

CookMaster™ II

Microprocessor Controller

KOCH
EQUIPMENT



Owner's Manual

800732 Revision B
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CookMaster™ II

Microprocessor Controller

The CookMaster™ II Microprocessor Controller is a computerized control system for smokehouses. It is capable of storing up to 100 cook/smoke schedules, each of which can be up to nine stages in size. After cook/smoke schedules have been programmed into the control's memory, the control can be used to operate an attached smokehouse in an automated fashion by executing the stored programs. During operation, the control will advance from stage to stage by time or product internal temperature, while controlling dry and wet bulb temperatures; as well as other output functions such as natural and liquid smoke, product shower, fresh air damper, and fan speed. The control offers many advanced features such as delay start, Delta-T cooking, and program linking.

For Sales, Call:

Phone (816) 753-2150 • Fax (816) 753-4976
Toll-Free (800) 777-5624

For Replacement Parts, Call:

Phone (816) 753-2150 • Fax (816) 561-2854
Toll-Free (800) 746-1723

For Technical Support, Call:

Phone (816) 753-2150 • Fax (816) 531-1447
Toll-Free (800) 777-5624

General

This owner's manual contains information pertinent to your CookMaster™ II. Basic instructions and maintenance information is provided. Please read carefully. Failure to do so could result in bodily injury and/or damage to the equipment.

Receiving Problems: As in all cases, before signing the bill of lading, be sure all items have been received as listed and there is no damage in shipment. If needed, a claim must be made immediately to the local truck line office and noted on the bill of lading.

Please fill in the information from the bill of lading and the product identification tag.

Model No. _____

Serial No. _____

Ship Date: _____

Owner: _____

Location: _____

SAFETY

Personal Safety

The procedures and guidelines herein must be followed precisely to avoid problems that can result in property damage, personal injury, or death. If you have any questions related to this information, please contact Koch Equipment Services Inc. at (800) 777-5624.

WARNING

Read and understand owner's manual before using this machine. Failure to follow operating instructions could result in personal injury or damage to equipment.

Signal words used in classification of potential hazards are defined as follows:

DANGER: Indicates an imminently hazardous situation, which, if not avoided, may result in death or serious injury.

WARNING: Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. Caution also indicates actions that may cause property damage.

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OPERATION

Programming and Operation

Programming and operation of the control is accomplished using the keypad and LCD display located on the front of the control enclosure. The control utilizes a menu-driven system for user interface. Throughout the programming and operation of the control, the LCD will display screens containing the various menus along with prompts for the user to select menu items using the function keys, and to enter data using the other keys on the keypad. Where appropriate, a "blinking cursor" will indicate where entered data will be displayed.

Electrical power to the unit is controlled by the ON and OFF keys on the keypad. When the electrical power is switched on, the LCD will display the CookMaster™ II screen as shown below.



Once the unit has completely booted, the splash screen will change to the main menu as shown below.



Operation with Digital Control Panel

The main menu screen provides a central point of access to all of the menu options. The main menu also provides a quick summary of what version of Touchscreen and PLC the control is running. In the pages to come we will go through each of the menus available, and provide detailed information on what each variable means.

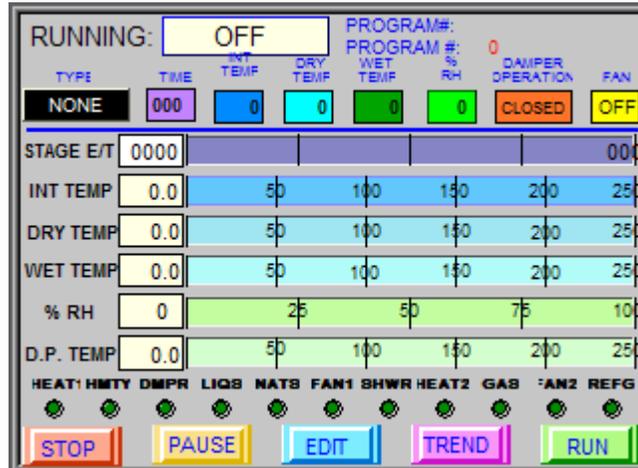


PLC REV: This variable refers to the PLC Software Revision that is currently running.

T.S. REV: This variable refers to the Touchscreen Software Revision that is currently running.

In the lower right corner of the screen you will also notice that the system is keeping track of the current date and time. These variables are key to data logging and proper system operation, and can be set in the Maintenance Menu. (See Page 4.2)

Operation with Digital Control Panel (continued)



The run screen displays live information about the current cook stage.

Running: This indicates whether the selected program is running, paused, stopped or otherwise.

Program #: This will display the program name, and program number.

At the top of the screen just below the Program Name and Number, is a detailed list outlining the current stage settings.

e.g. (Type, Time, INT Temp, Dry Temp, Wet Temp, %RH, Damper Operation and Fan).

This information is followed by a series of values, and bar charts that indicate the actual values currently achieved for a particular cook.

Stage ET: This is the current Stage Elapsed Time. The bar chart will graphically display the current status of a cook cycle, and the value to the left will indicate how many minutes have elapsed in the current cook cycle.

INT Temp: This is the current Internal Temperature Probe reading.

Dry Temp: This is the current Dry Temperature Probe reading. The Dry Temperature Probe is located inside the smokehouse to the right of the upper guard.

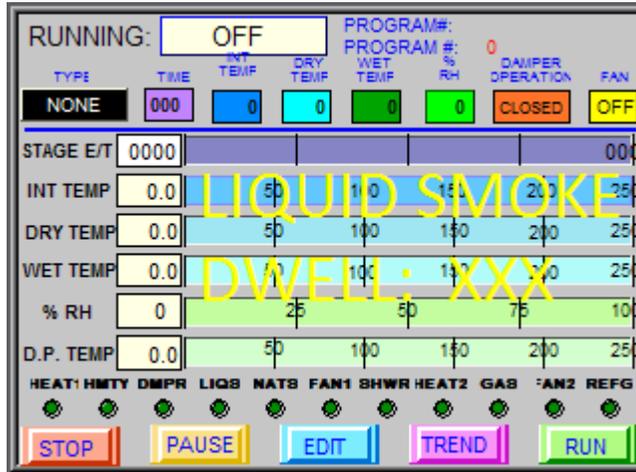
Wet Temp: This is the current Wet Temperature Probe Reading. The Wet Temperature Probe is contained in a wet sock located inside the smokehouse to the right of the upper guard.

% RH: This is the current percentage of Relative Humidity inside the smokehouse.

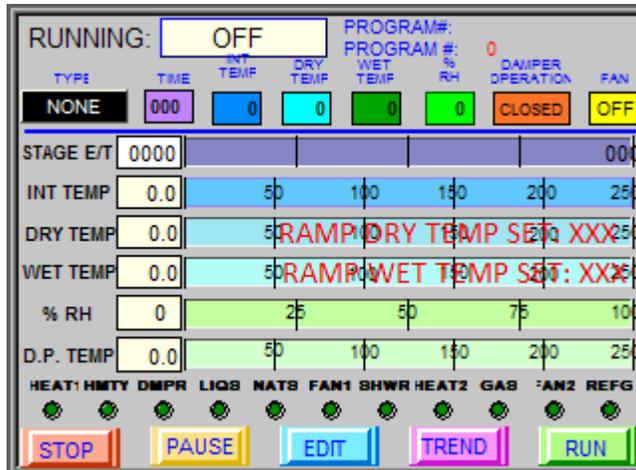
D.P. Temp: This is the current Dew Point temperature inside the smokehouse.

Operator Menu on Digital Panel

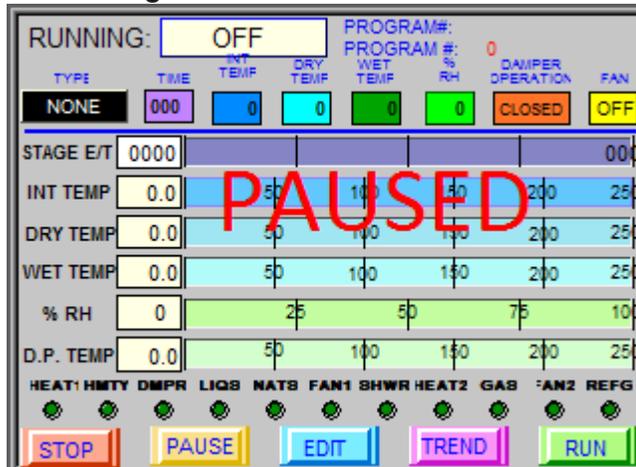
Liquid Smoke Dwell, Ramp Dry and Pause Display



The above screen will indicate that the control is running a liquid smoke operation, and indicate the remaining Dwell Time in that stage, if a Liquid Smoke Dwell Time is set.



The above screen will indicate that a Ramp Cook stage is in process, and indicate the temperature set points in that stage.



The screen above will be displayed if the program has been paused.

Operator Menu on Digital Panel (continued)

Edit Menu

PROGRAM NAME:		PROGRAM #: 30						
STAGE #	TYPE	TIME	INT TEMP	DRY TEMP	WET TEMP	% RH	DAMPER	FAN
1:	COOK	002	070	80	081	100	AUTO	HI
2:	COOK	000	000	0	032	100	AUTO	HI
3:	NONE	000	000	0	000	100	CLOSED	OFF
4:	NONE	000	000	0	000	100	CLOSED	OFF
5:	NONE	000	000	0	000	100	CLOSED	OFF
6:	NONE	000	000	0	000	100	CLOSED	OFF
7:	NONE	000	000	0	000	100	CLOSED	OFF
8:	NONE	000	000	0	000	100	CLOSED	OFF
9:	NONE	000	000	0	000	100	CLOSED	OFF

INSERT LINE
0
DELETE LINE
EXIT

The above screen will be displayed when the [EDIT] button is pushed. This screen will allow the operator to edit the program on the fly. To edit any of the values displayed, simply press the variable and change it accordingly. You can at anytime insert or delete lines by first entering the line number in the green [0] button in the center, then pressing the [INSERT LINE] or [DELETE LINE] button. When editing is completed press the [EXIT] button.

