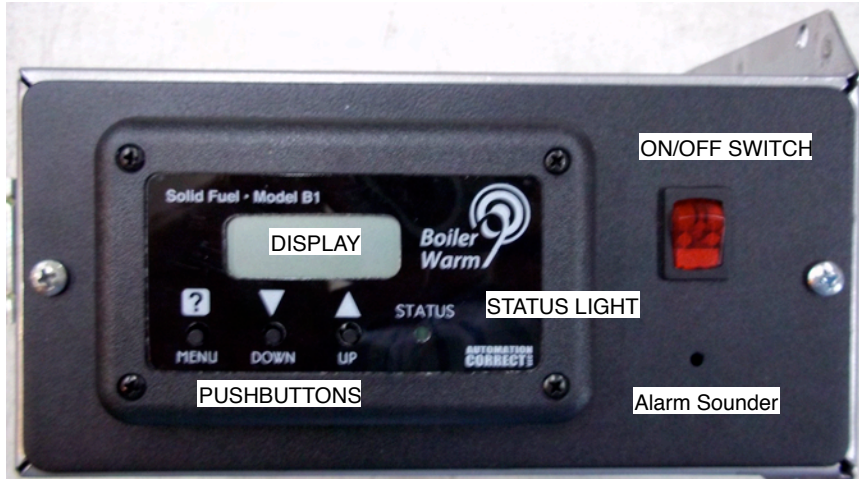


**Introduction:**

This guide provides a summary for application and use of the Model AH-AK 010 Wood Gasifier Control. Functionally this control is a replacement for type RK-2001 control or similar. Sequencing, temperature measurement and control, primary and secondary air blowers, door interlock, and circulation pump are controlled. Operating parameters are set and retained through power loss.

**Control Front Panel:**



Model AH-AK 010 Gasifier Control

**ON/OFF SWITCH:** When ON switch lights up red.

**MENU Pushbutton:** Used to select modes of operation and to navigate menus.

**UP and DOWN Pushbuttons:** Used to increase or decrease settings, or to change operating modes.

**STATUS Light:** Indicates fuel feed and alarm status.

**ALARM SOUNDER** - Alert tone for alarms.

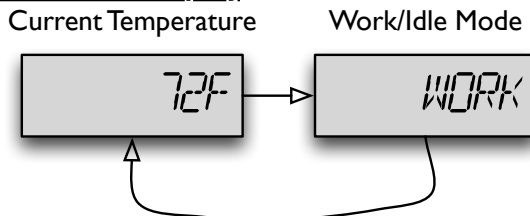
**Display on Power-up:**

Upon first power-up, the display indicates the firmware version number "V1 030", "BOILER", "AHONA", and then enters the Round-Robin display.

**Round-Robin Display:**

Round-Robin describes the cycling of the display between showing the boiler Temperature, the Alarm state (if active), and the current operation Mode and Work or Idle states. After most setting changes the display will return to the Round-Robin Display.

**Round-robin Display**



**Operation Modes:**

The control uses Modes to assist in sequencing the boiler from stopped to startup, running, and shutdown. These modes are navigated by momentarily pressing the MENU button once. When this is done, the display will indicate the Current Mode [M], and if the UP or DOWN button is then momentarily pressed, the Mode will advance forward to the next mode or backward to the previous mode, depending if the UP (forward) or DOWN (backward) button was pressed.

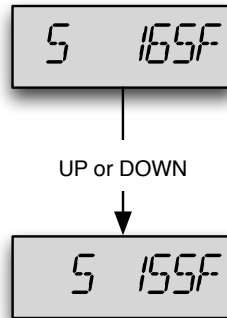
On initial power-up, the Round-Robin Display indicates that the Current Mode is "STOP". To change the mode to "START", press the MENU button once. The display changes to "M STOP". Press the UP button once. The display momentarily show "MSTART" and then alternates display with the boiler temperature and the message "WORK" in the Round-Robin display.

**Changing the Boiler Operating Temperature:**

From the Round-Robin Display, press the UP or DOWN button. The display shows "S 175F" or the current temperature setting. Press the UP or DOWN button a number of times to increment the temperature either higher or lower. Press and hold the UP or DOWN button to rapidly increase or decrease the setting.

Momentarily Press MENU button. Display shows "S" and current temperature setting.

Press UP or DOWN button as desired to change boiler operating temperature.



