

E3913i / E3914i Induction Ranges



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
Health and Safety At Work Act

Electricity at Work Regulations
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

BEFORE ATTEMPTING ANY MAINTENANCE, ISOLATE THE APPLIANCE AT THE MAINS ISOLATING SWITCH AND TAKE STEPS TO ENSURE THAT IT CANNOT BE INADVERTENTLY SWITCHED ON.

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 & NEED FOR A SERVICE CALL.

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

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.

Falcon Foodservice Equipment

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T100844 Ref.12

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 WEIGHT and DIMENSIONS

Model	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)
E3913i Range	900	820	890	140
E3914i Range	900	820	890	140

1.2 SITING

The appliance should be installed in a well-lit position on a firm, level, non-combustable floor. Where unit is to be positioned in close proximity to a wall, partition, kitchen furniture, decorative finishes, etc., it is recommended that these be constructed of a non-combustible material.

If this is not possible they should be clad in a suitable non-combustible, heat-insulating material. Close attention should be paid to fire regulations.

1.3 ELECTRICAL SUPPLY

The unit is suitable for AC supplies only. Standard terminal arrangement is a **3 phase / Neutral 5 wire connection (400V 3N~)**



WARNING – THIS APPLIANCE MUST BE EARTHED

Phase 1	BROWN
Phase 2	BLACK
Phase 3	GREY
Neutral	BLUE
Earth	YELLOW/GREEN

1.4 SUPPLY CONNECTION

The unit must be installed using a mains input connecting cable of at least 6mm², type HO7RN-F, conforming to code designation 60245 IEC 57.

A suitably rated isolating switch with contact separation of at least 3mm in all poles must be installed and wiring executed in accordance with relevant regulations.

Access to terminal block is gained by removing an access panel close to cable entry gland on rear panel.

1.5 ELECTRICAL RATINGS

Electrical loading is as stated on appliance data plate.

E3913i Range

E3914i Range

Line	L1	L2	L3	Line	L1	L2	L3
Current	29A	29A	29A	Current	38A	38A	38A
Cooking Zone	3.5kW (x4)			Cooking Zone	5.0kW (x4)		
Oven	6kW			Oven	6kW		
Total Rating	20kW			Total Rating	26kW		

After installation, the engineer should check satisfactory operation and demonstrate method of use to kitchen staff.

Location of mains isolating switch should be identified for use in the event of an emergency or during cleaning.

This appliance is also provided with a terminal for 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 normal cross-sectional area of up to 10mm². It is located on the rear panel and is identified by the following symbol and must only be used for bonding purposes.



SECTION 2 - ASSEMBLY and COMMISSIONING

NOTE: Users MUST be made aware that individuals fitted with a pacemaker should consult their doctor if in close proximity to this unit. This induction unit emanates an 18 - 25Khz output that may affect older types of pacemaker.

Users MUST also be aware that individuals fitted with an insulin pump should consult their insulin pump manufacturer and doctor if in a close proximity to this unit. This induction unit emanates an 18 KHz to 25 KHz output that may affect some types of insulin pumps.

2.1 ASSEMBLY

- a) Unpack and level appliance
- b) Ensure fan intake filter is fitted and secured in position below RH front panel.

2.2 CONNECTION TO AN ELECTRICAL SUPPLY

Connect as detailed in Sections 1.3 and 1.4.

2.3 STARTING UP

- a) Switch all four cooking zones on to Position 10.
- b) Ensure all four LEDs light and begin to flash.
- c) Place suitable pan (*filled with water*) upon a zone. (*Pan bases should be constructed of a ferrous material and not less than Ø120mm*)
- d) Ensure zone LED stops flashing and remains lit.
- e) Remove pan from zone. LED should begin to flash. This indicates the “*pan detection*” feature is working.
- f) Repeat on all four cooking zones.
- g) Leave pots to heat until water boils and switch controls to maintain simmer.
- i) Switch control **OFF**.
- j) Switch oven ON and ensure both fans are running.
- k) Push oven light switch and hold. Ensure both lamps operate correctly.

2.4 INSTRUCTION TO USER

After installation and commissioning is completed, please hand these instructions to user and ensure that the person(s) responsible understand the instructions regarding correct operation and cleaning of the appliance.

