LEFOO

LFH10A Temperature and Humidity Transmitter

FEATURES

- Using high-precision sensors and master control, it has good long-term stability and anti-interference ability

- The shell design is compact and beautiful, and the LCD backlight is used for dual display of temperature and humidity, which is convenient for use.

- The power supply and output have overvoltage and reverse connection protection functions, and have a high protection level up to IP65

- The temperature range can be changed by dip switch. If output is RS485, Device Address and Baud Rate can be revised by dip switch as well.

DESCRIPTION

LFH10A series Temperature and Humidity Transmitter is a transmitter specially designed for industrial applications. It has three installation methods: wall-mounted, duct type, and split. The three output modes of current, voltage, and RS485 are optional. The on-site adaptability is strong, and the terminal design is suitable for rapid installation. It can be widely used in computer rooms, HVAC, buildings, warehousing and other places where temperature and humidity measurement is required.
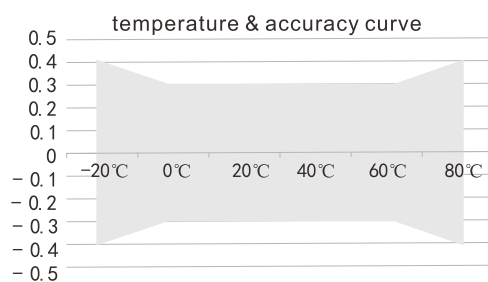
SPECIFICATION

1)Relative humidity

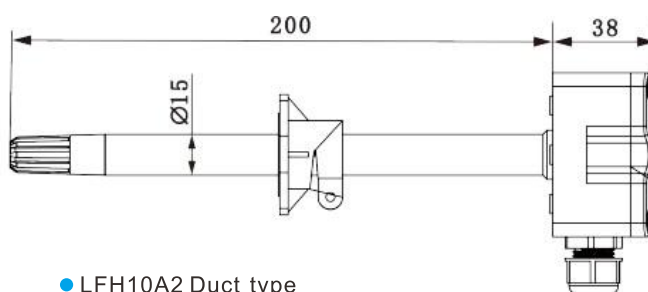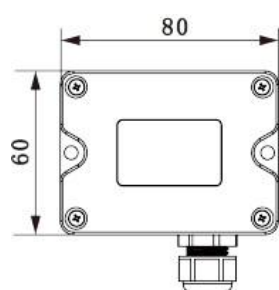| Sensor	Digital type
Measuring Range	0%~100%RH
Output	Output：RS485/Modbus, 0~10VDC, 4~20mA optional
Accuracy	±3%@ 20℃ & 20~80%RH
Response time	≤10s (20℃，slow flow air)

2)Temperature

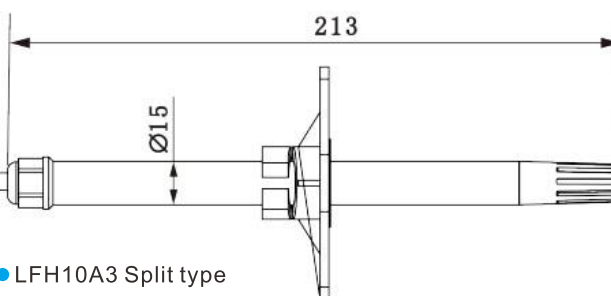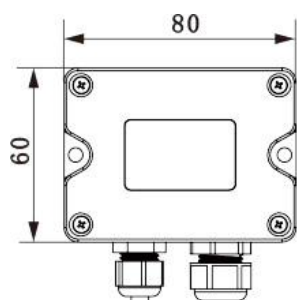| sensor	Digital type or thermal resistance , see Order Ref No.	
Measuring Range	0~50℃，-20~60℃ etc	
Output	4~20mA，0~10VDC，RS485/Modbus Optional	
Thermal Resistance	See Order Ref No. and Thermal Resistance Indexing Table	
Accuracy	Digital type: ±0.3℃@0~60℃ Thermal resistance:typical±0.2~0.4℃@25℃, see Order Ref No.	
Power Supply	Voltage type/485 type: 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	LCD display optional, with unit display and backlight (4~20mA without backlight)	
Shell Material	ABS housing, PC probe and high polymer filter	
Working Environment	-20~60℃,5%-95%RH(Non-condensing)	
Protection Grade	IP65	

