

# E7204, E7208 and E7211 Forced Convection Ovens



**CAUTION:** Read the instructions before using the appliance.

## INSTALLATION and SERVICING INSTRUCTIONS

### IMPORTANT

The installer must ensure that the installation of the appliance is in conformity with these instructions and National Regulations in force at the time of installation. Particular attention **MUST** be paid to –

**BS7671 IEE Wiring Regulations**  
**Electricity at Work Regulations**  
**Health And Safety At Work Act**  
**Fire Precautions Act**

This appliance has been UKCA/CE marked based on compliance with the relevant Electrical and Electromagnetic Compatibility (EMC) Regulations/Directives for the voltages stated on the data plate.

### WARNING -THIS APPLIANCE MUST BE EARTHED

On completion of the installation these instructions should be left with the Engineer-in-Charge for reference during servicing. Further to this, The Users Instructions should be handed over to the User, having had a demonstration of the operation and cleaning of the appliance.

**IT IS MOST IMPORTANT THAT THESE INSTRUCTIONS BE CONSULTED BEFORE INSTALLING AND COMMISSIONING THIS APPLIANCE. FAILURE TO COMPLY WITH THE SPECIFIED PROCEDURES MAY RESULT IN DAMAGE OR THE NEED FOR A SERVICE CALL.**

### PREVENTATIVE MAINTENANCE CONTRACT

To obtain maximum performance from this unit regular servicing of the appliance should be undertaken to ensure correct operation, it is functioning as intended, and safe to use. We recommend servicing in accordance with SFG20 Maintenance Schedules and as a minimum, after 2,500 hours of use, or annually, whichever comes first and that a maintenance contract be arranged with an appointed service contact. Visits may then be made at agreed intervals to carry out adjustments and repairs.



### WEEE Directive Registration No. WEE/DC0059TT/PRO

At end of unit life, dispose of appliance and any replacement parts in a safe manner, via a licensed waste handler.

Units are designed to be dismantled easily and recycling of all material is encouraged whenever practicable.

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**T100683 Ref.11**

# IMPORTANT INFORMATION

## ELECTRICAL SAFETY AND ADVICE REGARDING SUPPLEMENTARY ELECTRICAL PROTECTION

Commercial kitchens and foodservice areas are environments where electrical appliances may be located close to liquids, or operate in and around damp conditions or where restricted movement for installation and service is evident.

The installation and periodic inspection of the appliance should only be undertaken by a qualified, skilled and competent electrician; and connected to the correct power supply suitable for the load as stipulated by the appliance data label.

The electrical installation and connections should meet the necessary requirements to the local electrical wiring regulations and any electrical safety guidelines.

### **We recommend:-**

- Supplementary electrical protection with the use of a type A residual current device (RCD)
- Fixed wiring appliances incorporate a locally situated switch disconnector to connect to, which is easily accessible for switching off and safe isolation purposes. The switch disconnector must meet the specification requirements of IEC 60947.

### **Your attention is drawn to:-**

#### **BS 7671:2018—Guidance Note 8 - 8.13 : Other locations of increased risk**

It is recognized that there may be locations of increased risk of electric shock other than those specifically addressed in Part 7 of BS 7671. Examples of such locations could include laundries where there are washing and drying machines in close proximity and water is present, and commercial kitchens with stainless steel units, where once again, water is present.

Where because of the perception of additional risks being likely, the installation designer decides that an installation or location warrants further protective measures, the options available include:

- Automatic Disconnection of Supply (ADS) by means of a residual current device having a residual operating current not exceeding 30mA;
- Supplementary protective equipotential bonding; and
- Reduction of maximum fault clearance time.

The provision of RCDs and supplementary bonding must be specified by the host organization's appointed installation designer or electrical contractor and installed by a suitably qualified and competent electrician so as to comply with Regulations 419.2 and 544.2

# SECTION 1 – INSTALLATION



**UNLESS OTHERWISE STATED, PARTS WHICH HAVE BEEN PROTECTED BY THE MANUFACTURER ARE NOT TO BE ADJUSTED BY THE INSTALLER**

## 1.1 MODEL NUMBER, NETT WEIGHTS and DIMENSIONS

MODEL	WIDTH mm	DEPTH mm	HEIGHT mm	WEIGHT kg
E7204	860	1015	1470	170
E7208	1000	1070	1525	220
E7208/2	1000	1070	1910	420
E7211	1000	1070	1525	270
E7211 Trolley	820	740	910	32
E7211 Rack	680	560	830	37

## 1.2 SITING

The oven must be situated on a reasonably level surface. The unit feet are adjustable to facilitate levelling however, the adjustment range is limited.

