

INSTRUCTIONS

**Carrier**

A United Technologies Company

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Instruction Sheet Number: **99TA509601**

XX99TA509601 (for RCD use only)

Description: IGNITOR/LOCKOUT CONTROL

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Part Number: LH33WZ512, LH33WZ513

IGNITOR / LOCKOUT CONTROL

GENERAL DESCRIPTION

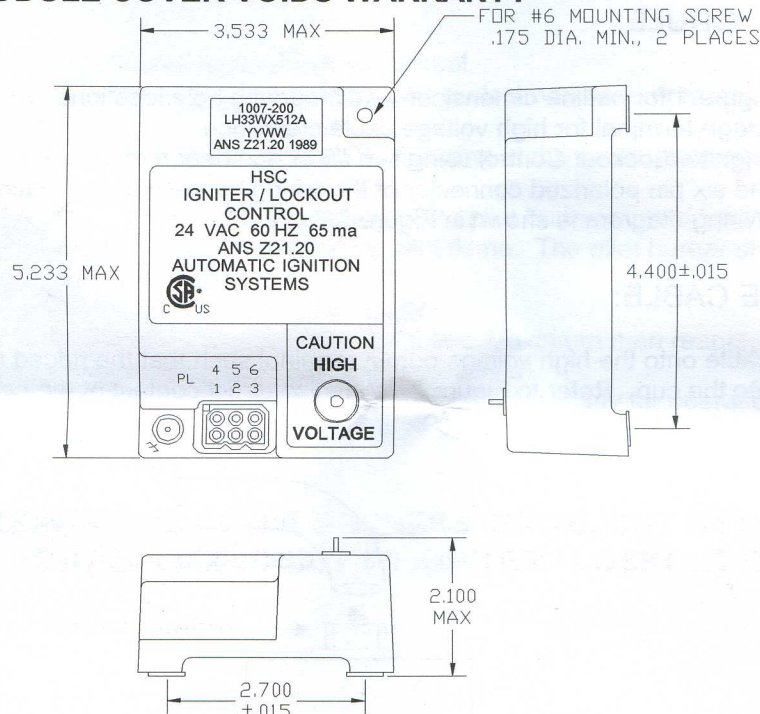
The LH33WZ512 and LH33WZ513 Igniter/Lockout Controls provide spark ignition and pilot gas valve control for applications where shutoff of pilot gas is required upon failure to establish the pilot flame.

The LH33WZ512 and LH33WZ513 Igniter/Lockout Control include capacitor discharge spark ignition, electronic lockout timing using digital integrated circuits and pilot gas valve control through relay contacts. The spark is halted as soon as the pilot flame is established and regenerated when the pilot flame is absent. If the pilot flame is not established before the end of the lockout timing period, the pilot valve relay contacts will open thus removing power from the pilot valve coil.

The LH33WZ513 Igniter/Lockout Control is identical in design and construction to the LH33WZ512 Igniter/Lockout Control except that the LH33WZ513 Model has a prepurge spark delay circuit for applications where the combustion chamber must be purged before a trial for ignition.

The LH33WZ512 and LH33WZ513 Igniter/Lockout Controls are design-certified by CSA (A.G.A. and CGA) for compliance with the ANSZ21.20 Standard for Automatic Ignition Systems and Components (as labeled on control). The controls are also design-certified by C.G.A. for compliance with the C.S.A. C22.2 No. 199-M1984 Standard.

NOTE: REMOVING MODULE COVER VOIDS WARRANTY



IGNITER / LOCKOUT CONTROL**SPECIFICATIONS**

RMS INPUT VOLTAGE.....	19 to 31 Volts 60 Hz
INPUT CURRENT (Pin 5 Module Only).....	125 ma rms.max @ 31 VAC 60 Hz
INPUT CURRENT (Pin 3 while sparking).....	10 ma rms. max @ 31 VAC 60 Hz
RELAY CONTACT RATING.....	1.0 amp. @ 24 VAC 50 Hz
OPERATING AND STORAGE TEMPERATURE.....	-40 TO +85c (-40 to +185F)
HUMIDITY.....	.85% R.H. @ +85C (+185F)
LOCKOUT TIME.....	.240 to 360 seconds
PREPURGE SPARK DELAY(Model LH33WZ513A only).....	.8 to 21 seconds
FLAME-ESTABLISHING-PERIOD (pilot flame).....	.90 seconds max.
FLAME-FAILURE-REIGNITION TIME.....	.0.8 seconds max.
PEAK OPEN CIRCUIT SPARK VOLTAGE.....	17.5 KV min. @ 24 VAC input
SPARK FREQUENCY.....	3 to 7.5 sparks/sec.
SPARK GAP.....	.0.125 to 0.187 in.
TYPES OF GAS.....	Natural or Propane

INSTALLATION:**CAUTION**

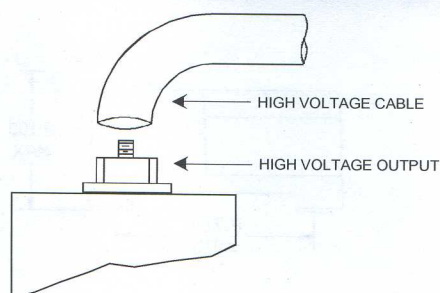
Make certain that the input power to the furnace is disconnected during installation. With power leads connected, electric shock could result from the contact with the high-voltage terminal.

