Thetford Fridge terminology

Product lines

- DeLuxe line refrigerators with control knobs

  All refrigerators which are supplied **WITHOUT** the LCD **display control panel.**

Manual Energy Control (MEC) Piëzo (V85)

Manual Energy Control (MEC) Piëzo

Manual Energy Control (MEC) Electronic

Manual Energy Control (MEC) Electronic Isphording

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- DeLuxe line refrigerators with LED

Smart Energy Selection (SES) LED

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- Premium LCD line refrigerators

  All refrigerators which are supplied **WITH** the LCD display control panel.

Either Electronic Energy Selection (EES) or Smart Energy Selection (SES) Automatic

Press the left button (mode selection switch), when you see Auto on the left side of the display you have a SES version when not, you have an EES version

Error code 1
AC heater current is measured to be 75% below nominal current

Input supplied at the fridge is stable and included between 210V and 240V

No → AC Input issue

Yes ↓

Check if the 5A fuse is OK

No → Change the fuse **(part 624030)**

Yes ↓

Check if the heater impedance is correct (in Ohm)

Type	Min	Max
N90-N97-N98-N100-N104-N109-N112-N115	**312 Ω**	**380 Ω**
N145-N150-N175-N180	**218 Ω**	**266 Ω**

No → Replace the AC heater **(see Spare Parts List)**

Yes ↓

Replace Power board

SES version part 631219 or EES version Part 631220

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Error code 2
DC heater current is measured to be 75% below nominal current

Input supplied at the fridge is stable and included between 9.5V and 15.5V

No → DC input issue

Yes ↓

Check if all the connections are OK

No → Restore the connections

Yes ↓

Check if the D+ input is included between 9.5V and 15.5V

No → D+ input issue

Yes ↓

Check if the 20A fuse is OK

No → Change the fuse **(part 626996)**

Yes ↓

Check if the heater impedance is correct (in Ohm)

Type	Min	Max
N90-N97-N98-N100-N104-N109-N112-N115	**0.93 Ω**	**1.13 Ω**
N145-N150-N175-N180	**0.88 Ω**	**1.08 Ω**

No → Replace the DC heater **(see Spare Parts List)**

Yes ↓

Replace Power board

SES version part 631219

or

EES version Part 631220

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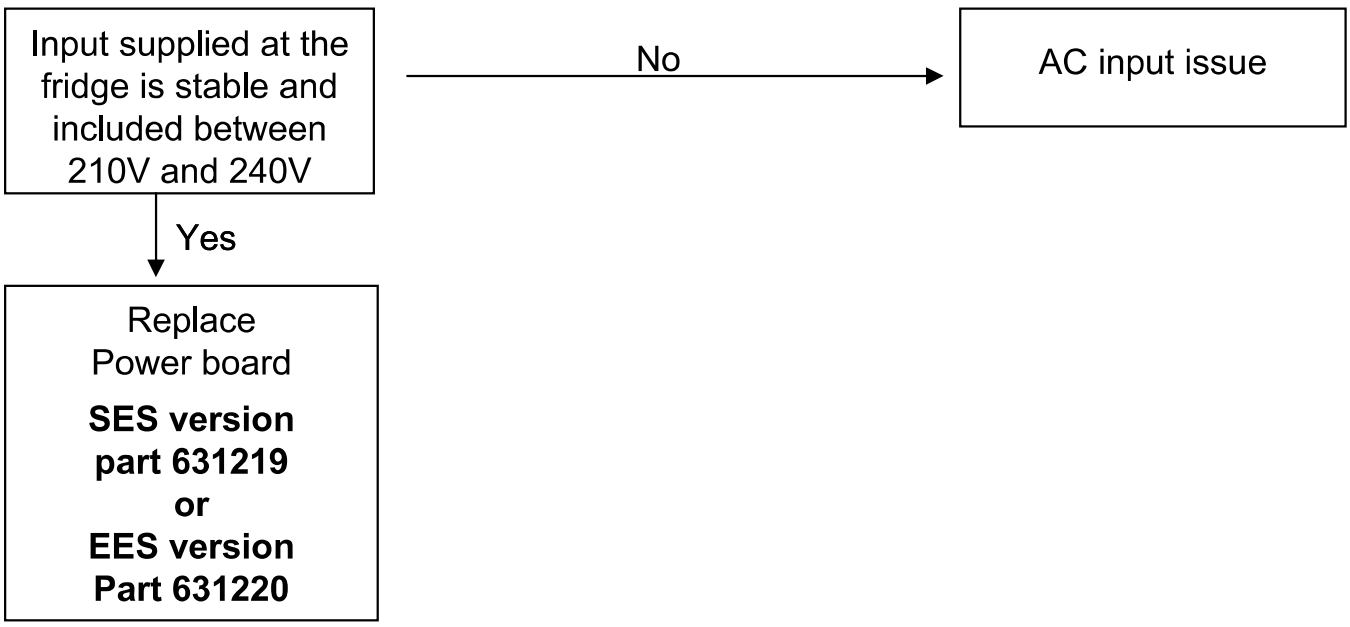
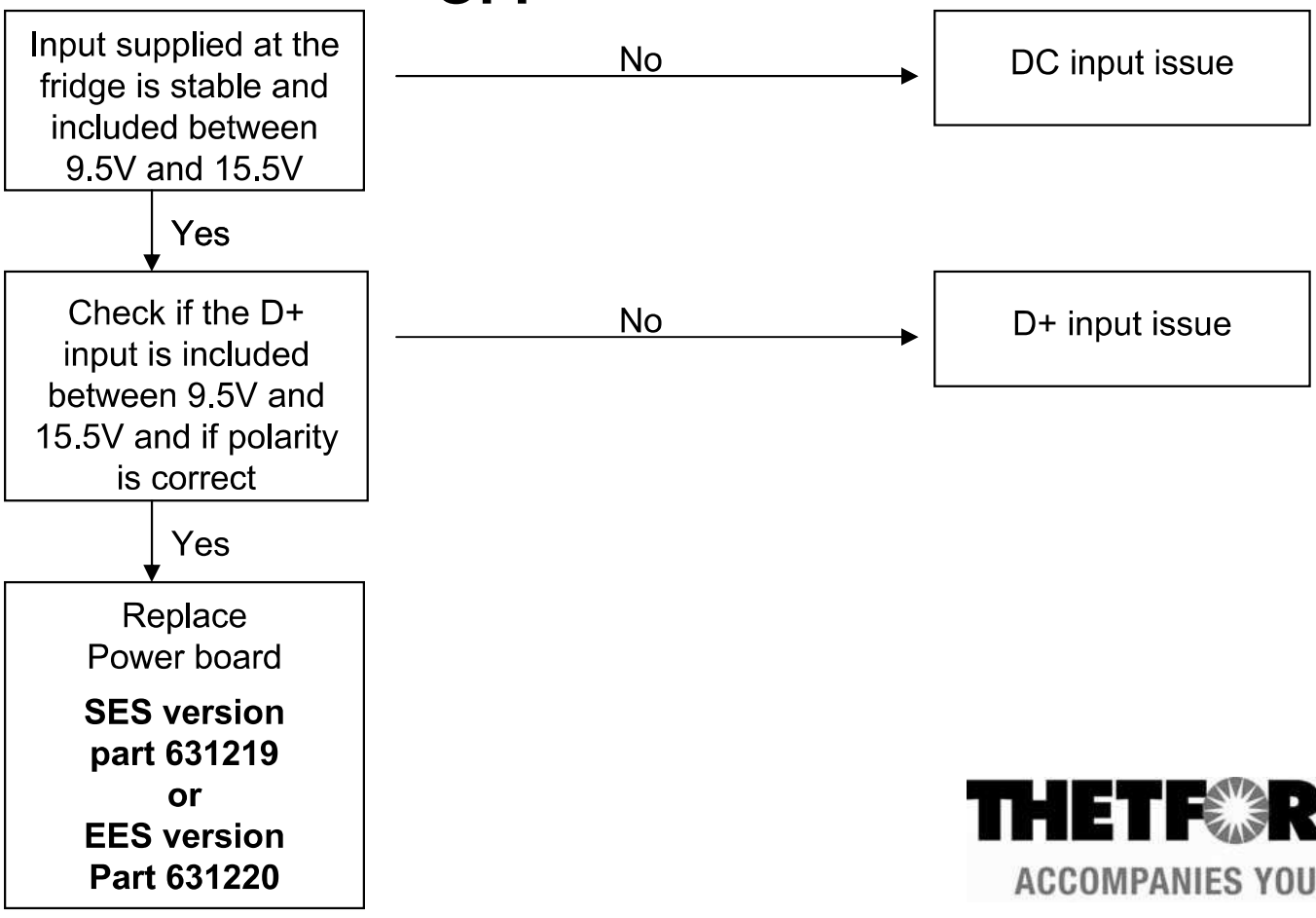
Error code 3
AC heater is ON when it should be OFF