Type: Type can be set to any of the following. The controller cooks in stages, with each stage performing a different function for a set period of time, and/or until it reaches the desired Internal Temperature. (See below for further explanation of each stage type.)

Cook:

The Cook stage will turn on the primary heat source, and either cook until the stage time has elapsed, or the internal temperature is reached.

Shower:

The Shower stage will turn on the water shower nozzles and cool the temperature of the house until the stage time has elapsed, or the internal temperature is reached.

Nat Smoke:

The Nat Smoke stage will turn on the Natural Smoke producer and continue to cook until the stage time has elapsed or the internal temperature has been reached.

Liq Smoke:

The Liq Smoke stage will turn on the Liquid Smoke producer and spray liquid smoke into the house. The system will then dwell for the preset amount of time, then end the end the stage.

Drying

The Drying stage will turn on the primary heat source and open the damper fully to allow the %RH to drop to a given percentage, or until the internal temperature is reached.

Operator Menu on Digital Panel (continued)

Edit Menu (continued)

Ramp:

The Ramp stage will calculate the current temperature and desired temperature against the Ramp stage time, and slowly raise or lower the temperature over that stage time to the desired wet / dry temperature.

Refrig:

The Refrig stage will cool the house down using the refrigerant coils, and continue to cool until the stage time has elapsed or the internal temperature has been reached.

Refrg-Nat:

The Refrig-Nat stage will cool the house down using the refrigerant coils, while simultaneously running the Natural Smoke producer, and continue to cool until the stage time has elapsed or the internal temperature has been reached.

None:

The None stage should always be the last stage, once the controller reaches a None stage it will shut down and end the cook.

Time:

Time is the desired time set for a particular stage. This value can be set between 0 and 999. The stage will end when either the Internal Temperature is reached or the time is elapsed.

Int Temp:

Internal Temperature is the desired internal temperature reading for a given stage. This can be set between 0 and 225 degrees Fahrenheit.

Dry Temp:

Dry Temperature is the overall Dry Temperature desired inside the house. This can be set to between 0 and 225 degrees Fahrenheit.

Wet Temp:

Wet Temperature is the overall Wet Temperature desired inside the house. This can be set to between 0 and 225 degrees Fahrenheit.

% RH:

Percent Relative Humidity is the humidity percentage desired inside the house. This variable is calculated based on the Dry Temperature and Wet Temperature. If you change this variable, the Wet Temperature will be adjusted to a level such that this variable can be achieved.

Damper:

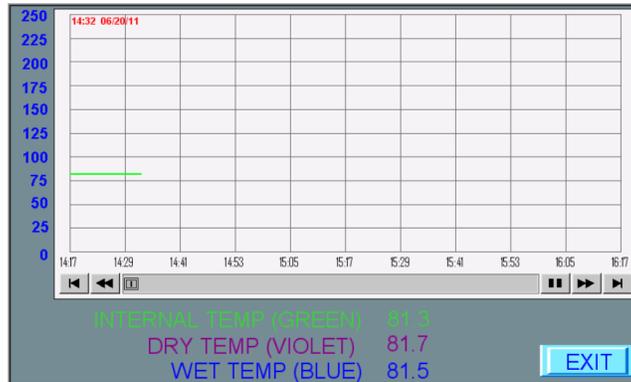
Damper can be set to Auto, Closed, or Open as necessary.

Fan:

Fan can be set to OFF, HI, or LO. If using a Koch Grandprize 3 Smokehouse HI and OFF are the only two valid selections, although some houses offer a two speed variable fan where LO becomes a valid selection.

Operator Menu on Digital Panel (continued)

Trend Graph Menu

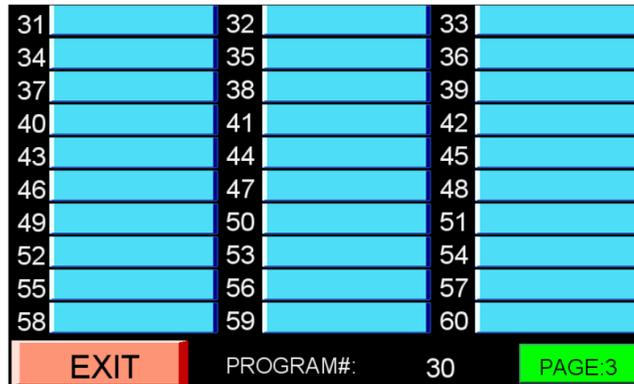


The above screen is displayed when the [TREND] button is pushed. This screen will display a trend graph, showing the cook temperature on the vertical axis, and the time on the horizontal axis. You can navigate the graph by using the time selection arrows either forward or backwards.

Operator Menu on Digital Panel (continued) Naming Programs Menu and Loading Programs Menu

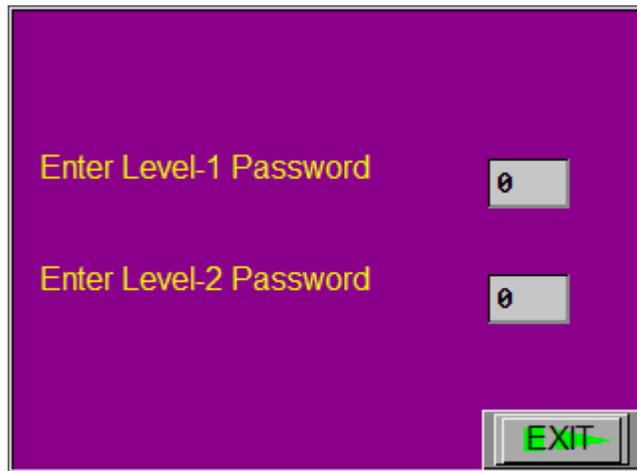


The above screen allows the operator to assign a name and save a program into memory. To save a program, select the Program # you wish to edit and simply set all of the variables in the edit program screen, then click Save Program at the main menu. Name the program appropriately, then push the [EXIT] button. The program is now saved and can be recalled at a later time.

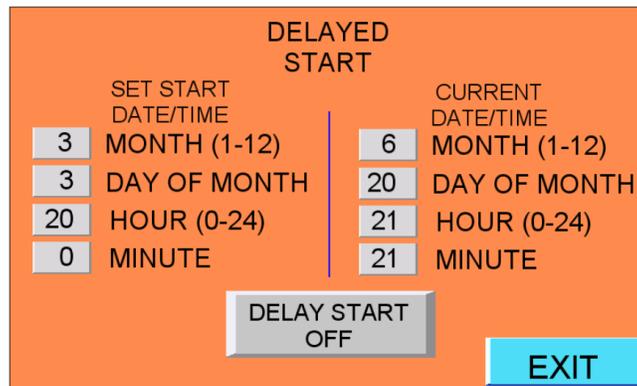


The above screen allows the operator to select the program # they wish to run or edit. Simply push on the corresponding program name to the right of the program number, then push the [EXIT] button. The selected program is now loaded and ready to run and/or edit as necessary.

Operator Menu on Digital Panel (continued) Security Menu



The above screen allows the operator to enter the passwords necessary to access Level 1 and Level 2 features. Level 1 access includes Editing the running program, etc. Level 2 access includes access to the Maintenance Screen. These passwords can be changed, however once changed they cannot be recovered. (See Page 3.5 for detailed instructions on how to change the preset passwords.)



The above screen allows the operator to setup a delayed start timer. By entering a Start Time in the future and pressing the [DELAY START ON] button the controller will automatically begin running the currently selected program at the specified time/date. Press the [EXIT] button when you are finished setting up the delayed start feature

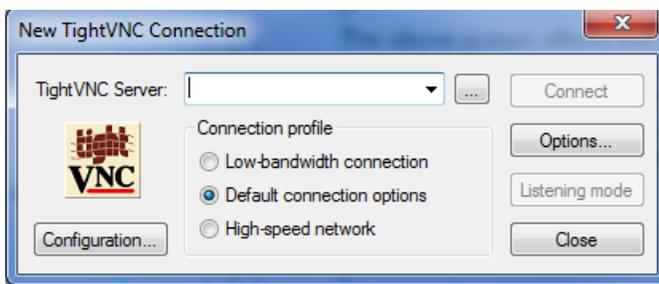
Operator Menu on Digital Panel (continued)

Remote Access Control

Remote access to the controller over a company network allows operators, technical support personnel, and managers the ability to remotely monitor, manipulate and control the Cookmasater II. The remote viewing client allows authorized personnel to remotely view and manage the controller in real time.

To setup remote access to the Cookmaster II, you will first need to install "Tight VNC" from the CD located in the front of this manual, or some other VNC viewing program. Once the VNC viewing program is installed, you will need to determine what the controllers IP Address is, start the VNC viewer and type in that IP Address in the TightVNC Server: address below. Once typed in click [Connect]. The viewer will prompt you for the server password, enter the password and click [OK]. You will then be connected to the controller via the VNC viewer.

The default VNC password is: 111111



Remember that any changes made in the VNC viewer occur in live time on the controller, as a result you may be overriding operations at the physical controller. With most VNC Viewers, an option can be enabled to view the screen only, to prevent accidental changes from the remote viewer. See your specific VNC Viewer's software documentation for more details.

