Sense.k Series

COMBINED TEMPERATURE AND HUMIDITY TRANSMITTER

PRODUCT DATASHEET



OVERVIEW AND PARAMETERS

- Adopt high-precision sensor and main control, long-term stability and anti-interference ability
- Outstanding design, LCD backlight dual display of temperature and humidity, easy operation
- Overvoltage and reverse connection protection function, IP65 protection level
- Temperature range can be changed by dialing code, 485 output can change the machine number and baud rate by dialing code

OVERVIEW

Sense.k series temperature and humidity transmitter is a transmitter is a transmitter specially designed for industrial applications. It has three installation methods. Wall-mounted, pipeline, and split. The three output modes of current, voltage and RS485 are optional. The on-site adaptability strong, and the terminal design is suitable for rapid installation. It can be widely used in computer rooms, HVAC, buildings, storage vegetable greenhouses, farms and other places where temperature and humidity measurement is required.

PARAMETERS

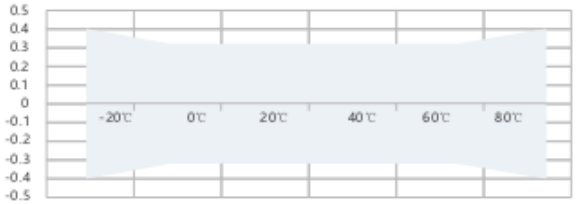
1/Relative humidity

Sensor	**Digital**
Range	0%~100%
Output	RS485/Modbus,0~10VDC,4~20mA optional
Accuracy	±3%@ 20℃ & 20~80%RH
Response time	≤10s(20℃,slow flow air)

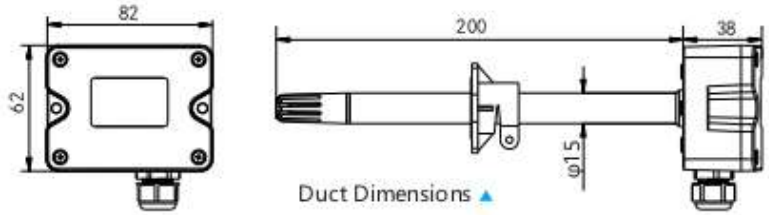
2/Temperature

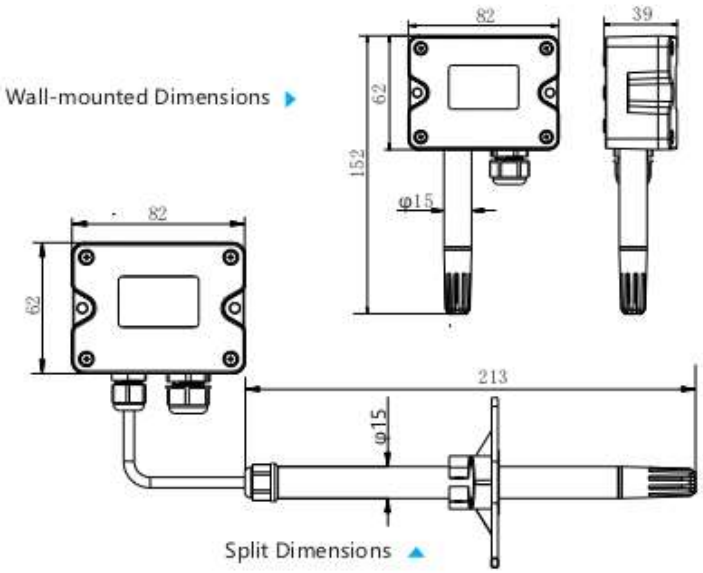
Sensor	Digital or thermal resistance, see model selection table
Range	0~50°C, -20~60°C etc
Output	4~20mA, 0~10VDC, RS485/Modbus Optional
Thermal resistance	See selection table and thermal resistance indexing table
Accuracy	Digital sensor : ±0.3°C@(0~60°C) see table below. Thermal resistance: typical ±0.2~0.4°C@25°C, see selection table
Power supply	• Voltage type/RS-485: 15~35VDC/24VAC±20% (AC power supply requires isolated power supply) • Current type: 19.5~35VDC (RL=500Ω)/9.5~35VDC (RL-0Ω)
Output load	≤250Ω (Current type), ≥2KΩ (Voltage type)
Display	Optional LCD display with unit display and backlight (4~20mA without backlight)
Shell material	ABC housing, PC probe and polymer filter (Optional stainless steel probe rod, sintered/stainless steel wire mesh filter)
Working environment	-20~60°C, 5%-95%RH (non-condensing)
Protection class	IP65