TEMPERATURE ACCURACY CURVE

temperature & accuracy curve

0.5
0.4
0.3
0.2
0.1
0
−0.1
−0.2
−0.3
−0.4
−0.5

−20℃　0℃　20℃　40℃　60℃　80℃

DIMENSION (mm)

80
60
200
38
Ø15

● LFH10A2 Duct type

80
60
213
Ø15

● LFH10A3 Split type

![LEFOO]
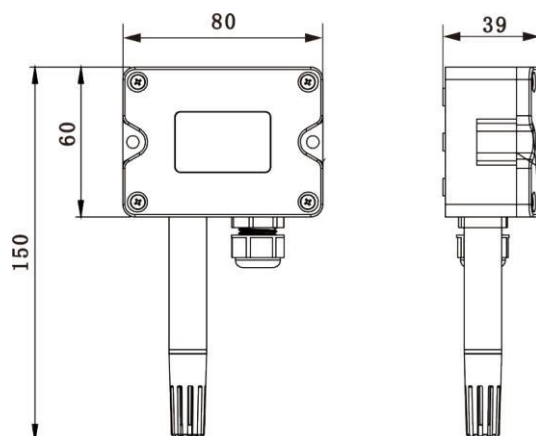
● LFH10A1 Wall-mounted type

WIRING INSTRUCTIONS

RS485 OUTPUT	VOLTAGE OUTPUT	CURRENT OUTPUT	RESISTANCE OUTPUT
B A GND V+	RH T GND V+	T V+ RH	R+ R−

Power supply
15−35VDC
24VAC±20%

0−10VDC

Power supply
15−35VDC
24VAC±20%

4−20mA

Power supply
19.5−35VDC RL=500Ω
9.5−35VDC RL=0Ω

RT

RTD
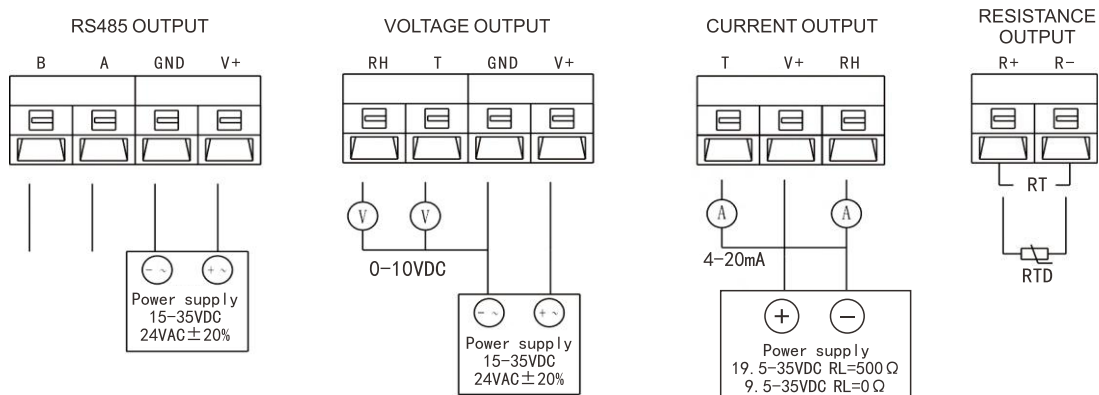
PRODUCT INSTALLATION
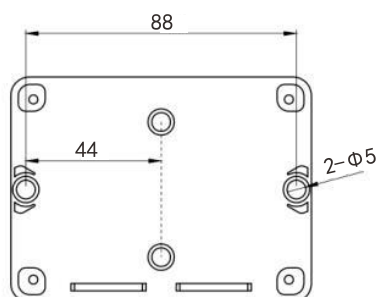
● LFH10A1/10A3 Wall mounting hole

● LFH10A1/10A3 Flange mounting hole

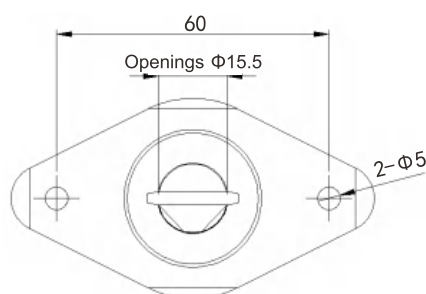Step 5: Tighten the flat tail self-tapping screw