Installation must be executed in accordance with local and/or national regulations listed on the cover of this manual. A competent installer must be employed.



### 1.2.1 Installing Clearances

A clearance of at least 150mm must be allowed from any combustible wall. Clearance must also be allowed at the rear from any non-combustible wall to let cooling air into the rear fan.

If practicable, it is recommended that a clearance of at least 400mm be allowed from any side wall. This will provide access for adjustment of the rear levelling bolts and to effect removal of the RH side panel to facilitate servicing. If the unit is being installed as part of a suite, it is further recommended that it be positioned at the RH end to provide unrestricted access for servicing of controls etc.

If the unit is to be installed in a suite, either centrally or adjacent to a wall with a 'boxed in' void at the rear, it is important that the void be adequately ventilated. This will ensure a supply of air to the motor cooling fan at the rear of the oven.

## 1.3 ELECTRICAL SUPPLY

This unit is suitable for AC supplies only. The standard terminal arrangement is for 3 phase, 4 wire connection, but by linking the 3 line terminals, the unit can be connected to a single phase supply.

The cable entry is at the bottom RH rear of the unit via a 32mm dia conduit. Access to the terminals is gained by removing the RH side panel.

A suitably rated isolating switch with a minimum 3mm contact separation in all poles must be installed and the wiring executed in accordance with the relevant regulations listed on the front cover of this manual.



### Warning

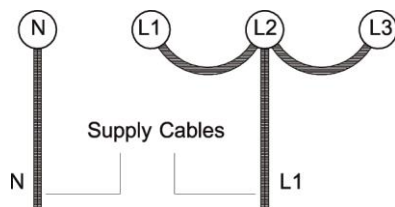
The appliance must be earthed. (An earth terminal is provided).

The appliance is also provided with a terminal for the connection of an external equipotential conductor. This terminal is in effective electrical contact with all fixed exposed metal parts of the appliance, and shall allow the connection of a conductor having a nominal cross-sectional area of up to 10 mm<sup>2</sup>. It is located on the rear panel and is identified by the following label and must only be used for bonding purposes.



### Note

When connecting to a single phase supply, the three line terminals must be connected together using the wire links provided. It is important that the links and incoming supply cable are connected exactly as shown in the following diagram.



## 1.4 ELECTRICAL RATING

The electrical loadings are as stated below.

Model	L1	L2	L3
E7204 Convection Oven	14.3A	13.0A	19.6A
E7208 Convection Oven	15.5A	13.9A	27.7A
E7211 Convection Oven	29.3A	27.7A	33.6A

## 1.5 FAN UNIT

This is a unit specially developed for use in forced convection ovens. It has two fans directly mounted on the motor shaft. The larger fan is inside the oven, the purpose being to circulate air around the cooking space whilst the smaller externally mounted fan serves to cool the motor.

## 1.6 INSTRUCTION TO USER

Hand the USER'S INSTRUCTIONS to the user or purchaser and ensure that the instructions for the correct use and cleaning are properly understood.

The location of the electrical supply switch should be made known to the user for use in an emergency or during cleaning.

## SECTION 2 - ASSEMBLY and COMMISSIONING



### Warning

Due to the appliance weight (see Section 1.1), it is recommended that when lifted manually, that it be supported by 4 people (one at each corner).

### Important

Care must be taken when lifting heavy loads and ensure that correct lifting techniques are employed. For reference see the HSE publication, Manual Handling of Loads Regulations.

## 2.1 ASSEMBLY

### 2.1.1 Oven without Stand

- Unpack unit and remove all loose components from oven compartment.
- Manoeuvre oven to required position and level using the adjustable feet. Also, refer to Section 2.1.3 if applicable.
- Connect electricity supply.
- Insert the shelves within the oven.

