FOSTER
REFRIGERATOR

SLIMLINE

FSL 400H-FSL600H-FSL 800H

FSL 400L-FSL600L-FSL 800L

Service Manual

ISO 14001 ISO 9001

Contents

Environmental Management Policy for Service Operations.

Product Support and Installation Contractors

Foster Refrigerator recognises that its activities, products and services can have an adverse impact upon the environment.
The organisation is committed to implementing systems and controls to manage, reduce and eliminate its adverse environmental impacts wherever possible, and has formulated an Environmental Policy outlining our core aims. A copy of the Environmental Policy is available to all contractors and suppliers upon request.

The organisation is committed to working with suppliers and contractors where their activities have the potential to impact upon the environment. To achieve the aims stated in the Environmental Policy we require that all suppliers and contractors operate in compliance with the law and are committed to best practice in environmental management.

Product Support and Installation contractors are required to:

1. Ensure that wherever possible waste is removed from the client's site, where arrangements are in place all waste should be returned to Foster Refrigerator's premises. In certain circumstances waste may be disposed of on the clients site; if permission is given, if the client has arrangements in place for the type of waste.
2. If arranging for the disposal of your waste, handle, store and dispose of it in such a way as to prevent its escape into the environment, harm to human health, and to ensure the compliance with the environmental law. Guidance is available from the Environment Agency on how to comply with the waste management 'duty of care'.
3. The following waste must be stored of separately from other wastes, as they are hazardous to the environment: refrigerants, polyurethane foam, oils.
4. When arranging for disposal of waste, ensure a waste transfer note or consignment note is completed as appropriate. Ensure that all waste is correctly described on the waste note and include the appropriate six-digit code from the European Waste Catalogue. Your waste contractor or Foster can provide further information if necessary.
5. Ensure that all waste is removed by a registered waste carrier, a carrier in possession of a waste management licence, or a carrier holding an appropriate exemption. Ensure the person receiving the waste at its ultimate destination is in receipt of a waste management licence or valid exemption.
6. Handle and store refrigerants in such a way as to prevent their emission to atmosphere, and ensure they are disposed of safely and in accordance with environmental law.
7. Make arrangements to ensure all staff who handle refrigerants do so at a level of competence consistent with the City Guilds 2078 Handling Refrigerants qualification or equivalent qualification.
8. Ensure all liquid substances are securely stored to prevent leaks and spill, and are **not** disposed of to storm drains, foul drain, surface water to soil.

DISPOSAL REQUIREMENTS
If not disposed of properly all refrigerators have components that can be harmful to the environment. All old refrigerators must be disposed of by appropriately registered and licensed waste contractors, and in accordance with national laws and regulations.

Cabinet Description

The cabinets are manufactured as a one piece foamed shell.

The condensing unit is located on the base of the cabinet.

The cabinets conform to ISO Climate Class 5. (40^0c with 40% RH)

Temperature is controlled by a microprocessor control with digital temperature display.

The refrigeration system is integral with an air-cooled condensing unit with the refrigerant distribution into the evaporator controlled by capillary.
The cooled air is circulated through the evaporator, via the fan into the storage area.

A plastic vaporiser tray with the hot gas line inserted into it is provided for condensate vaporisation.

The FSL400 H, FSL600H and FSL 800 H have a temperature range of $+1^0$c to $+4^0$c with a timed off cycle defrost.

The FSL400 L, FSL600L and FSL 800 L have a temperature range of -18^0c to -21^0c with electric defrost set at 4 times per 24 hours.

The solid doors are fitted with pivot hinges, recessed door handle and magnetic door gasket.

The glass doors are fitted with pivot hinges, surface mounted door handle and magnetic door gasket.

On glass door models the interior light, incorporating the on/off switch, is fitted to the top of the storage area at the front.

All models are fitted with lockable swivel castors to the front and swivel castors to the rear.