Error code 4
DC heater is ON when it should be OFF



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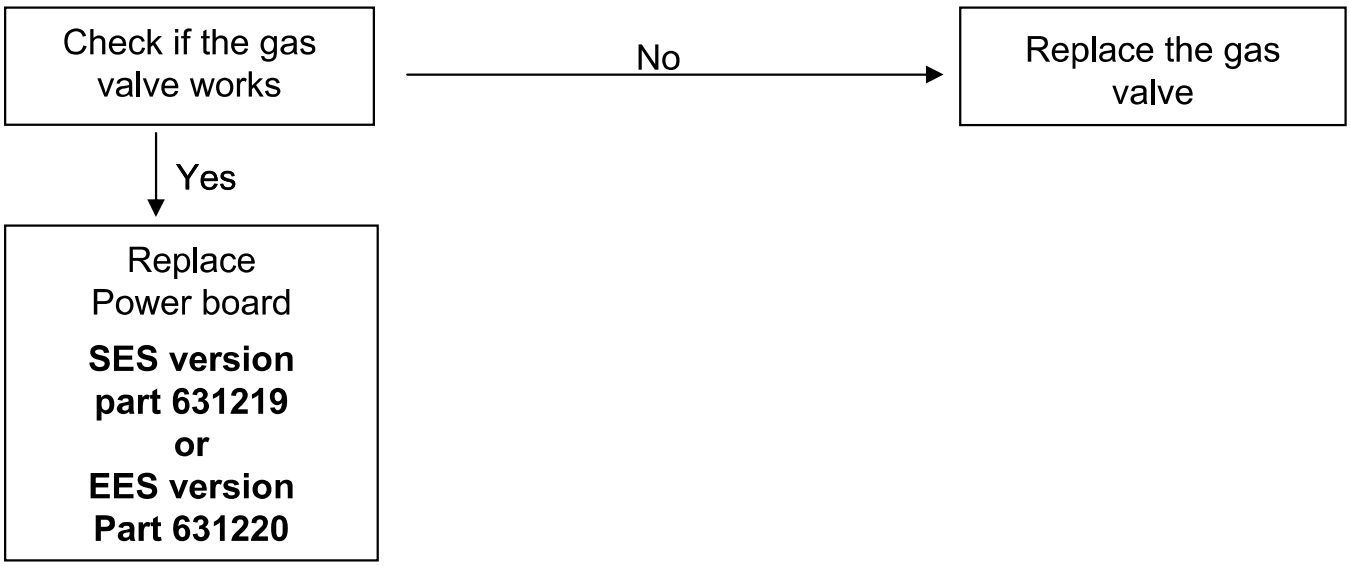
Error code 5
Senses flame when gas should be OFF