#### Note

Feet can be secured to floor using holes provided.

### 2.1.2 Oven with Stand

- Unpack unit and stand. Remove all loose components from oven compartment.
- Ensure the leg securing bolts are turned fully back.
- Lift oven on to stand. If a stand is fitted with castors, these should be locked.
- Tighten leg stand securing bolts.
- Manoeuvre unit into position.
- For stand on castors, fit securing chain to prevent straining the electrical cable.
- For fixed stand, level using the adjustable feet. Also, refer to Section 2.1.3 if applicable.

#### Note

Feet can be secured to floor using holes provided.

### 2.1.3 Oven with Trolley

- Unpack oven, trolley and rack assembly as detailed in Section 2.1.2, items a) to d).
- Manoeuvre unit into required location and level by turning adjustable feet as required. Feet should also be used to line up unit base with trolley tray.
- Connect to electricity supply.

#### Note

Feet can be fixed to floor using holes provided in feet.

## 2.2 COMMISSIONING THE APPLIANCE

These units have two mode switches.

For controls refer to users instruction fig 1

**Fan Mode Switch:** Heat up/cool down.

In the heat-up mode, the required **Cook Mode** must be selected: Cook only/Cook & Hold.

The ovens are fitted with a bi-directional fan controlled by a PLC (programmable logic controller). The fan timings are:

For heat-up mode (door closed):

Operation	Duration (seconds)
OFF (start up)	12

then repeat loop:

Anti-clockwise	120
OFF	12

Clockwise	120
OFF	12

For cool down mode (door open):

OFF (start up)	5
Anti-clockwise	continuous

The on/off knob is fitted on thermostat spindle.  
Turn knob clockwise to switch fan and elements on.  
Turn knob fully anti-clockwise to switch off.

### 2.2.1 Basic Checks

- Ensure all packing material has been removed. If unit is fitted with shelf runners, ensure oven grid shelves slide in and out properly.
- Switch on main supply, red neon should light.
- With doors open and switch set to Cool Down, turn thermostat knob clockwise to switch fan on.
- Check fan rotates anti-clockwise.

#### E7204/E7208 models only

- Push oven light switch to observe oven light(s) operate.

### 2.2.2 System Operational Checks

#### Select Cook Only Mode (Timer set to 'MAN')

- Set thermostat to 200°C. Heat Required neon (Amber) should illuminate.
- Allow oven to heat up. Amber neon will go out when desired temperature is reached. Check that centre oven temperature corresponds to setting. The temperature will cycle around set point and the thermostat will switch the elements on and off to maintain setting.
- Check fan stops when doors are opened, this should also cut power to elements. Amber neon will stay lit if temperature is below desired setting.
- Check fan rotates with doors open or closed when the fan switch is pressed to cool down mode.
- Return to heat-up mode to check timer operation. This should switch off the elements and sound a buzzer at the end of a pre-set time interval. Turn timer knob to 'MAN' setting and observe that cook thermostat is activated and buzzer stops.

#### Select the Cook & Hold Mode (Mode switch neon should illuminate).

- Check timer operates as required. Cook thermostat should operate until timer zeros. When this occurs, operation should switch to Hold thermostat.
- With oven remaining in this mode, check centre oven temperature settles to 80°C. (+/- 5°C).

# SECTION 3 – SERVICING & MAINTENANCE

## SERVICE INFORMATION

This unit carries an extensive mainland UK warranty. The warranty is in addition to and does not change your statutory or legal rights.

The warranty policy can be found on our website which details the conditions of the warranty and the exclusions.

<https://www.falconfoodservice.com/info-centre/policy>



Service calls to equipment under warranty will be carried out in accordance with the conditions of sale.

Warranty calls can be made between 8:30 am and 5:00 pm weekdays only.

To ensure your warranty enquiry is handled as efficiently as possible, ensure you have the following appliance information prior to calling us:

1. Model number – found on data plate
2. Serial number – found on data plate
3. Brief description of the issue

To contact Falcon for a warranty issue dial (UK only) 01786 455 200 and select Warranty Issues from the menu.



