

## Advanced LW Microprocessor Controller



CM3540 Controller Used on  
LW Dehumidifier

### FEATURES

- Standard integral return air sensor for control
- Optional wall mounted sensor for use when fan cycling is desired
- LCD interface terminal in control panel
- Optional remote display terminal (RDT)
- Built-in cloud based remote monitoring

### DESCRIPTION

The CM3540 controllers are uniquely programmed for each Desert Aire application providing energy efficient moisture removal and precise temperature and humidity control.

The CM3540 controller offers an easy interface with building management systems (BMS) with on-board or pre-configured gateway modules. Modbus RTU TCP/IP are standard. BACnet® MS/TP and BACnet® Ethernet are onboard and can be activated with optional licenses. A LonTalk gateway is available that can connect a LonWorks system to the controls.

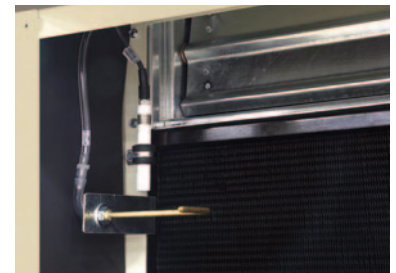
An integral user interface is standard with the CM3540 controls. This is located on the face of the controller in the unit electrical compartment. An optional Remote Display Terminal is available where access to the electrical panel is difficult or a secondary display in a remote location is desired. These backlit LCD displays provide easy to navigate screens for setpoint adjustment and unit monitoring. All Inputs and Outputs along with alarm history can be viewed from either user interface to aid in unit or system diagnostics.



Optional CM3540 Series Remote Display Terminal (RDT)



Wall Mount  
Temperature & Humidity Sensor



Integral Return Air  
Temperature and Humidity Sensor



### ORDER OPTIONS

#### Controller with Wall Mount Sensor

- ☐ CA3540-3-WALL Wall Mount Temp and RH Sensor

#### Controller with RDT

- ☐ CA3540-3-OD Remote Display Terminal  
RDT = remote display terminal with 20ft. cord

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# CM3540 Controller for LW Dehumidifiers (cont.)

## SYSTEM DISPLAY OPTIONS

The CM3540 controller is matched for each Desert Aire product based on the number of inputs and outputs and by taking into account the accessibility of the controller and its user interface. When the Remote Display Terminal is connected to a controller with an integrated display both display devices are fully functional. The following summarizes the options for each product line.

The low temperature series has an integral user interface. As an option, a remote display terminal (hand-held or wall mounted) can be ordered.

## BMS COMMUNICATION MODULES - DETAILS

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

**Modbus®** - One of the most widely used protocols. Supports Modbus Slave, RTU mode; communications standard RS485. Additionally supports TCP/IP as standard.

**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

### 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 any 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 shipment, 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 I&O manual shipped with the dehumidifier. Download the system BACnet Points List from the Desert Aire website ([www.desert-aire.com](http://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 DHCP, these parameters need to be configured manually. For more information, refer to the I&O manual shipped with the dehumidifier. Download the SYSTEM BACnet Ethernet Point List from the Desert Aire website ([www.desert-aire.com](http://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 I&O manual shipped with the dehumidifier. The system XIF file for system configuration, as well as the SYSTEM LON points list, is available from the Desert Aire website ([www.desert-aire.com](http://www.desert-aire.com)).

### ModBus® RTU (RS-485)

If the Modbus network is to be used, the network address needs to be set in the controller for proper communication operation. If Modbus® RTU is used, a baud rate must also be specified.

Refer to the system controller manual for address and baud rate setting instructions. For more information, refer to the I&O manual shipped with the dehumidifier. Download the Modbus® Points List from the Desert Aire website ([www.desert-aire.com](http://www.desert-aire.com)).

### AireGuard™

The LW controller is equipped with an Ethernet connection to the internet. The owner must provide the Ethernet cable connection from their network router to the LW controller in order for data to transmit to a secure cloud storage location. A 2 year AireGuard™ subscription is included with LW units shipped with this controller.

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 between your network router with internet access and the AireGuard™ interface located on the controller. 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.

## OPTIMIZING SOLUTIONS THROUGH SUPERIOR DEHUMIDIFICATION TECHNOLOGY

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