement of the measurement command, the SCC30-DB starts measuring humidity and temperature.

[7] http://www.nxp.com/documents/user_manual/UM10204.pdf

chanhvinh.com

5.4 Measurement Commands for Single Shot Data Acquisition Mode

In this mode one issued measurement command triggers the acquisition of *one data pair*. Each data pair consists of one 16-bit temperature and one 16-bit humidity value (in this order). During transmission each data value is always followed by a CRC checksum, see Section 5.5.
In single shot mode different measurement commands can be selected. The 16-bit commands are shown in Table 7. They differ with respect to repeatability (low, medium and high).
The repeatability setting influences the measurement duration and thus the overall energy consumption of the sensor. This is explained in Section 3.

Condition	Hex. code	
Repeatability	MSB	LSB
High	0x24	00
Medium		0B
Low		16
e.g. 0x2400: high repeatability measurement.		

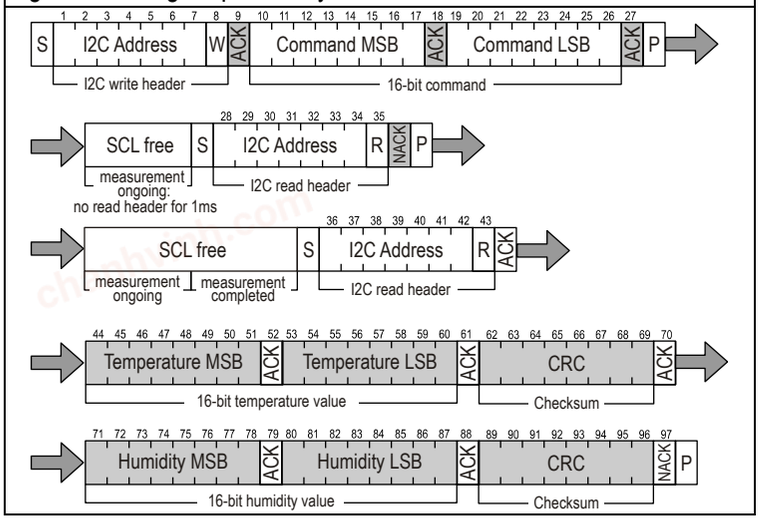


Table 7 Measurement commands in single shot mode. The first "SCL free" block indicates a minimal waiting time of 1ms. (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

5.5 Readout of Measurement Results for Single Shot Mode

After the sensor has completed the measurement, the master can read the measurement results (pair of RH & T) by sending a START condition followed by an I2C read header.
The sensor responds to a read header with a not acknowledge (NACK), if the measurement is still ongoing and thus no data is present.
If the measurement is completed, the sensor will acknowledge the reception of the read header and send two bytes of data (temperature) followed by one byte CRC checksum and another two bytes of data (relative humidity) followed by one byte CRC checksum. Each byte must be acknowledged by the microcontroller with an ACK condition for the sensor to continue sending data. If the sensor does not receive an ACK from the master after any byte of data, it will not continue sending data.
The sensor will send the temperature value first and then the relative humidity value. After having received the checksum for the humidity value a NACK and stop condition should be sent (see Table 7).
The I2C master can abort the read transfer with a NACK condition after any data byte if it is not interested in subsequent data, e.g. the CRC byte or the second measurement result, in order to save time.
In case the user needs humidity and temperature data but does not want to process CRC data, it is recommended to read the two temperature bytes of data with the CRC byte (without processing the CRC data); after having read the two humidity bytes, the read transfer can be aborted with a with a NACK.

chanhvinh.com

5.6 Measurement Commands for Periodic Data Acquisition Mode

In this mode one issued measurement command yields *a stream of data pairs*. Each data pair consists of one 16-bit temperature and one 16-bit humidity value (in this order).
In periodic mode different measurement commands can be selected. The corresponding 16-bit commands are shown in Table 8. They differ with respect to repeatability (low, medium and high) and data acquisition frequency (0.5, 1, 2, 4 & 10 measurements per second, mps).
The data acquisition frequency and the repeatability setting influences the measurement duration and the current consumption of the sensor. This is explained in Section 3 of this datasheet.
If a measurement command is issued, while the sensor is busy with a measurement (measurement durations see Table 4), it is recommended to issue a break command first (see Section 5.9). Upon reception of the break command the sensor will abort the ongoing measurement and enter the single shot mode.

