

# Accu Tools™ **CM-500**

## Charging Module

User's Guide



10194 Rev. A

### Introduction

Thank you for your purchase of the AccuTools™ CM-500 Automatic Charging Module. Designed primarily for the HVAC/R automatic charge/recovery of refrigerants, the CM500, in conjunction with the DS-220 or DS-220R, can also be used for automatic dispensing of other fluids or gases\*.

### Features

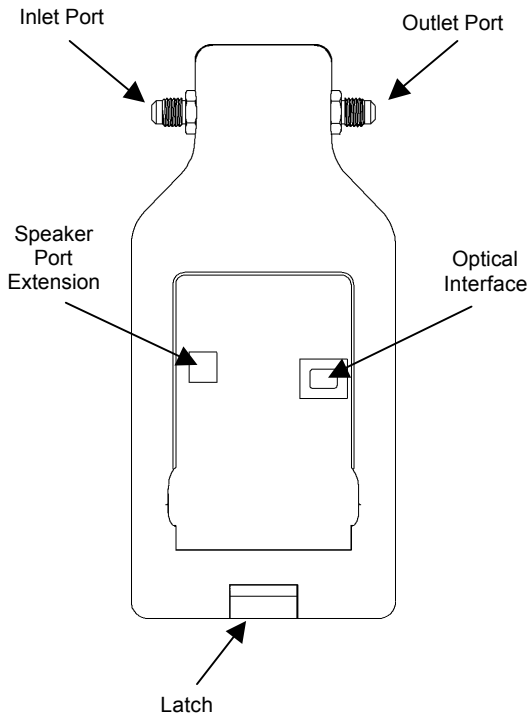
- “All-In-One” design allows the DS-220/DS-220R control box, CM-500 modules and fittings to fit in one simple hand held unit
- Quick attach loading dock with spring latch to allow quick and easy attachment of the DS-220/DS-220R control box
- Seamlessly integrates with the DS-220/DS-220R creating a compact automatic charge/recovery system
- Optical Interface eliminates additional wires between charging module and weigh scale.
- Rugged and sleek hand-held design for easy handling and storage
- 500 PSI valve compatible with all refrigerants

**\*NOTE: Fluids and gases must be compatible with brass, stainless steel, and Neoprene-W.**

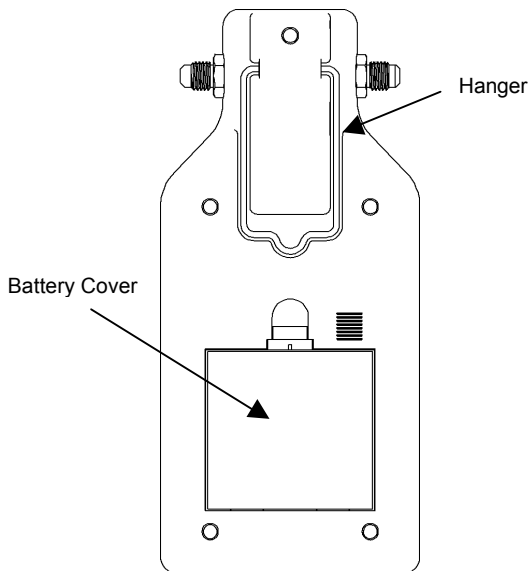
### Specifications

- Charging Ports ¼" MFL fittings
- Materials:
  - Valve Body Brass
  - Seal Neoprene-W
- Max. Valve Operating Pressure 500 PSI
- Power 4 x 1.5V 'AA'  
Alkaline Batteries (6 VDC)
- Battery Life > 200 hours
- Operating Temperature 32°F – 122°F (0°C – 50°C)
- Weight 0.55 kg (1.2 Lbs.) with  
Batteries
- Dimensions 21.6 x 10.2 x 4.8 cm.  
(8.5 x 4.9 x 1.9 in)

## Parts Diagram (Top View)



## Parts Diagram (Bottom View)





## General Operation










### Setup

1. Install batteries into the battery compartment as described in the “Battery Installation” section below.
2. Slide the DS-220/DS-220R control box into CM-500 dock until the control box latches into place.
3. Turn the DS-220/DS-220R on. **VALVE CLOSED** will show on the display to indicate that the CM-500 is attached and operating, and the valve is in the closed (no refrigerant flowing) state.