Nomenclature based on –

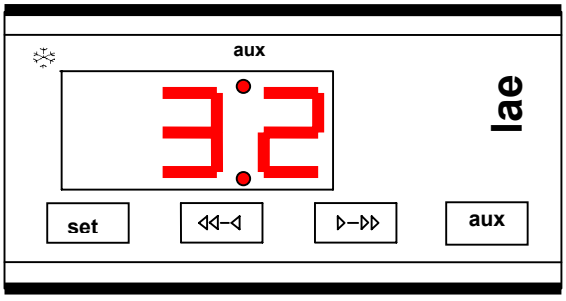
FSL = Foster Slim Line. 400/ 800 = Net Capacity (litres). H = High Temperature. L = Low Temperature.
G = Glass Door

Model Ref.		FSL 400H	FSL 400L	FSL 600H	FSL 600L	FSL 800H	FSL 800L
Temperature range		$+1^0$c to $+4^0$c	-18^0c to -21^0c	$+1^0$c to $+4^0$c	-18^0c to -21^0c	$+1^0$c to $+4^0$c	-18^0c to -21^0c
Refrigerant		R134a	R404a	R134a	R404a	R134a	R404a
Compressor Part Number		00-555664	00-555680	00-555664	00-555680	00-555667	00-555681
Capillary		3m x 042	2.5m 042	3m x 042	2.5m 042	3m x 054	3m x 054
Defrost Type		Timed Off Cycle	Electric	Timed Off Cycle	Electric	Timed Off Cycle	Electric
Heat Output		680	1104	680	1141	1300	1488
Extraction Rate		400	520	400	520	780	730
Voltage		220-1-50	220-1-50	220-1-50	220-1-50	220-1-50	220-1-50
Power Consumption	Watts	280	584	280	621	520	758
	Amps	2.1	3.8	2.1	4.0	3.6	4.1
Fuse Rating Amps		13	13	13	13	13	13

Controller Operation

Operation Guidelines for Foster controller part number 00-555357 high temperature models.
When the controller is switched on a single line appears on the display for 3 seconds to indicate the autotest period.
After this period the air temperature measured by the T1 probe is displayed, after 1minute the compressor will start.

LDU 15 Controller 00-555357



Check temperature set point.
Important to note that the ability to increase and decrease the set point is not a function available to the user as the set point is fixed. To make adjustments to the set point it is necessary to access the parameters and alter SPL and SPH accordingly.

Check set point by pressing the button i•set

To increase set point press i•set + ▶▶•II until required temperature is displayed.

To decrease set point press i•set + ◀◀• until required temperature is displayed.

Factory Set Temperature Range
Refrigerator +1°C to +4°C

Exit from set up occurs after 10 seconds if no button is pressed.

Manual Defrost.

To initiate a manual defrost press and hold ◀◀–◀ + ▶–▶▶ simultaneously, when df is displayed release both buttons.

On completion of the defrost df will be displayed for a further 5 minutes, as set in 'DDY', after which it will revert to displaying the normal cabinet temperature.

Alarm and Warnings

High temperature alarm. HI Will be displayed.

The alarm will sound but can be silenced by pressing any of the buttons, however it will return after the pre-set designated period. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Evaporator fan not working. Restricted airflow through airduct. Evaporator iced up. Compressor not working.

Low temperature alarm. LO Will be displayed.

The alarm will sound but can be silenced by pressing any of the buttons and the unit will continue to operate, however it will return after the pre-set designated period. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Controller faulty (not switching compressor off).

Air Temperature Probe Failure. E1 Will be displayed.

The alarm will sound but can be silenced by pressing any button.
There is no further action that can be taken by the user in this instance. During this period the unit will continue to operate but have a reduced performance with the compressor running for 7 minutes and resting for 3 minutes as set in parameter **'CDC**'.
Action: Replace Probe.

Evaporator Temperature Probe Failure. (Not applicable to this model as evaporator probe is not fitted)

Clean Condenser. Parameter **'ACC'** set to '0' so not applicable to this model.

Controller Set Up.

The parameters are accessed by pressing the following keys in succession ◀◀–◀ + **"set"** ▶–▶▶ + and keeping them pressed for 3 seconds.

Access to the parameters has been achieved with the first parameter SCL being displayed.

To pass from one parameter to the next press either the ◀◀–◀ or ▶–▶▶ key

To display the value press. "set"

To change the value press **"set" +** to ▶–▶▶ increase, or **"set" +** to ◀◀–◀ decrease.

Exit from set up by pressing aux or is automatic after 30 seconds if no buttons are pressed.