Error code 6
Senses gas output terminal ON when should be OFF

Replace Power board:	**- SES version part 631219** **- EES version part 631220**

Error code 7
Senses gas output terminal OFF when should be ON

Replace Power board:	**- SES version part 631219** **- EES version part 631220**

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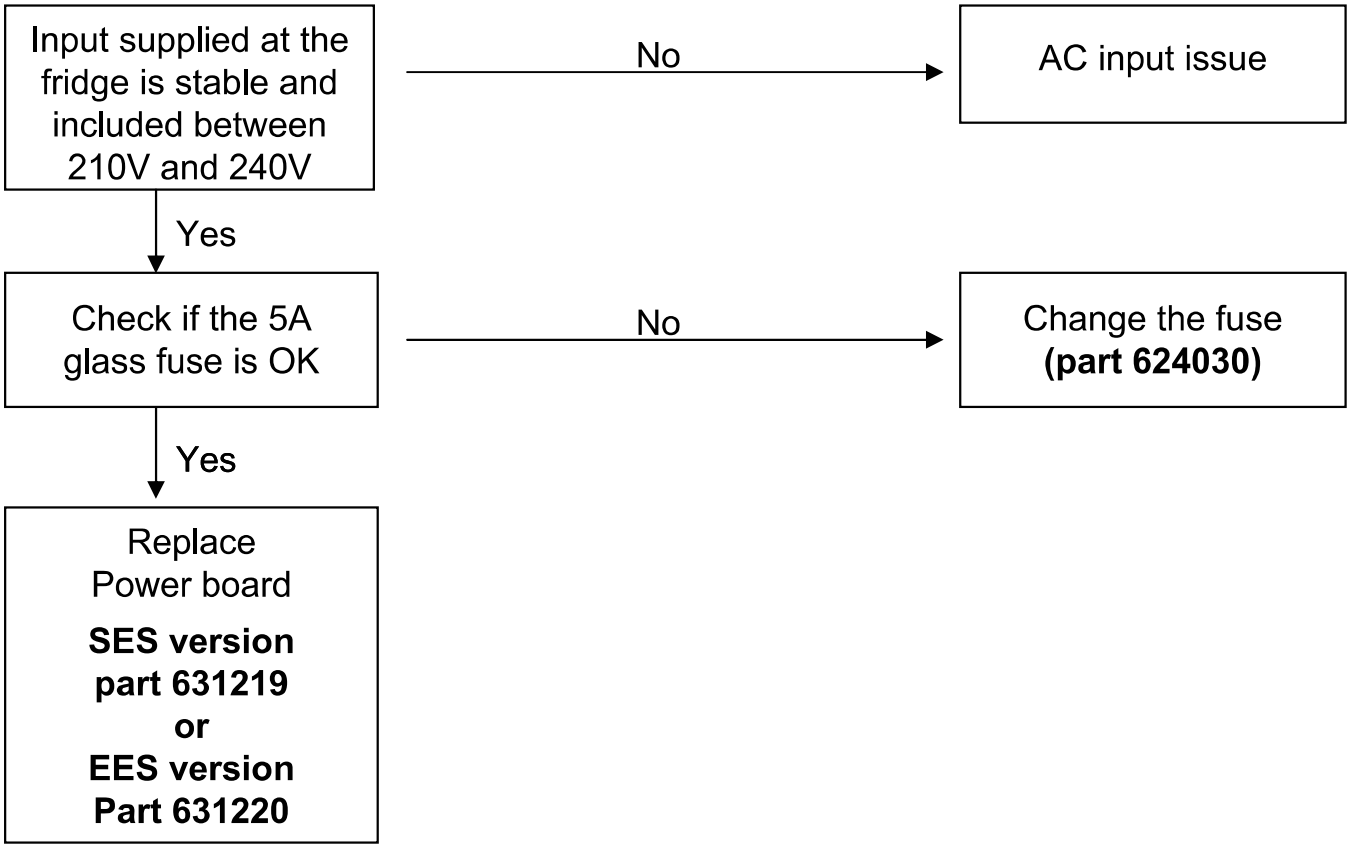
Error code 8
AC mains supply is below 20% nominal



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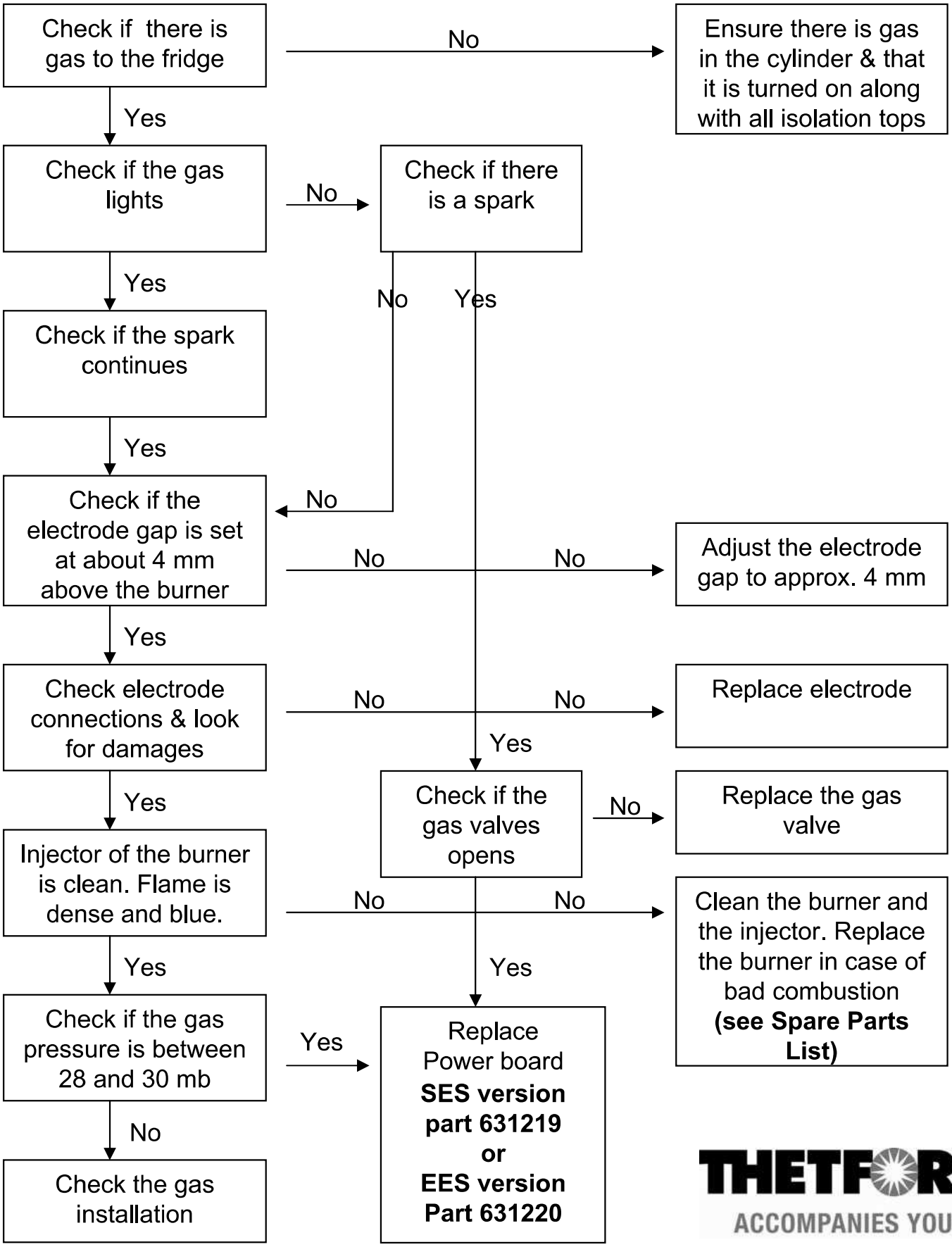
Error code 9
Gas lockout because flame fails to ignite after 30 seconds



