To calculate relative humidity using temperature and dew point, you need to use a formula that factors in both the current air temperature and the temperature at which water vapor condenses (dew point). This formula is: RH = 100 * [exp(17.625 * Td / (243.04 + Td)) / exp(17.625 * T / (243.04 + T))], where RH is the relative humidity, Td is the dew point temperature in Celsius, and T is the air temperature in Celsius.

Here's a breakdown of the process:

1. **1. Obtain Temperature and Dew Point:**

You'll need the current air temperature (in Celsius) and the dew point temperature (also in Celsius).

2. **2. Apply the Formula:**

Plug the temperature (T) and dew point (Td) values into the formula:

- **RH = 100 * [exp(17.625 * Td / (243.04 + Td)) / exp(17.625 * T / (243.04 + T))]**

- **exp()**: represents the exponential function (e raised to the power of the value inside the parentheses).

- You can use a calculator with exponential and natural logarithm functions to compute this accurately.

3. **3. Calculate Relative Humidity:**

The result of the calculation will give you the relative humidity as a percentage.

Example:

If the air temperature is 25°C and the dew point is 15°C, the calculation would be: RH = 100 * [exp(17.625 * 15 / (243.04 + 15)) / exp(17.625 * 25 / (243.04 + 25)), RH ≈ 100 * [exp(0.998) / exp(1.498), RH ≈ 100 * (2.71 / 4.47), and RH ≈ 60.6.

Therefore, the relative humidity would be approximately 60.6%.