Foster Controller part number 00-555357 Parameter list

For models FSL 400H, FSL 600H, FSL 800H

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES
SCL	Readout scale	**1°C; 2°C; °F**		**1°C**	flag	**2°C**
SPL	Minimum setpoint [I]	**-30**	**SPH**	**-25**	°C	**1**
SPH	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**1**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**1**
HYS	Thermostat hysteresis [I]	**0.1**	**10**	**3**	°K	**3**
CRT	Minimum compressor rest time	**0**	**30**	**2**	min.	**5**
CDC	10 min. run cycle with PF1	**0**	**10**	**5**	min.	**7**
DFR	Defrost frequency [I]	**0**	**24**	**4**	1/24h	**4**
DTO	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
DDY	Display control during defrost	**0**	**60**	**5**	min.	**5**
ATL	Low temperature alarm	**-12**	**0**	**-5**	°K	**-3**
ATH	High temperature alarm	**0**	**12**	**5**	°K	**10**
ATD	Temperature alarm delay	**0**	**120**	**30**	min.	**90**
ACC	Condenser cleaning	**0**	**52**	**20**	wks	**0**
OAU	Auxillary output mode	**NON**	**YES**	**NON**	flag	**NON**
BAU	AUX button function	**NON; SBY**		**SBY**	flag	**SBY**
OS1	Air probe offset	**-12.5**	**12.5**	**0**	°K	**00**
SIM	Display slowdown	**0**	**100**	**3**		**3**
ADR	Unit address	**1**	**255**	**1**		**01**

Operation Guidelines for Foster controller part number 00-555462 low temperature models.

LCD 15 Controller

Initial Start Up.

Start Up & self Test: 

The indication is only displayed during the first three seconds following the mains electrical power being applied to the unit. During this period the controller performs a self-check.
Once the self-check has been completed the air temperature will be displayed, after 1 minute the compressor will start.

Check temperature set point.
Important to note that the ability to increase and decrease the set point is not a function available to the user as the set point is fixed. To make adjustments to the set point it is necessary to access the parameter and alter SPL and SPH accordingly.

Check set point by pressing the button 

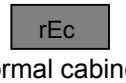
To increase set point press  +  until required temperature is displayed.

To decrease set point press  +  until required temperature is displayed.

Factory Set Temperature Range
Freezer -18°C to -21°C.

Exit from set up occurs after 10 seconds if no button is pressed.

Manual Defrost.
To initiate a manual defrost press and hold  when  is displayed release. 

On completion of the defrost  will be displayed until the cabinet temperature is achieved after which it will revert to displaying the normal cabinet temperature.

Alarm and Warnings

High temperature alarm. HI Will be displayed.
The alarm will sound but can be silenced by pressing any of the buttons, however it will return after the pre-set designated period as set in parameter **'ATH'**. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Evaporator fan not working. Restricted airflow through airduct. Evaporator iced up. Compressor not working.

Low temperature alarm. LO Will be displayed.

The alarm will sound but can be silenced by pressing any of the buttons and the unit will continue to operate, however it will return after the pre-set designated period as set in parameter **'ATH'**. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Controller faulty (not switching compressor off). Compressor secondary relay will not de-energise .

Door Open Alarm. (*Only applies to cabinets fitted with door switches.*) DO Will be displayed.

The alarm will sound but can be silenced by pressing. aux
The display will continue to display the alarm message until cancelled by shutting the door.
After 1 minute the compressor will stop, as set in parameter **'CSD'**.
Possible Causes: Faulty door switch. Door left open for more than 5 minutes, as set in parameter **'ADO'**.

High Pressure Alarm (Only applies to machines fitted with a condenser probe). HP Will be displayed

This alarm relate to the condenser which must be checked and cleaned at regular intervals the frequency being determined by site conditions.
The alarm will sound but can be silenced by pressing any of the buttons and the unit will continue to operate, however it will return after the pre-set designated period as set in parameter **'ATH'**. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Condenser fan not working. Condenser blocked/ dirty. Condenser obstructed.

Air Temperature Probe Failure. E1 Will be displayed.

The alarm will sound but can be silenced by pressing any button.
There is no further action that can be taken by the user in this instance. During this period the unit will continue to operate but have a reduced performance with the compressor running for 7 minutes and resting for 3 minutes as set in parameter **'CDC**'.
Action: Replace Probe.

Evaporator Temperature Probe Failure. (Automatic Defrost Cabinets Only) E2 Will be displayed.

The alarm will sound but can be silenced by pressing any button.
There is no further action that can be taken by the user in this instance. During this period the unit will continue to operate satisfactorily with the defrost being controlled on a timed basis and not temperature which may have an effect on the overall efficiency if allowed to continue.
Action: Replace Probe.

Parameter Setting and Adjustment

It is strongly advised that before adjusting any Service Parameters a thorough understanding of the following instructions should be obtained.

The parameters are accessed by pressing the following keys in succession  + **"set"** +  and keeping them pressed for 5 seconds.

After this period the first parameter **'SCL'** will be displayed.

Press button  to pass from one parameter to the next and button  to go back.

Press  to display the value +  or  to change it.

