

DENLAR

FIRE PROTECTION

PRE-ENGINEERED RANGE HOODS



ClockBox

Cooking Element Control System

Installation and Operation Manual

Version 2



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READ AND SAVE THESE INSTRUCTIONS

WARNING

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

1. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer at the address or telephone number listed on the front cover of this manual.
2. Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
3. Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards.
4. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back-drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
5. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
6. To reduce the risk of fire or electric shock, do not use this range hood with an additional speed control device.
7. Ducted fans must always be vented to the outdoors.
8. To reduce the risk of fire, use only metal ductwork.
9. Use with approved wiring only.
10. This unit must be grounded.

TO REDUCE THE RISK OF A RANGE TOP GREASE FIRE:

1. Never leave surface units unattended at high settings. Boil-overs cause smoking and greasy spillovers that may ignite. Heat oils slowly on low or medium settings.
2. Always turn hood ON when cooking at high heat or when cooking flaming foods.
3. Clean ventilating fans frequently. Grease should not be allowed to accumulate on fan or filter.
4. Use proper pan size. Always use cookware appropriate for the size of the surface element.

TO REDUCE THE RISK OF INJURY TO PERSONS IN THE EVENT OF A RANGE TOP GREASE FIRE, OBSERVE THE FOLLOWING:*

1. SMOTHER FLAMES with a close-fitting lid, cookie sheet, or metal tray, then turn off the burner. BE CAREFUL TO PREVENT BURNS. If the flames do not go out immediately, EVACUATE AND CALL THE FIRE DEPARTMENT.
2. NEVER PICK UP A FLAMING PAN — You may be burned.
3. DO NOT USE WATER, including wet dishcloths or towels - violent steam explosion will result.
4. Use an extinguisher ONLY if:
 - a. You know you have a Class ABC extinguisher and you already know how to operate it.
 - b. The fire is small and contained in the area where it started.
 - c. The fire department is being called.
 - d. You can fight the fire with your back to an exit.

* Based on "Kitchen Fire Safety Tips" published by NFPA.

CAUTION

1. For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.
2. To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc. off power unit.
3. For best capture of cooking impurities and performance of fire extinguisher, your range hood should be mounted so that the bottom of the hood is 24-36" above the cooking surface, depending on model.
4. Please read specification sheets for further information and requirements.

DISCLAIMER:

Denlar Fire Protection, LLC, shall not be liable for errors contained in this manual or for incidental, consequential damages in connection with the furnishing, performance or use of this information. Denlar Fire Protection, LLC makes no warranty of any kind with regard to this information, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose.

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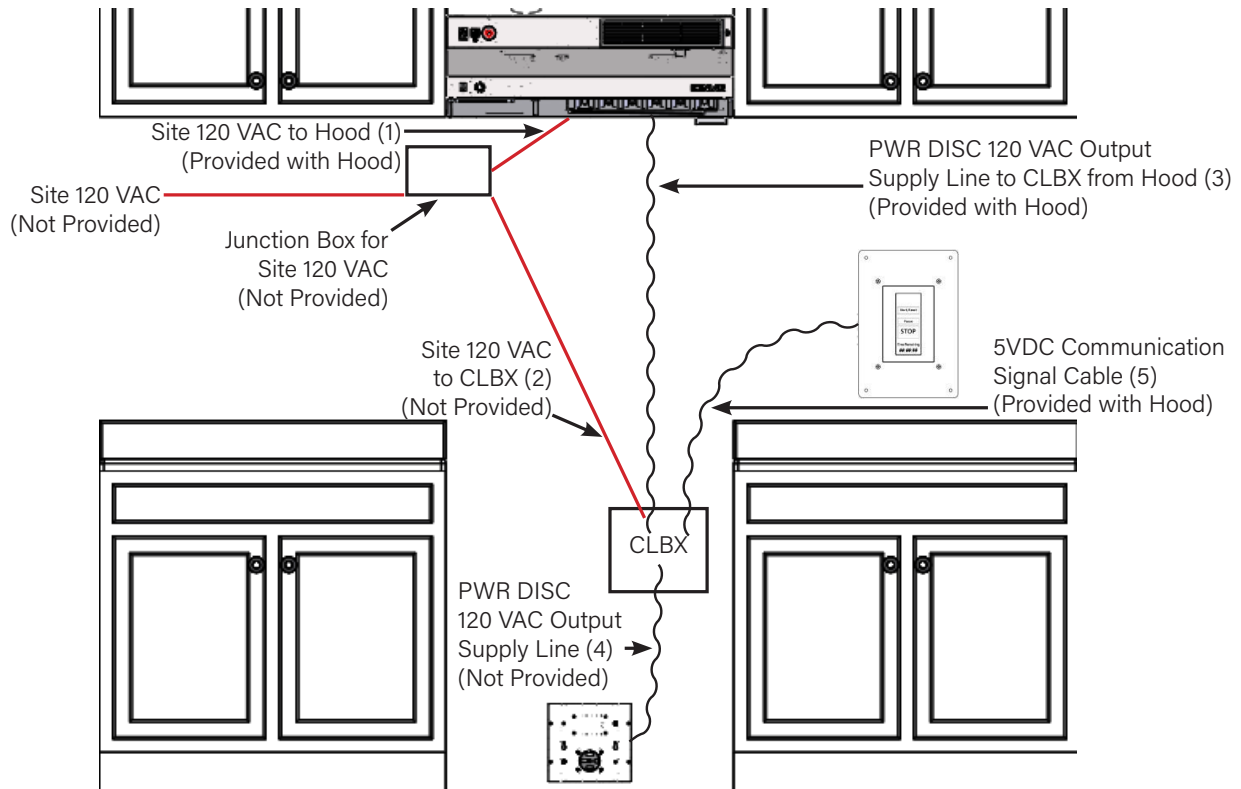
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COOKING ELEMENT CONTROL SYSTEM - DFP SYSTEM

