

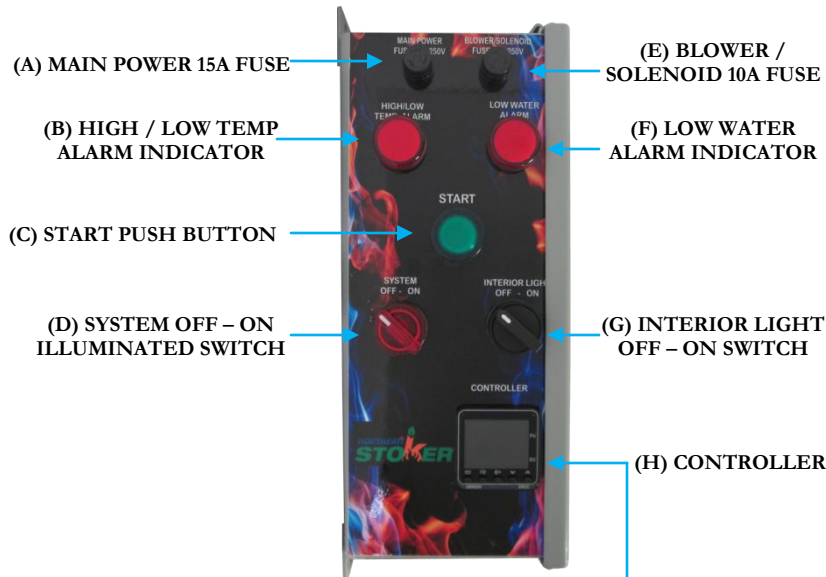


Electronic Control System

The Northern Stoker has one of the easiest and most accurate electronic control systems of any wood burning outdoor furnace on the market today! With our electronic control system, setting the temperature for the furnace is easy and does not require a programming course to operate. In addition, our system monitors and controls the temperature of the combustion chamber far more accurately than our competitors and thereby giving you a more efficient and comfortable heat source. Simply plug your furnace into a 15A circuit!

The following will describe the layout and function of the electronic control system on the Northern Stoker.

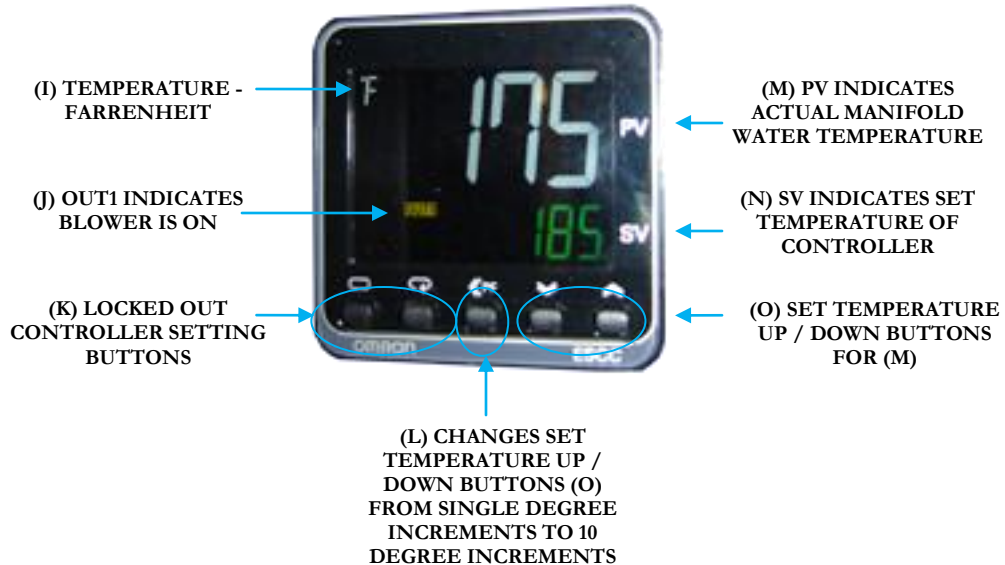
ELECTRONIC CONTROL SYSTEM



NOTE: This controller has two plug-in connector cables that **MUST** be plugged in.

