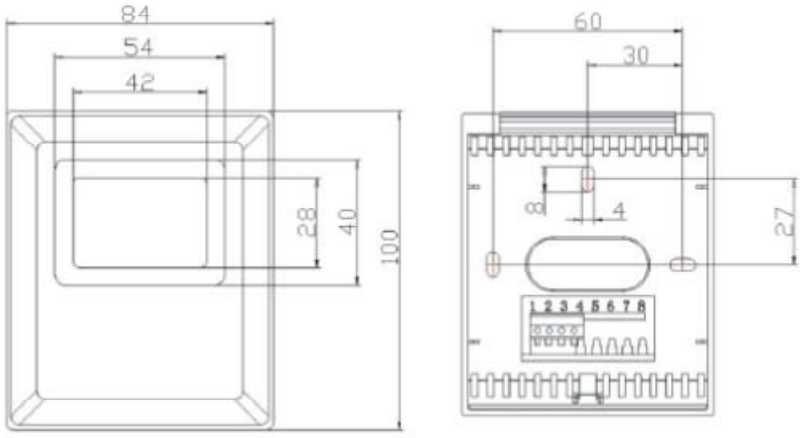
Temperature and Humidity
0-10v Sensor Manual

4376 Bristol Valley Rd, Canandaigua NY, 14424

1、Product Overview

The Ecô 50012 wall–mounted voltage output temperature and humidity transmitter selection of high–quality high–precision digital temperature and humidity sensor, with excellent long–term stability, low delay, and strong resistance to chemical pollution Excellent repeatability. Is an ideal solution for accurate measurement of relative humidity and temperature in HVAC applications, widely used in building automation, climate and HVAC automatic control, museum and hotel climate station, closed–loop control in HVAC systems.



Dimensions (Unit: mm)

2、Product Highlights

Appearance, digital calibration, long–term stability, standard industrial signal output, full range temperature compensation, temperature and humidity, wide measuring range, high and low temperature and humidity measurement accuracy.

3、Product Selection

Product ID	Product Type	DC voltage	AC voltage	Output	Specification
50012	Wall–mounted	15~36V DC	12~24V AC	0~10V	Conventional

4、Mechanical Installation

1.Choose a typical installation location: the location of the transmitter is installed must have the typical temperature and humidity of the environment need to be measured.

2.Make sure that the transmitter there is enough space around to make the air can be circulated.

3.Transmitter is not mounted directly on the heating, cooling object, not directly installed in the steam, mist environment.

4.Installation of the product line, make sure that the transmitter away from the line. Note that the transmitter installation direction, and type of the LCD to show the characters in the direction shall prevail, subject to the ordinary type of text direction.

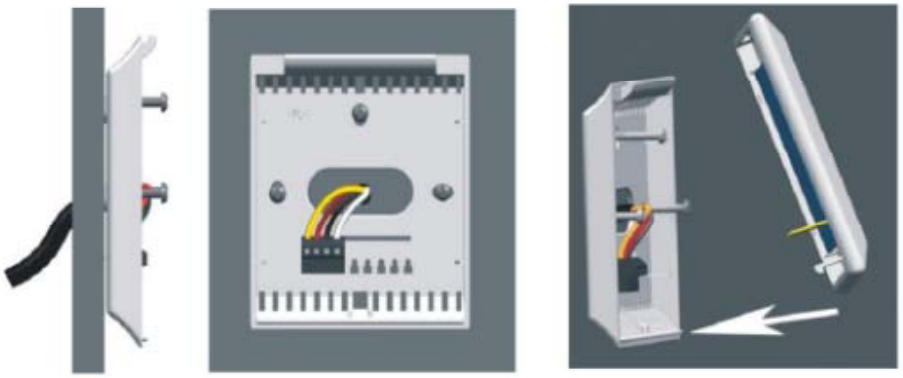
4376 Bristol Valley Rd, Canandaigua NY, 14424

5、Wall mounting

1.Before the transmitter is installed to open the back cover, will need to connect the cable through the hole of the cable of the transmitter back cover.

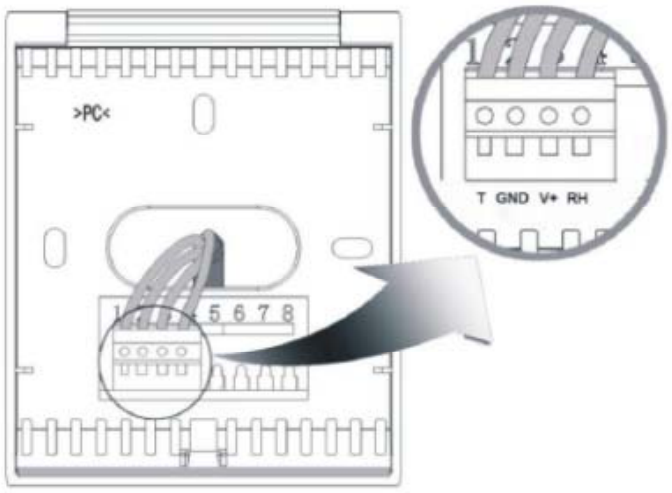
2.The shell can be installed directly on the wall or other location.