Particular emphasis should be given to:

- Regular cleaning of air filter
- Suitable pan type
- Keeping cooking zones free from all objects, particularly metal utensils, at all times.

The user must also be made aware of potential to heat jewellery and disrupt electronic equipment placed over the magnetic field of the induction zones.

SECTION 3 - SERVICING, MAINTENANCE AND CONVERSION

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.



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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.

Tools required:

- A. 7mm spanner or socket
- B. 8mm spanner or socket
- C. Adjustable spanner
- D. Pozidriv screwdriver (#2)
- E. 5mm flat blade screwdriver

3.1 CONTROL PANEL (Refer to Figure 1)

Remove louvred front panel by undoing two top fixings. Slide panel up and forward.
Remove control panel fixings from below top and lower facings.
Pull panel forward slightly from below.

3.2 MAINS ACCESS PANEL (AT REAR)

Ensure mains electricity is switched off.
Remove fixings that secure access panel to lower corner of rear panel. Replace in reverse order.

3.3 ACCESS PANEL TO GENERATOR, GENERATOR, MCB, RELAY'S and FUSE

Remove two fixings from top of louvred front panel. Gently slide panel up and ease forward.
Undo fixings securing lower front bracket and remove bracket
Release M8 bolt located right / centre of generator mounting panel.
Carefully slide panel forward to access generator, MCB, relays and fuse. Replace in reverse order.

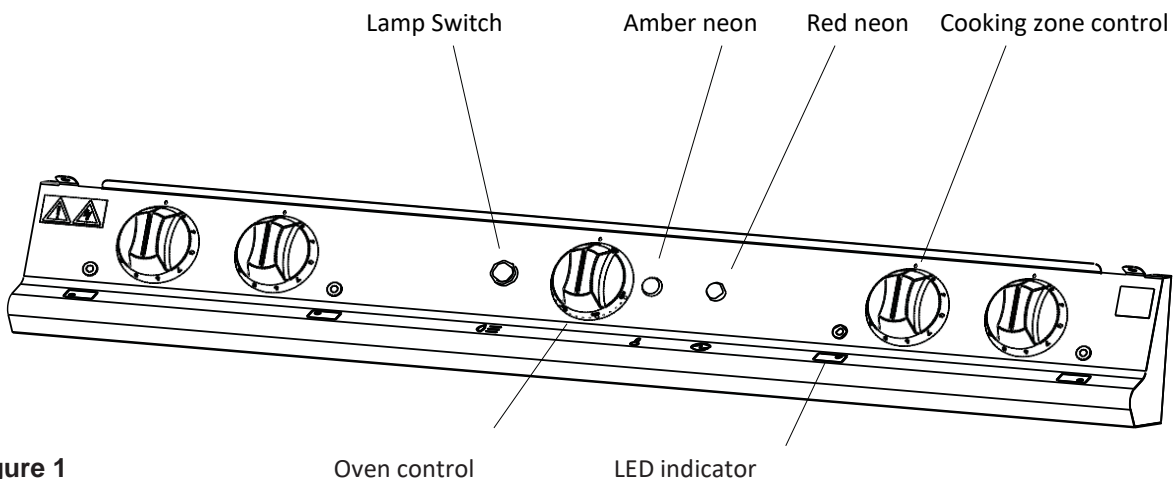


Figure 1

3.4 LED INDICATORS

Remove control panel as detailed in Section 3.1.

Note: Indicators are polarity driven. Green cable (-) connects to spade terminal above LED body flat side.
(Refer to Figure 2)

Remove two wires connected to LED and also nut and washer. Replace in reverse order.

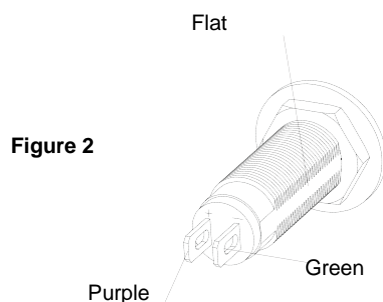


Figure 2

3.5 CONTROL SWITCH REPLACEMENT

Remove control knob and control panel as detailed in Section 3.1.
Remove associated LED as detailed in Section 3.4. Remove fixings that secure control to panel.
Remove louvred front panel as detailed in Section 3.3.
Identify wires relating to switch and LED from generator unit.
Disconnect associated plugs and remove wires. Replace switch and re-assemble in reverse order. Ensure wires are routed and secured.

