Ceiling Heater (with Connex™) 
CMH Series

IMPORTANT INSTRUCTIONS

When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electric shock and injury to person, including the following:

1. Read all instructions before using this heater.
2. The heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, and curtains at least a 3.3 ft (1 m) from the front of the heater and keep them away from the sides and rear.
3. Wiring procedures and connections should be in accordance with the National Electric Code (NEC & CEC) and local codes. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the unit is left operating and unattended.
4. Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a certified electrician before reusing.
5. To disconnect heater, turn off power to heater circuit at main disconnect panel.
6. Do not use outdoors.
7. Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
8. A heater has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint or flammable liquids are used or stored.
9. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials such as: furniture, pillows, bedding, papers, clothes and curtains away from heater.
10. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater.
11. Do not move the heater while it is on and unattended.
12. Preheat the heater if it is turned on and off regularly.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference, including interference that may cause undesired operation.

WARNING: Wiring procedures and connections should be in accordance with the National Electric code (NEC) and local codes.

CAUTION: It is recommended that two people install the unit.

Surface Mount

1. Unpack the heater from the carton and remove the two screws securing the bracket to the unit, to remove the mounting bracket, and remove the terminal box covers. (Figure 1)

CAUTION: Care should be taken when removing the terminal box cover, as the electrical connections are attached to it.

2. Determine the desired location for the heater and secure the mounting bracket to the ceiling (hardware not included).

CAUTION: The ceiling and mounting hardware must have adequate strength to support the heater. Attachment to a firm support is a necessity.

NOTE: See Figure 2 for minimum clearances for the unit.
3. Remove the desired knockout from the terminal box.

! NOTE: It is only necessary to remove the knockout(s) that will feed the power supply wiring, keeping in mind the heater mounting location and supply wire location.

4. Hang the heater from the hooked edge of the mounting bracket and proceed to the wiring instructions.

**Hanging Mount (Threaded Rod)**

1. Unpack the heater from the carton, remove the two screws securing the bracket to the unit and remove the screws securing the terminal box cover. (Figure 1)

! CAUTION: Care should be taken when removing the terminal box cover, as the electrical connections are attached to it.

! NOTE: See Figure 2 for minimum clearances for the unit.

2. There are four brackets on the top surface of the unit with 1/2 in. (13 mm) holes which can be used to suspend the unit from an open ceiling using 3/8" (9.5 mm) threaded rod.

3. Remove the desired knockout from the terminal box.

! NOTE: It is only necessary to remove the knockout(s) that will feed the power supply wiring, keeping in mind the heater mounting location and supply wire location.

**Wiring**

! WARNING: Wiring procedures and connections should be in accordance with the National Electric Code (NEC) and local codes.

1. Run supply wiring of proper voltage and wire size to the location of the terminal box of the heater. (See Table 2) Supply wiring should be enclosed in 1/2 in. (13 mm) conduit.

2. Wire all heaters and controls in accordance with the appropriate wiring diagram.

! NOTE: The wiring diagram for specific unit is located on top of the heater.

**Table 2 - Recommended minimum supply wire sizes are listed in the table below:**

| MAXIMUM WATTS PER CIRCUIT USING 75 °C WIRE (COPPER WIRE) |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Rough in Wire Size | 120V | 208V | 240V | 277V | 347V | 480V | 600V |
| 14               | 1440 | 2496 | 2880 | 3324 | 4164 | 5760 | 7200 |
| 12               | 1920 | 3328 | 3840 | 4432 | 5552 | 7680 | 9600 |
| 10               | 2880 | 4992 | 5760 | 6648 | 8328 | 11520| 14400|

! NOTE: Supply wire entry is commonly made into one heater. Though wiring (factory furnished) can be used for connection to adjacent heaters.

3. Wrap the supply ground wire around the green ground screw and tighten.

4. Do a final and complete check of all wiring then replace the terminal box covers being careful not to pinch any wires.

5. The terminal box covers may now be reinstalled.

! WARNING: TO PREVENT THE RISK OF FIRE OR INJURY, DO NOT OPERATE THE HEATER UNLESS IT IS FULLY ASSEMBLED.

! NOTE: The inspection cover is intended to provide access for electrical inspections.

6. Swing the heater upwards to secure the opposite side of the heater to the bracket and secure with previously removed screws.

**Initial Set Up**

After the unit has been installed, calibration of the unit to the area will be required. This can be done by closing all doors and windows to the room and turning the unit ON. When the unit is initially turned on there is a 28 minute period of calibration of the unit where the software runs at full power for 20 minutes, then runs for 8 minutes to cool the heater down.

If the unit is relocated or the size of the area that it is installed in changes, it is recommended that the unit be reset to the factory default to allow the unit to recalibrate.

**Factory Default**

1. Press and hold the V for 3 seconds. Both the and icons will begin to flash.

2. Within 5 seconds press , then , then , then , then .

**Sample Wiring Diagrams**

- 208V/240V 7.5/10KW 1PH
- 208V 7.5/10KW 3PH
- 240V 2/3/4/5KW 1PH
- 240V 3/4/5KW 3PH
- 347/600V 3/4/5KW 1PH
- 347/600V 240V 3/4/5KW 1PH
- 600V 3/4/5KW 3PH
- 480V/600V 7.5/10KW 1PH
- 277V/347V/480V/600V 7.5/10KW 3PH

(Images of wiring diagrams are included on the page.)
**Operation**

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**A. Setting/Temperature Display**

The CMH is designed to control the temperature of a room from 51-86°F (5-30 °C). By pressing the + or – button can be pressed to have the temperature setpoint displayed again.