Exit from set up is by pressing aux or is automatic if no buttons are pressed for 30 seconds

NOTE:
When receiving a replacement controller the unit will be set with the default settings. Change the settings to those relating to the particular model. After changing parameter 'SCL' from '1' to '2' moving through parameters 'SPL', 'SP', 'FDD', IISL' and 'IISP' you may find that '-or' will be displayed. '-or' indicates that

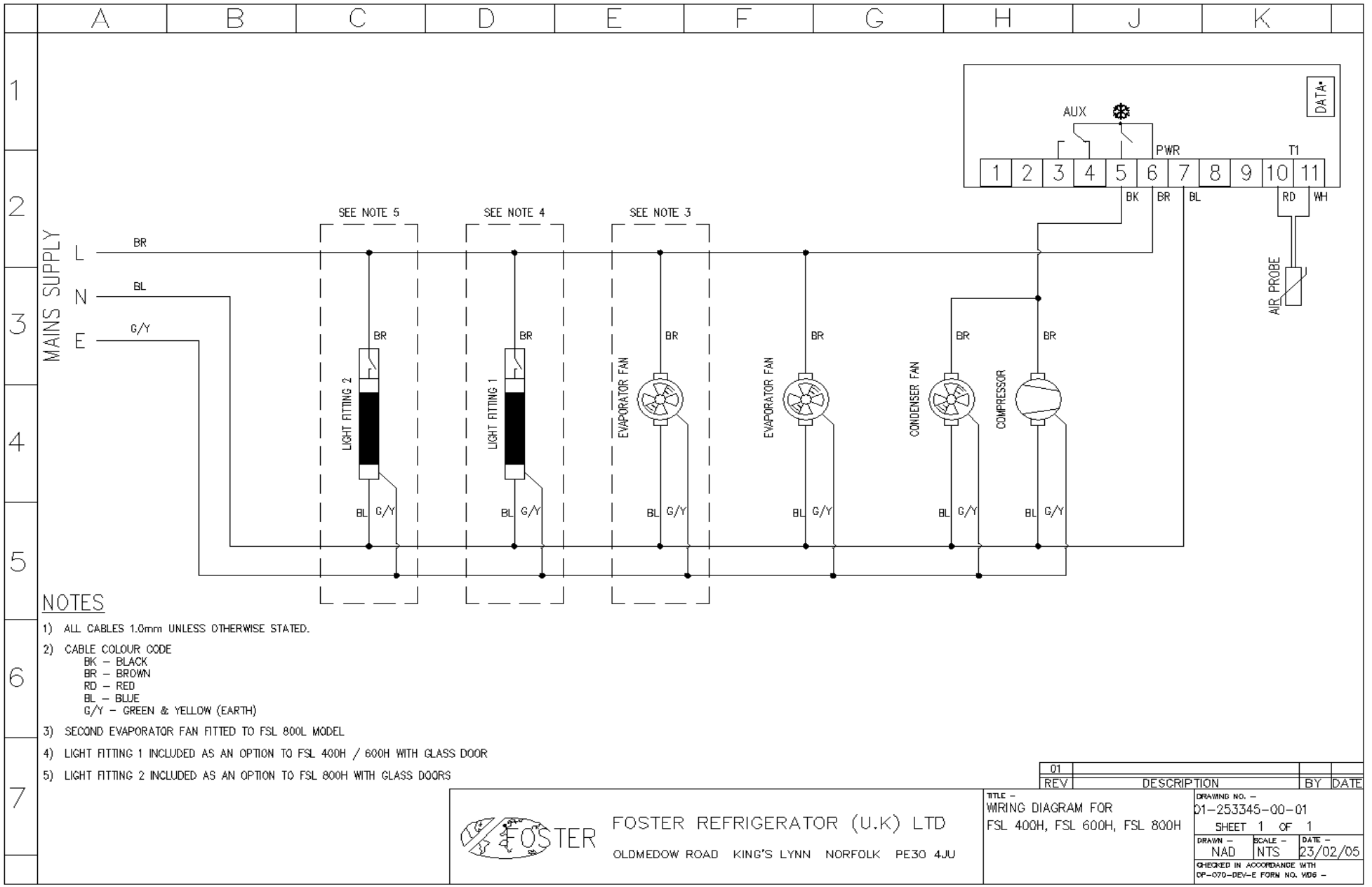
the control setting is out of range.
To get the parameter back into range, for example 'SPL', press i•set to display the value + ▶▶•II and continue pressing both buttons until the display shows the temperature required then release both buttons.
Use the same procedure to adjust all of the parameters displaying '-or'.