To determine the controllers IP Address, and/or edit the controllers IP Address see the instructions on page 3.16 of the Maintenance Section of this manual.

Accessing the controller from outside of a LAN (Local Area Network):

To access the controller remotely from outside of a LAN, you will have to map a path from the outside internet to your controller. Generally this will require a Dynamic IP Address, or DynDNS forwarder. Due to the complexity of network setup, and vast array of options employed in networking, you will need to consult with an IT Specialist regarding your specific network environment. Koch Equipment LLC cannot make any recommendations regarding connections of this type.

Operator Menu on Digital Panel (continued) Remote Data Retrieval

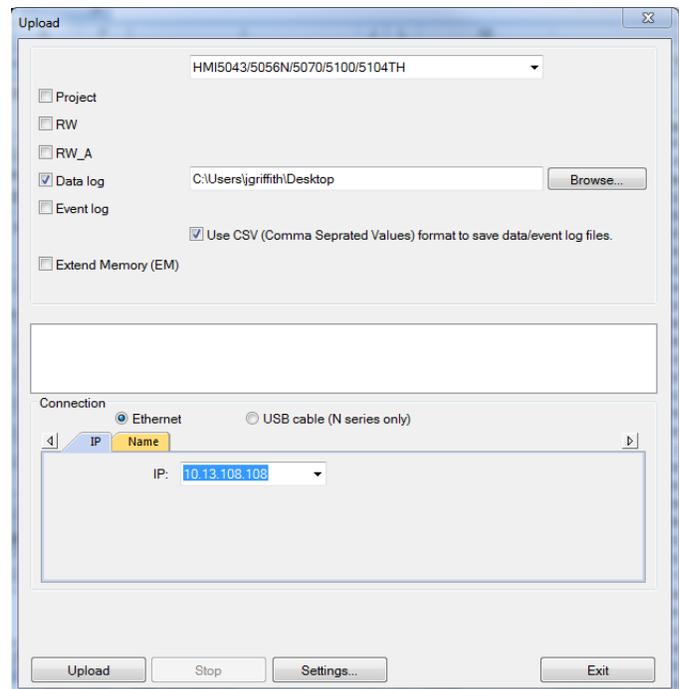
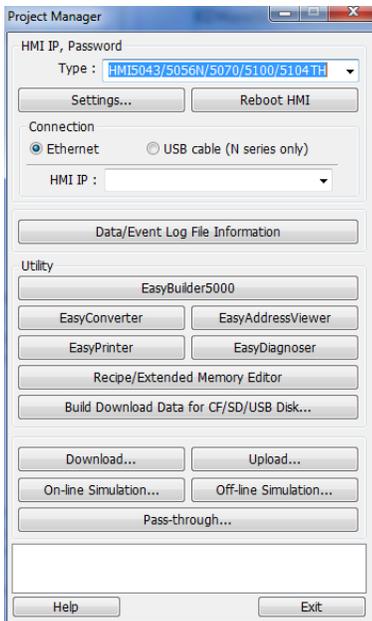
The Cookmaster II controller allows for cook data to be retrieved and saved in CSV (Comma-Separated Value) format to a local computer.

To remotely retrieve data from the Cookmaster II, you must first install EZWare5000 Downloader as follows.

EZWare5000 Downloader is included on the CD in the front of this manual.

When prompted make sure that you are installing the following components of EZWare5000 Downloader: "Easy Printer" and "Project Manager".

Once installed, start Project Manager.



Change the Type to HMI5043/5056N/5070/5100/5104TH, then type in the IP Address of the controller in HMI IP. Once the IP Address is typed, click on Upload in the bottom right of the Project Manager window.

In the Upload window, select Data Log, and the Use CSV (Comma Separated Values) options. Then type in the IP Address of the controller again in the IP field. Press the Browse button at the top right and select the location you wish to download these logs to, and then click Upload. This will retrieve the previous weeks worth of data logs to the destination folder you specified.

MAINTENANCE

Prior to Cleaning

Every environment and application is different; therefore, Koch Equipment LLC cannot provide cleaning instructions to guarantee microbiological sanitation. Koch Equipment requests that the owner of this machine consult with sanitation experts to review the unit working in their particular environment to develop a robust cleaning schedule and methodology, followed by bacterial testing to ensure satisfactory cleaning procedures are followed.

Cleaning Recommendations

Before cleaning the machine, turn power off; disconnect the main power, and lockout the connection.

⚠ DANGER Hazardous voltage.

Disconnect and lockout power before servicing machine or cleaning. Do not remove panels unless power has been disconnected and locked out at risk of electric shock hazard.

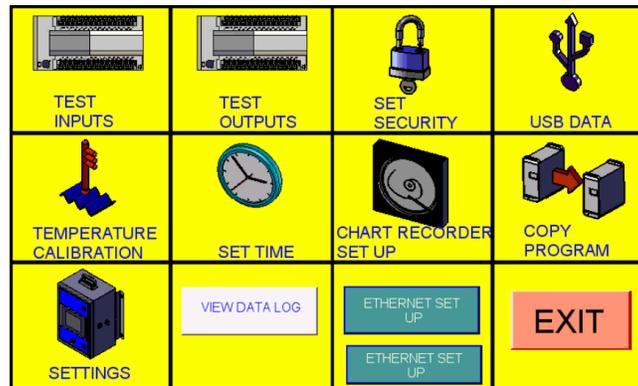
Check with the detergent and sanitizer manufacturers that their products are compatible with the listed materials.

⚠ CAUTION Cleaning agents.

Do not get the cleaning agents in eyes, on skin, or on clothing. Always wear rubber gloves, goggles, and protective clothing when contact is likely. Consult product manufacturer for specific details.

Never hose down the control panel. Damage caused by hosing or high pressure washing is not covered under warranty.

Maintenance Menu on Digital Panel



Test Inputs: This screen will allow the operator to manually monitor each input as it is operated to verify that all the appropriate devices/features are functioning correctly.

Test Outputs: This screen will allow the operator to manually trigger each output. This will allow you to quickly test each output to verify that all the appropriate devices/features are functioning correctly.

Set Security: This screen allows the operator to change the default security codes, and toggle between the Level 1 access levels.

Temperature Calibration: This screen will allow the operator to manually calibrate the temperature probes if a discrepancy is discovered.

Chart Recorder Setup: This screen will allow the operator to setup the Chart Recorder variables to ensure proper chart recording.

Copy Program: This screen will allow the operator to copy one program to another program slot. This is especially helpful when making multiple recipes that are similar.

Set Time: This screen will allow the operator to set the current time for both the PLC and the Touch Screen. These times should remain set so long as power is connected to the controller.

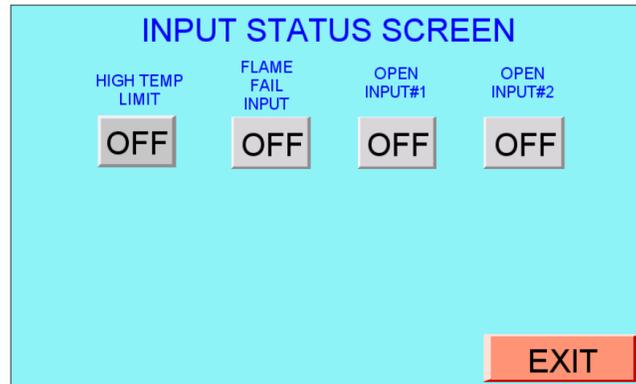
Set Language: This screen will allow the operator to select which language preference is desired.

Settings: This screen will allow the operator to change sensor logic and change default Liquid Smoke Dwell Times.

Data: This screen will allow the operator to send trend graphs to an attached USB Flash Drive, as well as save and restore Recipe information from an attached USB Flash Drive.

Maintenance Menu on Digital Panel (continued)

Input Status Screen



This screen will allow the operator to manually monitor each input as it is operated to verify that all the appropriate devices/features are functioning correctly.

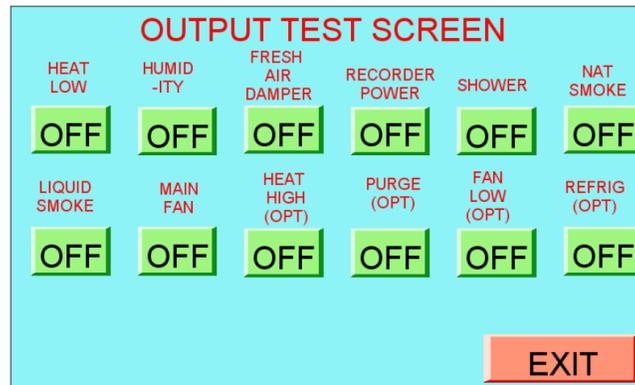
High Temp Limit: The High Temp Limit switch is tripped when the temperature of the house exceeds 275 degrees fahrenheit.

Flame Fail: The Flame Fail switch is tripped when flame is not detected at the gas burner.

Open Inputs: These inputs remain open for future expansion.

Maintenance Menu on Digital Panel (continued)

Output Status Screen



This screen will allow the operator to manually trigger each output. This allows a quick test of each output to verify that all the appropriate devices/features are functioning correctly.

Heat Low: This output turns on the connected heat source.

Humidity: This output opens the humidity valve on top of the smokehouse.

Fresh Air Damper: This mechanically actuates the fresh air damper.

Recorder Power: This output provides a power signal to the chart recorder.

Shower: This output opens the shower valve located on the back of the smokehouse.

Nat. Smoke: This output provides a start signal to the smoke source.

Liquid Smoke: This output provides a start signal to the liquid smoke source.

Main Fan: This output provides power to the main fan.

Heat High (Optional): This output provides a High Heat signal to two stage heaters, if applicable.

