

<b>Despatch</b> Thermal Processing Technology <i>ITW EAE</i>	<b>SERVICE PRODUCTS INFORMATION</b>	<b>Part # 273619</b>
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## LDB/LEB ELIWELL CONTROL REPLACEMENT KIT # 273618

ORIGINATED	DARYL HINTZ	APPROVED BY	DAN BUYSSE	RELEASED	11/17/09
				REVISED	6/8/23

**The Purpose of this kit:** This kit is provided to facilitate the replacement or upgrade of the controller in both the LDB and LEB batch ovens. Please review these instructions carefully before starting. Some components have been preassembled for your convenience and depending on the model not all parts maybe required.

**WARNING:** Only qualified Electricians or Maintenance Personnel should attempt to install this upgrade.

**Tools Required for Change:** Flat & Torx Head Screwdrivers and Drill.

This Kit consists of:

- #1 One EA (1) \* P/N 403049 FDC9100 Control Instrument
- #2 One EA (1) \* P/N 134601 Adaptor Plate
- #3 Four EA (4) \* P/N 068419 4-40X.25 Screws
- #4 One EA (1) \* P/N 088810 Heat Sink
- #5 Two EA (2) \* P/N 272527 08-32X1.0 Screws
- #6 One EA (1) \* P/N 073966 HD4875 SSR Relay
- #7 One EA (1) \* P/N 016290 Shielded Cable 2 Conductor 48" LG
- #8 Two EA (2) \* P/N 012929 Wire Red 12GA 18" LG
- #10 One EA (1) \* P/N 273619 Installation Instruction Sheet
- #12 Two EA (2) P/N 261095 Terminal C-828-08
- #13 Two EA (2) P/N 113723 Terminal #6 Fork
- #14 One EA (1) P/N 27252408-32X0.75 Screws

\* Items Shipped Loose

### Preparation:

Step 1 Turn the Power and Heater switches OFF and disconnect power completely from the oven.

### Rewiring the Control Panel:

- Step 2 Remove the four (4) screws retaining the control panel and pull the panel forward.
- Step 3 Remove the wires from the back of the controller. Place a wire nut on wire number 23 and wire number 8 to tie them together.
- Step 4 Disassemble the mounting bracket from around the control instrument and remove the control.

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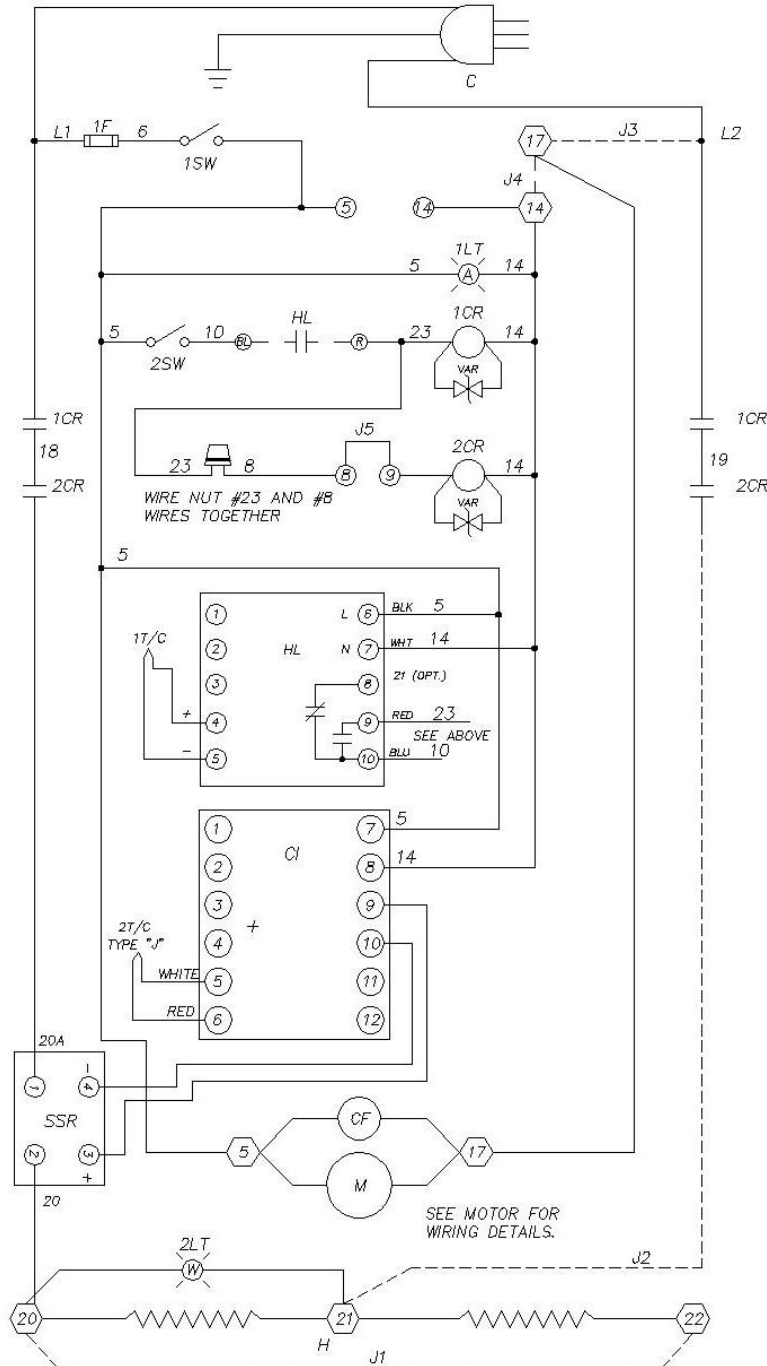
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- Step 5      Fasten the Adaptor plate (#2) to the control panel over the opening by drilling four holes (Drill size #43) in the panel and using the screws (#3) to secure it.
  
