

Microprocessor-Based Controller for Dehumidifiers

For use with DESERT AIRE ND and SA Series Dehumidifiers

FEATURES

The DESERT AIRE microprocessor based controller provides the confidence and reliability of a dedicated solid state control system. At the same time it will greatly improve the ease of start up. The direct digital system controls all the functions to efficiently operate the DESERT AIRE dehumidifiers. It can also perform the basic diagnostic functions.

The controller used with the ND & SA Series has 32 input and output connections to allow for complete digital control of the dehumidifier. All of the controllers are equipped with their own isolation transformer to eliminate interference and uses non-volatile memory to store the operational program and protect the field adjustable set points and schedules. In other words the program memory and set points remain saved even during a power failure.

The control module is user friendly. A display window and simple control buttons allow for easy adjustment of set points. The module can be mounted in / on the dehumidifier or remote up to 500 ft. The connection to the main digital controller is by means of a phone plug / wire that takes care of all power and communication links.

The display will show the operator the space conditions. It will also allow the operator to check the status of operation of the dehumidifier and/or change the set points and scheduling programs. A password feature is used to eliminate unauthorized changes.



INTEGRATION

For many years now, the industry has tried to establish ways for open communication between different digital/computer operated control systems. Although certain systems have been introduced to the market, for all practical purposes a generally accepted system does not yet exist. DESERT AIRE realizes this situation and offers a flexibility in control interface that will allow the end user the optimal control of the dehumidifier. Levels of integration available:

- * **Dedicated control with no integration.**
- * **Point to Point link with building management system. (BMS)**
- * **Direct link with BMS**



A dedicated controller will control all the functions of the dehumidifier without any help from outside. There is no connection to other control systems. The dedicated controller will provide all functions and through the user friendly control unit, will allow the end-user to view up to three set points or actual conditions at the same time.

If the end-user would like to use an existing BMS system, DESERT AIRE and the control contractor work together to coordinate an integrated system. The control contractor will have to supply all the required sensors and the programmed controller. DESERT AIRE will provide the detailed sequence of operation as well as all internal safeties and control logic. This information then has to be programmed into the controller by the control contractor. A carefully worded specification is required to insure that the BMS contractor and DESERT AIRE bid the complete work required for the interface. With the right cooperation DESERT AIRE has successfully interfaced with a variety of manufacturers of control systems.

It is important to notice that the cost of the BMS controller can vary significantly between brands, while the dehumidifier internal logic will remain the same for all brands.

A Direct Link, using a three wire connection, connect all the dehumidifier control logic, setpoints and occupancy schedule direct to the BMS system. In other words, the BMS system can directly communicate with the digital programmer on the dehumidifier.

At this time, Direct Link, is only available if the BMS is a JOHNSON CONTROLS METASYS system. The J.C. Metasys system has an open protocol. Since DESERT AIRE is a Metasys partner we can now program the controller ourselves and purchase equipment as an OEM.

CONTROL FOR ND AND SA SERIES

DESERT AIRE's dedicated controller provides all the required functions in an easy to use control module. The following read-outs are available on the control module:

- * Room Air Temperature.
- * Room Air Relative Humidity
- * Pool Water Temperature (of all pools)
- * Set Points for Relative Humidity, Air Heating, Air Cooling and Pool Water Temperature for both circuits A & B.
- * Auxiliary Air Heating (on- off)

- * Auxiliary Pool Water Heating (on-off)
- * Occupancy Schedule (Outside air damper open or closed)
- * Refrigeration System Diagnostics
- * Air flow Status (yes/no)
- * Water Flow Status (yes/no)

The SA Series includes all of the ND control and diagnostic plus the controls for the patented Outside Air Energy Recovery System and the following displays:

- * Air Flow Pressure Measurements for R/A, S/A, and E/A
- * Outside Air Status (Open/Closed)



N120 W18485 Freistadt Road
Germantown, WI 53022
PH: (262) 946-7400
FAX: (262) 946-7401
www.desert-aire.com
E-mail: info@desert-aire.com