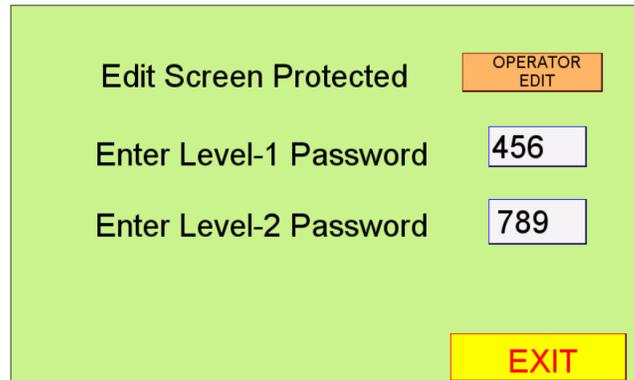
Purge (Optional): This output provides a start signal to a purge valve on the liquid smoke line, if applicable.

Fan Low (Optional): This output provides a start signal to the two speed variable fan, if applicable.

Refrig (Optional) : This output opens a valve on the refrigerant line to allow the compressor to turn on.

Maintenance Menu on Digital Panel (continued)

Set Security Screen



Edit Screen Protected OPERATOR
EDIT

Enter Level-1 Password 456

Enter Level-2 Password 789

EXIT

This screen will allow the operator to change the default Level 1 and Level 2 passwords, as well as choose the Level 1 access default.

Edit Screen Protected: This can be set to either Operator Edit or Password Required.

Operator Edit: This option will allow users to edit the program variables on the fly.

Password Required: This option will require users to have entered the Level 1 Password to edit the program variables.

Defaults:

Level 1 Password: 456

Level 2 Password: 789

Maintenance Menu on Digital Panel (continued)

Temperature Calibration Screen

TEMPERATURE CALIBRATION	
0.0	INTERNAL TEMP OFFSET CALIBRATION
81.5	INTERNAL TEMPERATURE
0.0	DRY TEMP OFFSET CALIBRATION
81.5	DRY TEMPERATURE
0.0	WET TEMP OFFSET CALIBRATION
81.3	WET TEMPERATURE
EXIT	

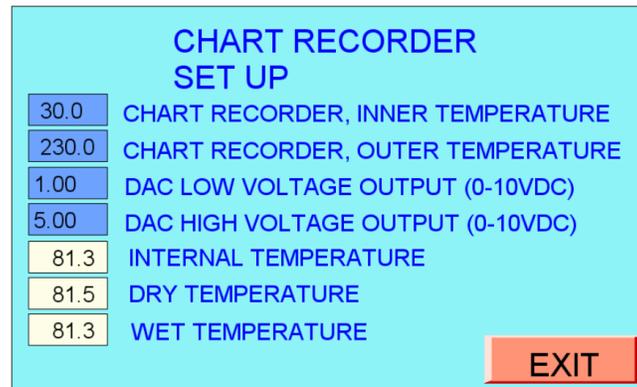
This screen will allow the operator to adjust the calibration of the temperature probes. If the actual temperature reading varies from the digital reading on the touchscreen, this screen will allow the operator to adjust them to match according to the inspected actual reading.

Calibrating the temperature probe:

- 1) Have the temperature probe inspected and obtain an actual reading independent of the digital temperature reading on the touchscreen.
- 2) Compare the actual reading to the digital reading. If the readings are the same the temperature probes are calibrated. If they differ, insert the difference into the Offset Calibration field for the appropriate temperature probe.
- 3) Once the Offset Calibration value has been set, simply touch the [EXIT] button. The temperature probe has now been fully calibrated.

Maintenance Menu on Digital Panel (continued)

Chart Recorder Setup Screen



This screen will allow the operator to setup the Chart Recorder for operation.

Chart Recorder Inner Temperature: This is the lowest temperature the recording graph displays.

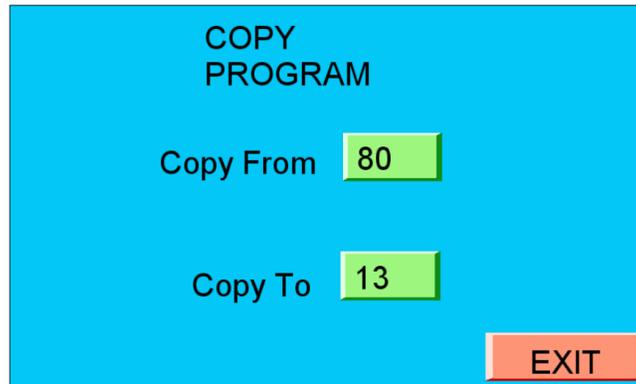
Chart Recorder Outer Temperature: This is the highest temperature the recording graph displays.

DAC Low Voltage Output: This sets the low voltage rating, when used in conjunction with a Koch GrandPrize 3 Smokehouse this should be set to 1.

DAC High Voltage Output: This sets the high voltage rating, when used in conjunction with a Koch GP3 Smokehouse this should be set to 5.

Maintenance Menu on Digital Panel (continued)

Copy Program Screen



This screen will allow the operator to copy one program to another program. Copying programs is particularly helpful when two programs are only slightly different. By copying one program to an empty program, the operator can then go into the newly saved program and adjust the values without needing to setup the program from scratch.

Be aware that copying a program into an existing program will overwrite the previously saved program. For instance, if you have a program saved into Program 2, then copy Program 1 to Program 2 you will overwrite Program 2 entirely. These overwrites are irreversible.

Maintenance Menu on Digital Panel (continued)

Set Time Screen

PLC CLOCK	T.S. CLOCK		MONDAY
2011	2011	YEAR (XX)	6 20 2011
6	6	MONTH (1-12)	21 28 05
20	20	DAY OF MONTH	
21	14	HOUR (0-24)	
28	27	MINUTE	
5	45	SECONDS	
1	1	DAY OF WEEK, 0=SUNDAY	
			EXIT

This screen will allow the operator to adjust both the PLC and Touchscreen clocks.

To set the PLC and Touchscreen clocks simply edit the values in both columns then press [EXIT]. Once the [EXIT] button is pressed, the software will save the values into the PLC and Touchscreen.

Year: The year must be entered in a four digit format. (XXXX)

Month The month must be entered in a two digit, numerical, format.

Day of Month: The Day of Month must be entered in a two digit, numerical format.

Hour: The hour must be entered in a two digit, 24 hour military, format. 0 being Midnight, 12 being noon.

Minute: The minute must be entered in a two digit, numerical, format.

Seconds: The seconds must be entered in a two digit, numerical, format.

Day of the Week: This is entered in a single digit, numerical format as follows:

- 0 = Sunday
- 1 = Monday
- 2 = Tuesday
- 3 = Wednesday
- 4 = Thursday
- 5 = Friday
- 6 = Saturday

Maintenance Menu on Digital Panel (continued)

Language Selection Screen



This screen will allow the operator to select the desired touchscreen language. This screen comes with four languages by default. Although an additional four languages can be programmed if necessary.

Maintenance Menu on Digital Panel (continued)

Settings Screen



This screen will allow the operator to setup the Liquid Smoke Dwell time default, and Fault Logic.

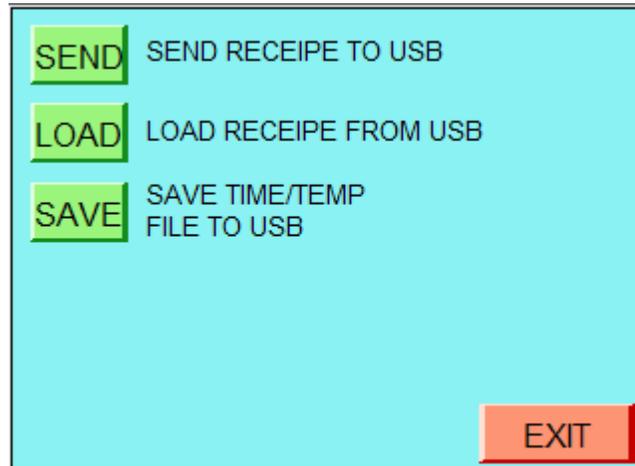
Liquid Smoke Dwell Time: This is entered in minutes, with a maximum of 999 minutes.

Hi-Temp Limit Input Logic: This can be set to NO: Normally Open, or NC: Normally Closed.

Flame Fail Input Logic: This can be set to NO: Normally Open, or NC: Normally Closed.

Maintenance Menu on Digital Panel (continued)

Data Screen



This screen will allow the operator to save trend charts and recipe data to an external flash drive. This screen will also allow the operator to load recipe data from an external flash drive.

SEND: This function saves all of the currently stored recipe files to an external flash drive plugged into the external USB port.

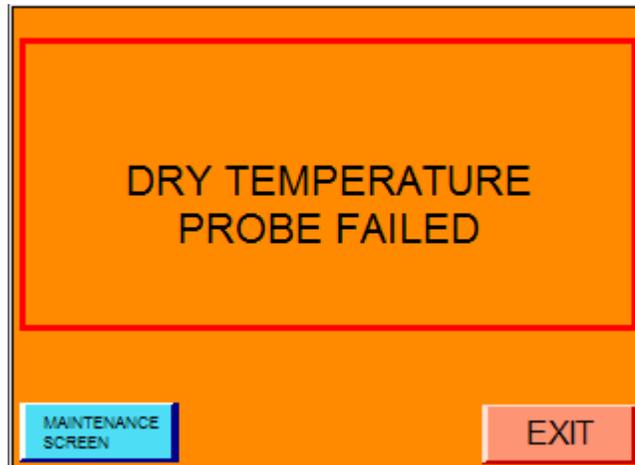
LOAD: This function loads recipe files previously saved to an external flash drive plugged into the external USB port.

