# DCHT Temperature & Humidity Transmitter (RS485 Output) Manual

Thanks for choosing our product! Please read carefully and follow this instruction before using!

Installations

1. Please check if the transmitter, accessory pack and instruction manual are included in the package.
2. Please decide right position for installation.
3. (Duct-mount) Please insert the sensing probe into the duct.
   - ① Remove the upper cover from transmitter with screwdriver.
   - ② Please pass power cable and signal cable through the cable entry. (refer to Figure 1). And please refer Figure 2 for wiring.
4. (Outside air type and separate type) Please refer Figure 1 to fasten the base of transmitter with screws on the wall.
   - ① Remove the upper cover from transmitter with screwdriver.
   - ② Please refer Figure 2 for wiring
5. Please apply 22AWG shielded twisted pair cable.
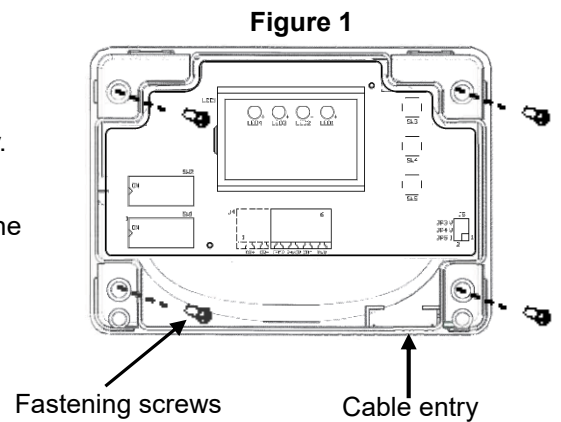
Notice: Please remove power from the unit before wiring, in order to avoid any damage or hazard.

Figure 1

Fastening screws   Cable entry

Notice

Please do not install the transmitter in the area as below.

- Dead air spots behind doors and in corners
- Hot or cold air from ducts
- Concealed pipes and chimneys
- Radiant heat from sun or appliances or cooled areas such as an outside wall behind the transmitter.
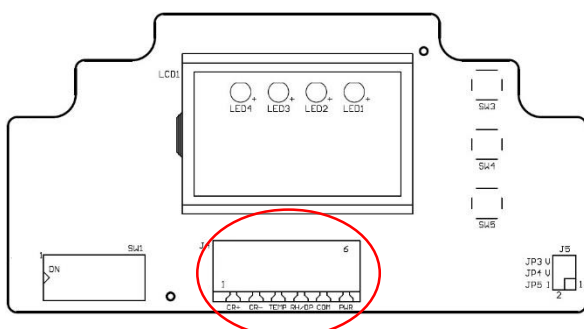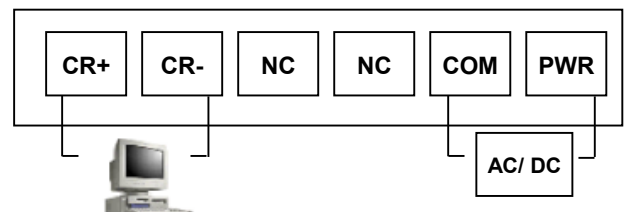
Wiring for RS485 output model

Figure 2

Terminal

1.	PWR	DC 12 ~ 36V AC 24V (50/60Hz)
2.	COM	System GND
3.	NC	N/A
4.	NC	N/A
5.	CR-	RS485
6.	CR+	RS485

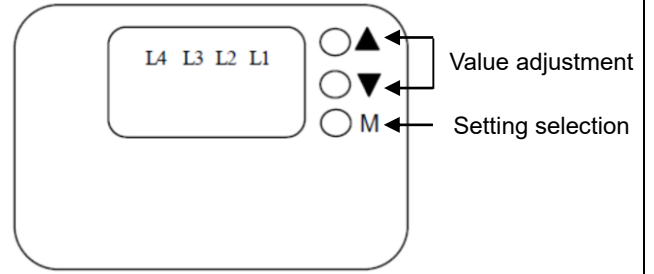| CR+	CR-	NC	NC	COM	PWR

AC/ DC

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Operation

1. Adjustment with Ⓜ ▲▼

進入選單 **Start setting menu**

a. Press Ⓜ for about 3 sec and LCD/LED starts flashing.

b. Press Ⓜ for setting selection and use ▲▼ for value
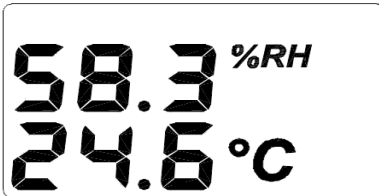   adjustment.