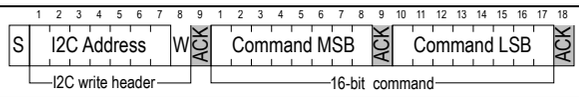
Condition		Hex. code	
Repeatability	mps	MSB	LSB
High	0.5	0x20	32
Medium			24
Low			2F
High	1	0x21	30
Medium			26
Low			2D
High	2	0x22	36
Medium			20
Low			2B
High	4	0x23	34
Medium			22
Low			29
High	10	0x27	37
Medium			21
Low			2A
e.g. 0x2130: 1 high repeatability mps - measurement per second			
			

Table 8 Measurement commands for periodic data acquisition mode (Clear blocks are controlled by the microcontroller, grey blocks by the sensor). N.B.: At the highest mps setting self-heating of the sensor might occur.

5.7 Readout of Measurement Results for Periodic Mode

Transmission of the measurement data can be initiated through the fetch data command shown in Table 9. If no measurement data is present the I2C read header is responded with a NACK (Bit 9 in Table 9) and the communication stops. After the read out command fetch data has been issued, the data memory is cleared, i.e. no measurement data is present.

chanhvinh.com

Command	Hex code
Fetch Data	0x E0 00

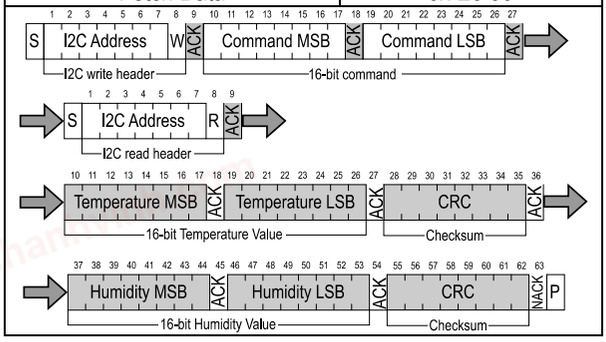


Table 9 Fetch Data command (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

5.8 ART Command

The ART (accelerated response time) feature can be activated by issuing the command in Table 10. After issuing the ART command the sensor will start acquiring data with a frequency of 4Hz.
The ART command is structurally similar to any other command in Table 8. Hence Section 5.6 applies for starting a measurement, Section 5.7 for reading out data and Section 5.9 for stopping the periodic data acquisition.
The ART feature can also be evaluated using the Evaluation Kit EK-H5 from Sensirion.

Command	Hex Code
Periodic Measurement with ART	0x2B32

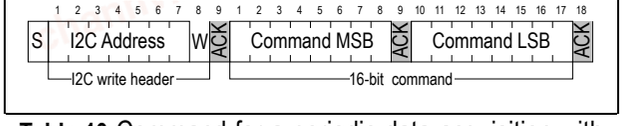


Table 10 Command for a periodic data acquisition with the ART feature (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

5.9 Break Command / Stop Periodic Data Acquisition Mode

The periodic data acquisition mode can be stopped using the break command shown in Table 11. It is recommended to stop the periodic data acquisition prior to sending another command (except Fetch Data command) using the break command. Upon reception of the break command the sensor will abort the ongoing measurement and enter the single shot mode. This takes 1ms.

Command	Hex Code
Break	0x3093

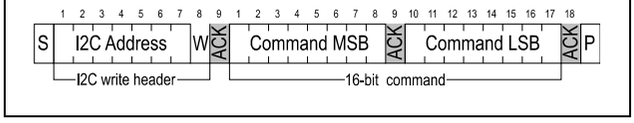


Table 11 Break command (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

5.10 Reset

A system reset of the SCC30-DB can be generated externally by issuing a command (soft reset). Additionally, a system reset is generated internally during power-up. During the reset procedure the sensor will not process commands.

chanhvinh.com

Interface Reset

If communication with the device is lost, the following signal sequence will reset the serial interface: While leaving SDA high, toggle SCL nine or more times. This must be followed by a Transmission Start sequence preceding the next command. This sequence resets the interface only. The status register preserves its content.