### **Warning**

**BEFORE CARRYING OUT ANY MAINTENANCE ON THIS APPLIANCE ENSURE THE UNIT ELECTRICITY SUPPLY IS ISOLATED.**

Controls are removed as follows:



### **MAINTENANCE CHECK**

Regular servicing of the appliance should be undertaken to ensure correct operation, it is functioning as intended, and safe to use. We recommend servicing after 2,500 hours of use, or annually, whichever comes first.

Any maintenance schedule should be carried out in accordance with SFG20 Maintenance Schedule. Should any issues with the integrity of the components be identified these should be replaced. If the appliance is not considered safe the unit should be removed from service and the responsible person advised why the unit is not safe to use and what remedial action is needed. Contents of the maintenance schedule should be agreed with the maintenance provider.

### **Controls are removed as follows:**

NOTE: When replacing wiring connections, refer to wiring diagram contained in this manual from which it can be seen that all wires are numbered.

#### **3.1 CONTROL PANEL**

- a) Undo fixings at top of panel.
- b) Pull hinged panel forward.

#### **3.2 RH SIDE PANEL**

- a) Open control panel.
- b) Undo front edge fixings.
- c) Pull panel sideways at front and push back to clear rear catches.

#### **3.3 LH SIDE PANEL**

- a) Open oven doors.
- b) Undo front edge fixings.
- c) Pull panel sideways at front and push back to clear rear catches.

#### **3.4 OUTER BACK PANEL**

Undo fixings along perimeter and remove panel.

#### **3.5 LOWER FRONT COVER PANEL**

- a) Undo fixings along lower edge.
- b) Open oven doors and undo fixings along top.
- c) Pull panel off.

#### **3.6 DIN RAIL MOUNTED RELAYS**

- a) Remove RH side panel as detailed in Section 3.2.
- b) Remove electrical terminals.
- c) Pull relay away from base to replace it.
- d) To replace relay base, unclip from din rail by levering lower edge catch downward.
- e) Replace in reverse order.

#### **3.7 PLC, CONTACTORS and CONNECTOR BLOCKS**

- a) Remove side panel.
- b) Remove electrical connections, noting positions.
- c) Unclip component by levering lower edge catch downward.
- d) Replace in reverse order.

#### **3.8 COOK THERMOSTAT**

- a) Open control panel as detailed in Section 3.1.
- b) Disconnect electrical leads.
- c) Remove knob and undo fixings which secure thermostat to panel.
- d) Undo capillary tube securing clip fixing.
- e) Undo phial and bracket fixings from inside oven chamber.
- f) Ease phial through hole in oven side panel.
- g) Replace in reverse order.

#### **3.9 HOLD THERMOSTAT**

- a) Remove side panel as detailed in Section 3.2.
- b) It is possible to adjust hold thermostat temperature between 75 and 85°C by means of the spindle.
- c) Disconnect electrical leads.
- d) Undo fixings which secure thermostat to inner control panel.



### **3.10 TIMER**

- a) Open control panel as detailed in Section 3.1.
- b) Remove knob and undo fixings securing timer to panel.
- c) Disconnect electrical leads.
- d) Replace in reverse order.

### **3.11 BUZZER, INPUT MAINS FILTER and START/RUN RELAY**

- a) Remove side panel as detailed in Section 3.2.
- b) Disconnect electrical leads.
- c) Remove fixing which secures component to inner control panel.
- d) Replace in reverse order.

### **3.12 INDICATOR LAMPS and SWITCHES**

- a) Open control panel as detailed in Section 3.1.
- b) Disconnect leads from part being replaced.
- c) Push component from location.
- d) Replace in reverse order.

### **3.13 DOOR SWITCH**

- a) Remove bottom front panel. (See Section 3.5)
- b) Undo fixings to remove switch from support bracket.
- c) Disconnect electrical leads.
- d) Replace in reverse order.