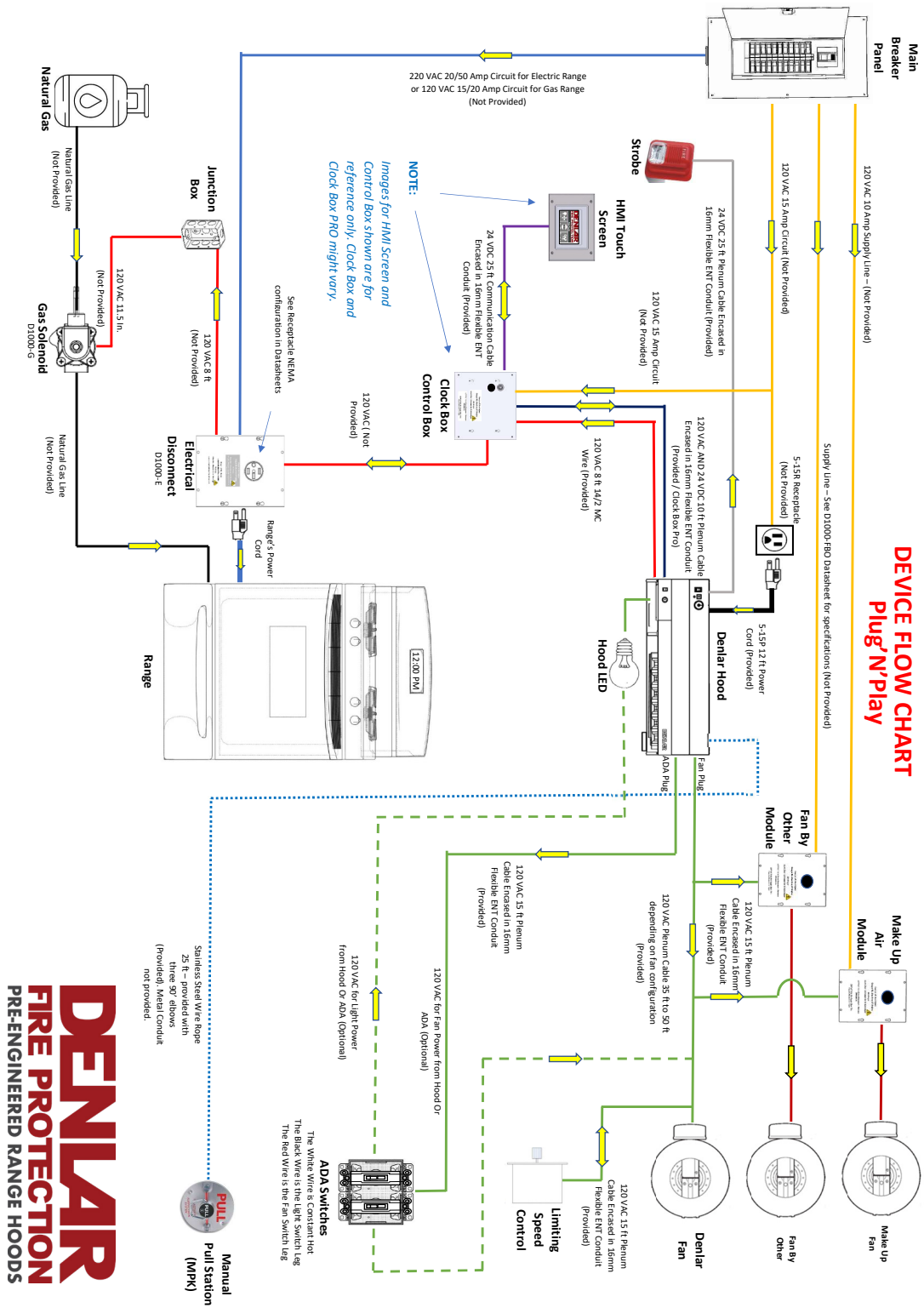
INTERFACE WITH DENLAR HOOD PROVIDED



CAUTION: Some electric stoves/ranges have warning lights to alert the user that the burners/coils are hot. These warning lights will be off since the supply line powering the stove/range is not present.

