

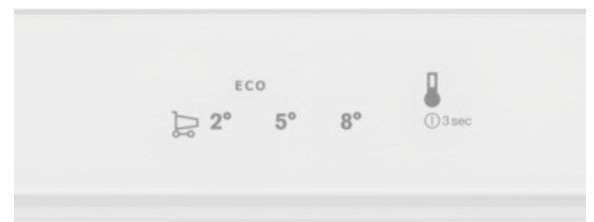


SERVICE MANUAL

Food preservation

COLD APPLIANCES WITH ELECTRONIC
CONTROL SYSTEM

ERF502L



EN

Publication number
599 78 18 84
Edition: 04/2019 - Rev. 00

FOR INTERNAL AND PARTNERS USE ONLY

© ELECTROLUX HOME PRODUCTS
Consumer Service - EMEA
Quality & Continuous Improvement - Technical Support

PURPOSE OF THIS MANUAL

The purpose of this Service Manual is to provide Service Engineers who are already familiar with repair procedures with information regarding the PCB.

The manual deals with the following topics:

- PCB general characteristics
- Disassembly

Document Revisions

Rev.	Date	Description	Author
00	04/2019	Document creation	Anna Grimlund

SAFETY

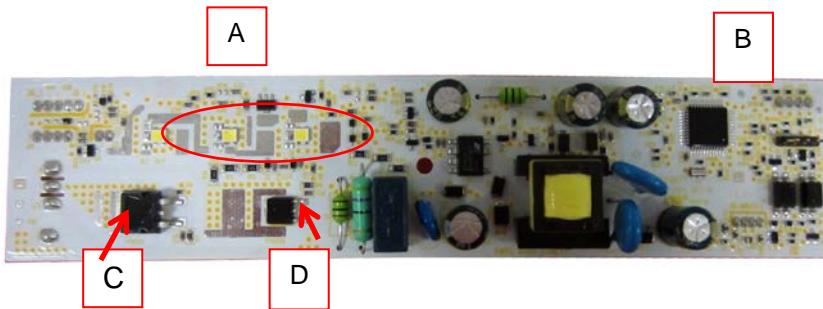


- All the work to be performed inside the appliance requires specific skills and knowledge and may only be carried out by qualified and authorised Service Engineers
- Before you access internal components, take the plug out of the socket to disconnect the power supply.
- Some of the components in the mechanical part could cause injuries, so wear suitable protection and proceed with caution.

ERF502L GENERAL CHARACTERISTICS

The main electronic communicates through a standard protocol based on MACS with insulated user interface via three wires.

Technical specification	
Operating voltage input:	230 Vac
Frequency range:	



- A: 3 LEDs
- B: Processor
- C: Compressor
- D: Heater

AZZURRA USER INTERFACE

The touch key is positioned at the bottom or to the right of the display.

Electrolux brand: White LEDs

AEG brand: Red LEDs

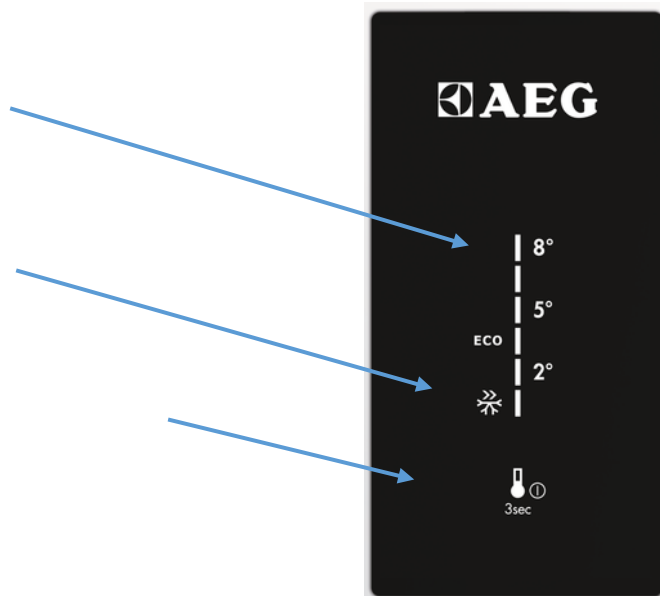
Private labels/key accounts: Red LEDs

When the UI is used in combi appliances it covers both the refrigerator and freezer, but the user can only toggle the fridge temperature. The boost applies to both fridge and freezer. The boost icon varies between brands.