3.6 CERAN-GLASS HOB ASSEMBLY Warning



DO NOT USE THIS UNIT IF CERAN-GLASS IS CHIPPED, CRACKED OR BROKEN. THE TOP MUST BE REPLACED!

Remove louvred panel and control panel as detailed in Section 3.1.

Remove fixings that secure hob to front support rail. Remove fixings that secure hob to rear panel.

IT IS RECOMMENDED THAT TWO PERSONS CARRY OUT THE FOLLOWING STEP.

Carefully lift and remove top frame/ceran-glass plate assembly and lay it upon a flat surface.

If replacing hob in the event of glass damage, ensure any glass debris is cleared away from induction coils and from inside of unit.

Ensure that no coil spacers have been removed or disturbed when removing glass panel. If this occurs, then these must be restored to their respective locations.

Replace in reverse order.

IT IS RECOMMENDED THAT TWO PERSONS CARRY OUT THE FOLLOWING STEP.

Carefully lift and remove top frame/ceran-glass plate assembly and lay it upon a flat surface.

If replacing hob in the event of glass damage, ensure any glass debris is cleared away from induction coils and from inside of unit.

Ensure that no coil spacers have been removed or disturbed when removing glass panel. If this occurs, then these must be restored to their respective locations.

Replace in reverse order.

3.7 INDUCTION COIL ASSEMBLY

Remove control panel as detailed in Section 3.1.

Remove ceran-glass hob assembly as detailed in Section 3.6.

Release 4 fixings from sides of appropriate aluminium coil carrier plate as detailed in Figure 3.

Tilt coil carrier to access terminal blocks below coils.

Release short cables (*red*) that run from coil to terminal block.

Release 4 fixings from coil corners. Retain springs and screws (*4 off each*).

Carefully remove coil while easing red cables through rubber grommet.

Remove coil and replace in reverse order.



Warning

When replacing coils, ensure glass spacer pads on top surface are properly positioned.

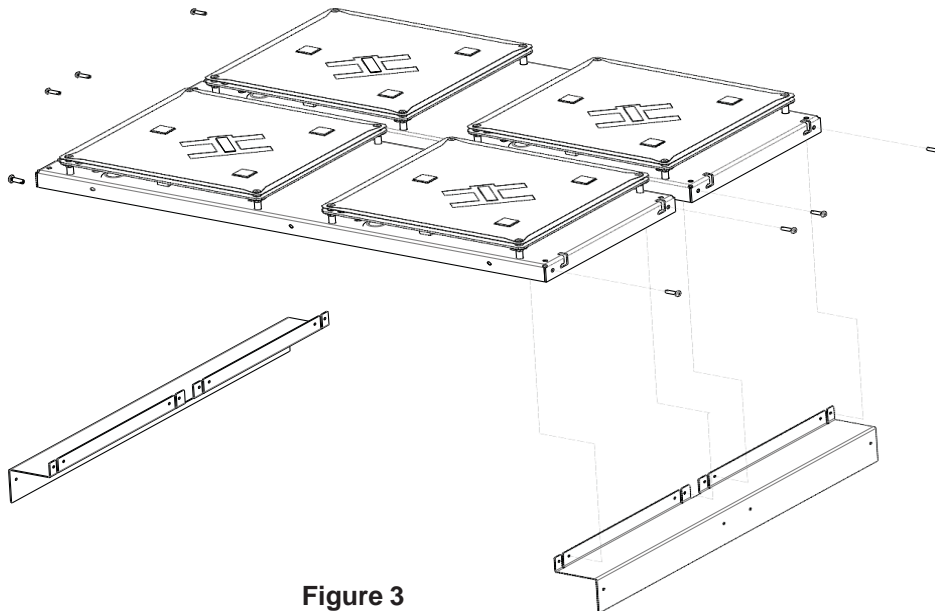


Figure 3

3.8 INDUCTION GENERATOR, RELAYS, MCB, FUSE



THERE ARE NO SERVICEABLE PARTS WITHIN THE GENERATOR BOX. DO NOT ATTEMPT TO GAIN ENTRY TO GENERATOR AS THIS WILL INVALIDATE WARRANTY. AFTER REPLACEMENT, THE FAULTY GENERATOR UNIT MUST BE RETURNED, COMPLETE AND INTACT, TO FALCON FOODSERVICE EQUIPMENT.