SAVE: This function sends the last saved Trend Graph to an external flash drive plugged into the external USB port. The externally saved file will be saved as a comma separated value (.csv) excel file. The file will output the month, day, minute and plot of internal, dry and wet temperatures. The maximum amount of data that can be recorded is 1000 lines (1000 Minutes).

NOTE: This file will be overwritten once a new cook is started.

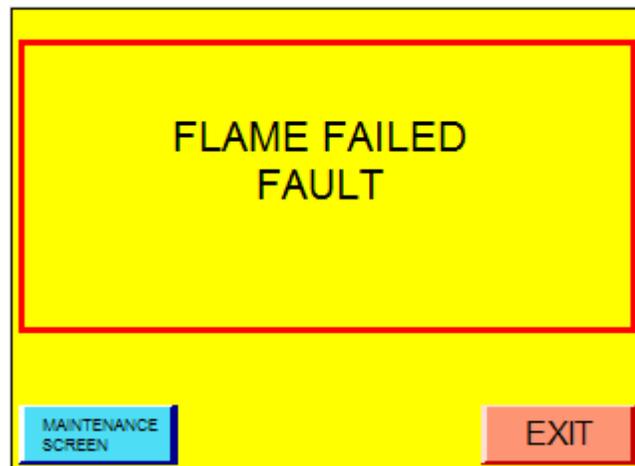
Maintenance Menu on Digital Panel (continued)

Faults



DRY TEMPERATURE PROBE FAILED

This fault indicates that the Dry Temperature probe is no longer functioning. Either the probe has failed or the probe is not connected.

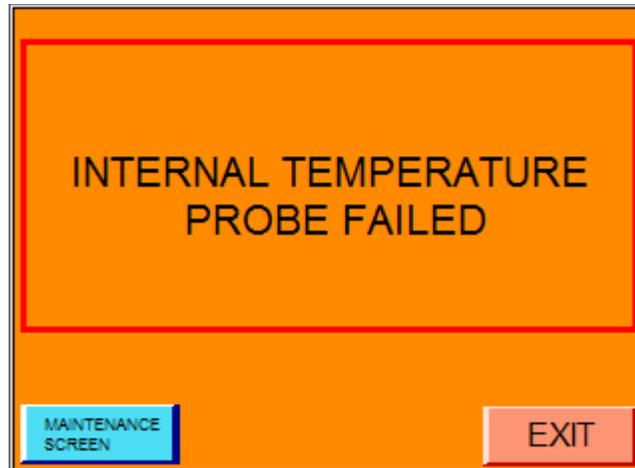


FLAME FAILED FAULT

This fault indicates that flame sensor does not detect flame. Check the Pilot Flame, and flame sensor for proper operation. Also check the Flame Sensor logic in the maintenance screen.

Maintenance Menu on Digital Panel (continued)

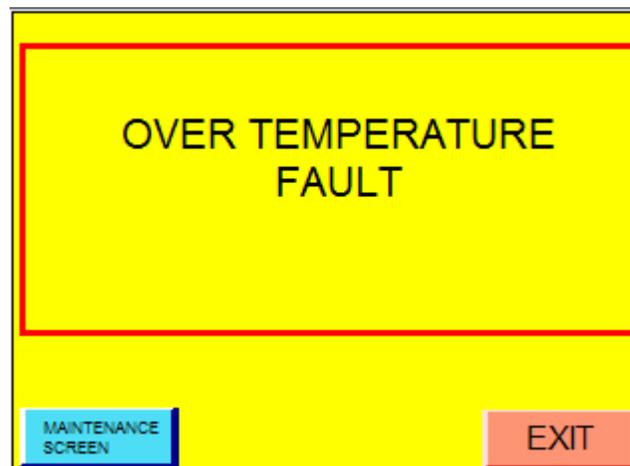
Faults (continued)



INTERNAL TEMPERATURE PROBE FAILED

This fault indicates that the Internal Temperature probe is no longer functioning. Either the probe has failed or the probe is not connected.

NOTE: The control will continue to operate with this fault. The stages will continue to run as normal, ending only on the time function, rather than temperature, though the control will display a warning to alert the operator of this.

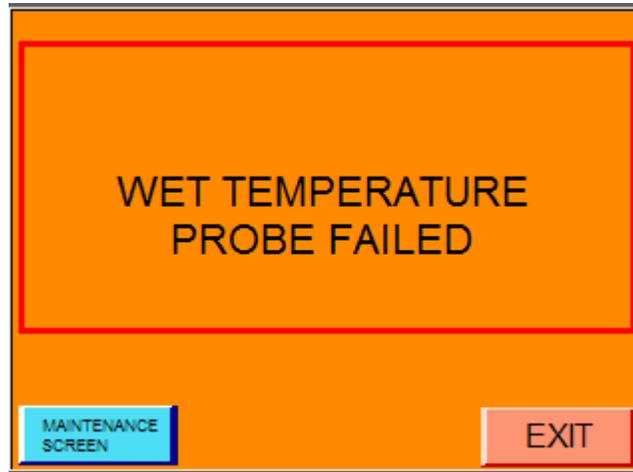


OVER TEMPERATURE FAULT

This fault indicates that either the internal temperature probe has exceeded 250 degrees Fahrenheit, and/or the smokehouse temperature switch has exceeded 275 degrees Fahrenheit.

Maintenance Menu on Digital Panel (continued)

Faults (continued)



WET TEMPERATURE PROBE FAILED

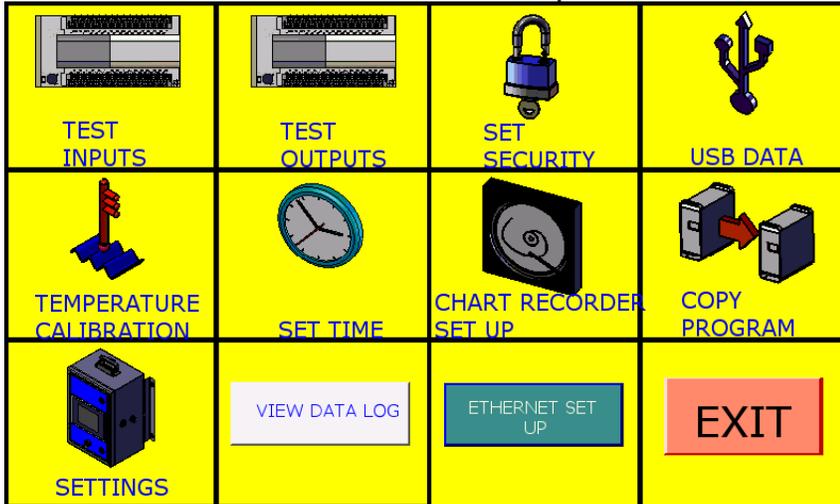
This fault indicates that the Wet Temperature probe is no longer functioning. Either the probe has failed or the probe is not connected.

Maintenance Menu on Digital Panel (continued)

Remote Access Control

IP Address Management:

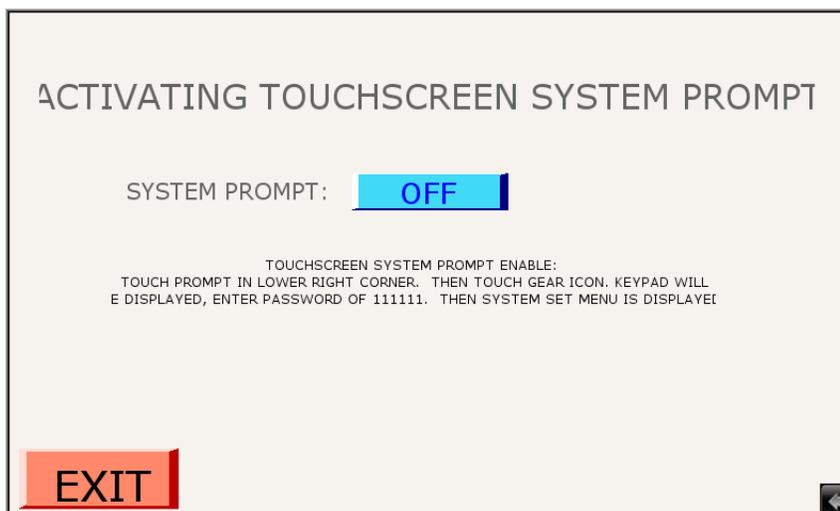
To obtain the controllers IP Address, you must power on the controller and go into Maintenance. Click the Ethernet Set Up button on the bottom row.



The current IP Address of the controller is listed in the Touch Screen IP Address box, as is the current user name and password for the controller. Note: At this time you cannot change the IP Address from this screen.

To change the IP Address:

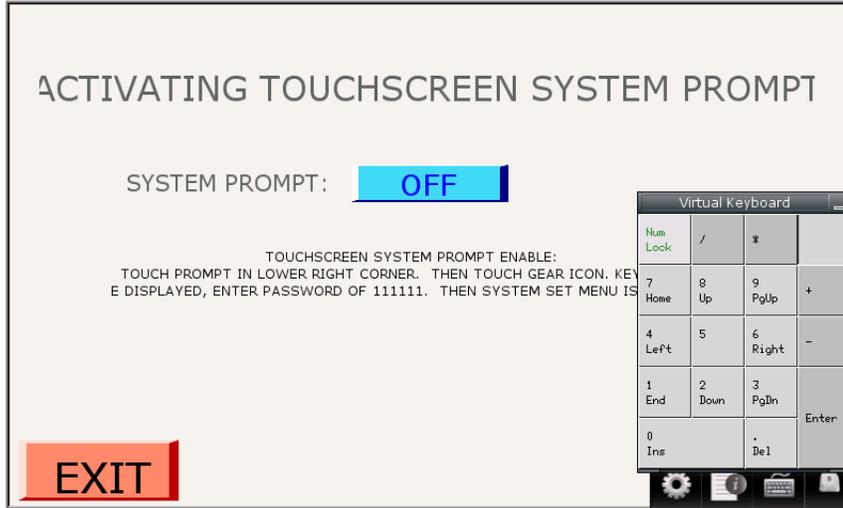
Click on Page 2 of the IP Address Management Page, and click the button in the center of the screen to turn the System Prompt ON.