Foster Controller part number 00-555462 Parameter list

For models FSL 400L, FSL 600L, FSL 800L

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES
SCL	Readout scale	**1°C; 2°C; °F**		**1°C**	flag	**2**
SPL	Minimum setpoint [I]	**-30**	**SPH**	**-25**	°C	**-21**
SPH	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**-21**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-21**
HYS	Thermostat hysteresis [I]	**0.1**	**10**	**3**	°K	**3**
CRT	Minimum compressor rest time	**0**	**30**	**2**	min.	**1**
CDC	10 min. run cycle with PF1	**0**	**10**	**5**	min.	**7**
CSD	Compressor Stop delay after door open	**0**	**30**	**1**	min.	**1**
DFR	Defrost frequency [I]	**0**	**24**	**4**	1/24h	**4**
DLI	Defrost end temperature	**-30**	**30**	**15**	°C	**15**
DTO	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
DTY	Defrost type	**FAN; ELE; GAS**		**ELE**	flag	**ELE**
DRN	Drain down time	**0**	**30**	**3**	min.	**2**
DDY	Display control during defrost	**0**	**60**	**5**	min.	**10**
FID	Fan operation in defrost	**NO**	**YES**	**NO**	flag	**NO**
FDD	Evaporator. Fan re-start	**-30**	**30**	**-10**	°C	**-5**
FTC	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**NO**
ATL	Low temperature alarm	**-12**	**0**	**-5**	°K	**-5**
ATH	High temperature alarm	**0**	**12**	**5**	°K	**5**
ATD	Temperature alarm delay	**0**	**120**	**30**	min.	**90**
ADO	Door alarm delay	**0**	**30**	**5**	min.	**5**
AHT	Condenser HP Alarm	**0**	**70**	**60**	°C	**60**
AHM	AHT alarm management	**NON; ALR; STP**		**ALR**	flag	**NON**
ACC	Condenser cleaning	**0**	**52**	**20**	wks	**0**
HDS	Eco->Heavy Duty sensitivity	**1**	**5**	**3**		**3**
IISM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**NON**
IISL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-25**
IISH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**10**
IISP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-20**
IIHY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
IIDF	Defrost frequency [II]	**0**	**24**	**4**	1/24h	**4**
IIFT	Fan timed control [II]	**NO**	**YES**	**YES**	flag	**YES**
SBY	Stand By button function	**NO**	**YES**	**YES**	flag	**YES**
DS	Door switch enabling	**NO**	**YES**	**NO**	flag	**NO**
OS1	Air probe offset	**-12.5**	**12.5**	**0**	°K	**0**
T2	Evaporator. Probe enabling	**NO**	**YES**	**YES**	flag	**YES**
OS2	Evaporator. Probe offset	**-12.5**	**12.5**	**0**	°K	**0**
T3	Condenser. Probe enabling	**NO**	**YES**	**NO**	flag	**NO**
OS3	Condenser. Probe offset	**-12.5**	**12.5**	**0**	°K	**0**
TLD	Logging Temp. Delay	**1**	**30**	**5**	min.	**5**
SIM	Display slowdown	**0**	**100**	**3**		**3**
ADR	Unit address	**1**	**255**	**1**		**1**

High Temperature Models Wiring Diagram Using **Foster Controller part number 00-555357**



NOTES

1) ALL CABLES 1.0mm UNLESS OTHERWISE STATED.
2) CABLE COLOUR CODE
   BK – BLACK
   BR – BROWN
   RD – RED
   BL – BLUE
   G/Y – GREEN & YELLOW (EARTH)
3) SECOND EVAPORATOR FAN FITTED TO FSL 800L MODEL
4) LIGHT FITTING 1 INCLUDED AS AN OPTION TO FSL 400H / 600H WITH GLASS DOOR
5) LIGHT FITTING 2 INCLUDED AS AN OPTION TO FSL 800H WITH GLASS DOORS