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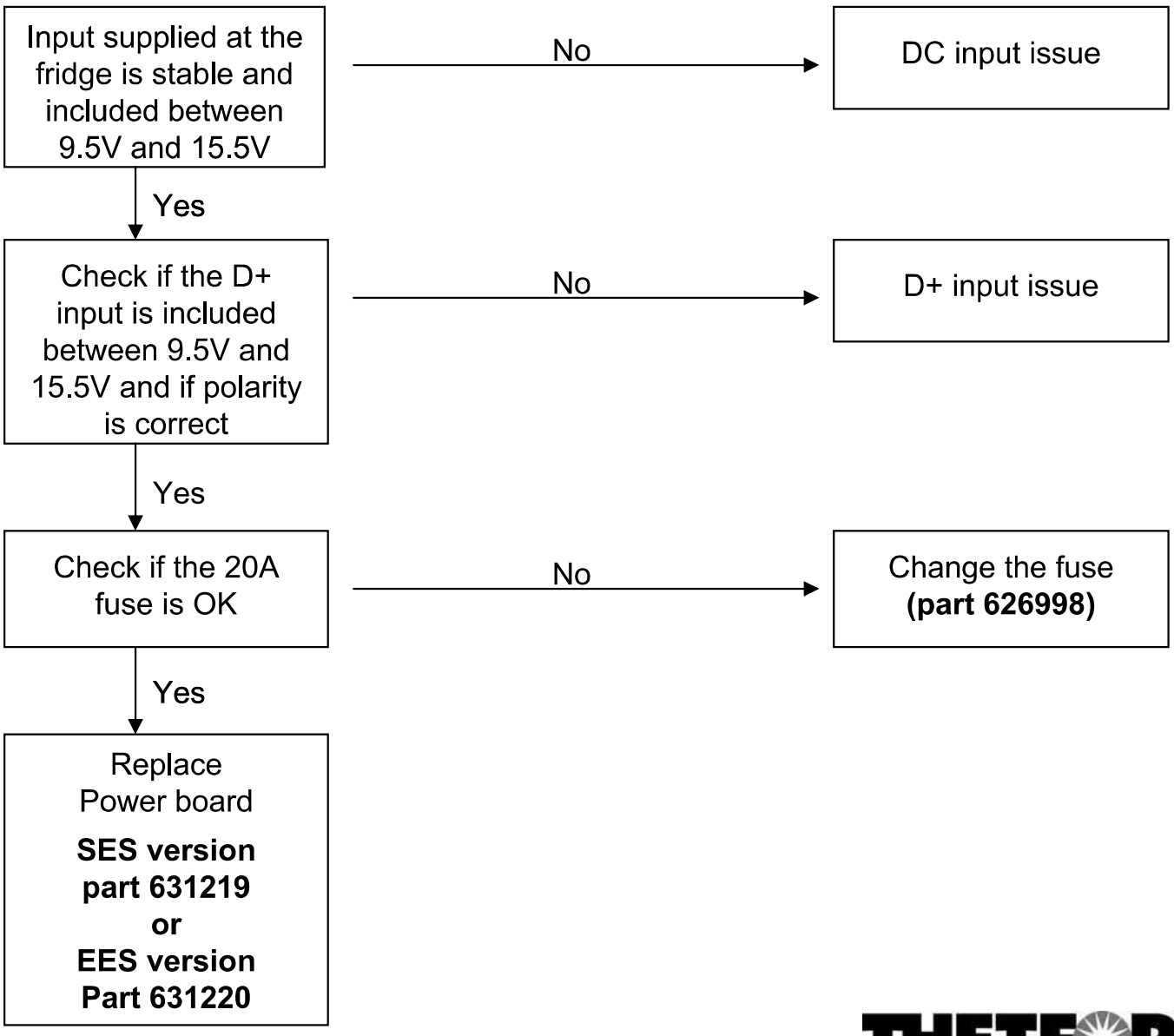
Error code 10
“No engine running” signal is Present and control is in Manual DC mode

To know if D+ polarity is good, select manually DC mode engine off.
If no error code occurs, that means the D+ input is versed.
Ensure power supply is capable to supply correct amperage.



