HUATO®

Operational manual of universal temperature humidity transmitter

HE200 Series

HE400 Series

Introduction:

HE400 series and HE200 series are temperature, relative humidity transmitters, adopt import components and high-performance low-power SCM design, which assure the quality and stability. HE400 series and HE200 series support two kinds of output, Voltage and Current. They have unique design features to ensure no circuit interface of themselves. They are wall-mounted and enjoy widely measuring range and high accuracy, suitable for DC16V-30V. HE400 series has LCD display, HE200 series has no LCD display. Besides, both of them have internal and external probe. Customers can have many choices according to their demands.

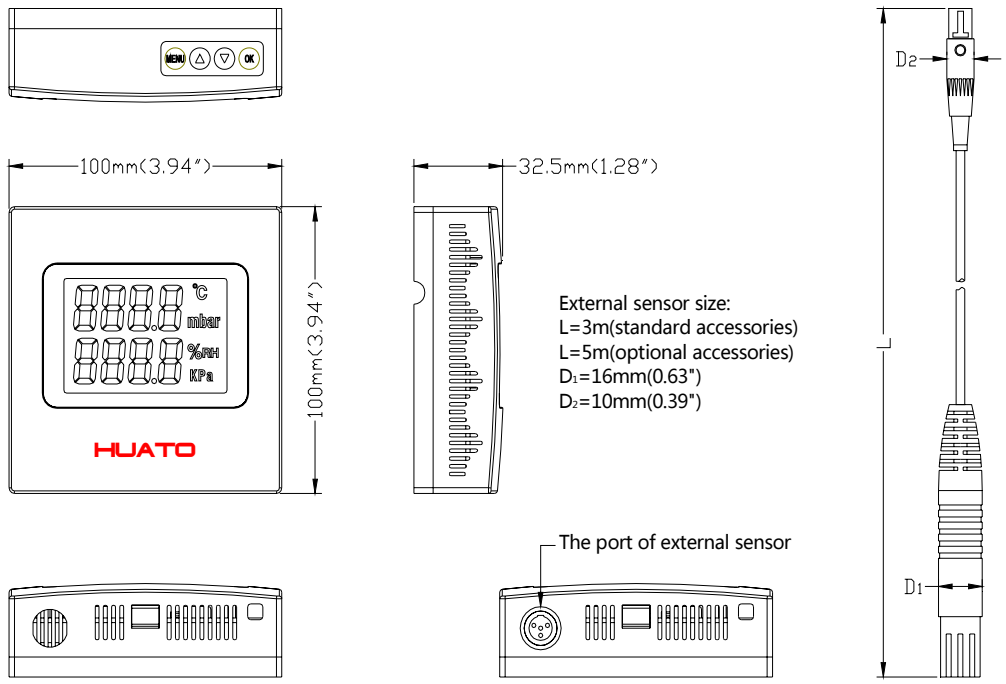
Applications:

HE400 series and HE200 series are designed for temperature and humidity control in conditioning and ventilation application in the following sectors: pharmacy, museums, clean rooms, ventilation ducts, industrial and civil sectors, crowded places, canteens, auditoria, gyms, high-density farms, greenhouse, etc.

Model list:

Model	HE200A HE400A	HE200A-EX HE400A-EX	HE200V5 HE400V5	HE200V5-EX HE400V5-EX	HE200V10 HE400V10	HE200V10-EX HE400V10-EX
Temperature accuracy	±0.5℃	±0.5℃	±0.5℃	±0.5℃	±0.5℃	±0.5℃
Humidity accuracy	±3%RH	±3%RH	±3%RH	±3%RH	±3%RH	±3%RH
Sensor type	Internal	External	Internal	External	Internal	External
Measuring range	0～50℃	-30～70℃	0～50℃	-30～70℃	0～50℃	-30～70℃
Output	4～20mA	4～20mA	0-5V	0-5V	0-10V	0-10V
Wire mode	3 lead terminals		4 lead terminals			
Measuring range	0～100%RH					

Mechanical drawings:



Technical specifications:

	Temperature		Humidity	
Measuring range	0℃～50℃（internal） -30℃～70℃（external）		0%RH～100%RH	
temperature accuracy	±0.5℃		≤±3%RH(25℃,20-90%RH)	
Working range	-10℃～60℃		0%RH～100%RH（non-condensing）	
Power supply	DC16～30V （suggest 24V）			
Output	Voltage	0～5V / 0-10V	Current	4-20mA
Canning material	ABS Engineering Plastics			
Wire mode	Voltage	4 lead terminals	Current	3 lead terminals

Look-up table for analog output:

		0-5V	0-10V	4～20mA
Humidity	0%RH	0	0	4mA
	100%RH	5v	10v	20mA
Temperature	0℃ （-30）	0	0	4mA
	50℃ （70）	5v	10v	20mA

Order of connection for voltage:

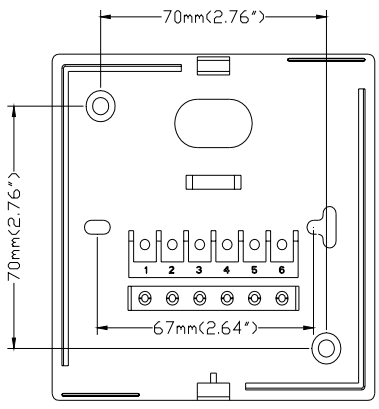
1	2	3	4	5	6
		T_out	RH_out	Gnd	VCC
		Temperature output	Humidity output	Negative wire	Positive wire

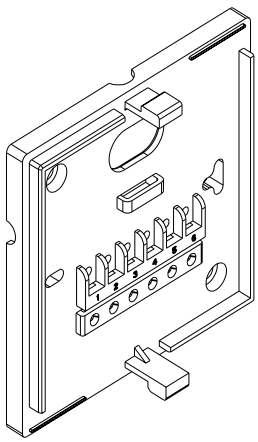
Order of connection for current:

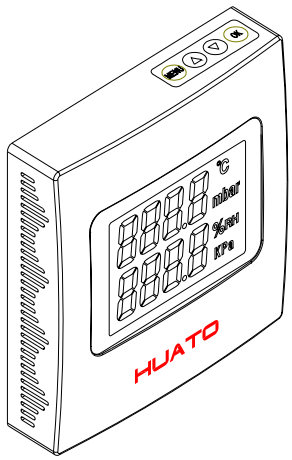
1	2	3	4	5	6
			T_out	RH_out	VCC
			Temperature output	Humidity output	Positive wire

Installation instructions:

Fist fix the drain pan onto the right installation position，then buckle the watch case upon the installed drain pain.







Button instructions:

There are 4 buttons: 

, that is MENU, UP, DOWN and OK key. Key functions as follows:

Name	MENU	UP	DOWN	OK
Functions	Set key	Up key	Down key	Ok key

Press the MENU key for 3 to 5 seconds long enough to enter setting menu, appear SET and press OK to enter selecting mode menu, then it will appear 1-5 numbers, one number to one mode as follows:

1	Single temperature output mode，it only displays temperature and temperature output signal under this kind of mode.
2	Single humidity output mode，it only displays humidity and humidity output signal under this kind of mode.
3	Set temperature linear calibration mode，used for calibrating temperature.
4	Set humidity linear calibration mode, used for calibrating humidity.
5	Normal working mode, it displays both temperature and humidity output signal.

Notice under single temperature or single humidity output:

LCD will display temperature or humidity value as well as temperature or humidity output signal (4-20ma) under single mode. At the same time, please connect the unused pin to the VCC to make sure the output signal is correct.

Two steps for temperature linear calibration setting:

- Entering into temperature linear calibration mode (press MENU and number 3), press OK to enter temperature range 75% calibration point. That is the current environment temperature should be 45℃, till temperature is stable (about 30mins or more), then transmitter LCD will display two-line values. The first line displays the testing temperature U1, the second line displays 45.0. Now you can choose UP and DOWN keys to calibrate the U1 to 45℃ and then click OK key to confirm. So transmitter can record the offset value under temperature of 45℃.
- Then entering into temperature range 33% calibration point, that is the current temperature should be 3℃. Transmitter LCD will display two-line values after the temperature is stable (about 30mins or more). The first line displays the testing temperature U2, the second line displays 3.0. Now you can choose UP and DOWN keys to calibrate the U2 to 3℃ and click OK key to confirm so that the

transmitter can record the offset value under temperature of 45℃. After these two steps calibration, the output value will be the correct one.

Two steps for humidity linear calibration setting:

- Entering into humidity calibration mode (press MENU and number 4), press OK to enter humidity range 75% calibration point. That is the current humidity should be 75%. Transmitter LCD will display two-line values after the humidity is stable (about 30mins or more). The first line displays the testing humidity U1; the second line displays 75%. Now you can choose UP and DOWN keys to calibrate the U1 to 75% and click OK key to confirm so that the transmitter can record the offset value under humidity of 75%.
- Then entering into humidity range 33% calibration point, that is the current environment humidity should be 33%. Transmitter LCD will display two-line values after the humidity is stable (about 30mins or more). The first line displays the testing humidity U2; the second line displays 33%. Now you can choose UP and DOWN keys to calibrate the U2 to 33% and click OK key to confirm so that the transmitter can record the offset value under humidity of 33%. After these two steps calibration, the output value will be the correct one. Now you can back to the normal working mode and both of the value is correct.

Quality assurance：

Instrument warranty for 1 year, our factory is responsible for non-man-made damage during maintenance period.

Notes：

1. Please avoid direct sunlight and any situation which may influence the accuracy of temperature and humidity surrounding the installation position.
2. Please shut off the power supply before installation and replacement. Besides, please check the connection to assure whether it is right before power up.
3. Some functional parameters of product maybe amended, the correct functional parameter is subject to the label.

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