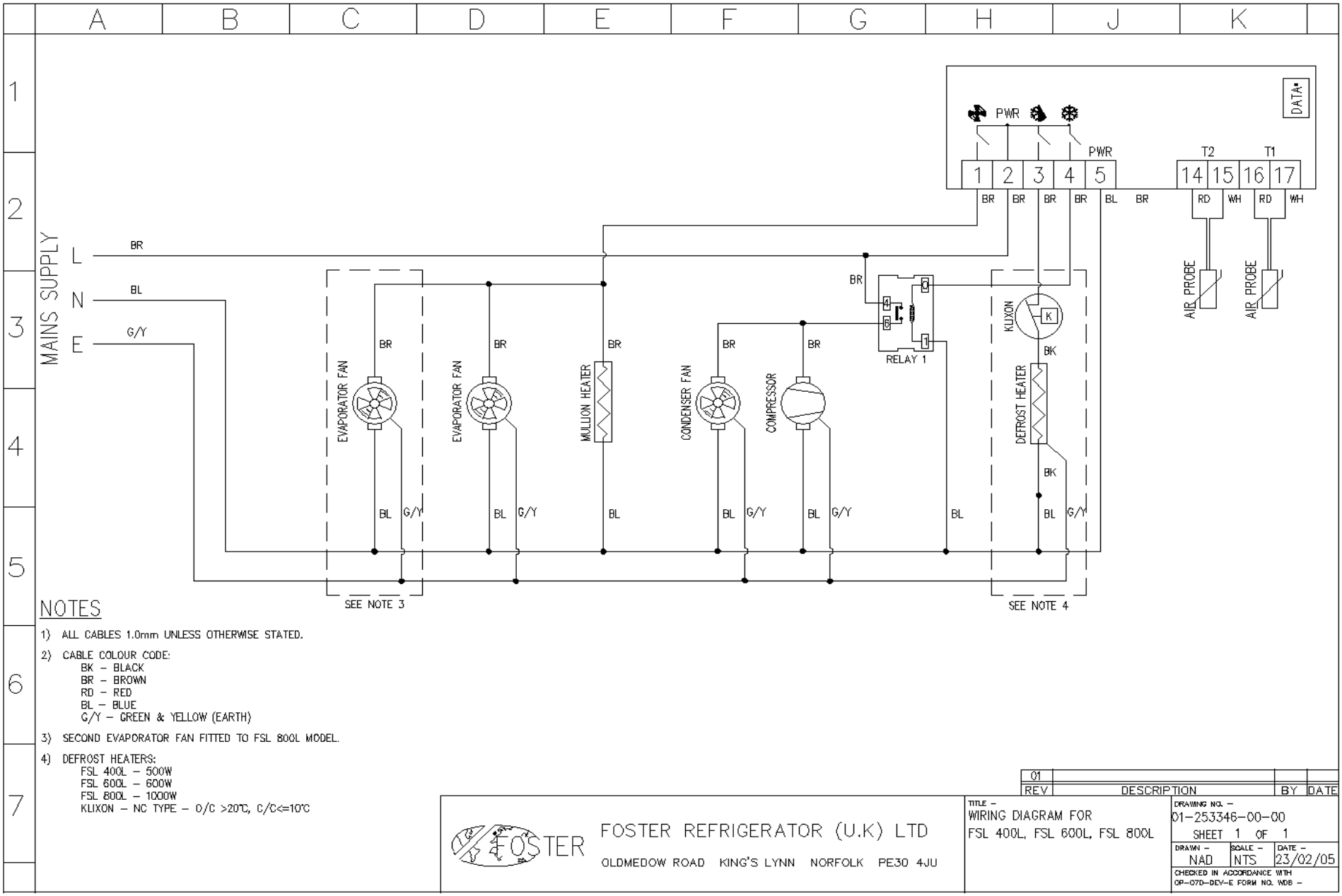
REV	DESCRIPTION	BY	DATE
01			

FOSTER REFRIGERATOR (U.K) LTD
OLDMEDOW ROAD KING'S LYNN NORFOLK PE30 4JU

TITLE – WIRING DIAGRAM FOR FSL 400H, FSL 600H, FSL 800H

DRAWING NO. – 01-253345-00-01
SHEET 1 OF 1
DRAWN – NAD | SCALE – NTS | DATE – 23/02/05
CHECKED IN ACCORDANCE WITH DP-070-DEV-E FORM NO. WDG –

Low Temperature Models Wiring Diagram Using **Foster Controller part number 00-555462**



NOTES

1) ALL CABLES 1.0mm UNLESS OTHERWISE STATED.
2) CABLE COLOUR CODE:
   BK – BLACK
   BR – BROWN
   RD – RED
   BL – BLUE
   G/Y – GREEN & YELLOW (EARTH)
3) SECOND EVAPORATOR FAN FITTED TO FSL 800L MODEL.
4) DEFROST HEATERS:
   FSL 400L – 500W
   FSL 600L – 600W
   FSL 800L – 1000W
   KLIXON – NC TYPE – O/C >20°C, C/C<=10°C