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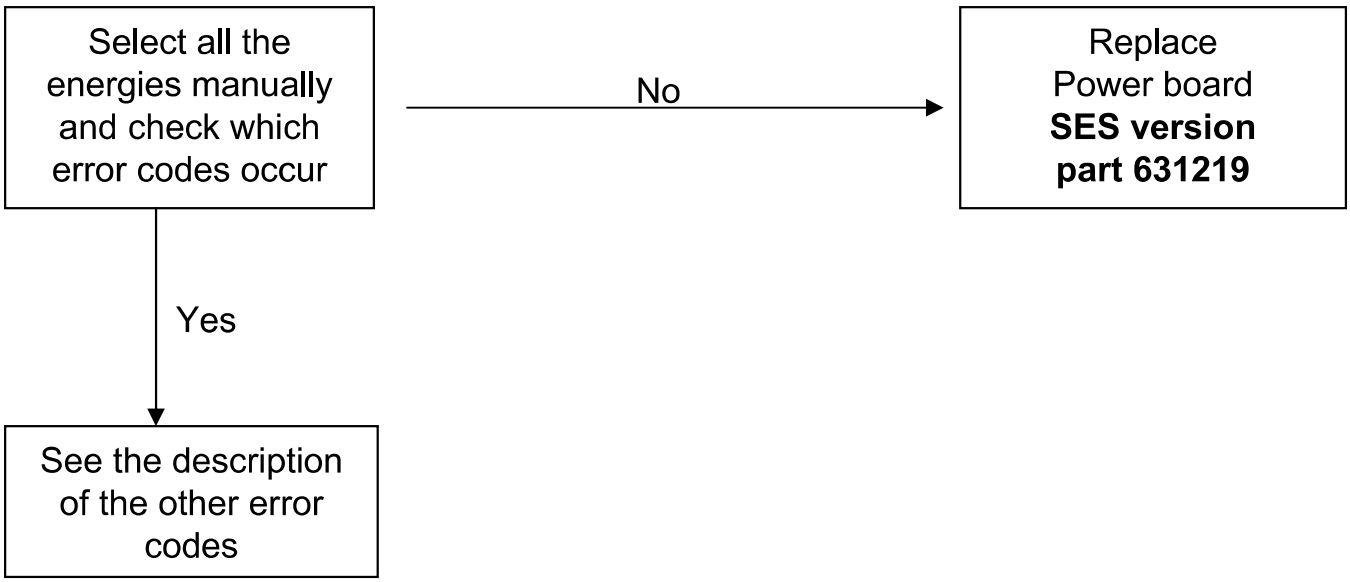
Error code 11
No energy source is available and control is on AUTO mode

Please make sure that all energy sources are available during the trial



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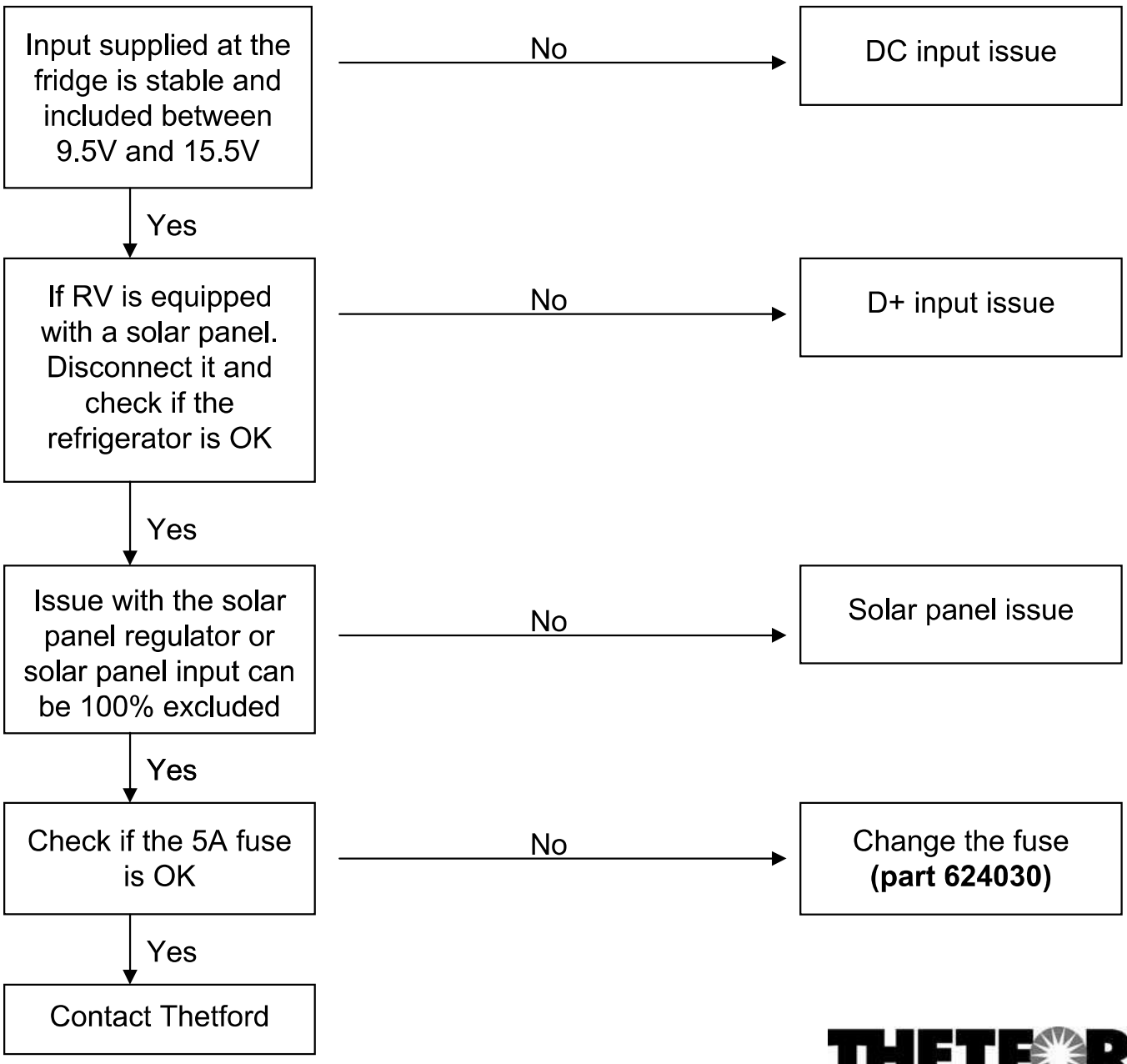
Error code 12
Supply voltage DC is out of range (9.5V – 15.5V)

If DC mode have been selected manually, the refrigerator is not switching automatically on another source of energy when the engine is off