Remove louvred front panel to gain access to generator, refer to Section 3.3.

Relays, MCB and fuse are accessible at rear of slide assembly. To remove generator assembly:

Disconnect all wires from top of generator unit, noting their positions.

Disconnect 3 x mains input wires and 1 x earth wire from bottom left of generator unit.



CAUTION! THE GENERATOR UNIT IS HEAVY!

TWO PEOPLE MAY BE REQUIRED TO CARRY OUT THE FOLLOWING STEP.

Carefully remove bolts from either side of generator cradle, working from bottom up.

Support weight of generator base when remaining fixings are removed.

Carefully slide generator out and remove from unit.

Install replacement generator assembly. Replace all parts in reverse order and ensure correct termination and replacement of all connections.

Refer to wiring diagram in Section 5.

Test for pan detection, heating control and LED indication for each cooking zone.

The faulty generator must be returned to Falcon Foodservice Equipment for warranty analysis.

3.9 OVEN ELEMENTS and FANS

Elements/fans can be replaced from inside oven cavity.

- a) Remove shelves and shelf supports.
- b) Release fixings from each corner of element baffle plate. Remove baffle plate.
- c) If replacing an element, remove fixings from element.
- d) If replacing a fan, release and remove fan impellor, Note - centre nut is released counter-clockwise.
- e) Remove fixings from element mounting plate and lower plate to oven base.
- f) Remove wire connections from faulty part and fixings from faulty fan.
- g) Replace in reverse order.

3.10 SAFETY LIMIT DEVICE.

Remove control panel as detailed in section 3.1

Remove louvered generator access panel by removing to fixings from top of panel then gently sliding panel upward and ease forward.

Undo nut holding safety limit device and remove two wires.

Remove oven shelves.

Remove thermostat probe bracket from top rear of oven right hand side.

Remove phial from bracket,

Remove safety limit device.

Replace in reverse order.

3.11 OVEN BULBS

- a) Remove oven shelves and left shelf support.
- b) Release fixings from lamp surround.
- c) Remove lamp surround and glass.
- d) Remove faulty lamp and replace in reverse order, ensuring that glass seal is in place.

3.12 OVEN CONTROL THERMOSTAT

- a) Remove oven control knob and remove fixings.
- b) Remove control panel fixings detailed in Section 3.1.
- c) Remove oven shelves.
- d) Release oven thermostat phial and capillary tube.
- e) From behind control panel, pull capillary tube up through crown plate.
- f) Remove and retain vidaflex sleeving from faulty capillary tube.
- g) Fit vidaflex sleeving on new capillary tube and replace in reverse of above.

SECTION 4 - SPARES

When ordering spare parts, always quote appliance type and serial number.

This information will be found on data badge, attached to rear panel.

Oven safety Thermostat	732910406	Contactors	735820008
Fuse 2A Anti Surge	734243006	MCBA 40A	734250009
Lin switch	734250016	Green Indicator	734250017
Control Knob Induction	734060003	Control Knob Oven	535300004
Red Indicator	730962010	Amber Indicator	730962040
Fan Switch c/w T/stat	731050004	Fan Relay Lower	734060000

SECTION 5 –

INDUCTION TROUBLESHOOTING

If a fault occurs during use, an error code will be displayed in a series of flashes.

These correspond to the numbers in the code column of table on Page 8.

The most common error display is 4 short flashes followed by a single long flash (*temperature too high*). The likely cause of this is a distorted pan base. Check this and discard if utensil base is found to be uneven or not flat.

For example, 6 short flashes followed by an extended flash would indicate **error code 06** (*Generator internal temperature too high*).

Codes are provided to diagnose possible faults and action required to remedy any such condition.

Note: Most faults can be rectified by simply switching unit off for 10 seconds. After this time, turn power back on at mains supply.

Should fault continue to occur after such action, please refer to error code table on Page 8.