Click the grey arrow in the lower right corner to expand the system options menu.

Remote Access Control

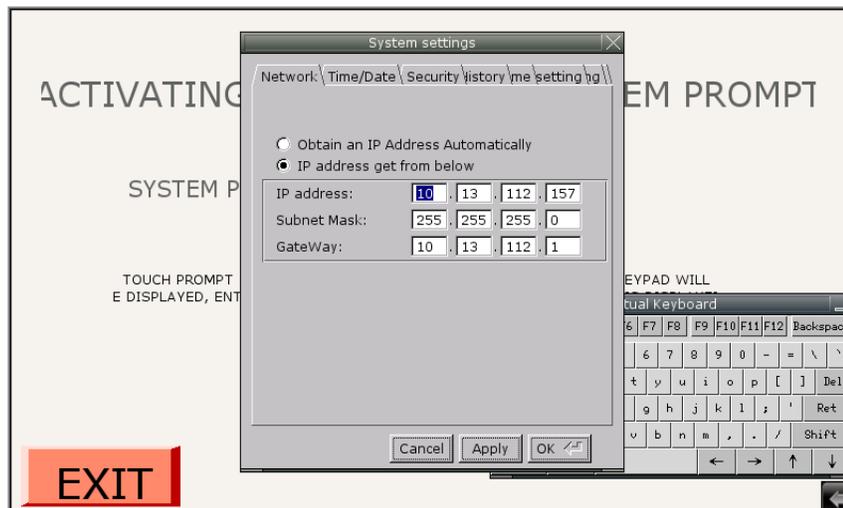
WARNING: DO NOT CHANGE ANY OTHER SETTINGS IN THE SYSTEM OPTIONS.



Click the gear button on the left hand side of the system options menu. When prompted the default password is 111111.



If the correct password is entered the systems option menu will be displayed.

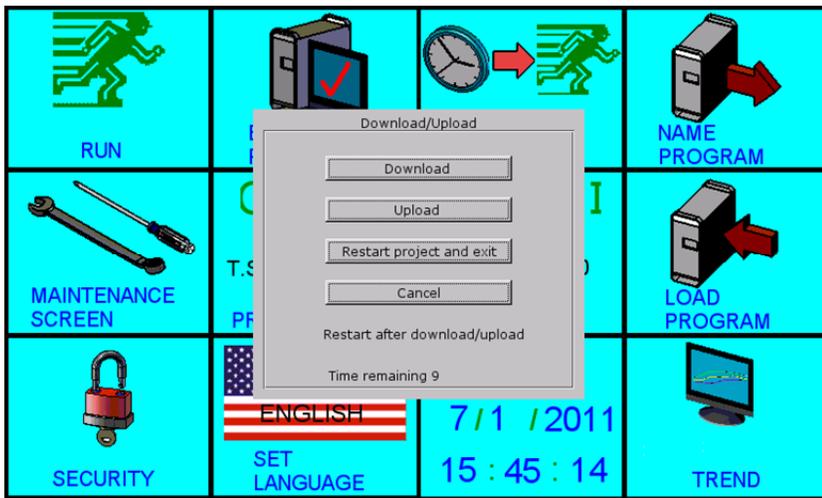


To change the IP address, change the values in the boxes above. If "Obtain IP Address Automatically" is checked, the controller will defer to your networks DHCP preferences, if "IP Address get from below" is checked the system will use the IP Address you provide. Click Apply and OK when done.

Maintenance Menu on Digital Panel (continued) Software Upgrade Procedure

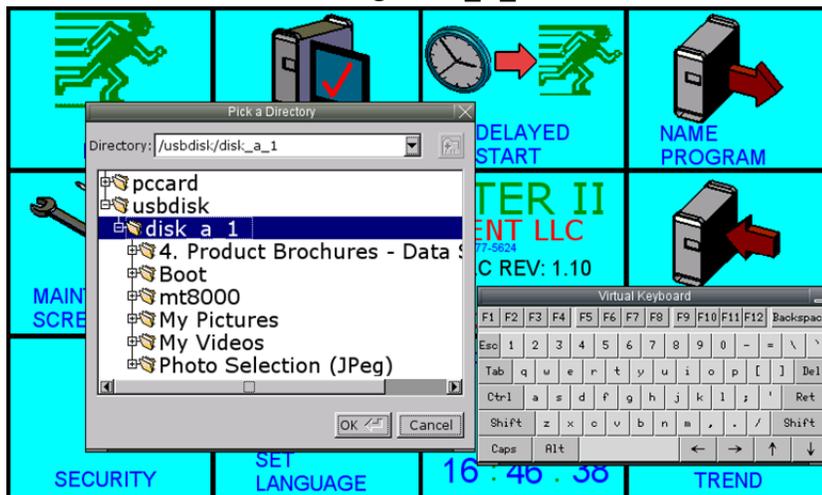
Upgrading the system software from a USB Flash Drive:

Upgrading the system software with a USB Flash Drive is relatively simple. Copy the files provided to you onto the flash drive. Ensure that the flash drive is empty of all other files before doing so. Once the files are copied onto the flash drive, insert the flash drive in the USB port on the side of the controller, while the controller is powered on. The controller will read the flash drive and display the following prompt.



Note: This screen will only display for approximately 5-8 seconds.

Once this screen appears, click Download. The system will prompt for a password, the default password is 111111. Click the check mark labeled Download Project Files, and click OK. Navigate to the usbdisk directory, and locate the file labeled mt8000. Select the folder above the mt8000 file. E.g. disk_a_1.



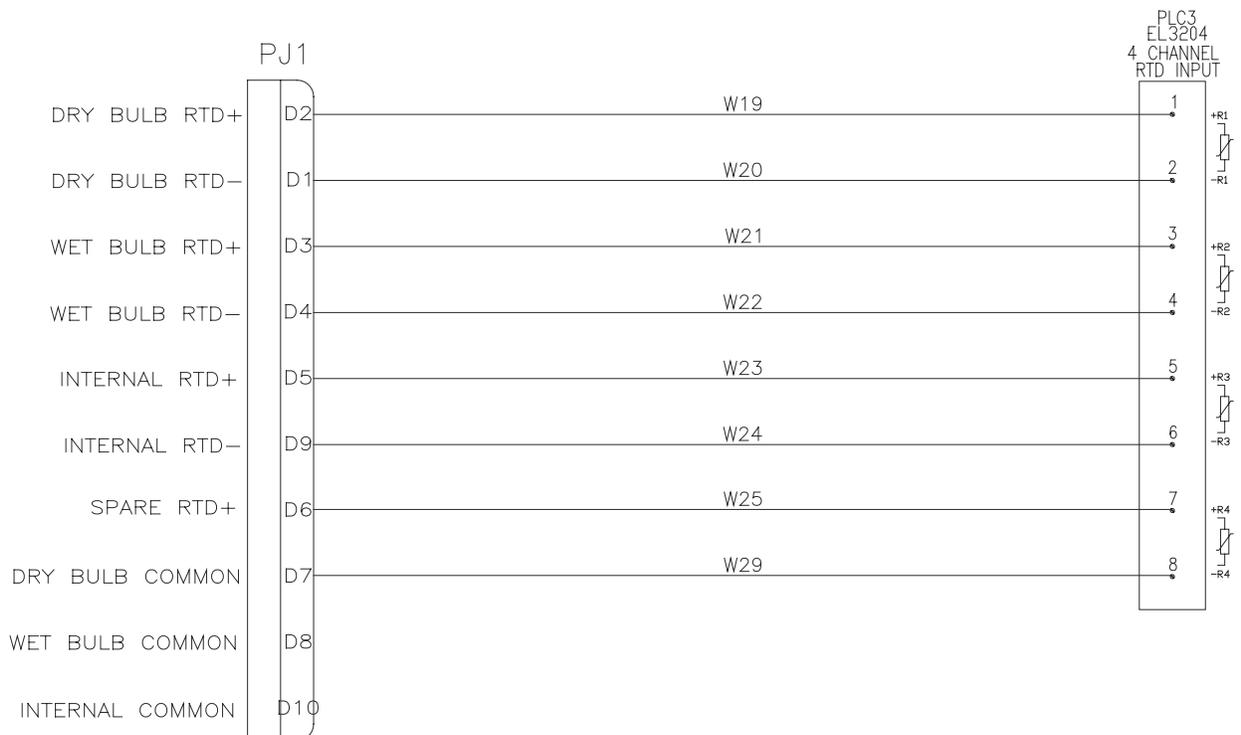
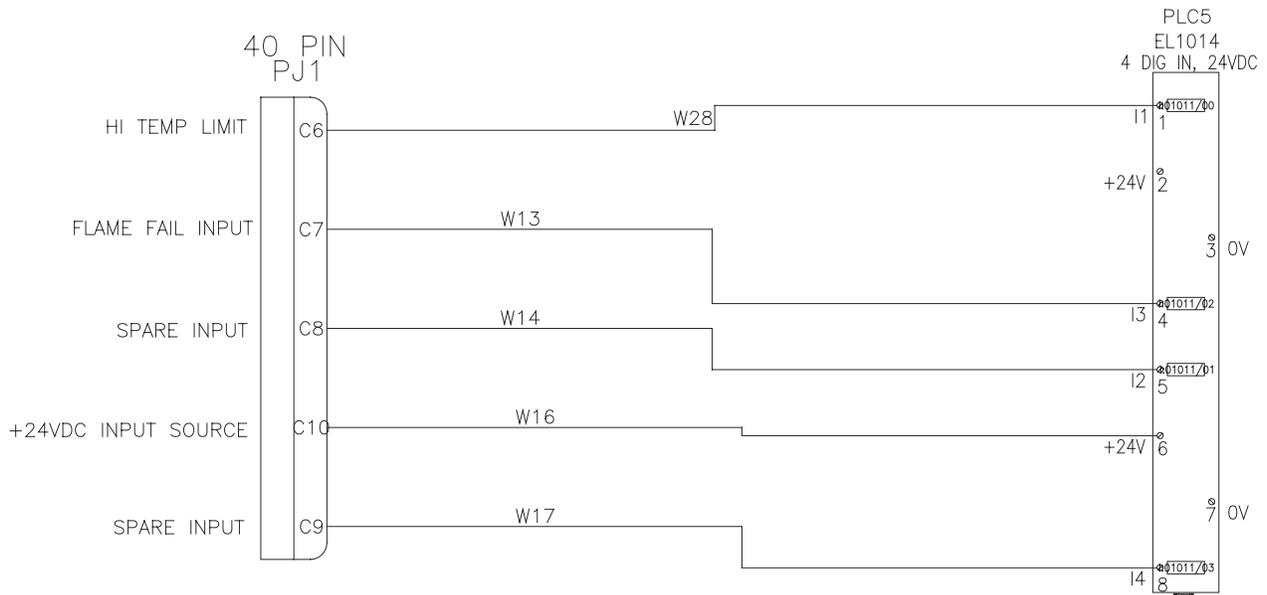
Click OK. This will begin the download, the system will reboot and the upgrade will be complete.