Step1: punching

Step1, punching   2−Φ6   88

Step 2: Insert the plastic expansion tube

Step 2: Install the fixing flange

Step 3: Place the temperature and humidity transmitter and fine-tune the position of the mounting holes

Step 3: Tighten the fixing screws

Step 4: Tighten the fixing screws

Step 4: Insert the temperature and humidity transmitter and fine-tune the position

● LFH10A1 Installation diagram

● LFH10A2 Installation diagram

Step 5: Tighten the flat tail self-tapping screw

Step1: punching

Step 2: Install the fixing flange

Step 3: Tighten the fixing screws

Step 4: Insert the temperature and humidity transmitter and fine-tune the position
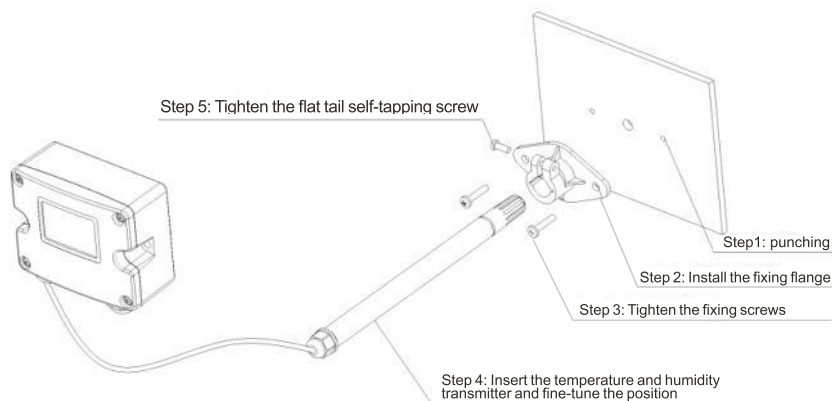
● LFH10A1 Installation diagram

1.LFH10A2 is recommended to be installed with flange accessories, and the insertion depth can be adjusted. Use two screws to fix the mounting flange on the air duct, and 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.LFH10A1/10A3 should be installed vertically when hanging on the wall, and pay attention to the probe facing down.The installation location should be kept away from factors that affect the measurement, such as cold heat sources, etc., and should avoid direct sunlight or rain. If necessary, a sun visor or rain cover should be installed separately.At the installation plane, open 2 fixing holes according to the opening size of the installation diagram (see the picture above), and then fix the bottom box with 2 screws.The installation description of the LFH10A3 probe tube is the same as that of the LFH10A2 using flange installation.

3.Open the upper 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 upper cover back to its original state.Pay attention to the sealing of the waterproof joint and the bottom box (with a sealing ring), and the sealing of the upper cover and the bottom box (with a sealing ring), so that the overall protection level reaches IP65.

ORDER REF NO.

Code and description						Remark
LFH10A1-	Wall-mounted temperature and humidity transmitter					Model
LFH10A2-	Duct type temperature and humidity transmitter					
LFH10A3-	Split type temperature and humidity transmitter					
3	±3%RH(0.3°C)					Accuracy
V10	0~10VDC(3-wire)					Humidity Output
A4	4~20mA(2-wire)					
RS	RS485/Modbus					
V10	0~10VDC(3-wire)	0	PT1000,±0.2°C@0°C			Temperature Output
A4	4~20mA(2-wire)	1	PT100,±0.2°C@0°C			
RS	RS485/Modbus	2	NTC20K,±0.4°C@25°C			
		6	NTC10K,±0.4°C@25°C			
0	None					Temperature Range
1	0~50°C					
2	-20~60°C					
8	Other (customer specified)					
0	None					Display
1	LCD display					
LFH10A1−	3	A4	A4	1	1	Selection example

1.Only when the temperature output option is V10 or A4, you need to select the corresponding temperature range 1-8; otherwise, you can only select 0.

2.Prolonged exposure of the sensor probe of this product to high concentrations of chemical gases may cause the sensor's reading to shift.

3.Example LFH10A1-3A4A411 represents a wall-mounted type with a temperature and humidity accuracy of ±3%RH(±0.3°C) a humidity output of 4~20mA, a temperature output of 4~20mA, and a temperature range of 0~50°C with display.

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.