Soft Reset / Re-Initialization

The SCC30-DB provides a soft reset mechanism that forces the system into a well-defined state without removing the power supply. When the system is in idle state the soft reset command can be sent to the SCC30-DB. This triggers the sensor to reset its system controller and reloads calibration data from the memory. In order to start the soft reset procedure the command as shown in Table 12 should be sent.
It is worth noting that the sensor reloads calibration data prior to every measurement by default.

Command	Hex Code
Soft Reset	0x30A2

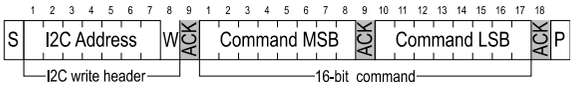


Table 12 Soft reset command (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

Reset through General Call

Additionally, a reset of the sensor can also be generated using the “general call” mode according to I2C-bus specification[7]. It is important to understand that a reset generated in this way is not device specific. All devices on the same I2C bus that support the general call mode will perform a reset. Additionally, this command only works when the sensor is able to process I2C commands. The appropriate command consists of two bytes and is shown in Table 13.

Command	Code
Address byte	0x00
Second byte	0x06
Reset command using the general call address	0x0006

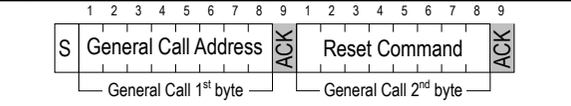


Table 13 Reset through the general call address (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

Hard Reset

A hard reset is achieved by switching the supply voltage to the VDD Pin off and then on again. In order to prevent powering the sensor over the ESD diodes, the voltage to pins 1 (SCL) and 4 (SDA) also needs to be removed.

5.11 Heater

The SHT3x sensor on the SCC30-DB is equipped with an internal heater, which is meant for plausibility checking only. The temperature increase achieved by the heater depends on various parameters and lies in the range of a few degrees centigrade. It can be switched on and off by command, see table below. The status is listed in the status register. After a reset the heater is disabled (default condition).

chanhvinh.com

Command	Hex Code	
	MSB	LSB
Heater Enable	0x30	6D
Heater Disabled		66

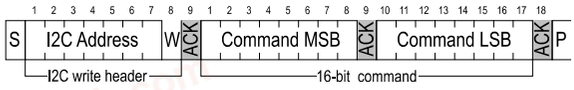


Table 14 Heater command (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

5.12 Status Register

The status register contains information on the operational status of the heater, the alert mode and on the execution status of the last command and the last write sequence. The command to read out the status register is shown in Table 15 whereas a description of the content can be found in Table **16**.

Command	Hex code
Read Out of status register	0xF32D

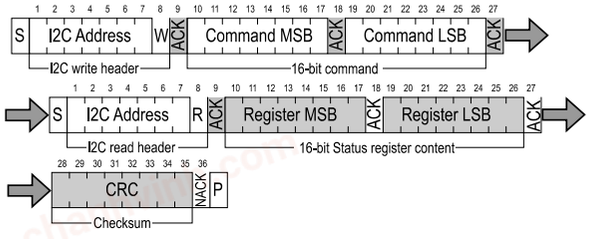


Table 15 Command to read out the status register (Clear blocks are controlled by the microcontroller, grey blocks by the sensor).

Bit	Field description	Default value
15	Reserved	'1'
14	Reserved	'0'
13	Heater status '0': Heater OFF '1': Heater ON	'0'
12	Reserved	'0'
11	Reserved	'0
10	Reserved	'0'
9:5	Reserved	'xxxxx'
4	System reset detected '0': no reset detected since last 'clear status register' command '1': reset detected (hard reset, soft reset command or supply fail)	'1'
3:2	Reserved	'00'
1	Command status '0': last command executed successfully '1': last command not processed. It was either invalid, failed the integrated command checksum	'0'
0	Write data checksum status '0': checksum of last write transfer was correct '1': checksum of last write transfer failed	'0'

Table 16 Description of the status register.