## HVAC/R Refrigerant Charge/Recovery

### Refrigerant Charging

1. Carefully set the refrigerant cylinder on the weighing platform.
2. Attach a hose from the charging cylinder to the inlet port of the CM-500, and another from the outlet port of the CM-500 to the manifold.
3. To assist in purging air from the hoses, the CM-500 solenoid valve may be momentarily opened by pressing . It will close as soon as  is released.
4. Open the manifold valve(s)
5. Set the desired refrigerant charge weight:

- a. Press  to start the SET mode, indicated by SET annunciator on the LCD display.
  - b. Press and/or hold the  or  keys to set the desired alarm set point. To change the set point faster, press . This will activate the FAST SET mode which will change the set point 10x faster than normal. Press  again to return to the normal speed SET mode.
6. Activate the program by pressing . The display will automatically change to zero and the **RUN** indicator will show to indicate the program is running. The **VALVE OPEN** indicator will show to indicate that refrigerant is flowing through the valve.
7. If the refrigerant cylinder empties while charging:
- a. Press  to “freeze” the display and close the valve (**VALVE CLOSED** shows on the display).
  - b. Close refrigerant cylinder and manifold valves.
  - c. Replace the empty refrigerant cylinder with a full one. Attach and purge hoses. Use the  as in step (3) above if necessary.
  - d. Open refrigerant cylinder and manifold valves.
  - e. Wait 5 seconds for new load to stabilize and press  to exit the Hold Mode. **VALVE OPEN** will show on the display.
  - f. Open manifold valve(s). Charging will continue from where it left off.

- When the displayed (charged) weight equals the programmed weight, the alarm will sound and the **DONE** indicator will flash on the display. In addition, the **VALVE CLOSED** indicator will show to indicate the refrigerant has stopped flowing through the valve.
- Press any key to stop the alarm.
- Close manifold valve(s).

**NOTE:** To cancel charging at any time, press .

### Refrigerant Recovery

- Attach a hose from the manifold to the inlet port of the CM-500, and another from the outlet port of the CM-500 to the recovery cylinder.
- Proceed with step (4) in the Refrigerant Charging section.

## Battery Level Indicator



The DS-220/DS-220R display is used to indicate the state of the batteries in the CM-500. If battery power drops below the amount required to operate the valve, the following will show on the display:

- The **VALVE OPEN/CLOSED** indicator will flash.
- The battery icon indicator will flash.

Under this condition, the CM-500 valve will close, and will remain closed (as a fail safe) until the batteries are replaced (see below).

If the battery voltage drops below the low battery point during a charge cycle, the batteries may be replaced without interrupting the charge:



1. Press  to freeze the display.
2. Replace batteries.
3. Press  to continue the charge cycle.

### **Battery Installation & Replacement**

1. Remove the battery cover from the rear of the control box by compressing tab at the base of the battery cover.
2. If necessary, remove old set of batteries.
3. Insert 4 'AA' Alkaline batteries. Replace battery cover by aligning tabs and snapping back into place.

**IMPORTANT: CAREFULLY OBSERVE BATTERY POLARITY AS MARKED INSIDE THE BATTERY COMPARTMENT. TO PREVENT DAMAGE TO THE CM-500, DO NOT LEAVE DEAD BATTERIES INSIDE THE CONTROL BOX. REMOVE BATTERIES IF THE CM-500 IS NOT TO BE USED FOR AN EXTENDED PERIOD OF TIME.**

# Warranty and Repair

## 1 Year Limited Warranty

Core Enterprises, Inc. warrants that this AccuTools™ product conforms to Core Enterprises, Inc. published specifications and will be free from defects in material and workmanship. The duration is for a period of one year from the date of purchase. Core Enterprises, Inc., at its option, will repair or replace this product or any component of the product found to be defective during the warranty period. Replacement will be made with a new or remanufactured product or component. This is your exclusive warranty.

This warranty is valid for the original retail purchaser from the date of initial retail purchase and is not transferable. Keep the original sales receipt. Proof of purchase is required to obtain warranty performance. Core Enterprises, Inc. dealers, service centers, or retail stores selling Core Enterprises, Inc. products do not have the right to alter, modify or any way change the terms and conditions of this warranty.

This warranty does not cover batteries or any other normal wear of parts or damage resulting from any of the following: negligent use or misuse of the product, damage caused by use of the product for purposes other than those for which was designed, use contrary to the operating instructions, disassembly, repair or alteration by anyone other than Core Enterprises, Inc. or an authorized Core Enterprises, Inc. service center. Further, the warranty does not cover: Acts of God, such as fire, flood, lightning, hurricanes and tornadoes.

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Some states or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state or jurisdiction to jurisdiction.

### How to Obtain Warranty and Repair Service

To obtain warranty or repair service, please call (954) 227 0781 to obtain a RMA number. For warranty service, a legible copy of the original receipt must be sent along with the RMA Form. Any package received without this RMA number will be refused. The returned product must be properly packaged and insured against shipping damage. Any shipping damage resulting from improper packaging shall be the responsibility of the Purchaser. The repaired or replaced product will be returned to Purchaser, freight prepaid via UPS ground only. Repaired or replaced units carry an additional 90 days warranty.