AZZURRA ON DOOR

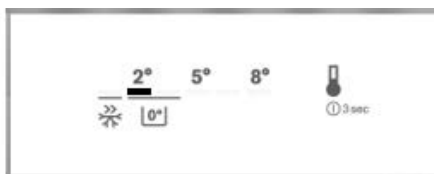
Each step in service mode is identified by LED combinations starting from the top

1. Temperature scale
2. Boost- fridge & freezer
3. Temperature adjustment
ON/OFF (long press)
Service mode



AZZURRA HORIZONTAL ON TOP AND ON DOOR

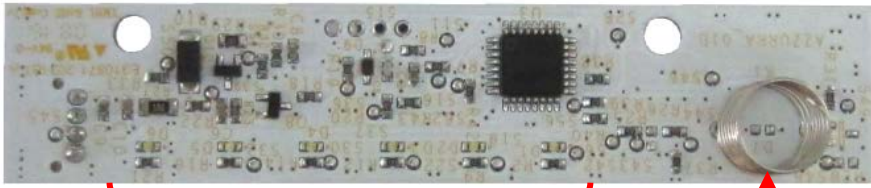
Each step in service mode is identified by LEDs starting from the 2nd LED on the left. The 1st LED (on the left) acts as hardware item state indicator.



AZZURRA ERF908

Front

Processor



Six LED's for temperature and boost

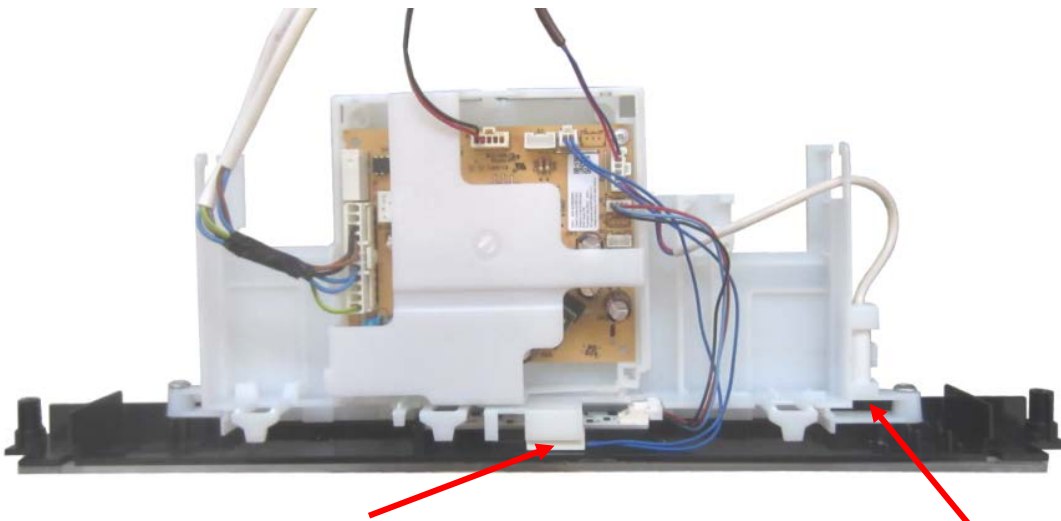
Touch key

- On / Off
- Temperature adjustment

Back



Connection electronic
5V DC



Reed-Switch, Open = Door open
Close = Door closed

Ambient- temperature sensor

AZZURRA DEMO MODE

Demo mode is not available for Azzurra UI.

SERVICE MODE LED COMBINATIONS

Service mode can be started with a cold or warm appliances. The only exception is when testing the digital input heater switch that requires a cold appliance.

When service mode starts, all light indications are on and all components are off. Service mode activates multiple components simultaneously. Sensors are self-diagnosing while components must be checked manually.

Turning a component on provides electricity to the component. This makes it possible to test that the power supply is getting through and if there is voltage absorption.

For example, if activating the refrigerator compressor does not work, use a tester to see whether the motor or the power board causes the problem.