Clear Status Register

chanhvinh.com

All flags (Bit 15, 11, 10, 4) in the status register can be cleared (set to zero) by sending the command shown in Table 17.

Command	Hex Code
Clear status register	0x 30 41

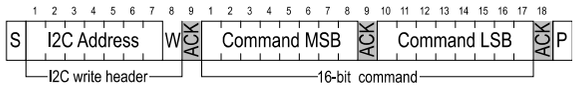


Table 17 Command to clear the status register (Clear blocks are controlled by the microcontroller, grey blocks by the Sensor)

5.13 Checksum Calculation

The 8-bit CRC checksum transmitted after each data word is generated by a CRC algorithm. Its properties are displayed in Table 18. The CRC covers the contents of the two previously transmitted data bytes. To calculate the checksum only these two previously transmitted data bytes are used.

Property	Value
Name	CRC-8
Width	8 bit
Protected data	read and/or write data
Polynomial	0x31 ($x^8 + x^5 + x^4 + 1$)
Initialization	0xFF
Reflect input	False
Reflect output	False
Final XOR	0x00
Examples	CRC (0xBEEF) = 0x92

Table 18 I2C CRC properties.

5.14 Conversion of Signal Output

Measurement data is always transferred as 16-bit values (unsigned integer). These values are already linearized and compensated for temperature and supply voltage effects. Converting those raw values into a physical scale can be achieved using the following formulas.
Relative humidity conversion formula (result in %RH):

$$RH = 100 \cdot \frac{S_{RH}}{2^{16} - 1}$$

Temperature conversion formula (result in °C & °F):

$$T[°C] = -45 + 175 \cdot \frac{S_T}{2^{16} - 1}$$

$$T[°F] = -49 + 315 \cdot \frac{S_T}{2^{16} - 1}$$

S_{RH} and S_T denote the raw sensor output for humidity and temperature, respectively. The formulas work only correctly when S_{RH} and S_T are used in decimal representation.

chanhvinh.com

5.15 Communication Timing

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units	Comments
SCL clock frequency	f_{SCL}		0	-	1000	kHz	Max frequency is more than specified by fast mode. Low frequencies (below 100 kHz) are recommended for applications where the module is connected by a cable.
Hold time (repeated) START condition	$t_{HD;STA}$	After this period, the first clock pulse is generated	0.24	-	-	µs	
LOW period of the SCL clock	t_{LOW}		0.53	-	-	µs	
HIGH period of the SCL clock	t_{HIGH}		0.26	-	-	µs	
SDA hold time	$t_{HD;DAT}$		0	-	250	ns	Transmitting data
			0	-	-	ns	Receiving data
SDA set-up time	$t_{SU;DAT}$		100	-	-	ns	
SCL/SDA rise time	t_R		-	-	300	ns	
SCL/SDA fall time	t_F		-	-	300	ns	
SDA valid time	$t_{VD;DAT}$		-	-	0.9	µs	
Set-up time for a repeated START condition	$t_{SU;STA}$		0.26	-	-	µs	
Set-up time for STOP condition	$t_{SU;STO}$		0.26	-	-	µs	
Capacitive load on bus line	CB		-	-	400	pF	
Low level input voltage	V_{IL}		0	-	$0.3xV_{DD}$	V	
High level input voltage	V_{IH}		$0.7xV_{DD}$	-	$1xV_{DD}$	V	
Low level output voltage	V_{OL}	3 mA sink current	-	-	0.4	V	

Table 19 Timing specifications for I2C communication, valid for T=-40°C … 125°C and VDD = VDDmin… VDDmax. The nomenclature above is according to the I2C Specification (UM10204, Rev. 6, April 4, 2014).

