

HUMIDITY & TEMPERATURE SENSOR WITH DISPLAY, FOR CONDUCTIONS WITH RELAIS

Specifications

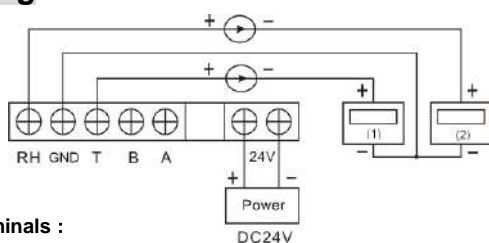
- Power supply: 12~30V, DC or AC
- Measurement range: H: 0~100%RH
T: 0°C~50°C (adjustable)
- Accuracy: H: $\pm 3\%$ RH (20%RH~80%RH, 25°C)
T: $\pm 0.5^\circ\text{C}$ (0°C~50°C), $\pm 0.3^\circ\text{C}$ (optional)
- Working temperature: Housing (-10°C~60°C)
Sensor (-40~120°C)
- Long-term stability: H: < 1%RH/year
T: < 0.1°C/year
- Response time: H: 6~10s @ 1/e (63%), 25°C, 1m/s air
T: 5~30s @ 1/e (63%)
- Output signals: DC4~20mA or DC0~10V
- Load capability: $\leq 500\Omega$ (DC4~20mA output)
 $\geq 1k\Omega$ (DC 0~10V output)
- Communication: Modbus RTU, RS485 (optional)
- Display unit: LCD, backlight: blue(optional)
- Housing shell: ABS white 90mm x 86mm x 41mm
- Sensor protective: S304, metal filter
- Installation: Flange



Installation Notice

- The transmitter should be not installed in the area that the difference in temperature is large; otherwise the measuring may be incorrect.
- The transmitter should be installed in a steady area; it should be avoid from direct sunshine, kept away from windows, air conditioning and central heating system, etc. And it should not be installed toward the window and door directly.
- The transmitter must be prevented from the chemical agent, oil, dust and dew and ice condition. And you must avoid using the product in the condition that temperature alters acutely.

Wiring

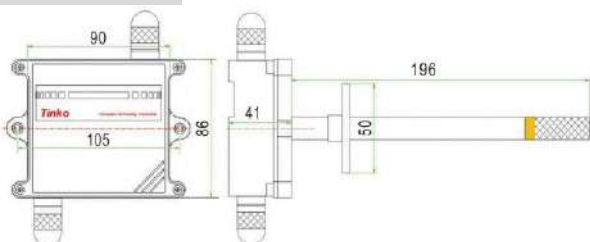


Terminals :

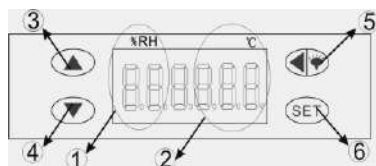
- 24V:** Power Supply
- A/B:** RS485 communication
- T :** Temperature output positive (+)
- RH :** Humidity output positive (+)
- GND :** Temperature & humidity output common GND (shorted with 24V negative terminal)

Note: As shown in figure, (1)&(2) are display instruments.
(1) monitors temperature and (2) monitors humidity.

Dimensions



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Display Unit (optional)


- ① **Humidity display unit:** 0~99%RH
- ② **Temperature display unit:** -19.9~99.9°C
- ③ **UP key:** Used to increase numerals
- ④ **DOWN key:** Used to decrease numerals
- ⑤ **SHIFT key:** Used to select adjustable digit at setting state
Used to control the LCD's backlight at monitor state
- ⑥ **SET key:** Used for parameter registration/calling up

Parameters & Setting (with display unit only)

Symbol	Name	Range	Description	Pre-setting
t-b	T-display bias	- 10.0~10.0	Temperature sensor correction	0.0
h-b	H-display bias	- 10.0~10.0	Humidity sensor correction	0.0
tdo	0% T-output scale	-50~130	Temperature display value at 0% output	0
tup	100% T-output scale	-50~130	Temperature display value at 100% output	50
hdo	0% H-output scale	0~100	Humidity display value at 0% output	0
hup	100% H-output scale	0~100	Humidity display value at 100% output	100
Adr	Address	0~255	Communication ID	1
Cob	Filter	0~18	Input Filter	8
bit	Baud rate	0~4	0-1200bps 1-2400bps 2-4800bps 3-9600bps 4-19200bps	3

Parameter setting procedure
1) Enter parameter setting mode

While the transmitter is in temperature & humidity display state, press the SET key more than 5sec to enter parameter setting mode and the first parameter is displayed.

Note: Parameter symbol is flashing displayed in the humidity display unit, and parameter value is displayed in the temperature display unit.

2) Select parameter

The parameter symbols are displayed one by one every time the SET key is pressed. Select the parameter required.

3) Numeric value change

Use the UP key, DOWN key and SHIFT key to set value.

4) Save the changed value

Press SET key to save the setting and shift to the next parameter.

Communication

- Electrical specification: RS485
- Protocol: Modbus RTU,
See "Communication Protocol for TKSD/A".
- Baud rate: 1200bps / 2400bps / 4800bps / 9600bps / 19200bps

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