### **3.14 MOTOR UNIT**

Remove unit from inside compartment as follows:

- a) Remove shelves and hangers.
- b) Remove fixings and withdraw fan baffle.
- c) Remove fixing bolt from shaft.
- d) Using a taper puller, remove fan impellor.
- e) Remove fixings which secure motor to oven rear panel. Pull unit forward and rest upon oven base.
- f) Remove motor terminal wires, noting locations and withdraw assembly from chamber.
- g) Remove motor by undoing fixings (one per leg in 'spider' mounting).
- h) Fit replacement motor in reverse order.

#### **Note**

Oven baffle is not symmetrical, fixings have been offset to ensure correct relocation.

### **3.15 OVEN LAMPS**

To Replace Bulb

- a) Undo lens cover fixings.
- b) Undo bulb and replace.
- c) Refit lens cover and ensure seal is not damaged.

To Replace Assembly

- a) Remove LH outer side panel. (See Section 3.3)
  - b) Disconnect electrical connections.
  - c) Undo lens cover fixings.
  - d) Unclip housing from aperture.
- Replace in reverse order.

### **3.16 CAPACITOR**

- a) Remove side panel.
- b) Disconnect two capacitor leads at terminal block.
- c) Undo fixing on capacitor base and remove unit.
- d) Replace in reverse order.

### **3.17 ELEMENTS**

- a) Remove oven shelves and hangers.
- b) Remove fixings and withdraw fan baffle.
- c) Remove element plate and spacer bracket fixings. Pull elements forward until all terminals are inside oven. This will also bring oven safety thermostat mounting plate forward.
- d) Remove terminals taking care that wire end remains inside oven.
- e) Remove element fixing screws.
- f) Replace in reverse order. Take care to ensure that safety thermostat bracket is correctly positioned.

**Note:** Oven baffle is not symmetrical, fixings have been offset to ensure correct relocation.

### **3.18 OVEN SAFETY THERMOSTAT**

- a) Safety thermostat can be reset by means of a thin tool under control compartment on Right Hand side Section 3.1 & 3.2 above.
- b) Press inset button on safety thermostat with thin tool to reset.

#### **Warning**

If safety thermostat has been activated and requires to be reset, this could be an indication that additional parts are faulty.

- c) To remove safety thermostat, access can be gained by removing side panel as detailed in Section 3.1 & 3.2 above, disconnect electrical leads and undo safety stat fixing nut under base.
- d) Replace in reverse order.

### **3.19 OVEN DOOR SEAL REPLACEMENT**

Seal is fitted to front frame using countersunk screws.

When fitting new seal, place metal strip in position, pierce holes in seal and secure to holes in front frame.

### **3.20 DOOR REMOVAL**

- a) Remove bottom front panel. (See Section 3.5)
- b) Open doors through 90 degrees and remove fixings which secure door to bottom door bracket.
- c) Lift door up slightly, ease sideways to clear bottom bracket and withdraw from top hinge pin.

### **3.21 DOOR LINKAGE SPROCKET**

- a) Remove door. (See Section 3.20)
- b) Slacken turnbuckles to allow chain to be slipped from sprocket.
- c) Push out roll pin which holds sprocket upon lower hinge pin. Push out roll pin holding door switch cam if RH sprocket is being removed.
- d) Pull up lower hinge pin and remove sprocket.
- e) Replace in reverse order. Refer to door linkage adjustment section for alignment and tensioning of components.

### **3.22 DOOR LINKAGE CHAIN and ROD**

- a) Remove bottom front panel. (See Section 3.5)
- b) Slacken turnbuckle to remove tension from chains.
- c) Remove spring clip from link which joins chain to turnbuckle. Push out joining link and withdraw chain rod assembly.
- d) Replace in reverse order, referring to door linkage adjustment section, door linkage alignment section and Figures 2 and 3.

### **3.23 DOOR LINKAGE ADJUSTMENT and TENSIONING**

Due to operational stretching of components or removal for maintenance, occasions will arise when the door linkage mechanism will require adjustment.

### The method to use is as follows:-

Push door handle until RH door makes contact with seal. The LH door should now be 12 to 15mm proud of the RH door at vertical join. (see Figure 2) If LH door is less than this dimension, slacken both turnbuckle locknuts and rotate LH turnbuckle toward chain and the right turnbuckle away from chain by the same amount.

Repeat procedure until desired dimension is achieved. If LH door is greater than desired setting then above procedure should be carried out in reverse.