3/Temperature accuracy curve



DIMENSION
SIZE (mm)





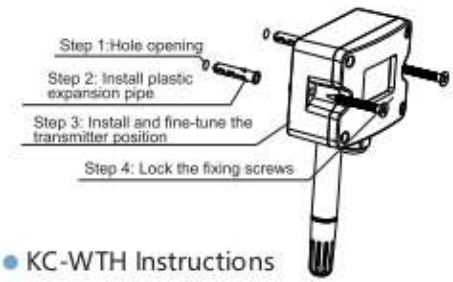
PRODUCT SELECTION

Model	KC-WTH- KC-DTH- KC-STH-						Wall-mounted temperature & humidity transmitter Duct temperature & humidity transmitter split temperature & humidity transmitter
Temperature and humidity accuracy		3					±3%RH（0.3℃）
Temperature output			V C R P N				0~10VDC (3 wire) 4~20mA (2 wire) RS485/Modbus PT1000，±0.2℃@0℃ NTC10K，±0.4℃@25℃
Humidity output				V C R			0~10VDC (3 wire) 4~20mA (2 wire) RS485/Modbus
Temperature range					1		0~50℃
Display						0 1	None LCD display

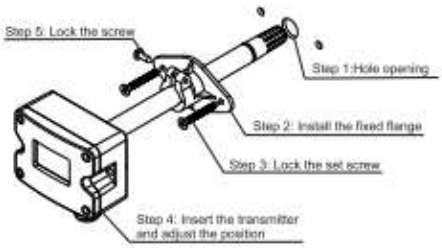
1.Only when the temperature output option is V or C, the corresponding temperature range is 0-50℃; no temperature range for other outputs

2. Example KC-WTH-CC-1 represents the wall-mounted type, the temperature and humidity accuracy is ±3%RH (±0.3°C), the humidity output is 4~20mA, and the temperature output is 4~20mA, temperature range 0~50°C with display.
3. Prolonged exposure of this product's sensor probe to high concentrations of chemical gases may cause the sensor's readings to shift.
4. To choose a metal rod temperature and humidity transmitter, you need to clearly write the specifications of the metal rod and the front cover in the remarks.