- Step 6      Slide the new control (#1) into the adapter plate (#2).
  
- Step 7      Draw the control up tight against the panel by tightening the mounting clips supplied with the control.
  
- Step 8      Install the Heat Sink (#4) and SSR Relay (#6) to the panel next to the contactor or wherever it is convenient using the two screws (#5). You may have to drill holes (Drill size #28) to align up with the Heat Sink holes.
  
- Step 9      Remove the existing wire number 20 from the contactor (2CR) replacing it with the new wire (#9 - listed #20A) that connects it to terminal 2 on the SSR. Insert the new wire (#9 - listed #20) in the terminal strip and that connects it to the terminal 1 on the SSR relay.
  
- Step 10     Attach the shielded cable (#7) to the SSR relay using terminals (#13) crimped on the wires. (Place the white conductor on relay terminal #3 and the black conductor on relay terminal #4).
  
- Step 11     Attach the other end of the shielded cable (#7) to the controller. (Place the white conductor on control terminal #9 and the black conductor on control terminal #10).
  
- Step 12     Insert the wires from the thermocouple into the control instrument. Place the red lead (-) into terminal #6 and the white lead (+) into terminal #5.
  
- Step 13     Insert the wires numbers 5 and 14 into the controller. (Place wire #5 to terminal 7 on the controller and wire #14 to terminal 8 on the controller).

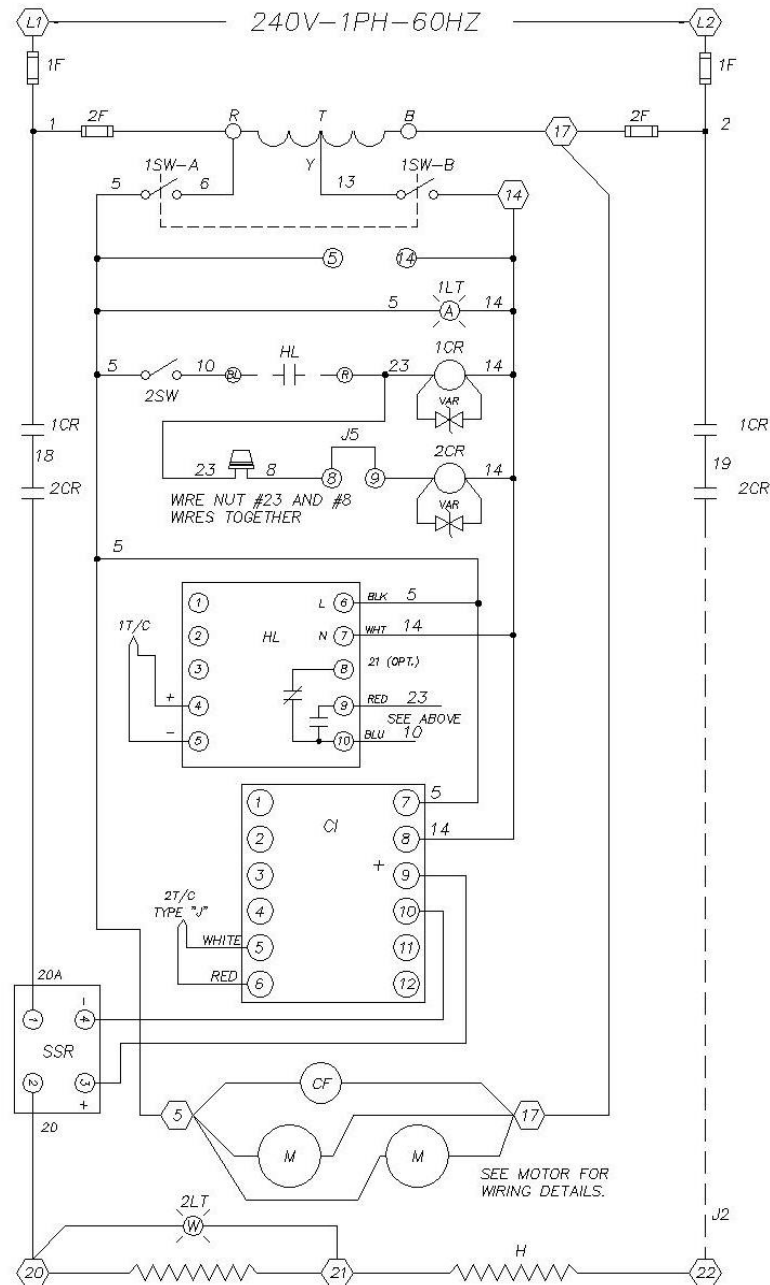
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**FIGURE #1**  
**Typical Elliwell Replacement Schematic**  
**120V-1PH-60HZ**



