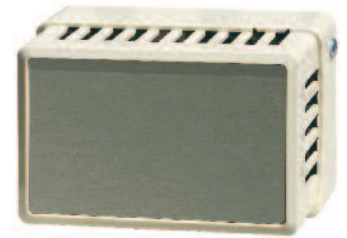# *Advanced SA Microprocessor Controller*

CM3510 Controller Used on ND/SA Dehumidifier
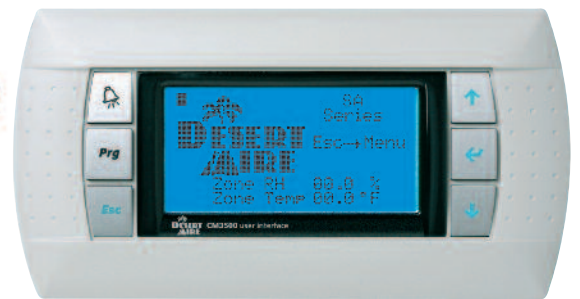

Wall Mount Temperature & Humidity Sensor

Duct Mount Temperature & Humidity Sensor

F EATURES

- • *Backlit LCD User Interface*
- • *Custom programming for complex dehumidification, temperature and humidity control.*
- • *Multiple communication options*
- • *Alarm history retention*

c (UL) US

Optional CM3510 Series Remote Display Terminal (RDT)

D ESCRIPTION

The CM3510 controllers are uniquely programmed for each Desert Aire application providing energy efficient moisture removal and precise temperature & humidity control.

The CM3510 controllers offer greater compatibility with building management systems (BMS) through the use of an options plug in communication module. Optional communication modules for the CM3510 include: LonWorks®, BACnet™ Ethernet™, BACnet™ MS/TP or Modbus®. The CM3510 has a built in time clock for occupied scheduling should a BMS not be present on your project.

A user interface to the CM3510 is supplied on each unit. This backlit LCD display provides easy to navigate screens for setpoint adjustment and unit monitoring. All Inputs and Outputs along with alarm history can be viewed from the user interface to aid in unit or system diagnostics. The interface is either supplied as a built-in display on the face of the controller or as a separate remote display terminal that is connected to the controller.

O RDER OPTIONS

Controller and Sensor without RDT
☐   CA3510ND-DUCT Duct Mount Temp & RH Sensor
☐   CA3510ND-WALL Wall Mount Temp & RH Sensor

Controller and Sensor with RDT
☐   CA3510WD-DUCT Duct Mount Temp & RH Sensor
☐   CA3510WD-WALL Wall Mount Temp & RH Sensor
       RDT = remote display terminal with 20ft. cord

Communication Configuration
☐   Standard - No BMS Communication
☐   LONWORKS® Module
☐   BACnet™ Ethernet™ Module
☐   BACnet™ MS/TP Module
☐   Modbus® RTU Module (RS-485)

All trademarks hereby referenced are the property of their respective owners.

SYSTEM DISPLAY OPTIONS

The CM3510 controller is matched for the SelectAire (SA) series product based on the number of inputs and outputs and by taking into account the accessibility of the controller and its user interface.

The SA series uses the CM3510 controller with an integral display. The controller and local display is installed in the electrical enclosure. An optional remote display terminal is shipped as a separate device. When the Remote Display Terminal is connected to a controller with an integrated display both display devices are fully functional.

BMS COMMUNICATION MODULES

LONWORKS®- Echelon's LonWorks® is a dominant solution of control in industry, offices, homes and transport. Electric standard supported is FTT10.

Modbus®- One of the most widely used protocols. Supports Modbus Slave, RTU mode; communications standard RS485.

BacNet™ MS/TP and BACnet™ Ethernet - Based on EIA-485 and Ethernet™ standards. Connection is possible through the following networks:

• SNMP v1, v2, v3 networks
• BACnet™, Ethernet™, BACnet™/IP networks, BACnet™ MS/TP
• LAN or Internet

BMS COMMUNICATION DETAILS

BACnet™ MS/TP
If the system was purchased with the BACnet MS/TP option, the BACnet Device Instance and Station Address will need to be set before connection to the control network. This is because the Station Address is set to 0 as a default, and will conflict with the device on the control network already set to 0.

Defining the station address prior to unit shipment will allow Desert Aire to correctly set the address. If the value is not known prior to the goods shipping, then the contractor must alter these default settings during unit commissioning. A software utility program will need to be used, allowing access to these settings. For more information, refer to the PCO1000BAO cut sheet shipped with the dehumidifier. Download the system BACnet Point List from the Desert Aire website (www.desert-aire.com).

BACnet™ Ethernet
If the system was purchased with the BACnet Ethernet option, it is strongly recommended that the network administrator be contacted,

as the incorrect configuration of the Ethernet card may temporarily shut down the entire network. For the correct operation of the Ethernet card, a number of basic parameters need to be set, such as the IP address and Netmask. Each device connected to an Ethernet network must have a unique IP address.

The Ethernet card is supplied with the DHCP function already active. Therefore, in a network served by a DHCP server, the Ethernet card will automatically acquire the necessary parameters without requiring configuration. In the case of a network without DHCP, these parameters need to be configured manually. For more information, refer to the PCO1000W*O cut sheet shipped with the dehumidifier. Download the SYSTEM BACnet Ethernet Point List from the Desert Aire website (www.desert-aire.com).

LONWORKS®
If the system was purchased with the LonWorks option, the connection to the control network can be done without controller modification. For more information, refer to the PCO1000OFO cut sheet shipped with the dehumidifier. The system XIF file for system configuration, as well as the SYSTEM LON point list, is available from the Desert Aire website (www.desert-aire.com).

Modbus® RTU (RS-485)
If the system was purchased with the Modbus option, the controller network address and baud rate need to be set in the controller for proper communication operation. The default settings as shipped are 9600 for the baud rate and the address is 0.

Refer to the system controller manual for address and baud rate setting instructions. For more information, refer to the PCOS004850 cut sheet shipped with the dehumidifier. Download the Modbus Point List from the Desert Aire website (www.desert-aire.com).

AireGuard™
AireGuard™ is Desert Aire's optional remote monitoring and alarming service to allow users to easily monitor the performance of the dehumidifier on a cloud-based database at any computer or portable device.

For those users with more than one dehumidifier, this system can act as their local building management system where all of the units are available with the same login credential. All that is required is an Ethernet cable to be connected to the AireGuard interface box located within the dehumidifier. The connection communicates without opening additional ports in the systems firewall or requiring a virtual private network.

Please refer to the AireGuard brochure for additional details.