

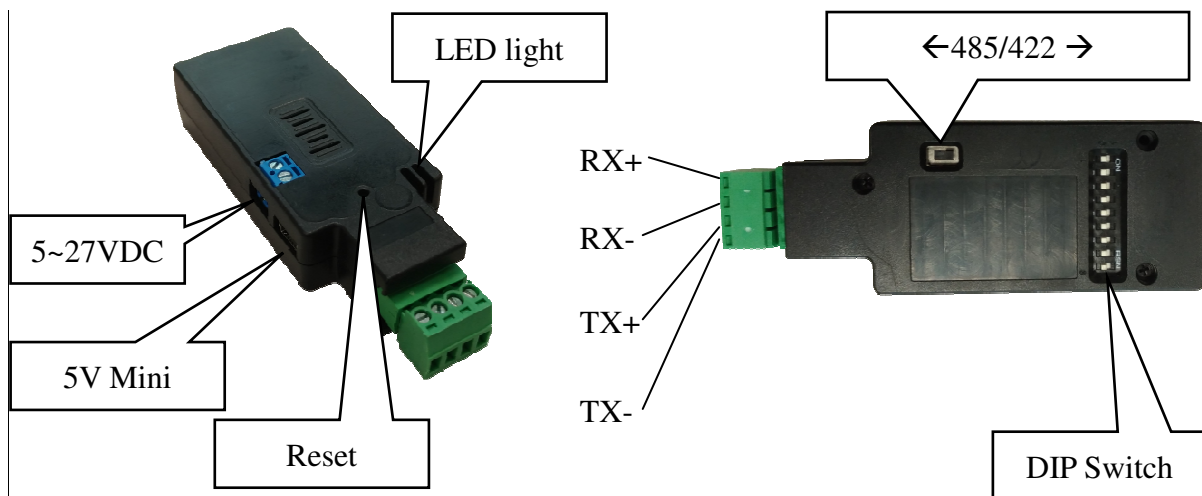
RS-422/485 Temperature and Humidity Sensor

Model: TH-485

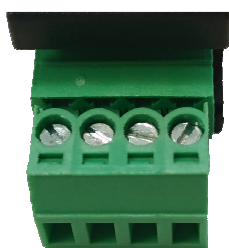
1. Package content:

RS-485 sensor adapter  White Box Dimension: 11 x 6 x 5 (cm) Total Package Weight: 105 g 	Package Contents: ● RS-485 sensor adapter x 1 ● Screw x2, Screw nut x 2 ● A4 User manual x 1 ● Mini USB Cable x 1 
--	---

2. Profile:

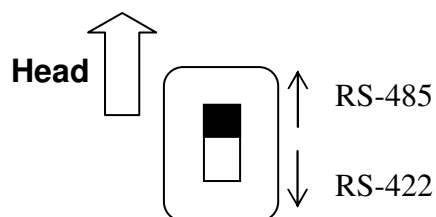


RS-485 Interface

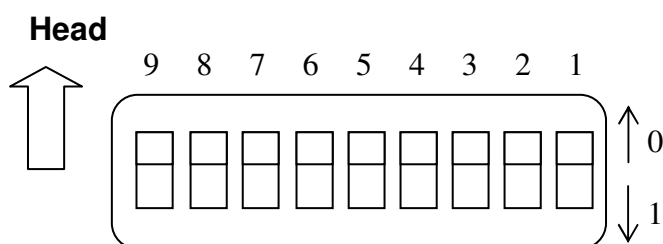


TX- TX+ RX- RX+

RS-485/ RS-422 Switch



DIP Switch(9 Pin)