5.1 TESTING THE COIL OR COIL SENSOR

Remove louvered generator access panel. Refer to Section 3.3.

Identify appropriate wires, disconnect and test as follows: Use a multimeter on a resistance (Ω) setting.

A correct inductor coil reading will indicate 0Ω .

A correct temperature sensor reading will indicate approximately 985Ω

5.2 LOAD TEST

To check current in each phase of the induction circuit :-

Position a water-filled pan upon each cooking zone and set all cooking zones to Position 10.

Use a clamp meter to measure the following data.

Note: If any current is out with these tolerances, the cause must be investigated and rectified.

5.2.1 E3913i Range - Induction Hob Only

Terminal	/ Actual	/ Max	/ Min
L2	20.3A	21.4A	18.2A
L3	20.3A	21.4A	18.2A
Total	60.9A	64.2A	54.6A

5.2.3 E3913i - With Oven Switched On

Terminal	/ Actual	/ Max	/ Min
L1	29A	30.45A	26.1A
L2	29A	30.45A	26.1A
L3	29A	30.45A	26.1A
Total	87A	91.35A	78.3A

5.2.3 E3914i Range - Induction Hob Only

Terminal	/ Actual	/ Max	/ Min
L2	29A	30.45A	26.1A
L3	29A	30.45A	26.1A
Total	87A	91.35A	78.3A

5.2.4 E3914i - With Oven Switched On

Terminal	/ Actual	/ Max	/ Min
L2	38A	39.9A	34.2A
L3	38A	39.9A	34.2A
Total	114A	119.7A	102.6A

INDUCTION SUPPLY PROTECTION

The induction generator is fitted with a miniature circuit breaker (MCB) as additional protection against over current.

If generator fails to operate, carry out the following check:-

- Isolate power at main switch.
- Remove louvred front panel to gain access to generator, refer to Section 3.3.
- Slide generator assembly forward.
- Find MCB located behind generator.
- Ensure MCB has not tripped during use or whilst in transit during delivery.
- MCB should be at 'ON' Position.
- Switch appliance mains power ON at isolator.
- Ensure appliance powers up and does not trip MCB again.
- Front access panel MUST BE REPLACED.

Should MCB trip again, check integrity of wiring between MCB and generator.

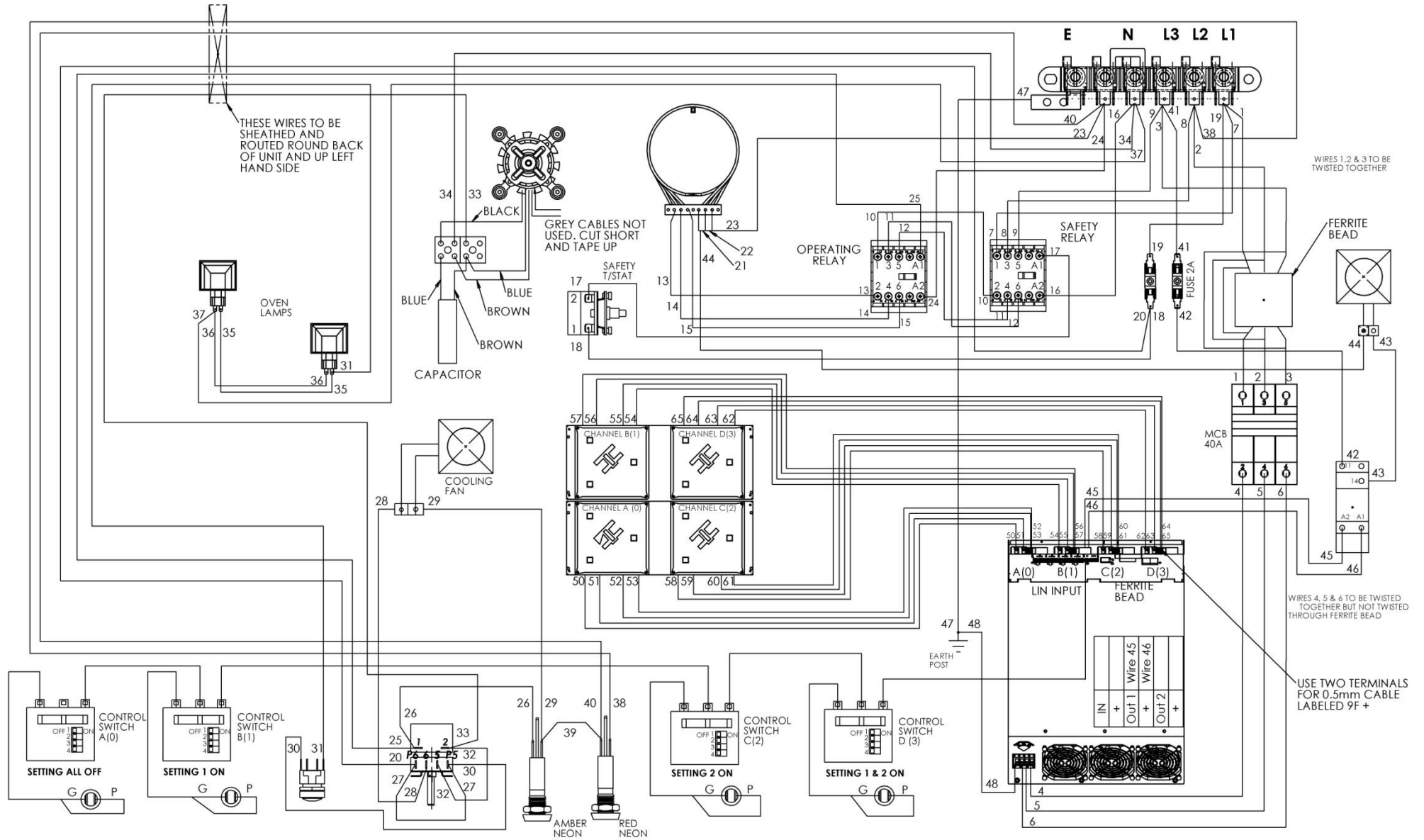
If OK, generator may be faulty and requires to be returned to Falcon Foodservice Equipment.