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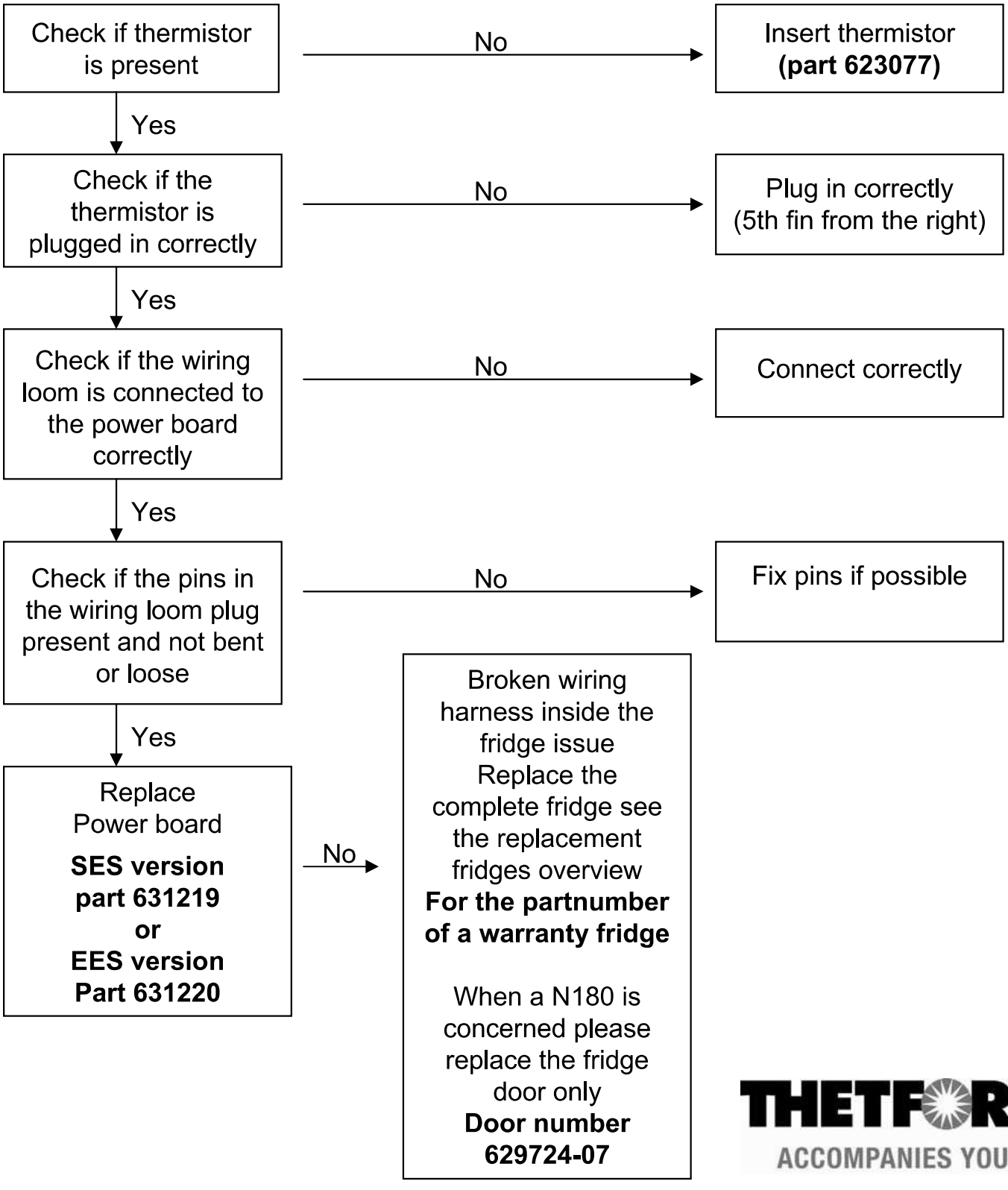
Error code 13
Thermistor fails, control automatically switches to backup mode (BOS)



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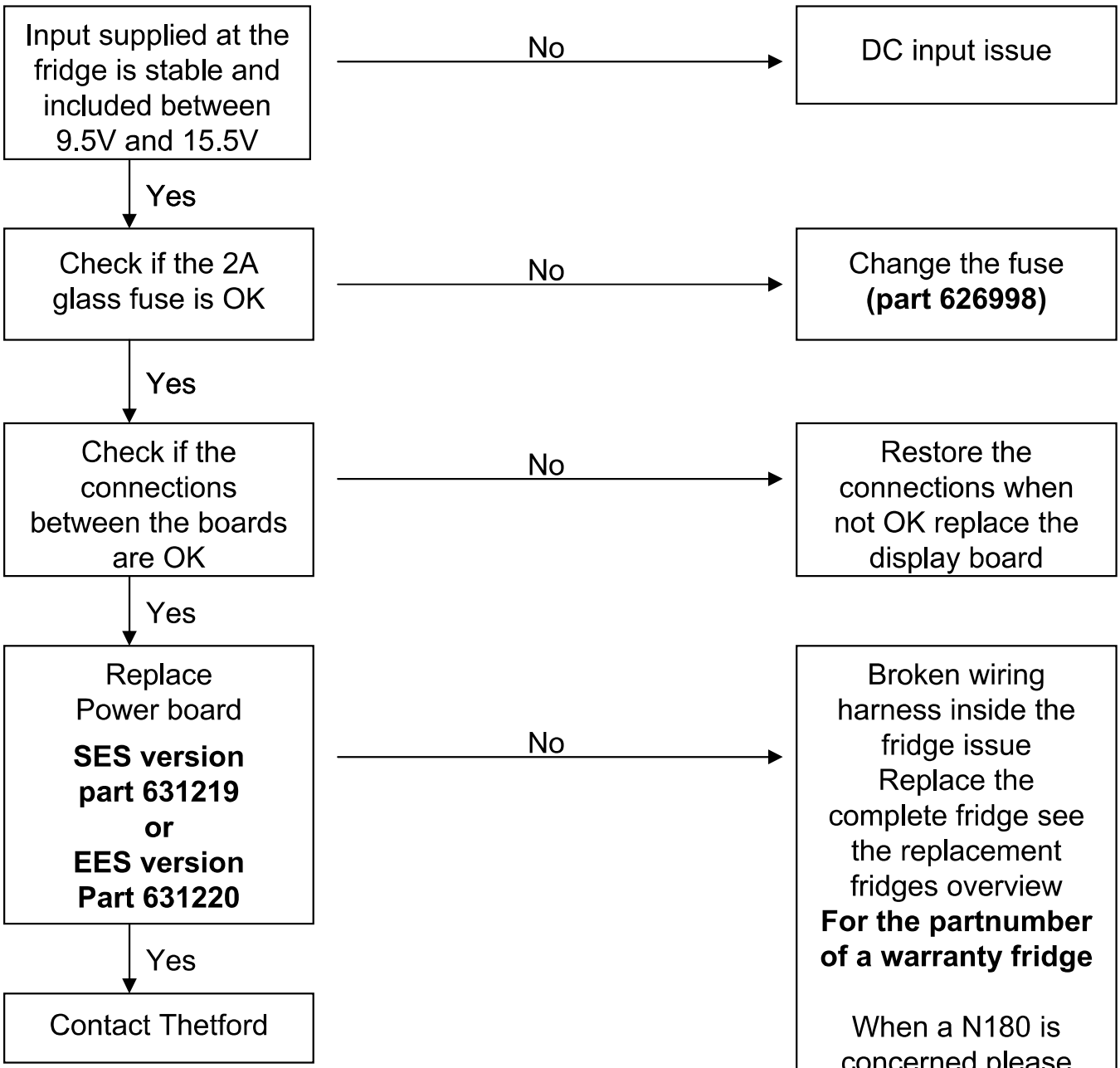
Error code 14
Display board and power board lost communication to each other