After doors are synchronised, the linkage should be put under tension by slightly twisting the turnbuckles toward one other by the same small amount.

The tension should be such that no free play is available between chains and their sprockets.

Figure 2

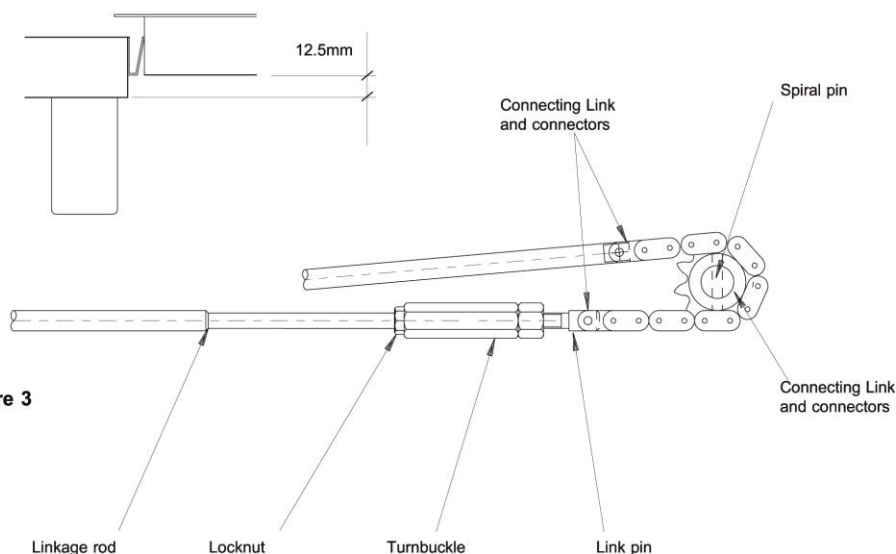


Figure 3

### 3.24 DOOR LINKAGE ALIGNMENT

When linkage components have been disturbed during repair, the initial coarse assembly, alignment will be achieved by positioning the chains on their sprockets as indicated in Figure 3. Doors should be in the closed position when carrying out this task.

### 3.25 DOOR CATCH MECHANISM

- Open doors and remove front and rear fixings which secure top panel. Withdraw top panel by lifting at rear to clear flue outlet cover and slide it forward. Twist rear slightly to one side to clear locating angles at top panel front sides.
- Unhook spring and remove nut and split pins from top of toggle plate pins.
- Replace new component(s). Take care to re-assemble in correct order.
- Replace top panel.