1. 120 VAC Input (not provided)
 - a. 120 VAC 15 Amp circuit provided by installer
 - b. Voltage supply from the Main Breaker Panel to the 5-15R Receptacle (not provided)
2. 120 VAC 15 Amp Plug Input to Hood (provided)
 - a. 12 Ft in length
 - b. Power Cord from the Hood and connects to the 5-15R Receptacle (not provided)
3. 120 VAC Output from Hood (provided)
 - a. 8 Ft in length
 - b. One 14/2 MC Wire
 - c. Cable from the Hood to the Clock Box (if applicable) or the Power Source Disconnect for the Range (Gas or Electric)
4. 120 VAC Input (not provided)
 - a. 120 VAC 15 Amp circuit provided by installer
 - b. Voltage supply from the Main Breaker Panel to Clock Box (not provided)
5. 120 VAC Input to Power Source Disconnect for the Range (not provided)
 - a. 120 VAC Provided by installer
6. 5 VDC Input / Output Communication cable encased in 16 mm ENT Flexible Conduit (provided)
 - a. 25 Ft in length
 - b. One communication cable
 - c. Connects to the Clock Box PLC and HMI / Touch Screen
7. Power Source Disconnect (not provided)
 - a. 120 VAC jumper between Electric and Gas Disconnects

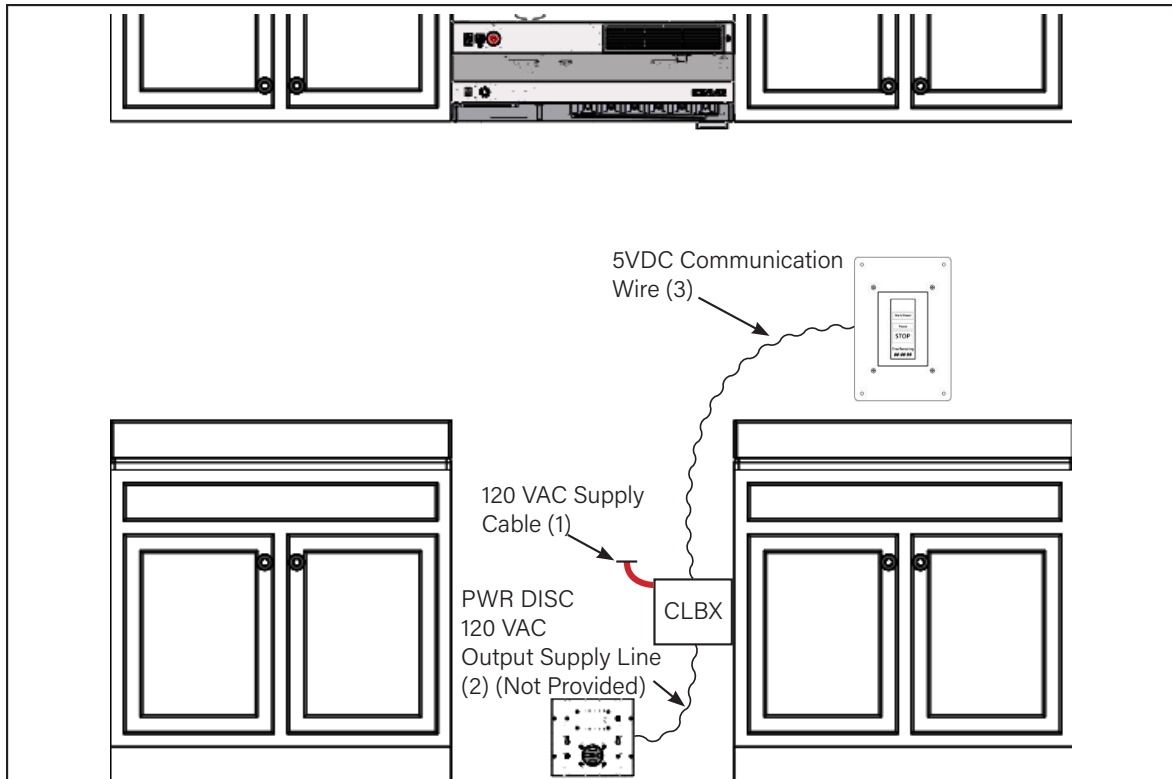
DEVICES AND POWER CONNECTION FLOW WITH HOOD