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Lack of performance
No error code

➢ On 12 Volts

Do the testing of the fridges on the manual mode

Check if the input at the DC HC poles of the Power Board is > 13.5V

No → DC input issue

Yes ↓

Check if the input at the heater connection to the Power Board is > 13V

No → Replace Power board **SES version part 631219 or EES version Part 631220**

Yes ↓

Check if the heater impedance is correct (in Ohm)

Type	Min	Max
N90-N97-N98-N100-N104-N109-N112-N115	**0.93 Ω**	**1.13 Ω**
N145-N150-N175-N180	**0.88 Ω**	**1.08 Ω**

No → Replace the DC heater **(see Spare Parts List)**

Yes ↓

Check if the DC heater is properly settled

No → Install the DC heater properly

Yes ↓

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➢ On 230 Volts

Do the testing of the fridges on the manual mode

Check if the input between the (+) and the (-) at the power board is over 230 Volts

No → AC input issue

Yes ↓

Check if the input at the heater connection to the Power Board is > 215V

No → Replace Power board **SES version part 631219 or EES version Part 631220**

Yes ↓

Check if the heater impedance is correct (in Ohm)

Type	Min	Max
N90-N97-N98-N100-N104-N109-N112-N115	**312 Ω**	**380 Ω**
N145-N150-N175-N180	**218 Ω**	**266 Ω**

No → Replace the AC heater **(see Spare Parts List)**

Yes ↓

Check if the AC heater is properly settled

No → Install the AC heater properly

Yes ↓

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➢ On Gas

Do the testing of the fridges on the manual mode

Injector of the burner is clean. Flame is dense and blue. Gas pressure is between 28 and 30 mb

No → Clean the burner. Replace the burner in case of bad combustion **(see Spare Parts List)**

Yes ↓

Check if the thermistor is properly fitted on the 5th fin from the right

No → Install the thermistor at the right place

Yes ↓

Check if the flame diffuser is in the pipe

No → Install a flame diffuser **(part nr to be made)**

Yes ↓

Check if the burner is set properly in front of the pipe

No → Replace the refrigerator

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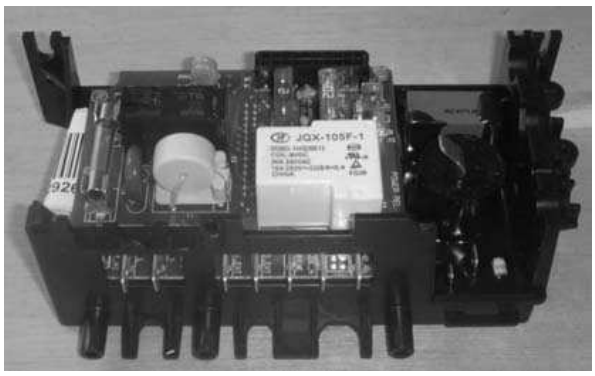
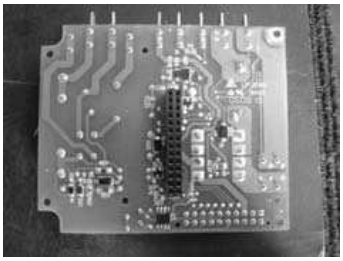
Power board
on all LCD fridges

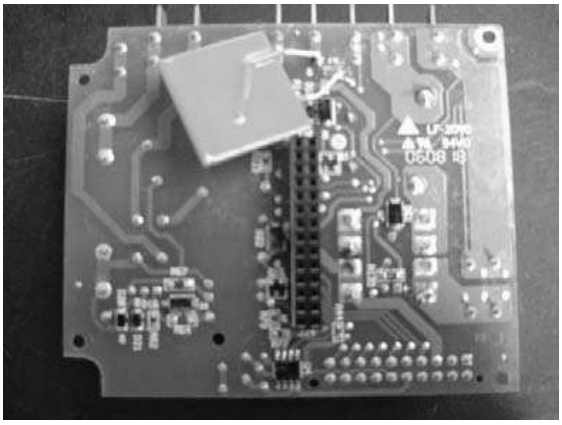
Issue	: A not replaceable fuse (F5) is blowing on the power boards, caused by wrong signal in circuit (f.i. short cut).
Solution	: Re-settable fuse integrated on the power board.
Implementation	: November 1st 2007
Spare part nr.	: 631219 and 631220
Compensation	: 30 minutes
Repair-instruction	: See repair instruction part