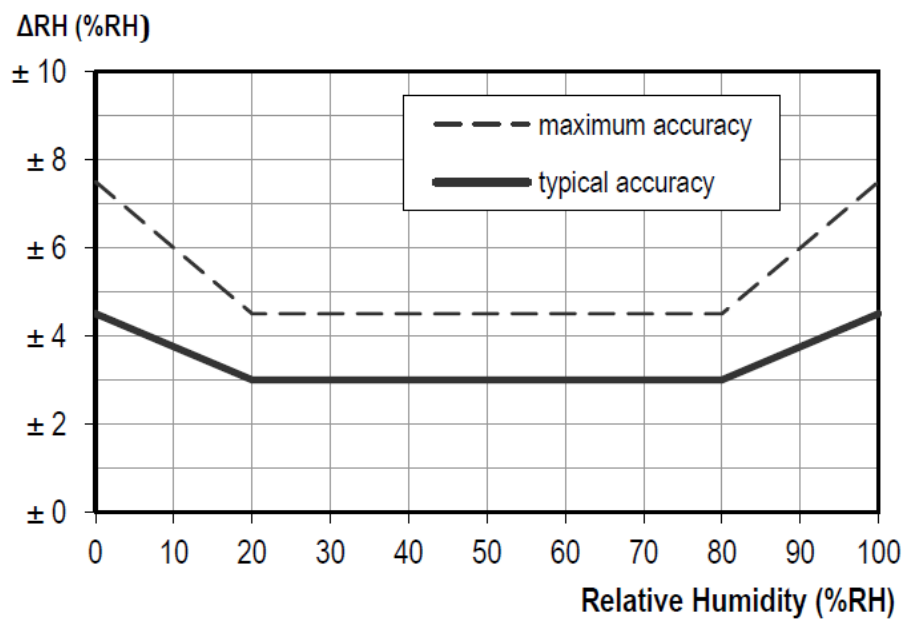
1	2	3	4	5	6	7	8	9
Config	Format	Report	Base-1	Base-2	Time-1	Time-2	Time-3	Time-4
0: HW 1: SW	0: Raw 1: Tag	0: Auto	00: Second 01: Minute 10: Hour 11: Day *Remark		0000:1 1100:13 0001:2 1101:14 0010:3 0011:4 *Remark	0100:5 0101:6 0110:7 0111:8	1000:9 1001:10 1010:11 1011:12	1110:15 1111:16
		1: Poll	Poll the sensor value by the command set via RS-232 or RS-485, please check the command table. If you set the Modbus RTU command, the pin setting will indicate the Modbus ID: 1~64 The following string indicates the DIP No.: [4] [5] [6] [7] [8] [9] 000000:1 010000:17 100000:33 110000:49 000001:2 010001:18 100001:34 110001:50 000010:3 010010:19 100010:35 110010:51 000011:4 010011:20 100011:36 110011:52 000100:5 010100:21 100100:37 110100:53 000101:6 010101:22 100101:38 110101:54 000110:7 010110:23 100110:39 110110:55 000111:8 010111:24 100111:40 110111:56 001000:9 011000:25 101000:41 111000:57 001001:10 011001:26 101001:42 111001:58					

			001010:11	011010:27	101010:43	111010:59
			001011:12	011011:28	101011:44	111011:60
			001100:13	011100:29	101100:45	111100:61
			001101:14	011101:30	101101:46	111101:62
			001110:15	011110:31	101110:47	111110:63
			001111:16	011111:32	101111:48	111111:64

