



neptronic[®]
www.neptronic.com

■ HVAC Controls ■ Electric Actuators ■ Actuated Valves
■ Humidifiers ■ Electric Heaters

Head Office
Neptronic[®]
400 Lebeau Blvd.
Montreal, Quebec, Canada H4N 1R6
Tel.: (514) 333-1433
Fax: (514) 333-3163
Toll Free: 1-800-361-2308

Better Prevent Than Cure Window Temperature Sensor and Outdoor Temperature Sensor



When the weather is cold, moist indoor air meets the cooler surfaces of the windows during winter and condensation develops on the glass. Excessive condensation can ruin the window-frame and contribute to mold or mildew growth, which are serious moisture problems.

There are several factors that come into play for condensation to occur, such as the humidity level inside, the temperature inside/outside and the quality of the windows. If the windows produce moisture without humidification, then you must increase the usage of the exhaust ventilation (bathroom fan or HRV unit) to reduce the humidity level inside the building by bringing dryer air from the outside.

USA
NEP Inc.
P.O. Box 1151
Medford Oregon,
USA 97501
Tel.: (541) 531-5746

Middle East & Asia
NEP International FZE
P.O. Box 125687,
Dubai, UAE
Tel.: +97155 8825487
Fax: +9714 3426772

Singapore
Neptronic Pte Ltd
Office D6, #03-38,
Mountbatten Square
229, Mountbatten Road,
Singapore – 398 007
Mobile: +65 8118 4184
Tel: +65 6650 6212
Fax: +65 6491 6423

When humidity is required during the cold season, Neptronic offers three temperature sensors, a window sensor (SHW0-11), an outdoor sensor (STO2-11) and a duct temperature sensor (STC8-11) to be used in conjunction with the HRO20, wall mount humidity controller in order to reduce the risk of condensation.

What are the purposes of these devices and how do they work?

The temperature sensor will communicate its reading to the humidity controller. The controller will then determine the maximum value of the set point (%R.H.) to prevent condensation on the window when the humidifier is operating.

Using the outside temperature sensor or the duct temperature sensor (to be installed in the outside air supply duct) with the HRO20 wall humidity controller, the HRO20 will limit the maximum set point based on this chart.

Temperature lower than (degree F)	Maximum Set Point (% RH)
20	35%
10	30%
0	25%
-10	20%
-20	15%

This method is straightforward and it does not take into consideration the quality of the windows installed.

The other technique is the window temperature sensor. This sensor should be installed on the window facing the north side or the coldest side. The temperature of the window pane is transmitted to the HRO20. The humidity controller will then determine the dew point value at that temperature and it will convert to a value of moisture content and apply a

www.neptronic.com

compensation factor (default 80%) to determine the new maximum set point.

This combination allows a greater accuracy of the maximum set point value, which adapts to the quality of the windows.

In any case, the usage of a temperature sensor will allow the humidification system to operate independently and free of condensation.



www.neptronic.com

■ HVAC Controls ■ Electric Actuators ■ Actuated Valves ■ Humidifiers ■ Electric Heaters