    ** If LCD/LED flashes 30 times without any setting selection, it will return to regular display.

    ** It will also return to regular display after 25~30 sec if no action occurred.

L4 L3 L2 L1

○▲ ─ Value adjustment
○▼
○M ← Setting selection

2. Settings:

The model with LCD display	The model without LCD display

Regular display

58.3 %RH
24.6 °C

Panel

Check LED ⟶ L4 L3 L2 L1 ○▲ ○▼ ○M

Press the switches on the
panel for adjustment

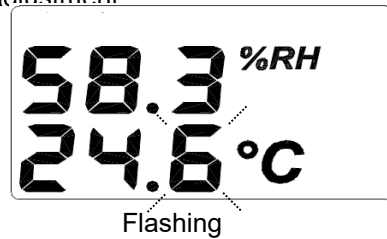**Setting 1 :**
Temperature adjustment (adjustment unit: 0.1℃)

① Press Ⓜ one time to switch to setting 1.
    Use ▲(+) and ▼ (−) for value adjustment

58.3 %RH
24.6 °C

Flashing

Setting 1 :
Temperature adjustment (adjustment unit: 0.1℃

① Press Ⓜ one time to switch to setting 1.
    Use ▲(+) and ▼ (−) for value adjustment

② L1 turns on.

L4 L3 L2 L1 ○▲ ○▼ ○M

Setting 2:
Humidity adjustment (adjustment unit: 0.1%RH)

① Press Ⓜ two time to switch to setting 2.
    Use ▲(+) and ▼ (−) for value adjustment

58.3 %RH
24.6 °C

Flashing
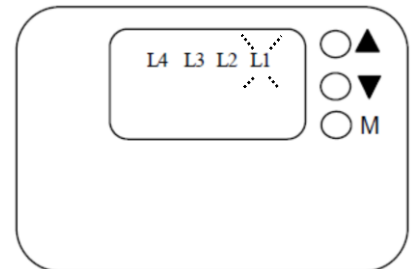
Setting 2:
Humidity adjustment (adjustment unit: 0.1%RH

① Press Ⓜ two times to switch to setting 2.
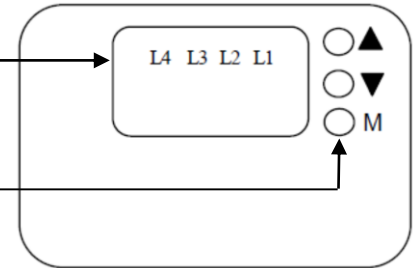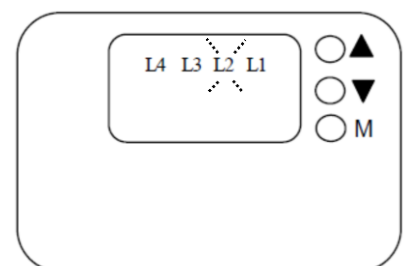   Use ▲(+) and ▼ (−) for value adjustment

② L2 turns on.

L4 L3 L2 L1 ○▲ ○▼ ○M

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Setting 3:

Press Ⓜ three times to switch to "Reset" mode, switch "YES"(all value resets to zero) or "NO"(all value remains) with ▲ or ▼

```
RES
 NO
```
Flashing

```
RES
YES
```
Flashing

Back to the normal display :
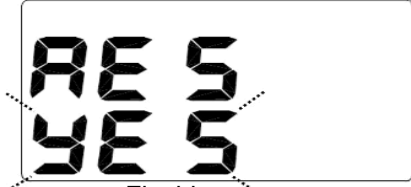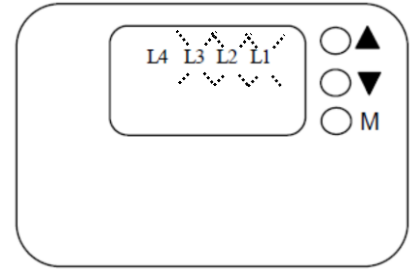
Press four times Ⓜ to go back to regular display