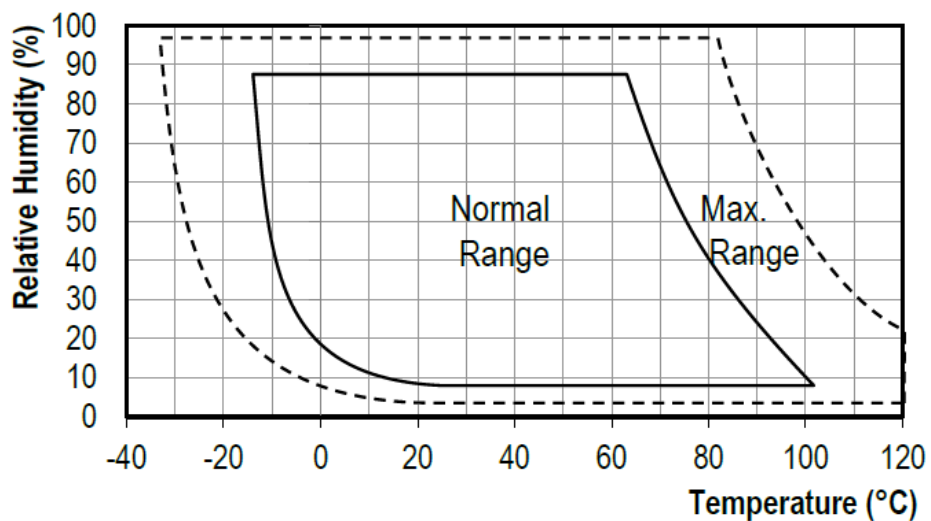
3. Specifications:

3.1 Humidity

Parameter	Condition	Value	Units
Resolution ¹	12 bit	0.04	%RH
	8 bit	0.7	%RH
Accuracy tolerance ²	typ	±3.0	%RH
	max	see Figure 2	%RH
Repeatability		±0.1	%RH
Hysteresis		±1	%RH
Nonlinearity		<0.1	%RH
Response time ³	τ 63%	8	s
Operating Range	extended ⁴	0 to 100	%RH
Long Term Drift ⁵	Typ.	< 0.25	%RH/yr

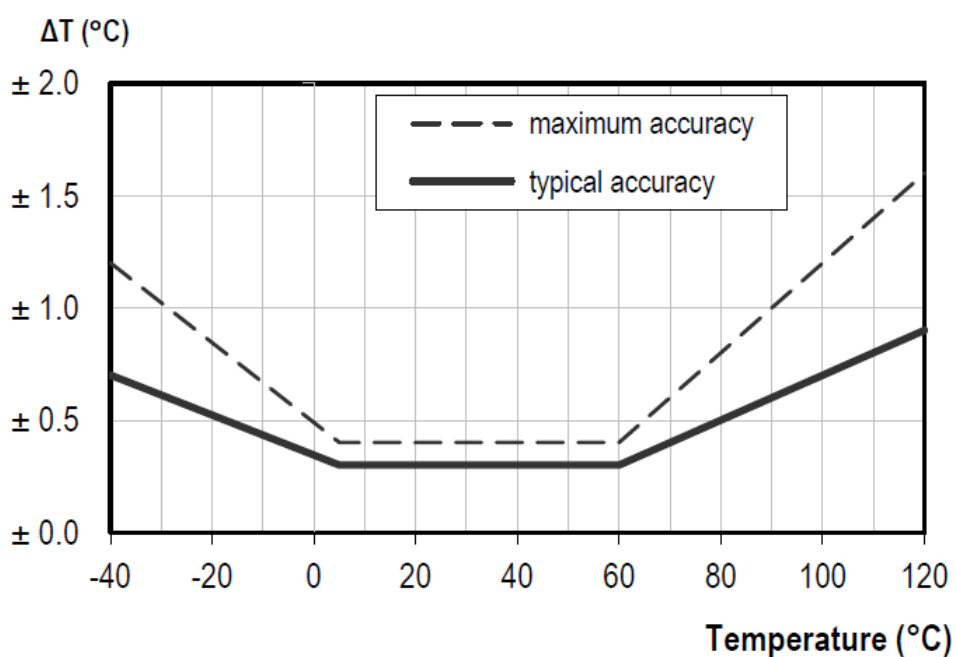


Operation range:



3.2 Temperature

Parameter	Condition	Value	Units
Resolution ¹	14 bit	0.01	°C
	12 bit	0.04	°C
Accuracy tolerance ²	typ	±0.3	°C
	max	see Figure 3	°C
Repeatability		±0.1	°C
Operating Range	extended ⁴	-40 to 125	°C
Response Time ⁷	τ 63%	5 to 30	s
Long Term Drift ⁸	Typ.	< 0.02	°C/yr