3.Use 3 M4 screws (Annex provided) to the transmitter secured to the wall, as shown below:

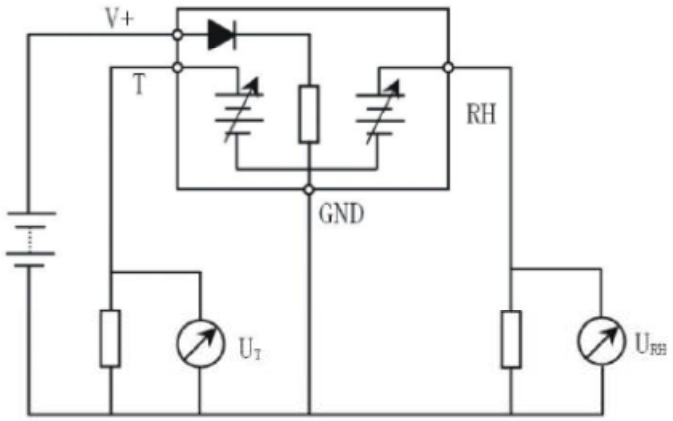


6、Electrical connections

All of the following installation operations must disconnect the power



4376 Bristol Valley Rd, Canandaigua NY, 14424



Connector pin functions are as follows:

Installation sequence

1.Will be the 4-cell (or shielded) to connect the cable transmitter side of the four lines were connected to the transmitter connector 1, 2, 3, 4 feet (with shielded cable shield connected to an electrical ground);

2.The other end of the corresponding access to power supply and voltage testing equipment, or other appropriate equipment;

3.The transmitter before and after the shell fastened;

4.After check the wiring is correct, prior to turning on the power, check the transmitter output is normal;

5.The transmitter can work properly.

7、Connected to the power

If each transmitter uses a separate power to deal with the common ground for each transmitter. Supply voltage temperature and humidity transmitter according to the connected load to allow DC 15 ~ 36V range of power supply (less than 15V will enable the transmitter is not working properly, higher than 36V will cause transmitter damage), or AC power AC12 ~ 24V power supply within the range.

4376 Bristol Valley Rd, Canandaigua NY, 14424

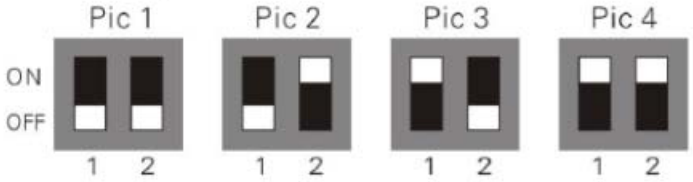
8、Connected to the testing equipment

This transmitter output signal is 0 ~ 10V DC voltage such as voltage testing equipment, set the testing equipment in the output circuit connected in parallel (see the position of the voltmeter in the typical application circuit), such as the use of other testsequipment, be dealt with accordingly.

Note: The transmitter output is strictly prohibited short-circuit, short circuit will cause transmitter damage. Connection error will be possible to damage the product.

Note: grounding relationship between the equipment and the transmitter is detected.。

9、Temperature measurement range is set



Pic 1: DIP switch corresponds to select the temperature measurement range of 0 ~ 50 ℃.

Pic 2: DIP switch corresponds to choose a temperature range of −20 ~ 80 ℃.

Pic 3: the corresponding DIP switch to select the temperature measurement range of −40 ~ 60 ℃.

Pic 4: Reserved, set factory values are available upon request.

Note: in the range selection DIP switch before, turn off the transmitter power.

10、Display

LCD products, the LCD can display temperature and humidity data directly, but also display some status information and error messages.

Boot initialization　　Sensor error　　Normal display

4376 Bristol Valley Rd, Canandaigua NY, 14424

11、Product parameters

Relative humidity
Range: 0 ~ 99.9% RH
Accuracy (including non–linearity, hysteresis and repeatability): ± 2% RH
Factory calibration uncertainty: ± 0.6% RH (0 ~ 40% RH) / ± 1.0% RH (40 ~ 97% RH)
Response time (90%) still air at 8 s, the plastic grille
Resolution: 0.1% RH
Long–term stability: <0.5% RH / year

Temperature
Range (via jumper settings): 0 ~ 50 ℃ / –20 ~ 80 ℃ / –40 ~ 60℃
Accuracy: (25 ℃) ± 0.3℃
Resolution: 0.1 ℃
Long–term stability: <0.1℃ / year

Input and output
Operating voltage: 15 ~ 36VDC (12~24VAC)
Power–on time: 3s
Power consumption: 15mA (typical)
Humidity voltage output: 0 ~ 10VDC
Temperature voltage output: 0 ~ 10VDC

Note: The above parameters, such as no special instructions are at 25 ℃

4376 Bristol Valley Rd, Canandaigua NY, 14424