DENLAR
FIRE PROTECTION
PRE-ENGINEERED RANGE HOODS

LAB-110244
Rev. 20210129

COOKING ELEMENT CONTROL SYSTEM - DFP SYSTEM INTERFACE WHEN A DENLAR HOOD IS NOT PROVIDED



1. An independent 120 VAC supply line is provided to the ClockBox.
 - a. This supply line provides power to the ClockBox, which is independent from the supply line to the hood.
2. The ClockBox provides 120 VAC to the Power Disconnect Assembly.
3. The ClockBox provides communication signal voltage (5VDC) and logic control to the Touch Screen [HMI].
4. The Power Disconnect Assembly supplies the input line to the stove/range as follows:
 - a. If an Electric Disconnect:
 - i. Controls the 120 VAC contactor coil allowing the 120 VAC supply line to the stove/range via the provided receptacle.
 - b. If a Gas Disconnect:
 - i. Open the solenoid valve allowing gas to flow to the input line of the stove/range
 - c. If Dual Disconnect.
 - i. Both conditions 4.a.i and 4.b.i will apply.
 - d. The above reference will be maintained for as long as there is time left at the ClockBox, it will open the contact in the timer, stopping the supply line to the Power Disconnect, which in turn, will shut off the stove.

CAUTION: Some Electric stoves/ranges have warning lights to alert the user that the burners/coils are hot. These warning lights will be off since the supply line powering the stove/range is not present.

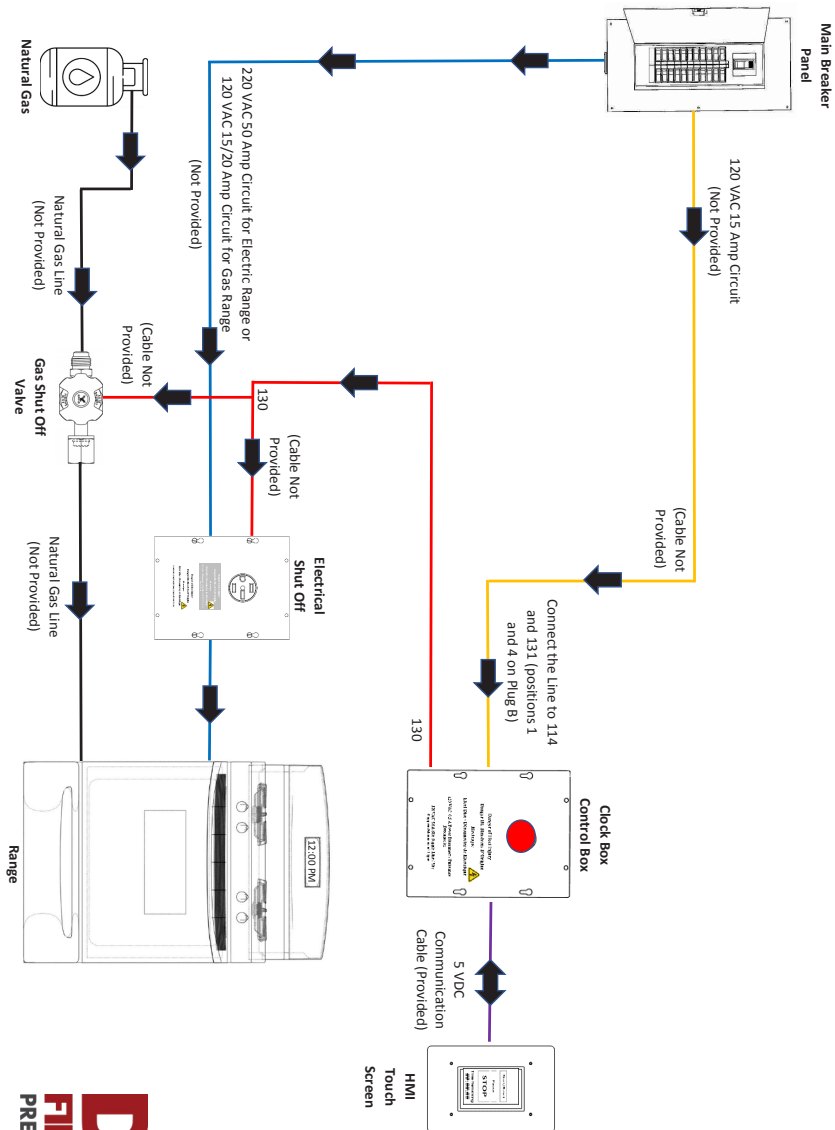
NOTE: The ClockBox can be interfaced with, and serve as the shutdown device, for other manufacturers' Fire Suppression or Fire Protection Systems. Contact DFP Service at (860)-526-9846 opt. #2 or service@DENLARhoods.com for assistance.

COOKING ELEMENT CONTROL SYSTEM - FLOW DIAGRAM

Devices and Power Connection Flow Clock Box without Hood

NOTE: Please see Reference Table on page 10 and 11

CLOCK BOX FLOW CHART



Legend

- 1.** The Orange Color Lines represent the Main 120 VAC Power from the Main Breaker Panel to the Hood and Clock Box (Optional).
- 2.** The Blue Color Lines represent the Main 220 VAC 50 Amp Circuit for an Electric Range or the 120 VAC for a Gas Range Igniters and miscellaneous Electrical Components.
- 3.** The Black Lines represents the Natural Gas Line.
- 4.** The Purple Lines represents the 5VDC Communication Cable for the Clock Box Control Box to the HMI Touch Screen.
- 5.** The Red Lines represents the 120 VAC the Hood sends to the Electrical Shut Off, the Gas Shut Off Valve, or the clock Box (Optional).