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**FIGURE #2**  
**Typical Elliwell Replacement Schematic**  
**240V-1PH-60HZ**



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### Testing the Control Panel:

Step 14 Turn the power switch on and heater switches on.

**WARNING:** Stand clear of unit while reconnect the power.

**DO NOT ATTEMPT TO OPERATE THE UNIT AT THIS TIME.**

Step 15 Continue to the next step, if the Power and Heater lights and the controller display comes ON when the power is restored and there are no other problems.

### Final Assembly:

Step 16 Disconnect the power from the unit. Replace the control panel back into the normal position and reinstall the existing screws.

Step 17 Reconnect the power to the unit. The unit is ready for operation.

**NOTE** If your equipment has any other options (i.e. Recorder), you must either run the power from an external source or install a larger transformer. Please consult, DESPATCH CUSTOMER SERVICE (1-800-473-7373) for more details.

### Control Programming:

Step 18 Follow the programming instruction that came in the box with the control to enter or verify the following settings.

Press and hold the Scroll button for 5 seconds until SEt is displayed to access the Setup parameters. Press the scroll button once to step through the setup parameters in the table below. Press the up or down arrow to change the setting. Press the scroll button once to enter the setting. Press the R button to exit the setup parameters.

### Setup parameters:

Note: Codes not shown in this list are not used or should be left at factory setting.

Code	Parameter Description	Setting
LOCK	Select Parameters to be locked	nonE - during setup uSEr – after setup complete
INPT	Input sensor selection	J_tC
UNIT	Input unit selection	°C or °F
DP	Decimal point selection	No.dP
SP1L	Low limit of setpoint value	0 for °C, 32 for °F
SP1H	High limit of the setpoint value	Max operating temp of the oven.
SHIF	PV shift (offset) value	Used for oven calibration

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FILT	Filter damping time constant of PV	2
PB	Proportional band value	4°C or 7°F
Ti	Integral time value	15 sec
TD	Derivative time value	0
OUT1	Output 1 Function	rEvR
Code	Parameter Description	Setting
O1TY	Output 1 type	SSrd
O1FT	Output 1 failure transfer mode	0
CYC1	Output 1 cycle time	1
OFST	Offset value for P control	0
RAMP	Ramp function selection	nonE
	Several setting that are unused	
SEL1	Select 1 <sup>st</sup> parameter for user menu	nonE
SEL2	Select 2nd parameter for user menu	nonE
SEL3	Select 3rd parameter for user menu	nonE
SEL4	Select 4th parameter for user menu	nonE
SEL5	Select 5th parameter for user menu	nonE
SEL6	Select 6th parameter for user menu	nonE
SEL7	Select 7th parameter for user menu	nonE
SEL8	Select 8 <sup>th</sup> parameter for user menu	nonE

Press the R button to exit the setup parameters

Step 19

Change the LOCK Code to uSEr

Step 20

Change the setpoint as needed using the up and down arrow keys.