REV	DESCRIPTION	BY	DATE
01			

FOSTER REFRIGERATOR (U.K) LTD
OLDMEDOW ROAD KING'S LYNN NORFOLK PE30 4JU

TITLE – WIRING DIAGRAM FOR FSL 400L, FSL 600L, FSL 800L

DRAWING NO. – 01-253346-00-00
SHEET 1 OF 1
DRAWN – NAD | SCALE – NTS | DATE – 23/02/05
CHECKED IN ACCORDANCE WITH OP-07D-DEV-E FORM NO. WDB –

Controller Operation

Operation Guidelines for Foster controller part number LCD 28CS4E-B (00-555735) Controller with the LCD 16 Display

LCD 16 Display (00-555740)

Initial Start Up.

Start Up & self Test: -

The indication is only displayed during the first three seconds following the mains electrical power being applied to the unit. During this period the controller performs a self-check.

Once the self-check has been completed OFF will be displayed.

Press and hold 0/I for three seconds. The unit will start and the air temperature will be displayed.

Check temperature set point.

Important to note that the ability to increase and decrease the set point is not a function available to the user as the set point is fixed. To make adjustments to the set point it is necessary to access the parameter and alter SPL and SPH accordingly.

Check set point by pressing the button i•set

To increase set point press i•set + ▶▶•II until required temperature is displayed.

To decrease set point press i•set + ◀◀• until required temperature is displayed.

Factory Set Temperature Range

Refrigerator +1°C to +4°C
Freezer -18°C to -21°C.

Exit from set up occurs after 10 seconds if no button is pressed.

Manual Defrost.

To initiate a manual defrost press and hold ◀◀• when dEF is displayed release. ◀◀•

On completion of the defrost rEc will be displayed until the cabinet set temperature is achieved after which it will revert to displaying the normal cabinet temperature.

Set Unit to Standby.

Press 0/I display shows OFF

Standby Indication

This indication is displayed while the unit is not operating but with mains power applied to the unit. This mode may be used for internal cleaning regimes and short periods when the unit is not required.
For extended periods of inactivity the mains supply should be isolated.

Alarm and Warnings

High temperature alarm. HI Will be displayed.

The alarm will sound but can be silenced by pressing any of the buttons, however it will return after the pre-set designated period as set in parameter **'ATH'**. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Evaporator fan not working. Restricted airflow through airduct. Evaporator iced up. Compressor not working.

Low temperature alarm. LO Will be displayed.

The alarm will sound but can be silenced by pressing any of the buttons and the unit will continue to operate, however it will return after the pre-set designated period as set in parameter **'ATH'**. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Controller faulty (not switching compressor off). Compressor secondary relay will not de-energise (low temperature models).

Door Open Alarm. (*Only applies to cabinets fitted with door switches.*) DO Will be displayed.

The alarm will sound but can be silenced by pressing. 
The display will continue to display the alarm message until cancelled by shutting the door.
After 1 minute the compressor will stop, as set in parameter **'CSD'**.
Possible Causes: Faulty door switch. Door left open for more than 5 minutes, as set in parameter **'ADO'**.

High Pressure Alarm (Only applies to machines fitted with a condenser probe). HP Will be displayed

This alarm relate to the condenser which must be checked and cleaned at regular intervals the frequency being determined by site conditions.
The alarm will sound but can be silenced by pressing any of the buttons and the unit will continue to operate, however it will return after the pre-set designated period, as set in parameter **'ATH'**. The unit returning to normal operating temperature will automatically cancel the alarm.
Possible Causes: Condenser fan not working. Condenser blocked/ dirty. Condenser obstructed.

Air Temperature Probe Failure. E1 Will be displayed.

The alarm will sound but can be silenced by pressing any button.
There is no further action that can be taken by the user in this instance. During this period the unit will continue to operate but have a reduced performance with the compressor running for 7 minutes and resting for 3 minutes as set in parameter **'CDC**'.
Action: Replace Probe.

Evaporator Temperature Probe Failure. (Automatic Defrost Cabinets Only) E2 Will be displayed.

The alarm will sound but can be silenced by pressing any button.
There is no further action that can be taken by the user in this instance. During this period the unit will continue to operate satisfactorily with the defrost being controlled on a timed basis and not temperature which may have an effect on the overall efficiency if allowed to continue.
Action: Replace Probe.