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FIRE PROTECTION
PRE-ENGINEERED RANGE HOODS

LAB-110189
 Rev. 20200204

CLBX COOKING ELEMENT CONTROL SYSTEM OPERATION AND MENU



Figure 1
Main Screen

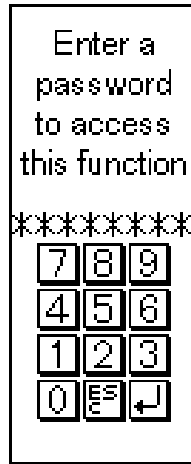


Figure 2
Password Entry



Figure 3
Management Screen

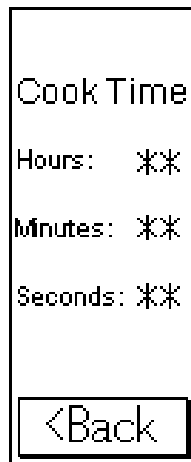


Figure 4
Timer Management



Figure 5
Password Entry

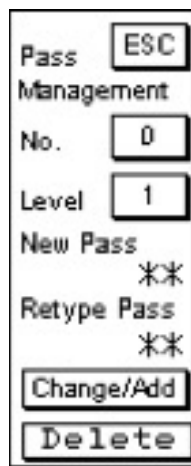



Figure 6
Password Setup

1. Press "START/RESET" (see Figure #1: Main Screen) to allow the 2 hour timer to begin. This will prompt to the password screen. (see Figure 2 Password Entry)
2. FACTORY pre-set master password: 06412
3. Enter password 06412 and then press enter symbol 
4. After entering password you will be brought back to the Main Screen, press the start button again to start timer.
5. Press "PAUSE" to pause the timer, Press again to continue.
6. Press "STOP" to stop the timer.

NOTE: Main Screen will always show available time, system is preset to count down remaining time.


BACKGROUND MENUS

1. "DFP" Logo is a hidden button which allows access to background menus. (see Figure 1: Main Screen)
2. Press "DFP" logo to access hidden menu to modify timer value and passwords. Password required. (see Figure 3: Management Screen)

Timer Management

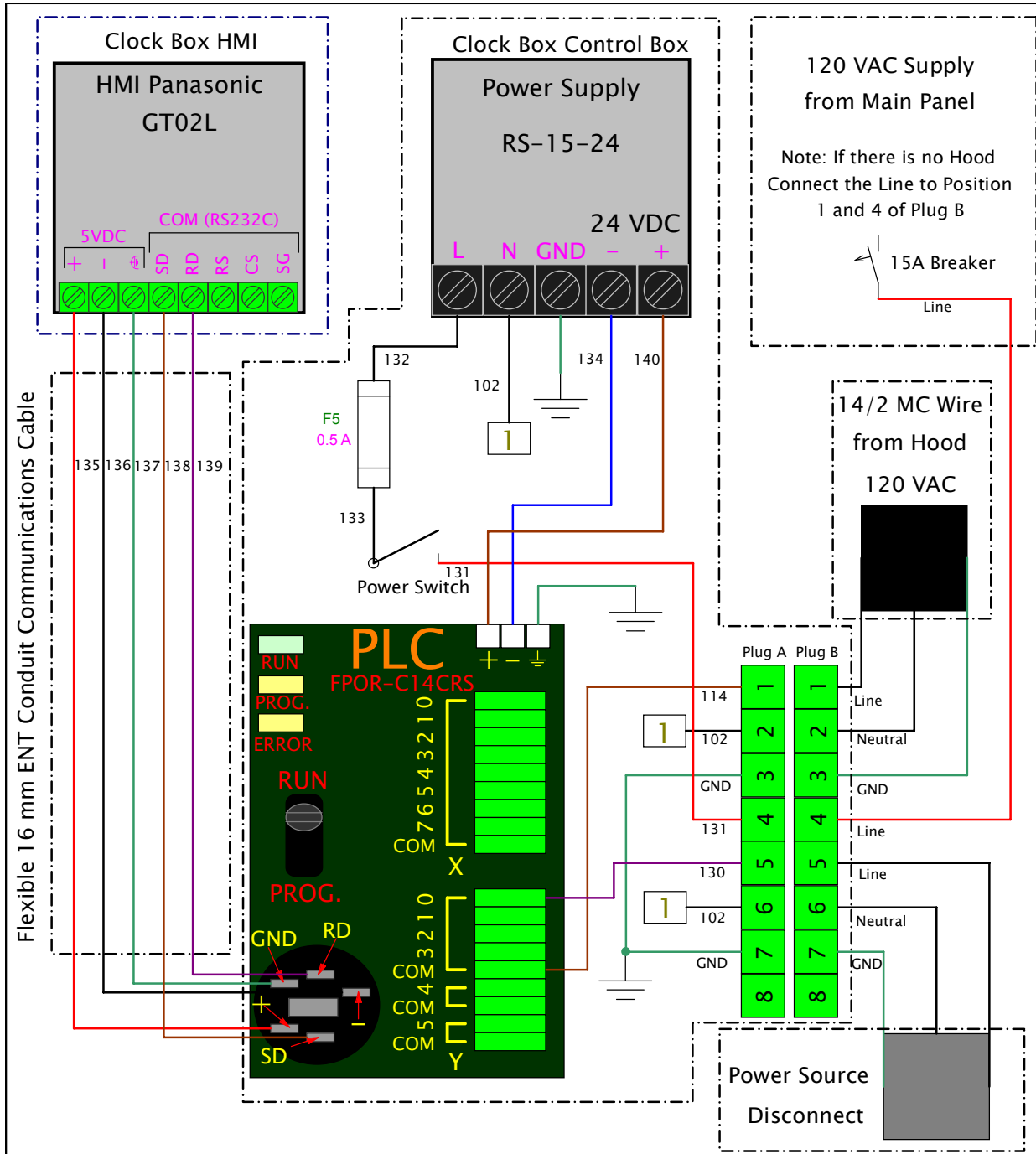
1. Press "Timer Management" to modify the timer value. (see Figure 3: Management Screen)
2. Press Corresponding time setting (Hours, Minutes, Seconds) to adjust to desired settings. (see Figure 4: Timer Management)