**B. Comfort Setting**

The Comfort Setting icon will be displayed when the heater is in normal operation based on the Setpoint Temperature for the room.

**C. Economy Setting**

The Economy Setting can be used to change the Setpoint Temperature for a user determined period of time. By pressing the V the Economy Setting will be enabled - signified by the icon flashing. After the Set Back Temperature has been set, the icon will become solid after three seconds and the Set Back Temperature will be enabled.

To return back to the Comfort Setting press the V button. The icon will disappear and the icon will appear.

**D. Set Back Temperature Setting**

The Set Back Temperature Setting is used during periods when the Economy setting feature is active. This temperature adjustment can be set by pressing the V followed by the + or –.

**E. Synchronized Icon**

The CMH features CONNEX™, a wireless technology that works with Dimplex single and multi-zone CONNEX™ controllers to provide simple whole home connectivity and comfort. CONNEX™ controllers are available to control one or multiple CONNEX™ series heaters within a 50' (15 m) radius. In order for the controller to have this function the CMH and the controller will need to be synchronized. To do this:

1. Press and hold the V button for 3 seconds, both the ‡ and † icons will begin to flash.
2. Press the –, + and then V, on the CMH.
3. Within 10 seconds press any button once on the CONNEX™ Controller.

! NOTE: There is a 3 second delay between pressing the last button on the controller and the CMH.

To synchronize the CMH with the controller:

1. Press and hold the V, then –, then +, then –, then V. Both the ‡ and † icons begin to flash.
2. Within 5 seconds press ‡, on the CMH.

Nothing will need to be done to the other component. Dimplex single and multi-zone CONNEX™ controllers are sold separately and are available for purchase from your authorized Dimplex dealer.

To find your local Dimplex dealer, visit www.dimplex.com.

**F. Lock Icon**

The CMH has a Lock feature to prevent settings from accidentally being changed.

1. Press and hold the V for 3 seconds. Both the ‡ and † icons will begin to flash.
2. To Enable: Within 5 seconds press +, then –, then +, then –. The ‡ icon will appear
3. To Disable: Within 5 seconds press –, then +, then –, then +. The ‡ icon will disappear.

! NOTE: The CMH can be locked in either the Comfort or Economy Setting. Ensure that the desired icons are present when locking is complete.

**Boost Function**

The CMH is also equipped with a "Boost Function" which allows the user to run the unit at full heat, for a predetermined amount of time, to quickly heat up a cold room/space. The Boost can be set for a maximum of 20 minutes, in 5 minute increments.

To enable Boost:

1. Press and hold + for 5 seconds. The area where the temperature normally displays will begin to toggle between
the display of “Hi” and “20”.

! NOTE: The “20” indicates the time (in minutes) remaining in Boost function. The timer is updated as the time counts down 19, 18, 17, etc.

2. The length of time that Boost is enabled for can be adjusted by pressing the + or – buttons. Every time the + or – button is pressed the timer will be adjusted by 5 minutes and will cycle back to 20 minutes.

3. When the timer times out the heater will return to the programmed settings.

! NOTE: At any time you can hold down the – button for 5 seconds and exit the Boost function.

## Replacement Parts

### 2-5 kW Units (Small)

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<tr>
<th>Item #</th>
<th>Contactor (2 per Unit)</th>
<th>Elements</th>
<th>Contactors</th>
<th>Transformer</th>
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### 7.5 - 10 kW Units (Large)

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## Warranty

The Manufacturer warrants the CMH series ceiling heaters and components of the enclosed product against any defect in material or workmanship for a period of one year from the date of purchase, with the exception of the elements which are warranted to be free from defect in material and workmanship for ten years. In full satisfaction of any claims under this warranty, the manufacturer will repair or replace without charge, in its factory or in the field as it deems proper, any parts which in its opinion are defective.

The manufacturer shall not be responsible for any transportation or shipping costs in relation to such repair or replacement except as specifically assumed by it. Misuse of this product or repairs by persons other than the manufacturer’s authorized personnel without the manufacturer’s written approval will void this warranty.

This warranty is in lieu of all other warranties or conditions whether express or implied including but not limited to those of merchantability or fitness for purpose and shall constitute the sole remedy of the purchaser and the sole liability of the manufacturer in respect of the sale of the product, whether in the nature of breach or breach of fundamental term, or of negligence or otherwise.

The manufacturer shall not be liable for any special, indirect or consequential damages or for any damages resulting from removal or replacement of a heater subject to warranty claim without the manufacturer’s authorization.

This warranty is transferable by the original consumer purchaser of the product. Any claims under this warranty must be submitted in writing to the service manager, Dimplex North America Ltd., 1367 Industrial Rd., Cambridge, Ontario N3H 4W3, Canada.

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**Maintenance**

**WARNING:** Always disconnect power at the circuit breaker to the unit prior to performing any maintenance or service operation.

**CAUTION:** Allow adequate time for the element and body casing to cool before attempting to work on the heater.

It is suggested that the heater be inspected regularly, for cleanliness of the fan intake and exhaust grilles, to ensure optimal performance is maintained. The grilles can be cleaned either by vacuuming off all dust and dirt or, washing the filter in warm, soapy water and allowing to dry thoroughly before reinstalling. Once cleaning is complete replace the grille and restore power.

**WARNING:** TO PREVENT THE RISK OF FIRE OR INJURY, DO NOT OPERATE THE HEATER UNLESS IT IS FULLY ASSEMBLED.

At least at yearly intervals the wire connection condition should be inspected to ensure full electrical continuity and optimal performance is maintained.

**WARNING:** The user can perform cleaning ONLY. All other servicing should be performed by qualified service personnel.

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