Troubleshooting

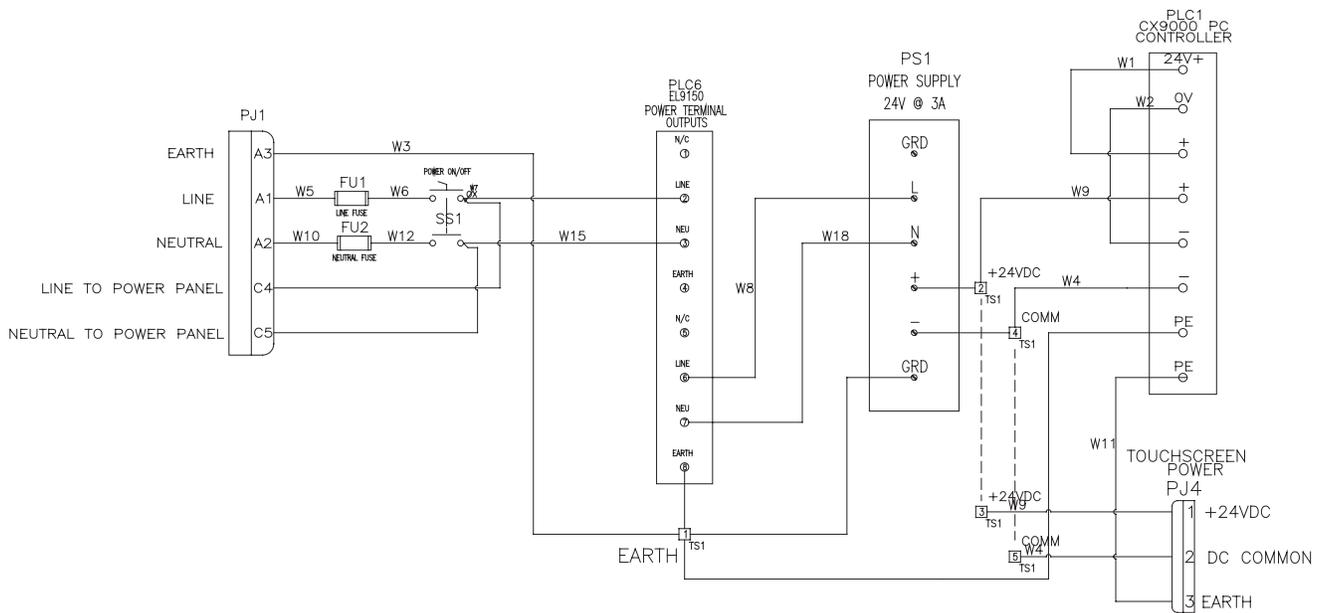
Problem	Indications	Remedy
Controller not booting up	Touchscreen boots, but CookMaster™ II screen never displays.	Check power to the controller.
	COM light on touchscreen is not blinking red.	Check the communications cable between the controller and the touchscreen.
Immediate Flame Fault when booted	When the unit is powered on, the screen immediately displays a Flame Fault.	Check the Flame Fault Sensor Logic by pressing [Maintenance], then following the instructions on page 4.11.
Maintenance Screen is not responsive. Unable to enter the maintenance screen	When pushing the maintenance screen button, the system does not respond.	Check that the Level 2 password is set. If the password is set, then push the button again. This screen is sometime slower than others while the system checks the security level and responds. If the problem persists contact Koch Equipment Services for assistance.
Temperature Probe Failure	The temperature probe failure fault is displayed.	Check to ensure that the temperature probe is connected and wired correctly per the enclosed schematics.
		Test the temperature probe by holding it in your hand and watching the temperature display on the smokehouse. If the temperature probe does not change temperatures, replace the probe.

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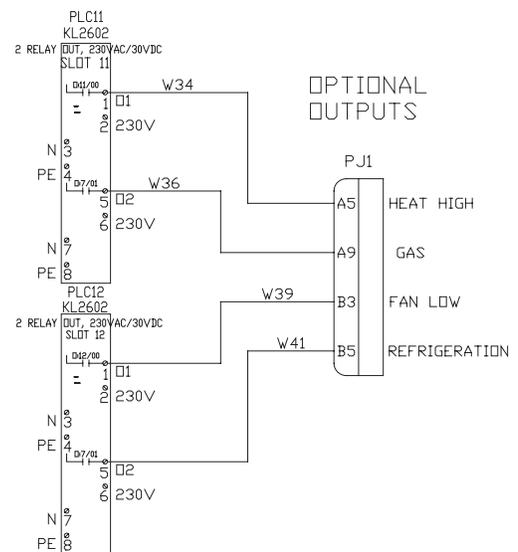
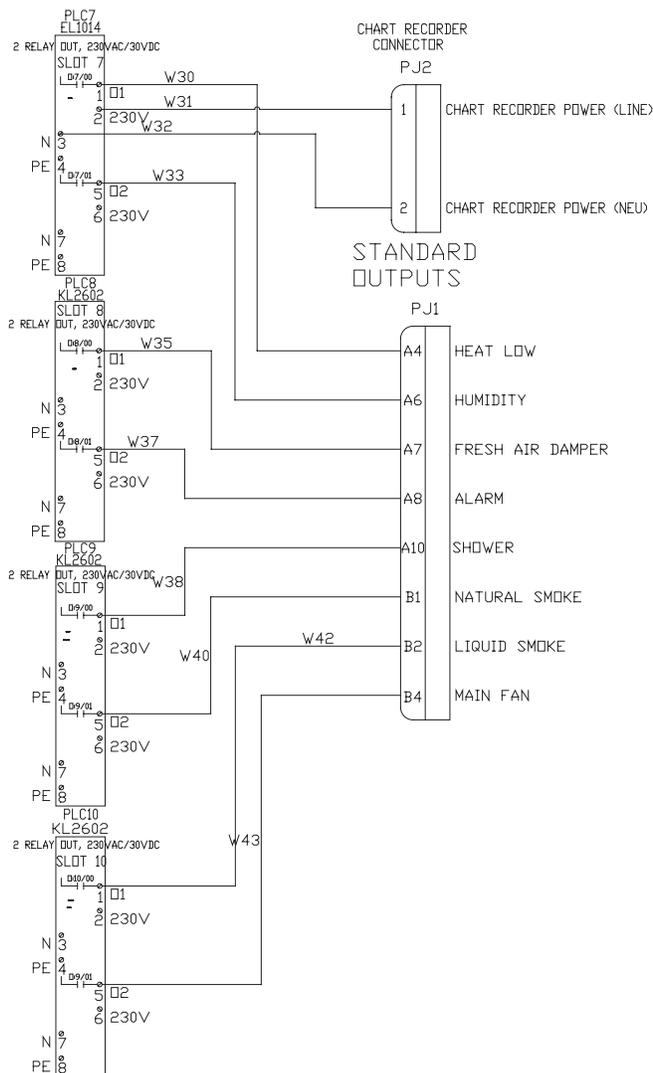
CookMaster™ II Input Schematic