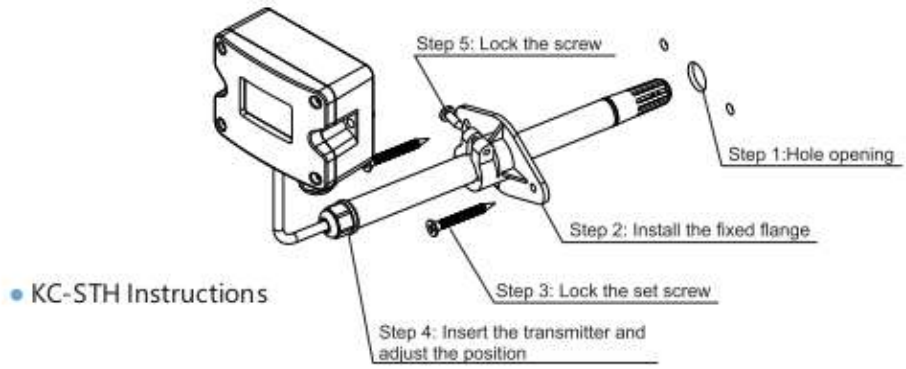
PRODUCT INSTALLATION



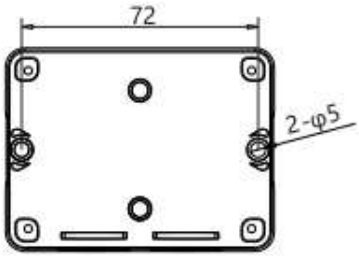
• KC-WTH Instructions



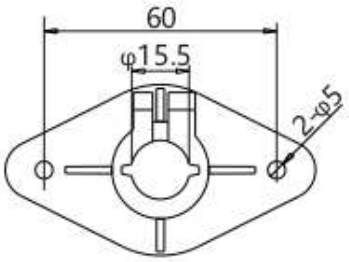
• KC-DTH Instructions



• KC-STH Instructions



• KC-WTH/STH wall mounting hole



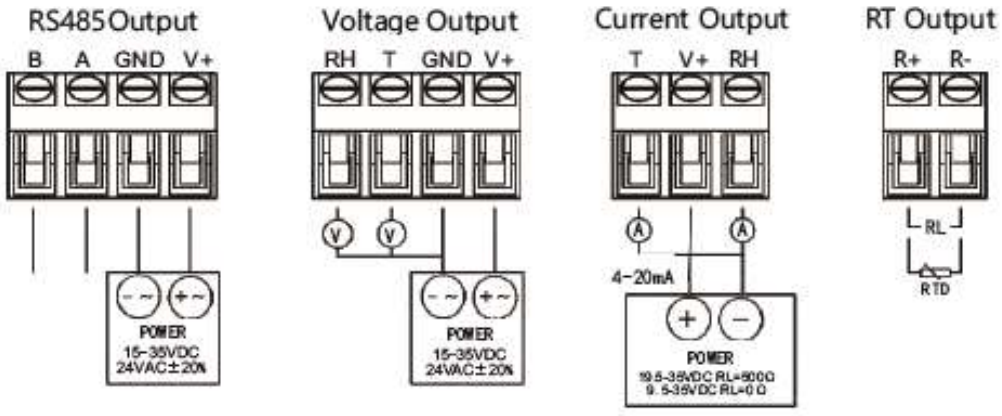
• KC-DTH/STH Flange Mounting Holes

1. KC-DTH is recommended to be installed with flange accessories, and the insertion depth can be adjusted. Fix the mounting flange on the air duct with two screws, the screws on the flange can lock the inserted probe. The opening of the air duct is ϕ15.1mm. After the probe is installed, the air duct should be sealed to avoid air leakage.

2. KC-WTH/STH should be vertical when wall-mounted, and pay attention to the probe facing down. The installation location should be far away from the factors that affect the measurement, such as cold and heat sources, etc., and should avoid direct sunlight or rain, and if necessary, install a sunshade or rain cover. On the installation plane, open 2 fixing holes according to the hole size in the installation drawing (see above), and then use 2 screws to fix the bottom box. The KC-STH probe tube installation description is the same as the KC-DTH using flanged installation.

3. Open the top cover, connect the power cord and signal line to the bottom box through the waterproof connector, complete the wiring according to the wiring diagram, and install the top cover back to its original state. Pay attention to the sealing between the waterproof connector and the bottom box (with a sealing ring), and the sealing between the upper cover and the bottom box (with a sealing ring), so that the overall protection level can reach IP65.

WIRING INSTRUCTION



DIP SWITCH DESCRIPTION

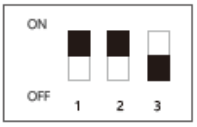
485 types: The first 6 digits of the 8-bit dial code are the address, the address can be set to 1-63, the factory default setting is 1, and the 7/8 digits are the baud rate and can be set to 1-3, respectively representing 1: 9600 2: 19200 3: 38400. The setting method is as follows:
(ON stands for 1, OFF stands for 0, numbers 1~8 on the dial panel represent low to high)

Example: At this time: the address is: 1*2^0+1*2^1+0*2^2+…=3,
the baud rate is 1.



Voltage or current type: 3-bit dial code to select the temperature range, which can be set to 0-7, respectively representing (1：0~50℃ 2：0~60℃ 3：0~80℃ 4：0~100℃ 5：-20~60℃ 6：-20~80℃ 7：-40~60℃ 0：Default range (-20℃~60℃)/Customer specified range)

Example: The dial value is: 1*2^0+1*2^1+0*2^2=3 which means the temperature range is 0~80℃



Note: After all the dial codes are changed, the power must be restarted to
make the changes take effect. When the address or baud rate dial code is 0, the 485 can be changed by software!