ERROR CODE TABLE

Code	Error	Cause	Action by user
01	Hardware over coil	Unsuitable pan material Wrong or defective coil	Use suitable pan. Test the coil *.
02	No inductor current	Inductor connection failure	Reconnect induction coil wires to generator. Test the coil *.
03	Heat sink temperature too high	Air routes blocked. Fan filter clogged. Generator temperature sensor defective	Clear air routes. Clean fan air intake filter. Check fan rotation. +If still faulty, replace generator.
04	Cooking zone temperature too high or too low	Pan empty. Distorted pan base. Try pan on another zone and if error occurs again, replace pan. Coil temperature sensor faulty	Remove pan, switch off, allow zone to cool and try again. Test coil sensor *. If faulty, replace coil assembly. Check pan base integrity, replace if necessary.
05	Control unit failure	Control / switch assembly is faulty or wired incorrectly	Check wiring connections on control and generator. Replace control switch assembly.
06	Internal temperature too high	Air routes blocked. Fan filter clogged. Temperature sensor faulty, external heat sources too close	Clear air routes. Clean fan filter. Remove any external heat source. If all OK, replace generator.
07	Cooking zone temperature sensor	Short circuit at temperature sensor	Test coil sensor *. Replace coil assembly.
08	Mains phase failure	Fault in mains supply	Test mains supply.
10	Communication error	Failure in LIN or CAN-Bus No connection between keyboard and generator	Disconnect from mains. Check generator connections. Reconnect and test again.
11	Initialisation error	Failure while initialising hardware	Wait. Generator will reset every 30 seconds. Try disconnecting and reconnecting to mains.
12	Mains current failure	Failure while generator measures mains current	Check mains connections.
13	Mains connection error	Mains voltage too high or too low	Test mains voltage.
14	Mains adaptor error	Mains voltage too high or too low	Test mains voltage.
15	Protective electrical circuit	Pan empty, faulty sensor	Remove pan, switch off and allow cooking zone to cool. Test coil sensor *. Replace coil. Disconnect from mains and reconnect after 2 minutes

* use a multimeter on a resistance (Ω) setting.

SECTION 6 - E3913i / E3914i WIRING DIAGRAM



SECTION 6 - E3913i / E3914i CIRCUIT DIAGRAM