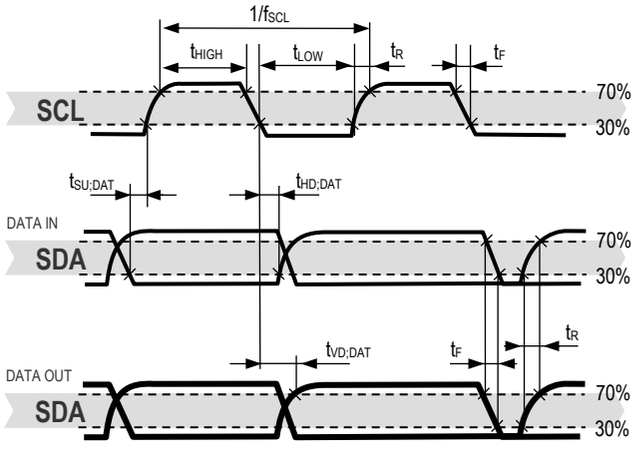


Figure 6 Timing diagram for digital input/output pads. SDA directions are seen from the sensor. Bold SDA lines are controlled by the sensor, plain SDA lines are controlled by the micro-controller. Note that SDA valid read time is triggered by falling edge of preceding toggle.

chanhvinh.com

6 Mechanical

6.1 Mounting Recommendations

The SCC30-DB module has unprotected metallic areas. These must not be in contact with electrically conducting materials of the end-product. Care needs to be taken not to damage the PCB when using a screw for mounting, a plastic spacer is recommended.

6.2 Outer Dimensions SCC30-DB

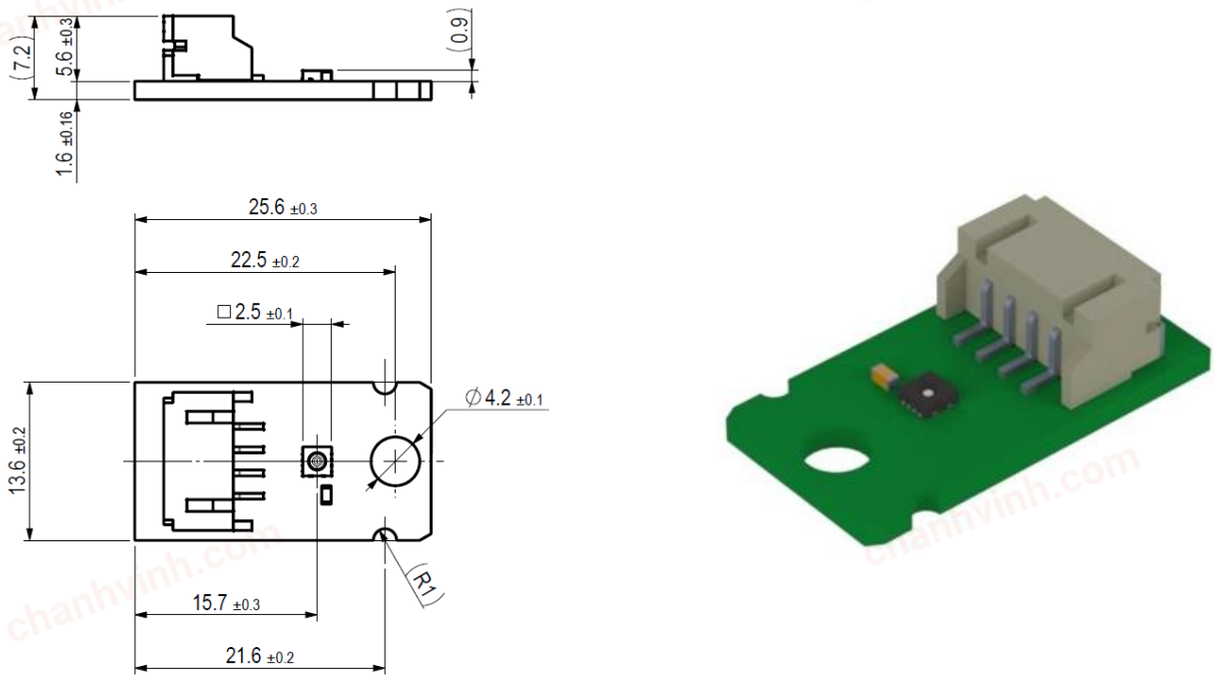


Figure 7 Outer dimensions of the SCC30-DH module.