1. Black cable with black 115V standard male plug – provides main power to controller and the auxiliary receptacles on the bottom of the Electronic Control System. Please plug into circuit feeding furnace or in the event of power outage, into a generator.
2. Black cable with yellow female cord end – connects to yellow male plug feeding the blower and solenoid.

Please ensure that both connectors are plugged in before you operate the furnace.



(A) MAIN POWER 15A FUSE	Main Power 15A, 250V, GDL, time delay fuse
(B) HIGH / LOW TEMP ALARM INDICATOR	<p>This indicator will illuminate red when the furnace is above or below the upper and lower limits preset in the controller. The upper and lower limits act as an additional failsafe and if the furnace reaches either one, the furnace will shut down.</p> <p>LOWER TEMP (Lower limit) = 120 °F (48.9 °C)</p> <p>HIGH TEMP (Upper limit) = 200 °F (93.3 °C)</p> <p>Note: Overheating the furnace above the upper limit of 200 °F (93.3 °C) can cause damage to the furnace and components.</p>
(C) START PUSH BUTTON	Once fuel is lit, turn the selector switch “ SYSTEM OFF – ON ILLUMINATED SWITCH (D) ” to ON and press the “ START ” button. This tells the controller (H) to take over and maintain the operation of the system.
(D) SYSTEM OFF – ON ILLUMINATED SWITCH	<p>This switch must be turned ON for the controller system to function correctly. The switch will illuminate red if left in the OFF position. This is a reminder to the operator to turn the switch ON for normal operation.</p> <p>Note: The auxiliary receptacles on the bottom of the Electronic Control System are <u>NOT</u> affected by turning the switch ON or OFF. The auxiliary receptacles are intended for the circulating pumps and accessories.</p>
(E) BLOWER / SOLENOID 10A FUSE	Blower / Solenoid 10A, 250V, GDL, time delay fuse
(F) LOW WATER ALARM INDICATOR	This indicator will illuminate red in the event that the water jacket is getting low on water. If this is lit red, then the furnace will shut down until the water jacket is topped up with water. Do not ignore or bypass this indicator! Damage to the furnace and components can occur if water is not added to the system.
(G) INTERIOR LIGHT OFF – ON SWITCH	This switch will turn ON and OFF the interior light within the Control House allowing for inspection and maintenance during dim or dark ambient lighting conditions.
(H) CONTROLLER	This controller maintains the system’s operating temperature. It measures the temperature from the outgoing manifold temperature sensor. The controller cannot be modified as it is set and locked out at the factory. If access to the controller is required, please contact your Northern Stoker Dealer.
(I) TEMPERATURE - FARENHEIT	This indicates the unit of measure the controller is displaying the temperature – Fahrenheit. This is preset by the Factory and

	can only be changed at the factory.
(J) OUT1 INDICATES BLOWER IS ON	The icon “ OUT1 ” indicates that the controller is calling for heat and has turned on the blower to rejuvenate the fire.
(K) LOCKED OUT CONTROLLER SETTING BUTTONS	The buttons on the face of the controller are for Factory and Dealer use only. These buttons are locked out and do not function. If you require access to the buttons and controller, please contact your Northern Stoker Dealer.
(L) CHANGES SET TEMPERATURE UP / DOWN BUTTONS (O) FROM SINGLE DEGREE INCREMENTS TO 10 DEGREE INCREMENTS	This button changes the set temperature UP/ Down buttons (O) from single degree increments to 10 Degree increment adjustments.
(M) PV INDICATES ACTUAL MANIFOLD WATER TEMPERATURE	This measurement is displayed in large digits. This is displaying the actual outgoing manifold temperature and is what the controller uses for measuring and maintaining the system temperature.
(N) SV INDICATES SET TEMPERATURE OF CONTROLLER	This represents the Factory or Dealer set controller temperature. It is displayed in small digits. This temperature is what the controller uses as its reference point and maintains the operation of the furnace around this temperature. Do not attempt to modify (M) set temperature. This function is locked out and can only be accessed by the Factory or Dealer. Please contact your Dealer if access is required.
(O) SET TEMPERATURE UP / DOWN BUTTONS FOR (M)	These buttons set the target temperature of the furnace and the outgoing water temperature. Range of available temperature is 150 °F to 185 °F (65.6 °C to 85 °C). Simply press up or down to the desired temperature shown at (M).