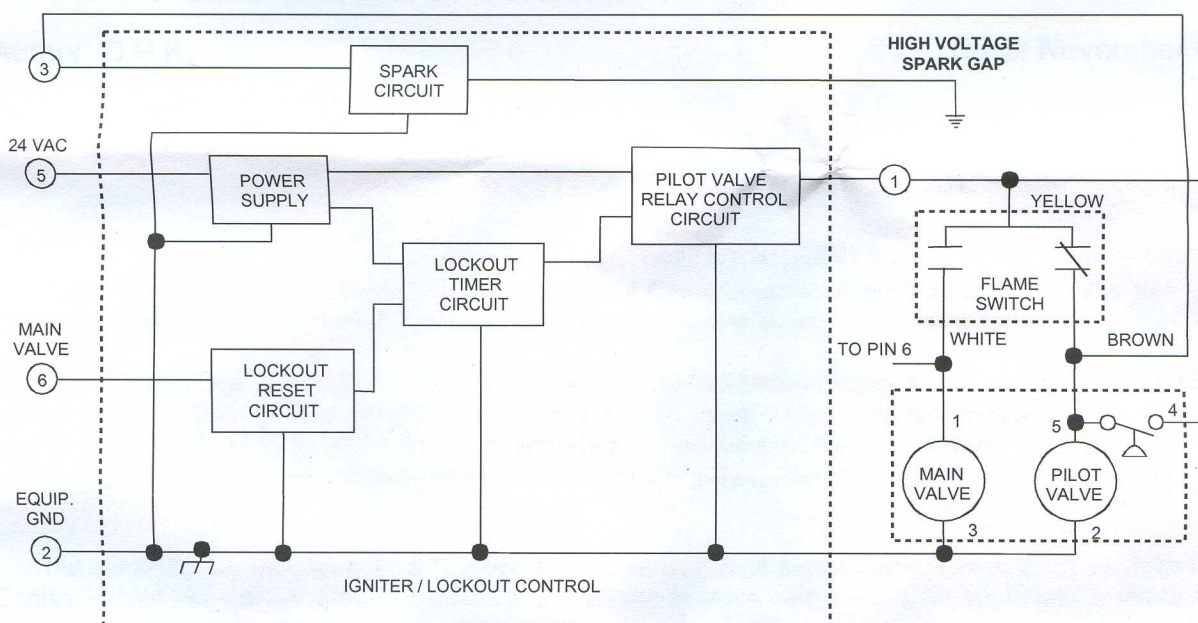
CONTROL MODULE:

1. Refer to Figure 1 for outline dimensions and mounting hole locations. Allow at least $\frac{3}{4}$ inch extra height from tip of high voltage terminal for high voltage cable clearance.
2. Mount the Igniter/Lockout Control using two #6 or #8 sheet metal screws.
3. Connect the six pin polarized connector of the wiring harness to the mating connector on the Igniter/Lockout Control. Wiring diagram is shown in Figure 3.

HIGH VOLTAGE CABLE:

Push the voltage cable onto the high voltage output terminal such that the ridged nail contacts the conductor and the cable seats fully into the cup. Refer to Figure 2. Minimize direct contact of the cable to any grounded surface or other electrical leads.

**FIGURE 2**

IGNITER / LOCKOUT CONTROL**Figure 3****OPERATION:**

When the thermostat calls for heat 24 VAC is applied to the Igniter/Lockout Control. On Model LH33WZ512 the pilot valve is energized and sparking starts immediately. On Model LH33WZ513 there is a delay period of 8 to 21 seconds before sparking begins.

1. Shutoff gas supply and input power to the Igniter/Lockout Control.
2. Make certain that the Igniter/Lockout Control, high voltage cable, electrode assembly and pilot assembly are properly installed per these instructions.
3. Apply 24 VAC to the Igniter/Lockout Control and check for sparking at the spark electrode. (allow time for spark delay of Model LH33WZ513).
4. If the sparking action is satisfactory, turn on the gas supply. The pilot burner should light and the sparking should cease. The tip of the electrode must be enveloped by the pilot flame. The pilot burner should light and the sparking should cease.
5. Shutoff the gas supply. Sparking should reoccur immediately.
6. Interrupt the 24 VAC input to the Igniter/Lockout Control for 3 sec. Maximum then reapply 24 VAC and check that sparking shuts off within the lockout timing period (240 – 360 seconds).
7. After the procedures 1 thru 6 are followed, the Igniter/Lockout Control is ready for operation.
8. Set the thermostat below room temperature to interrupt the 24 VAC for 3 seconds and then reset the thermostat to desired temperature. Turn on gas supply.

NOTE: IF SPARK IS CONTINUOUS AFTER BURNERS IGNITE, CUT 1/4 INCH OFF HIGH VOLTAGE LEAD AND RECONNECT TO IGNITER / LOCKOUT CONTROL.