Password Management

1. Press "Password Management" to add/modify/delete passwords. (see Figure 3: Management Screen)
2. Enter password to go to the password management screen. (see Figure 5: Password Entry) 99 Passwords
3. Press "Change/Add." (see Figure 6: Password Setup)
4. Enter new five-digit password and press enter symbol 

NOTE: In order for the ClockBox to offer NFPA101 Compliance it must be set to a 120 minute time limit. A 120 minute time limit is the factory default setting.

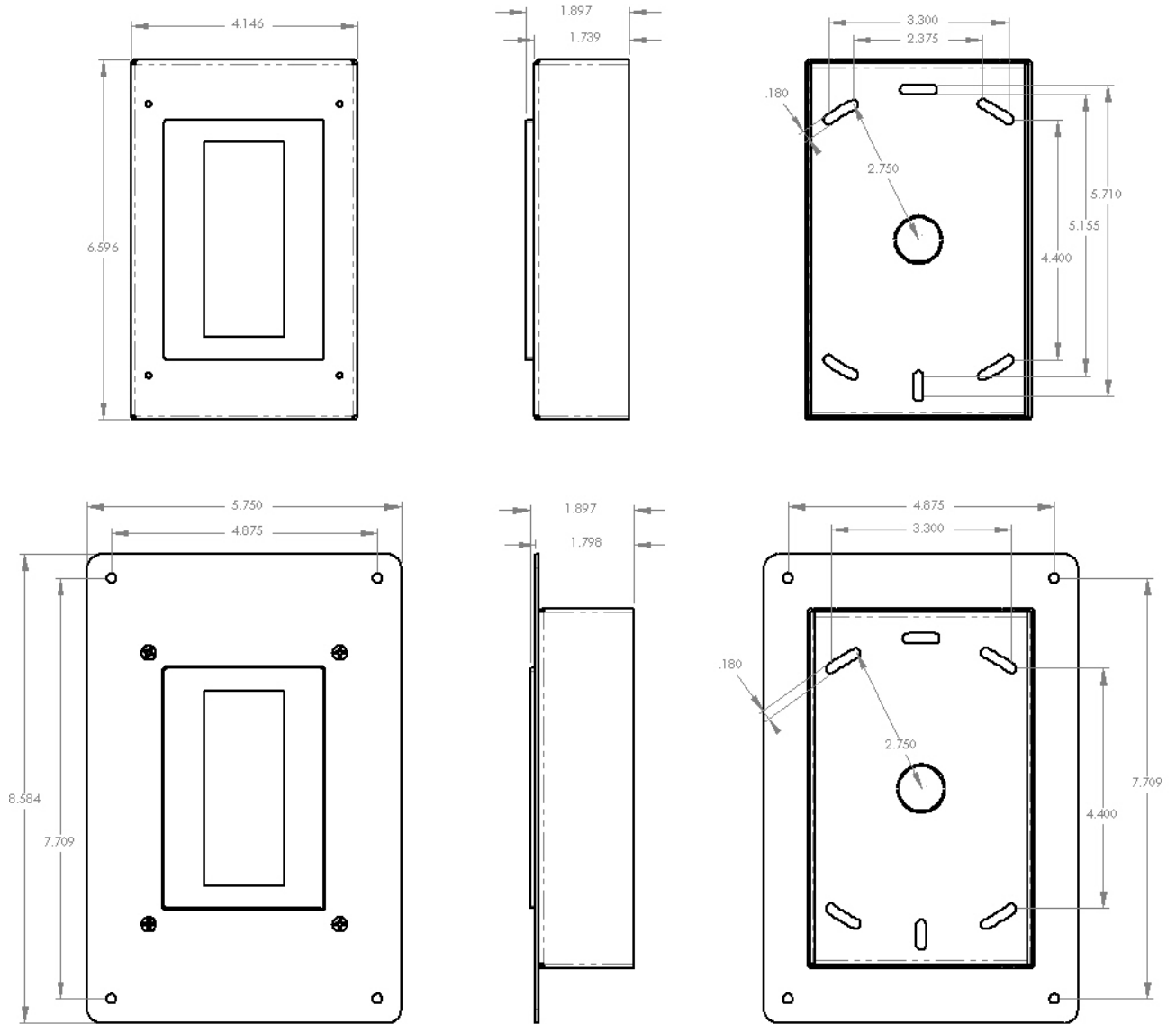
COOKING ELEMENT CONTROL SYSTEM - WIRING DIAGRAM