Setting 3:

① Press Ⓜ three times to switch to "Reset" mode, switch "YES"(all value resets to zero) or "NO"(all value remains) with ▲ or ▼

② L1,L2, L3 all turn on

Back to the normal display :

Press four times Ⓜ to go back to regular display

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Annex

1. Device ID：Setup device ID with dip switch1 ON↑ ■ : 1 , OFF↓□ : 0

		Device ID (ON：1,OFF：0)				
1	0000 0001		127	0111 1111		
2	0000 0010		128	1000 0000		
. . .		. . .	. . .		. . .	
64	0100 0000		254	1111 1110		
65	0100 0001		255	1111 1111		

2. Protocol :

   Baud Rate = 9600; Word Length = 8; Parity = none; Stop Bits = 1

Data Reading Type

	Device ID	Function	Address(H)	Address(L)	Data Length (H)	Data Length (L)	Checksum
Temperature	By setting	0x03	0x00	0x00	0x00	0x01	XXXX
Humidity	By setting	0x03	0x00	0x01	0x00	0x01	XXXX
Temperature & Humidity	By setting	0x03	0x00	0x00	0x00	0x02	XXXX

Responding Data Type

	Device ID	Function	Data byte	Temperature		Humidity		Checksum
				Data (H)	Data (L)	Data (H)	Data (L)	
Temperature	By setting	0x03	0x02	0x09	0x34			XXXX
Humidity	By setting	0x03	0x02			0x13	0x0B	XXXX
Temperature & Humidity	By setting	0x03	0x04	0x09	0x34	0x13	0x0B	XXXX

** Remark 1：

   XXXX is the checksum for CRC16

** Remark 2：

   The data obtained is hexadecimal. To convert hexadecimal to decimal and divided by 100.

Example :

   Convert 0x0934(hexadecimal) to decimal➔ 2356 (decimal)and divide 2536 by 100➔23.56℃

   Convert 0x130B (hexadecimal) to decimal➔ 4875 (decimal)and divide 4875 by 100➔48.75%RH

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Calibration

To calibrate 23.56 to 20.56, the correction is as below:
(20.56-23.56)*100 = -300 and convert the calibration value to 0xFED04 (hexadecimal).

	Device ID	Function	Address(H)	Address(L)	Data (H)	Data (L)	Checksum
Temperature	By setting	0x06	0x00	0x02	0xFE	0xD4	XXXX

To calibrate 23.56 to 26.56℃, the correction is as below:
(26.56-23.56)*100=300 and convert the calibration value to 0x012C (hexadecimal).

	Device ID	Function	Address(H)	Address(L)	Data (H)	Data (L)	Checksum
Temperature	By setting	0x06	0x00	0x02	0x01	0x2C	XXXX

To reset to default value, set 0x0000.

	Device ID	Function	Address(H)	Address(L)	Data (H)	Data (L)	Checksum
Temperature	By setting	0x06	0x00	0x02	0x00	0x00	XXXX

To calibrate 48.75%RH to 45.75%RH, the correction is as below:
(45.75-48.75)*100= -300 and convert the calibration value to 0xFED04 (hexadecimal).

	Device ID	Function	Address(H)	Address(L)	Data (H)	Data (L)	Checksum
Humidity	By setting	0x06	0x00	0x03	0xFE	0xD4	XXXX

To calibrate 48.75%RH to 51.75%RH, the correction is as below:
(51.75-48.75)*100=300 and convert the calibration value to 0x012C (hexadecimal).

	Device ID	Function	Address(H)	Address(L)	Data (H)	Data (L)	Checksum
Humidity	By setting	0x06	0x00	0x03	0x01	0x2C	XXXX

To reset to default value, set 0x0000.

	Device ID	Function	Address(H)	Address(L)	Data (H)	Data (L)	Checksum
Humidity	By setting	0x06	0x00	0x03	0x00	0x00	XXXX

** Remark 3：
  Temperature(□)/ Humidity(%RH) adjustable range is ±1000