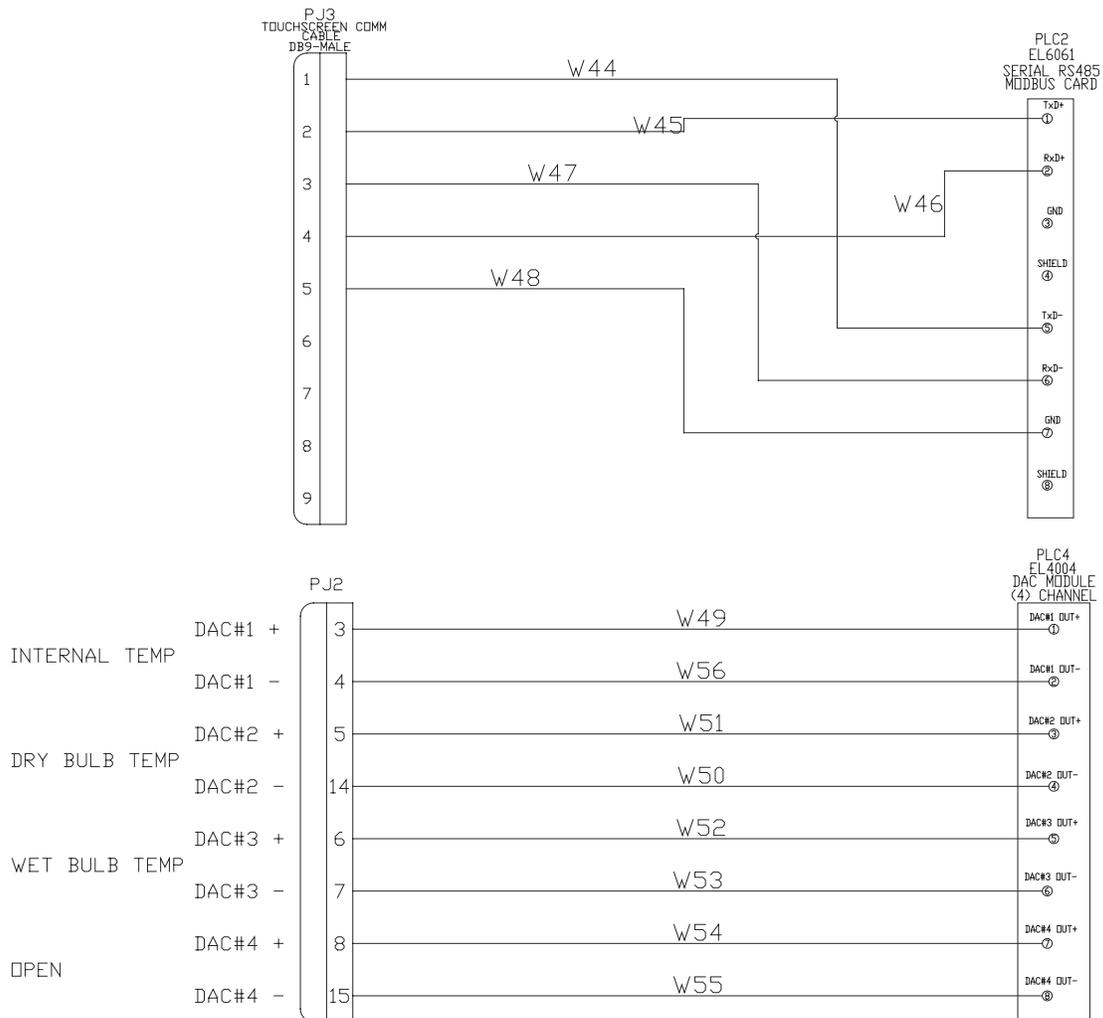
CookMaster™ II Main Power Schematic



CookMaster™ II Output Schematic



CookMaster™ II DAC/COM Schematic

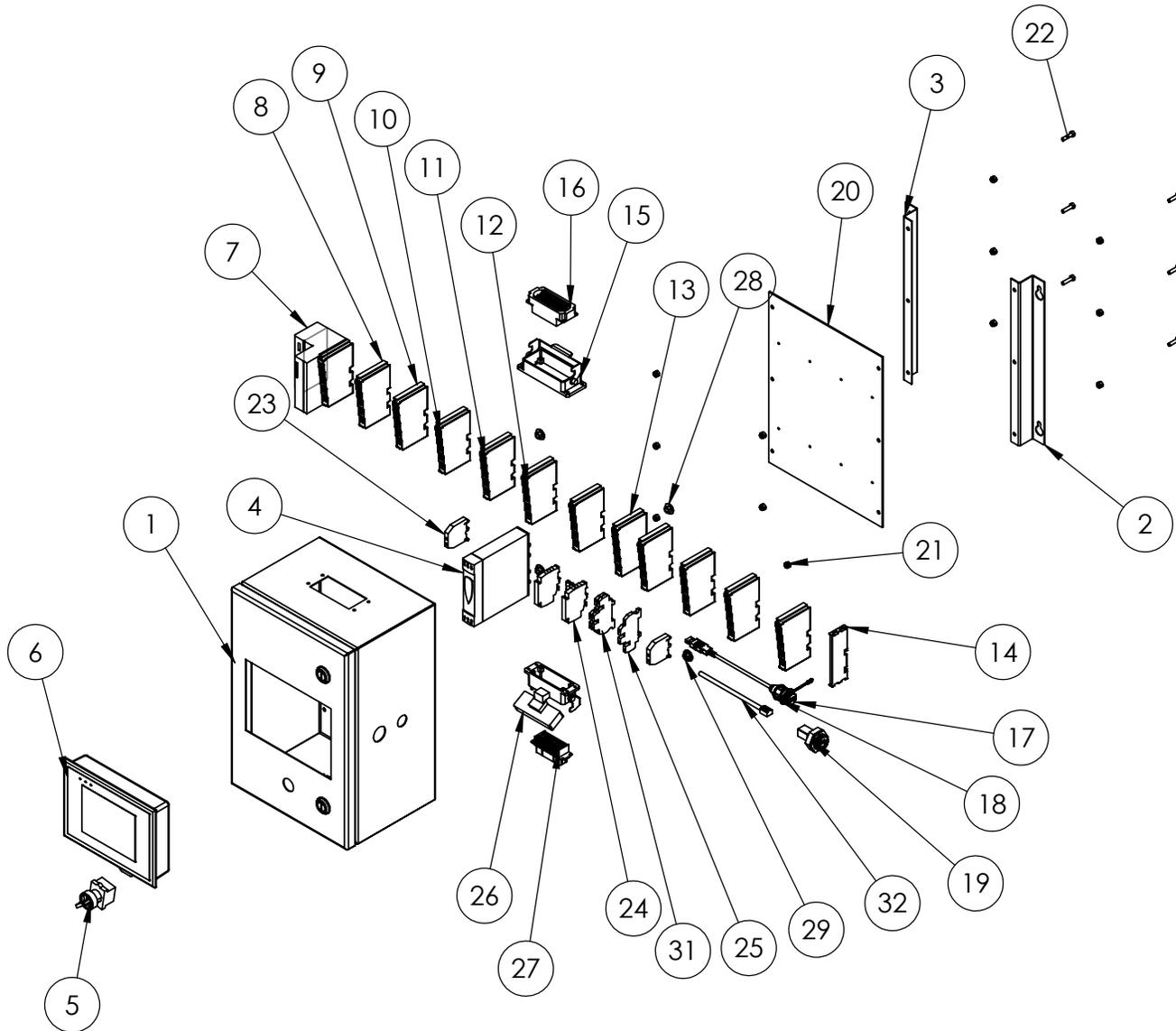


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Controller Parts List

ITEM NO.	PART NUMBER	REV	DESCRIPTION	QTY.
1	800720	C	ENCLOSURE, COOKMASTER II	1
2	800263	A	BRACKET, COOKMASTER II MOUNT, RH	1
3	800262	A	BRACKET, COOKMASTER II MOUNT, LH	1
4	1060023	A	POWER SUPPLY, 24VDC, 3A DIN RAIL MOUNTED	1
5	868536	A	SWITCH ASSEMBLY, POWER	1
6	800738	A	TOUCHSCREEN, COOKMASTER II, PROGRAMMED	1
7	800710	A	CONTROLLER, BECKHOFF CX9001	1
8	800712	A	CARD, MODBUS F/ BECKHOFF CX9001	1
9	800713	A	CARD, RTD CONTROL F/ BECKHOFF CX-9001	1
10	800714	A	CARD, DIGITAL TO ANALOG CONVERSION F/ BECKHOFF CX-9001	1
11	800715	A	CARD, INPUT (4) F/ BECKHOFF CX-9001	1
12	800716	A	CARD, AC POWER DISTRIBUTION F/ BECKHOFF CX-9001	1
13	800717	A	CARD, OUTPUT (2) DRY RELAY F/ BECKHOFF CX-9001	6
14	800718	A	CARD, END PLATE F/ BECKHOFF CX-9001	1
15	800309	A	CONNECTOR, 40 PIN BASE	1
16	800308	A	CONNECTOR, 40 PIN MALE	1
17	800722	A	CABLE, USB WASHDOWN BULKHEAD	1
18	800723	A	COVER, USB WASHDOWN BULKHEAD	1
19	800724	A	CONNECTOR, ETHERNET WASHDOWN BULKHEAD	1
20	800726	A	PLATE, ELECTRICAL MOUNTING	1
21	860261	A	NUT, M5 NYLOK	12
22	810103	A	BOLT, HEX HEAD M5 X 20	6
23	860341	A	TERMINAL, END CAP	2
24	860339	A	FUSE HOLDER, DIN RAIL MOUNTED	2
25	1060008	A	TERMINAL BLOCK, DOUBLE EARTH 14GA	1
26	800725	A	BASE, 16 PIN WITH HOOD	1
27	866586	A	CONNECTOR, 16 PIN INNER RECEPTACLE	1
28	866793	A	WASHER, M6 LARGE OD	12
29	866765	A	NUT, M6 HEX	12
*	800736	A	FUSE, GMC 3A F/ POWER (NOT DISPLAYED)	2
31	1060009	A	TERMINAL BLOCK, DOUBLE COMMON 14GA	2
32	835426	A	CABLE, CAT 5, PATCH CORD 1 1/2 FT LONG	1

Controller Diagram



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EQUIPMENT