Responsible dep. Denlar Fire Protection	Created JW	Approved GA
 DENLAR FIRE PROTECTION PRE-ENGINEERED RANGE HOODS The World's Only Fail-Safe UL300A Hood	Document type CLKBX Schematic	Document status Active
	Part Number ASY-200047	LAB-110188
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COOKING ELEMENT CONTROL SYSTEM - COMPONENT DIAGRAMS CLBX-TOUCHSCREEN

Includes 25 Feet of Control Wire (HMI to PLC)
Vertical View

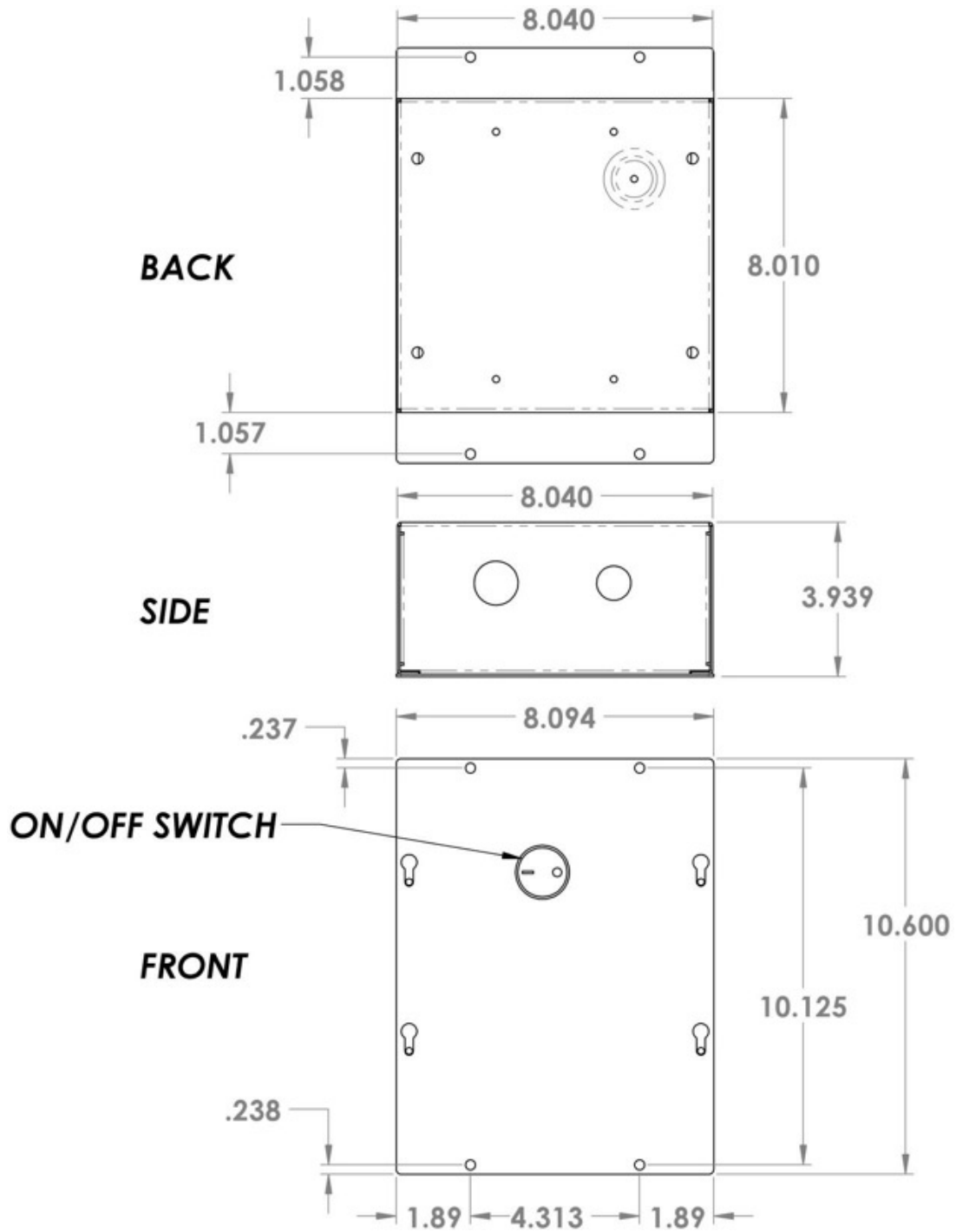


NOTE: The orientation of the screen is vertical ONLY - NOT Horizontal.

COOKING ELEMENT CONTROL SYSTEM - COMPONENT DIAGRAMS CLBX - PLCBOX

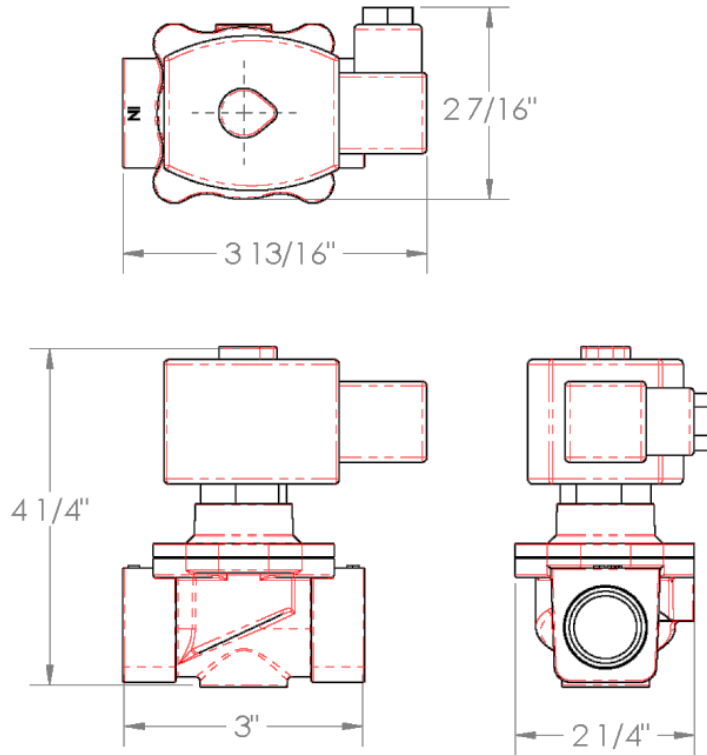
Housing for PLC Controller

*Includes 25 feet control wire (HMI to PLC box)