### 3.26 DOOR WINDOW (E7204 &#38; E7208 ONLY)

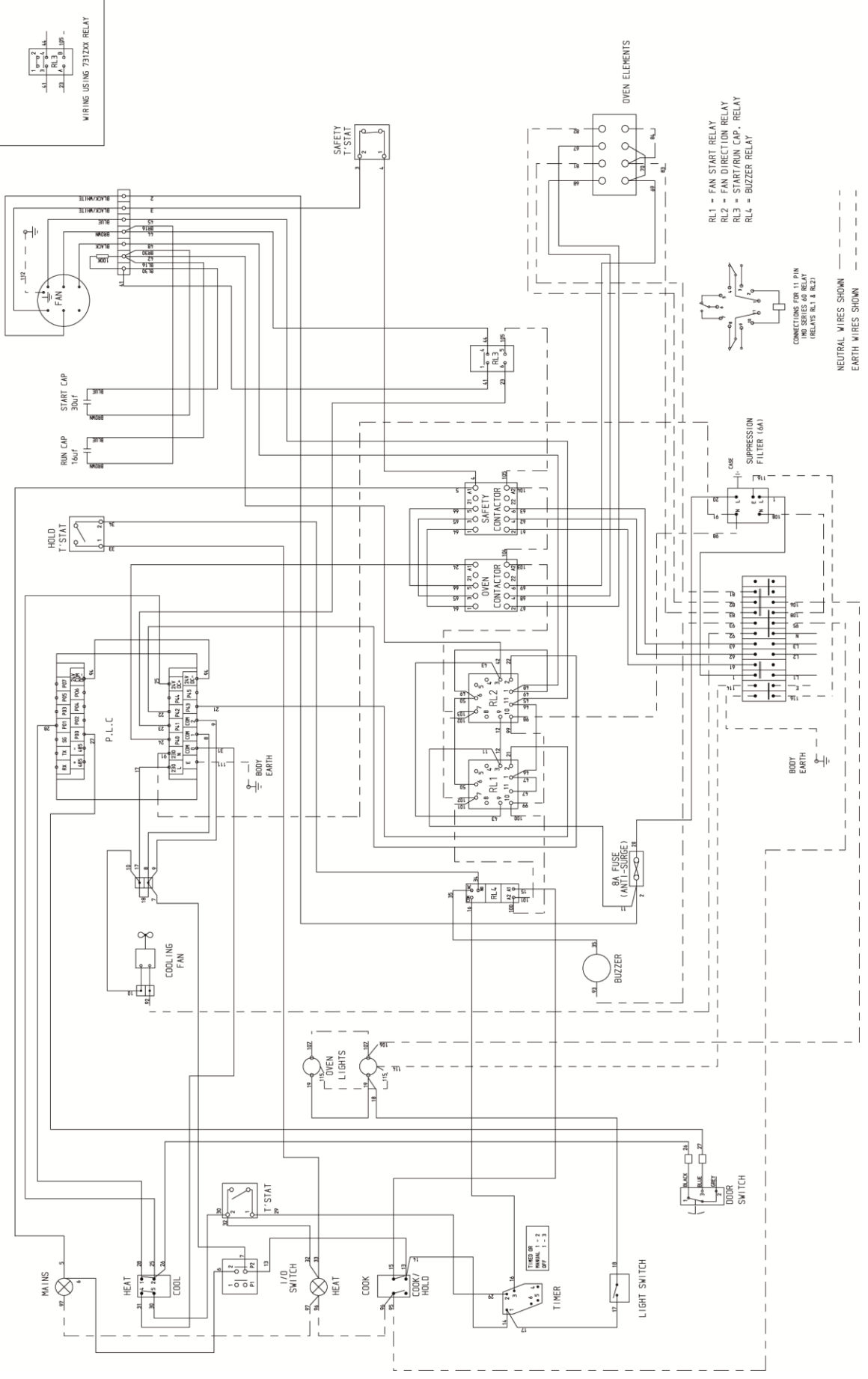
- Remove door as described in Section 3.20.
- Remove all top and bottom door flange fixings plus those that secure sealing strip to side flange.
- Lay door down on outer surface and prise out inner lining. Window assembly may now be removed.
- When only replacing one single glass panel, dismantle frame by removing all fixings around window assembly periphery.
- Replace glass and sealing strip if necessary. Carefully re-assemble window structure.
- Re-fit all door components in reverse order.

## SECTION 4 – SPARES

When ordering spares, please quote Model number, serial number and voltage as stated on data plate.

Element Outer	732920019
Element Inner	732920018
Terminal Block White Nylon	531740420
Thermostat Cook	731910500
Thermostat Hold	732920055
Thermostat Oven Safety Klixon	535420015
Thermostat Oven Safety EGO	732920130
Buzzer White	535500035
Buzzer Black	734510130
Cooling Fan	735400360
Door Seal E7204	531930526
Door Seal E7208	532930043
Door Seal E7211	531940099
Neon Red	730962010
Neon Amber	730962040
Cool/Heat Switch	732920047
Cook/Hold Switch	732920051
Fan Switch	732910481
Timer c/w Knob	732910495
Oven Light Switch	535500037
Control Knob	732920048
Oven Fan	732920008
Fuse 8A	732920068
P.L.C Controller	732920059
Contactactor MC22B	731350070
Relay-Fan	732920062
Relay Single Pole	535770128
Realy Start/Run	732920066
Terminal Block Assembly	732920069
Filter Suppression	732920096
Microswitch Door	531925260
Oven Lamp Assy	732910390
Oven Lamp	732910350

# E7204/E7208 CONVECTION OVENS WIRING DIAGRAM CW38395



# E7211 CONVECTION OVEN WIRING DIAGRAM CW38924