**SETUP Menu:**

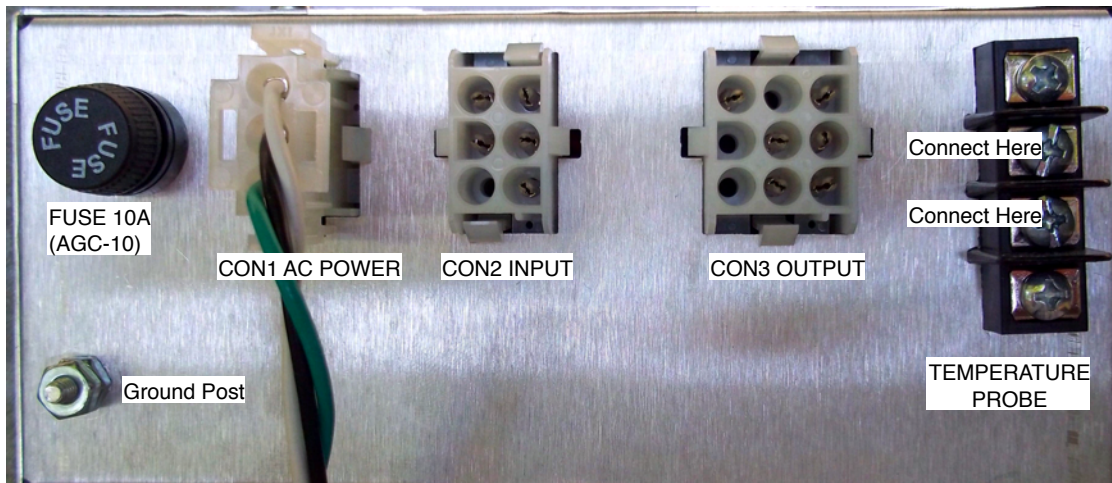
Settings for the control closely parallel functions of the RK-2001 control. To enter the setup menu: Press and hold the MENU button for two seconds. Display will momentarily display "MENU" and then show the first item of the Setup Menu list: "E0 50". To advance to the next Setup Menu item, press the MENU button. To adjust the value of the displayed Setup item, use the UP or DOWN buttons as required. To exit the Setup Menu press the MENU only button a number times until "EXIT" is displayed and then press the UP button. The Setup Menu is also exited automatically if no button is pressed for 30 seconds. The following page shows a table of the Setup Menu items and the RK-2001 equivalent name, if applicable.

**SETUP Menu:**

<b>AH-RK 010 Display</b>	<b>RK2001 Display</b>	<b>Parameter</b>	<b>Min</b>	<b>Max</b>	<b>Step</b>	<b>Factory default</b>
EO		<i>Exhaust fan offset - Decrease to slow Exhaust Fan relative to Primary fan.</i>	0	100	1	50
MF	Π100	fan power or max fan per when Nr 1	50	100	10%	100
AF	Π1	automatic fan speed control	0	10	1	1
IFW	Πn5	fan work time	-,5	60	1s	5
IFP	Πu6	fan pause time	1	99	1min	6
PL	P144	circulating pump launch temperature	85	160	1°F	144
PH	Ph 4	circulating pump launch hysteresis	2	20	1°F	4
PP	Pc 2	pause time between circ. pump 30 sec. work periods	-, 1	99	1min	2
SPL	L150	nn boiler temperature	85	150	5°F	150
SPH	H195	max boiler temperature	175	195	5°F	195
HY	h 10	boiler temperature hysteresis	2	20	1°F	10
HTA	A210	boiler overheating temperature	195	210	1°F	210
NFS	Fd60	no-fuel testing time during firing start	0.1	99-4hr	1min	60
NFW	Fb30	no-Fuel testing time during work mode	0.1	99-4hr	1mm	30
OOM	Ar 0	additional output: 0-FUEL 1-ALARM, 2-MIX	0	2	1	0
RESET	Prod	return to factory settings after pressing OK				
CRCPMP	outP	test of circ. pump output (press OK to launch the test)	outP	out1		
MAINFN	outΠ	test of fan output (press OK to launch the test)	outΠ	out2		
EXHFAN	ON	<i>Test of Exhaust Fan (100% speed)</i>				
OPTION	outr	test of additional output (press OK to launch the test)	outr	out3		
ALARM	ON	<i>Test of Alarm output.</i>				
EXIT	End	quit service mode after pressing OK				

**Electrical Connections and Installation:**

Physical connection requires connection of the mating connector pigtail wires to the control.

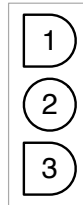


**Rear View of Control**

**CON1 - AC Power - 3 PIN Molex**

Pin	Signal	Name	Wire Color
1	GND	Ground	GRN-16
2	L1	120V AC	BLK
3	L2	Neutral	WHT

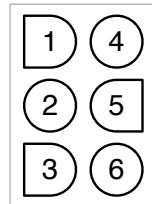
**CON1**



**CON2 - Digital Inputs - 6 PIN Molex**

Pin	Signal	Name	Wire Color	RK-2001
1	TT-PRI	8V Int./24V Ext.	BRN	TS (3,4)
2	DOOR	120V	RED	-
3	DI-3	-	ORG	-
4	TT-COM	8VAC SRC	YEL	-
5	INTLK -S	120V SRC	BLK	-
6	INTLK -R	120V RTN	GRY/BLK	-

**CON2**



**CON3 - Digital Outputs - 9 PIN Molex**

<b>Pin</b>	<b>Signal</b>	<b>I/O Type</b>	<b>Wire Color</b>	<b>RK-2001</b>
1	-	-	-	-
2	SEC FAN	SSR-K7	RED	-
3	L2	NEUT	WHT	-
4	PUMP	K4-NO	ORG	PUMP
5	OPTION-R	K3-NO	BRN	OPTION
6	OPTION-S	K3-COM	BRN	-
7	ALARM	K2-NO	YEL	-
8	-	-	-	-
9	PRI FAN	SSR-K6	BLU	PRI FAN

**CON3**