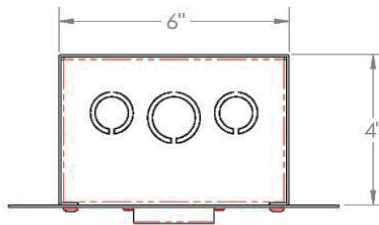


COOKING ELEMENT CONTROL SYSTEM - COMPONENT DIAGRAMS

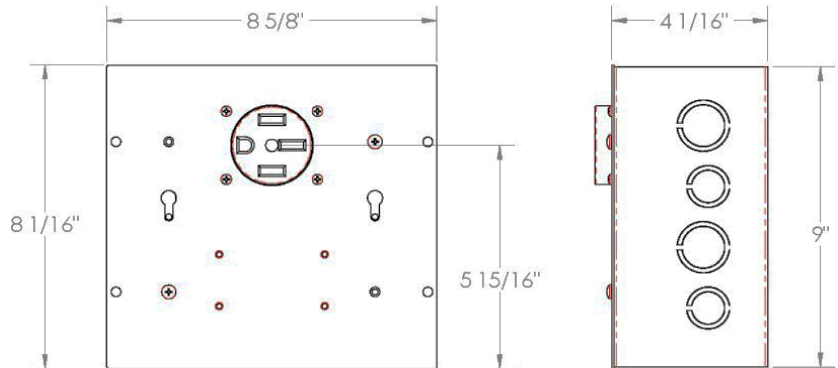
CLBX-G: Controlled Gas Solenoid Valve



**CLBX-E: Electric Range
Element Disconnect**



**CLBX-DED: Dual Element Disconnect
(Combines Gas and Electric Range
Element Disconnect modules)**



DENLAR™ FIRE PROTECTION

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For the Warranty Statement please visit <https://www.denlarhoods.com/>

For installation or service calls please contact Denlar service at 704-372-3485 or at service@denlarhoods.com

For sales questions, please contact Denlar Sales at 704-372-3485 or at sales@denlarhoods.com

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