Power board old version
Underside of Top Half F5 fuse is at top centre



Modified power board with re-settable fuse shown in position



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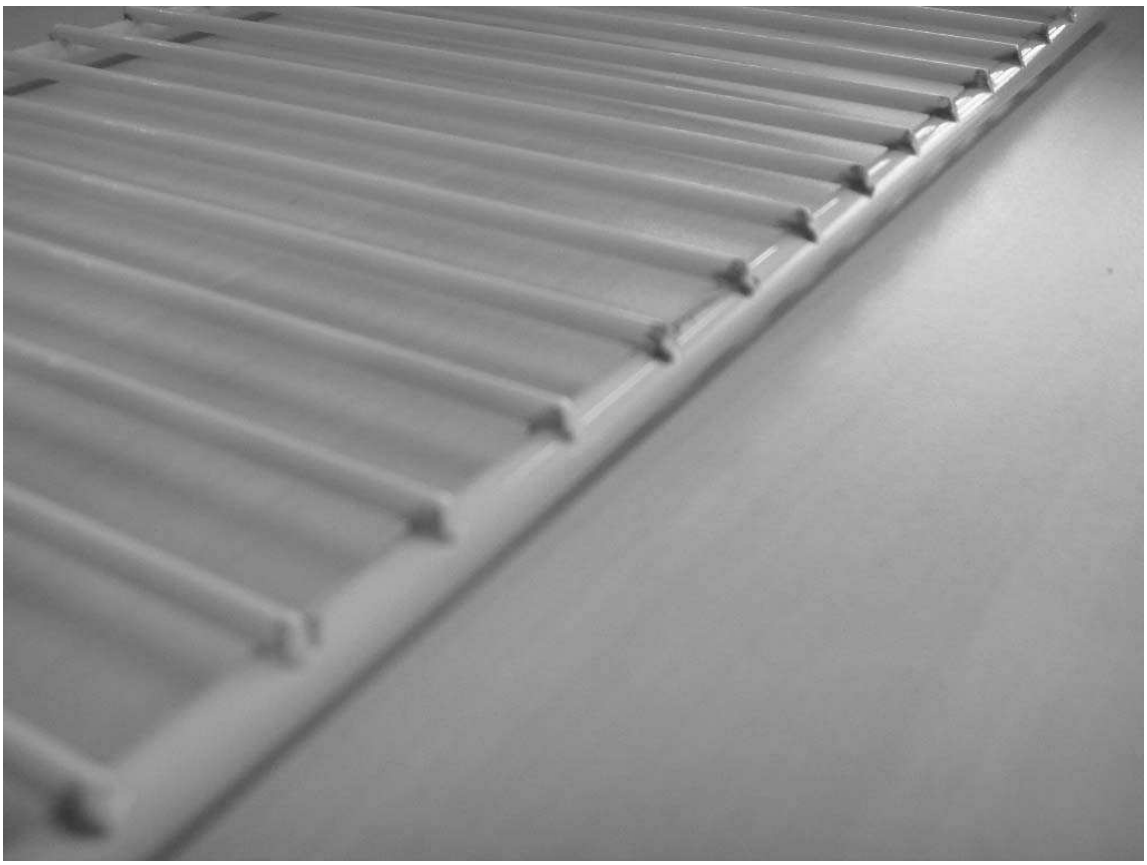
Corrosion on all Fridges shelves

Issue	: Corrosion on all shelves
Solution	: Re-inforced coating process to prevent rusting during life time product (7 years)
Implementation	: June 22nd 2007 for all shelves
Spare part nr.	: See spare part list
Compensation	: 5 minutes
Repair-instruction	: not included



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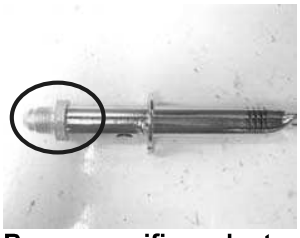
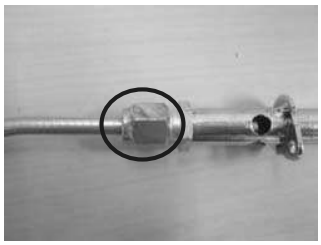
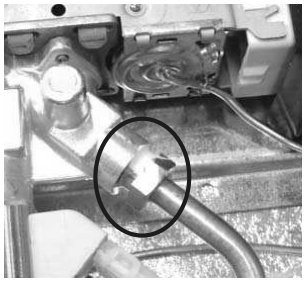
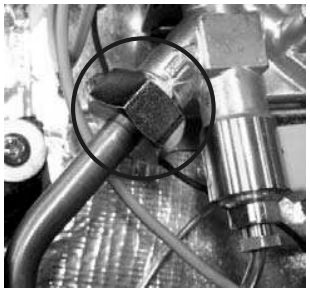
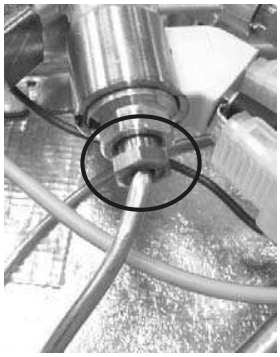
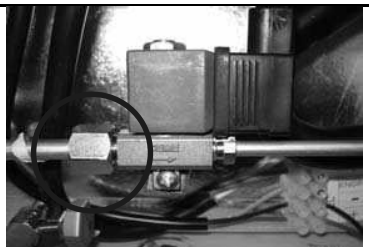
Gas connections

Picture	Tool	Torque
 Nut solenoid GV	Torque spanner 13mm	3 +1/-0 Nm
 Burner – orifice adapter	Torque spanner 16mm	7.5 +1/-0 Nm
 Gas tube assy – orifice adapter	Torque spanner 14mm	15 +1.5/-0 Nm

 Gas tube assy – V85 GV	Torque spanner 11mm	10 +0.5/-0 Nm
 Gas inlet tube – V85 GV	Torque spanner 19mm	12 +2/-0 Nm
 Thermocouple – V85 Gasvalve	Torque spanner 8mm	1.5 +0.5/-0 Nm
 Gas inlet tube - LCD	Torque spanner 17mm	20 +2/ -0

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