Activate service mode on interfaces with LED combinations

1. Switch on the appliance
2. Unplug the appliance
3. Wait 10 seconds
4. Plug in the appliance
5. Wait 6 seconds.
6. Press key for 5 seconds - the key must be pressed within 6 to 16 seconds after power-on

The same key is used for all commands. The key varies between user interfaces, see images below.

Command	Press	Action	Indicator
Service mode	Hold key for 5 seconds within 6 - 16 seconds of starting the appliance.	Enter service mode	All lights on
Next	Long press	Moves service mode to next component	Lights switched off
Action	Short press	Activate and deactivate components	Lit when command is applicable
Exit service mode	Hold for 5 seconds.	Exit service mode	None

The key varies between appliances: **Azzurra:**



ZEF:



SERVICE MODE LED COMBINATIONS

Service mode feedback consists of light combinations.

Table note: FR: Refrigerator, FZ: Freezer, EV: Evaporator

AC output test

Tests AC loads connected to the appliance, only physically mounted components are displayed. When service mode starts, all components are switched off.

AC Load	1	2	3	4	5
FR compressor					on
FZ compressor					blinking
Heater				on	
FR lamp				on	on
AC EV fan				on	blinking
AC FR fan				blinking	
EV electro valve				blinking	on
AC Zero degree fan				blinking	blinking
Water faucet			on		
FZ lamp			on		on
Auger motor			on		blinking
Ice selector			on	on	
AC condenser fan			on	on	on
Perfect drawer			on	on	blinking
Balance heater			on	blinking	
Frame heater			on	blinking	on
FR VCC compressor		on	on	blinking	blinking
FZ VCC compressor		on	blinking		
Condenser electro valve			on	blinking	blinking

Digital output test

All digital outputs connected to electronics are automatically switched off at the start of the test.

Digital output	1	2	3	4	5
FR lamp		on	blinking		on
Zero degree lamp		on	blinking		blinking
DC EV fan		on	blinking	on	
DC FR fan		on	blinking	on	on
DC Zero-degree fan		on	blinking	on	blinking
DC Condenser fan		on	blinking	blinking	
FZ lamp		on	blinking	blinking	blinking
DC Air filter fan		on			

Damper test

DC Heater	1	2	3	4	5
Local damper		on			on
Remove damper		on			blinking

Heater test

DC Heater	1	2	3	4	5
UI anti condensation heater		on		on	
DC frame heater		on		on	on

Digital input test

- Digital input open: light on.
- Digital input closed: light off.

Action key is not used in this phase.

Digital input	1	2	3	4	5
FR door	on	on		on	
FZ door	on	on		on	on
Zero degree door	on	on		on	blinking
Heater switch	on	on		blinking	
Ice maker	on	on		blinking	on
Paddle	on	on		blinking	blinking
Rapid drink cooler	on	on	on		

Temperature probe test

Unlike the loads and digital outputs, the sensors are not activated electronically by pressing a key and their activation is signalled by a yellow light which lights up to the right.

If the circuit breaker is open the light is lit.

Digital input	1	2	3	4	5
FR air	blinking	on	on		blinking
FZ air	blinking	on	on	on	
FR EV	blinking	on	on	on	on
Zero degree air	blinking	on	on	on	blinking
PB ambient	blinking	on	on	blinking	
UI ambient	blinking	on	on	blinking	on
FZ EV	blinking	on	blinking		
UI ambient humidity	blinking	on	blinking		on

ALARMS

Temperature alarm

The alarm is activated if the temperature moves outside a set threshold:

- The maximum temperature reached is displayed.

The alarm stops when the temperature returns within the threshold.

Cancel audible alarm

Deactivate the alarm by pressing any key.

- The alarm is muted for 2 minutes in freezers and 10 minutes in refrigerators.

The display can be used as normal after the alarm is cancelled even if the alarm icon stays on until the temperature reaches an acceptable level.

Door alarm

The door alarm is activated if the door is left open for a certain period of time. The temperature key and set temperature LED starts to flash LED on for 500ms then LED off for 500ms. The door alarm stops when the door is closed.

- Fridge door: 5 minutes
- Freezer door: 80 seconds