7 Quality

The qualification of the SHT30 sensor which is mounted on the SCC30-DB is performed based on the JEDEC JESD47 qualification test method.

Visual optical acceptance criteria of the SCC30-DB PCB are according to IPC-A-610, class II.

chanhvinh.com

Revision History

Date	Version	Page(s)	Changes
17. September 2018	1.0	all	Initial version.

chanhvinh.com

Important Notices

Warning, Personal Injury

Do not use this product as safety or emergency stop devices or in any other application where failure of the product could result in personal injury. Do not use this product for applications other than its intended and authorized use. Before installing, handling, using or servicing this product, please consult the data sheet and application notes. Failure to comply with these instructions could result in death or serious injury.

If the Buyer shall purchase or use SENSIRION products for any unintended or unauthorized application, Buyer shall defend, indemnify and hold harmless SENSIRION and its officers, employees, subsidiaries, affiliates and distributors against all claims, costs, damages and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if SENSIRION shall be allegedly negligent with respect to the design or the manufacture of the product.

ESD Precautions

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation, take customary and statutory ESD precautions when handling this product.
See application note “ESD, Latchup and EMC” for more information.

Warranty

SENSIRION warrants solely to the original purchaser of this product for a period of 12 months (one year) from the date of delivery that this product shall be of the quality, material and workmanship defined in SENSIRION’s published specifications of the product. Within such period, if proven to be defective, SENSIRION shall repair and/or replace this product, in SENSIRION’s discretion, free of charge to the Buyer, provided that:

- notice in writing describing the defects shall be given to SENSIRION within fourteen (14) days after their appearance;
- such defects shall be found, to SENSIRION’s reasonable satisfaction, to have arisen from SENSIRION’s faulty design, material, or workmanship;
- the defective product shall be returned to SENSIRION’s factory at the Buyer’s expense; and
- the warranty period for any repaired or replaced product shall be limited to the unexpired portion of the original period.

This warranty does not apply to any equipment which has not been installed and used within the specifications recommended by SENSIRION for the intended and proper use of the equipment. EXCEPT FOR THE WARRANTIES EXPRESSLY SET FORTH HEREIN, SENSIRION MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT. ANY AND ALL WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY EXCLUDED AND DECLINED.
SENSIRION is only liable for defects of this product arising under the conditions of operation provided for in the data sheet and proper use of the goods. SENSIRION explicitly disclaims all warranties, express or implied, for any period during which the goods are operated or stored not in accordance with the technical specifications.
SENSIRION does not assume any liability arising out of any application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. All operating parameters, including without limitation recommended parameters, must be validated for each customer’s applications by customer’s technical experts. Recommended parameters can and do vary in different applications.
SENSIRION reserves the right, without further notice, (i) to change the product specifications and/or the information in this document and (ii) to improve reliability, functions and design of this product.

Copyright © 2018, by SENSIRION.
CMOSens® is a trademark of Sensirion
All rights reserved

Headquarters and Subsidiaries

SENSIRION AG
Laubisruetistr. 50
CH-8712 Staefa ZH
Switzerland

phone: +41 44 306 40 00
fax: +41 44 306 40 30
info@sensirion.com
www.sensirion.com

Sensirion Taiwan Co. Ltd.
phone: +41 44 306 40 00
info@sensirion.com

Sensirion Inc. USA
phone: +1 312 690 5858
info-us@sensirion.com
www.sensirion.com

Sensirion Japan Co. Ltd.
phone: +81 3 3444 4940
info-jp@sensirion.com
www.sensirion.co.jp

Sensirion Korea Co. Ltd.
phone: +82 31 337 7700~3
info-kr@sensirion.com
www.sensirion.co.kr

Sensirion China Co. Ltd.
phone: +86 755 8252 1501
info-cn@sensirion.com
www.sensirion.com.cn/

To find your local representative, please visit www.sensirion.com/contact