4. Output data format:

4.1 Raw

Sensor Value							
	0x00	0x00	0x00	0x00			
Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7

Sensor value:

ASCII Value	Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	
Sensor Name	D0	D1	D2(+/-)	D3	D4	D5	D6	D7	D8~D10
None	0X30	0X30							(Reserved)
Temperature(SHT-20)	0x30	0x31	+ :0x2b,-0x2d	0~F	0~F	.0x2e	0~F	0~F	
Humidity(SHT-20)	0x30	0x32	+	0~F	0~F				
CO2	0x30	0x34	+	0~F	0~F	0~F	0~F		
CO	0x30	0x35	+	0~F	0~F	0~F	0~F		
PM2.5	0x30	0x37	+	0~F	0~F	0~F	0~F		
Temperature(BME280)	0x30	0x38	+ :0x2b,-0x2d	0~F	0~F	.0x2e	0~F	0~F	
Humidity(BME280)	0x30	0x39	+	0~F	0~F				
Pressure(BME280)	0x30	0x41(A)	+	0~F	0~F	0~F	0~F		
Temperature(NTC)	0x30	0x42(B)	+ :0x2b,-0x2d	0~F	0~F	.0x2e	0~F	0~F	
PM1.0	0x30	0x43(C)	+	0~F	0~F	0~F	0~F		
PM10	0x30	0x44(D)	+	0~F	0~F	0~F	0~F		
CH2O	0x30	0x45(E)	+	0~F	0~F	0~F	0~F		
VOC	0x30	0x46(F)	+	0~F	0~F	0~F	0~F		

4.2 RTLS Tag

Output Format:

\$<msg type>,<reader id>,<tag type>,<tag id>,<battery>,<button>,<G-sensor>,<sensor>,<RSSI>#

Field	Description
\$	start of report
msg type	Type of message ex. 0: general scanner, 1: tag scanner
reader id	6 bytes ID of reader in hex => 12 chars
tag type	type of tag ex. 1: tag w/o g-sensor, 2: tag w/ g-sensor ..
tag id	6 bytes ID of tag in hex => 12 chars
tag batt	batt voltage of tag in 1/10 volt unit
tag button status	button status ex. 0: released, 1: pushed
tag motion status	motion status ex. 0: non-moving, 1: moving
reserved	Reserved for external sensor data (11 bytes)
tag rssi	tag read rssi
#	end of report

example:

\$1,E2C69918FD94,1,FFC98B7FC1A9,32,0,0,,-55#

\$1,E2C69918FD94,1,FFC98B7FC1A9,32,1,1,,,-55#
 \$1,E2C69918FD94,1,FFC98B7FC1A9,32,1,1,,,-54#
 \$1,E2C69918FD94,1,FFC98B7FC1A9,32,1,1,,,-63#
 \$1,E2C69918FD94,1,FFC98B7FC1A9,32,0,0,,,-56#

5. AT command:

*RST: Reset

READ? : Read the sensor value

6. RS-485 Modbus RTU: 9600,8-N-1

Read:

ID	Fucntion	Data	CRC16
1 Byte,0x01~0x7F	0x03	0x00	2 Byte

Response:

ID	Fucntion	Data Length	Data	CRC16
1 Byte,0x01~0x7F	0x03	0x04	4 Byte	2 Byte

Remark: All contents are subject to change without notice.



Ubiquitous Connect

UConnect International CO., LTD.

Add: 11F.-3, No.88, Zhongshan Rd., Zhongli City, Taoyuan County 320, Taiwan

Tel: +886-3-4275890

Fax: +886-3-4275913

E-Mail: Sales@uconnect.com.tw

Web: www.uconnect.com.tw