Information Menu

Pressing and releasing  activates the information menu. From this menu you can display the temperature relating to T1 (air probe), T2 (evaporator probe, if fitted) and T3 (condenser probe, if fitted).
The maximum temperature (THI) and the minimum temperature (TLO) the cabinet has achieved since it was last re-set.
The total operating time of the condenser (CND), since it was last cleaned, and the keyboard status (LOC).

The information to be displayed can be selected sequentially by pressing  repeatedly or scrolling through the menu using the  or  buttons.

Once selected press  to display the value

Exit from the info menu by pressing  or automatic after 6 seconds if no buttons are pressed.

To reset the temperature settings recorded in THI and TLO and the hours counted in CND, access the info menu press  to display the value plus  simultaneously for resetting to be completed.

Parameter Setting and Adjustment

It is strongly advised that before adjusting any Service Parameters a thorough understanding of the following instructions should be obtained.

The parameters are accessed by pressing the following keys in succession  + **"set"** +  and keeping them pressed for 5 seconds.

After this period the first parameter **'SCL'** will be displayed.

Press button  to pass from one parameter to the next and button  to go back.

Press  to display the value +  or  to change it.

Exit from set up is by pressing  or is automatic if no buttons are pressed for 30 seconds

NOTE:

When receiving a replacement controller the unit will be set with the default settings. Change the settings to those relating to the particular model. After changing parameter 'SCL' from '1' to '2' moving through parameters 'SPL', 'SP', 'FDD', IISL' and 'IISP' you may find that '-or' will be displayed. '-or' indicates that the control setting is out of range.

To get the parameter back into range, for example 'SPL', press 

to display the value + 

continue pressing both buttons until the display shows the temperature required then release both buttons. Use the same procedure to adjust all of the parameters displaying '-or'.

LCD 28CS4E-B (00-555735) Controller Parameter lists

For models FSL 400H, FSL 600H, FSL 800H

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (A)
SCL	Readout scale	**1°C; 2°C; °F**		**1°C**	flag	**2**
SPL	Minimum setpoint [I]	**-30**	**SPH**	**-25**	°C	**1**
SPH	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**1**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**1**
HYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**3**
CRT	Minimum compressor rest time	**0**	**30**	**1**	min.	**2**
CDC	10 min. run cycle with PF1	**0**	**10**	**6**	min.	**6**
CSD	Compressor Stop delay after door open	**0**	**30**	**1**	min.	**1**
DFR	Defrost frequency [I]	**0**	**24**	**3**	1/24h	**4**
DLI	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
DTO	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
DTY	Defrost type	**FAN; ELE; GAS**		**ELE**	flag	**OFF**
DRN	Drain down time	**0**	**30**	**3**	min.	**2**
DDY	Display control during defrost	**0**	**60**	**10**	min.	**10**
FID	Fan operation in defrost	**NO**	**YES**	**NO**	flag	**YES**
FDD	Evaporator. Fan re-start	**-30**	**30**	**-50**	°C	**10**
FTC	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**NO**
ATL	Low temperature alarm	**-12**	**0**	**0**	°K	**-5**
ATH	High temperature alarm	**0**	**12**	**5**	°K	**5**
ATD	Temperature alarm delay	**0**	**120**	**30**	min.	**90**
ADO	Door alarm delay	**0**	**30**	**5**	min.	**5**
AHT	Condenser HP Alarm	**0**	**70**	**60**	°C	**60**
AHM	AHT alarm management	**NON; ALR; STP**		**NON**	flag	**NON**
ACC	Condenser cleaning	**0**	**52**	**0**	wks	**0**
HDS	Eco->Heavy Duty sensitivity	**1**	**5**	**3**	flag	**3**
IISM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**NON**
IISL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-25**
IISH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**10**
IISP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-20**
IIHY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
IIDF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**1**
IIFT	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
SBY	Stand By button function	**NO**	**YES**	**YES**	flag	**YES**
DS	Door switch enabling	**NO**	**YES**	**NO**	flag	**YES**
OAU	AUX Output Control	**NON; 0-1; ALR**		**ALR**	flag	**NON**
OS1	Air probe offset	**-12.5**	**12.5**	**0**	°K	**0**
T2	Evaporator. Probe enabling	**NO**	**YES**	**YES**	flag	**NO**
OS2	Evaporator. Probe offset	**-12.5**	**12.5**	**0**	°K	**0**
T3	Condenser. Probe enabling	**NO**	**YES**	**NO**	flag	**NO**
OS3	Condenser. Probe offset	**-12.5**	**12.5**	**0**	°K	**0**
TLD	Logging Temp. Delay	**1**	**30**	**5**	min.	**5**

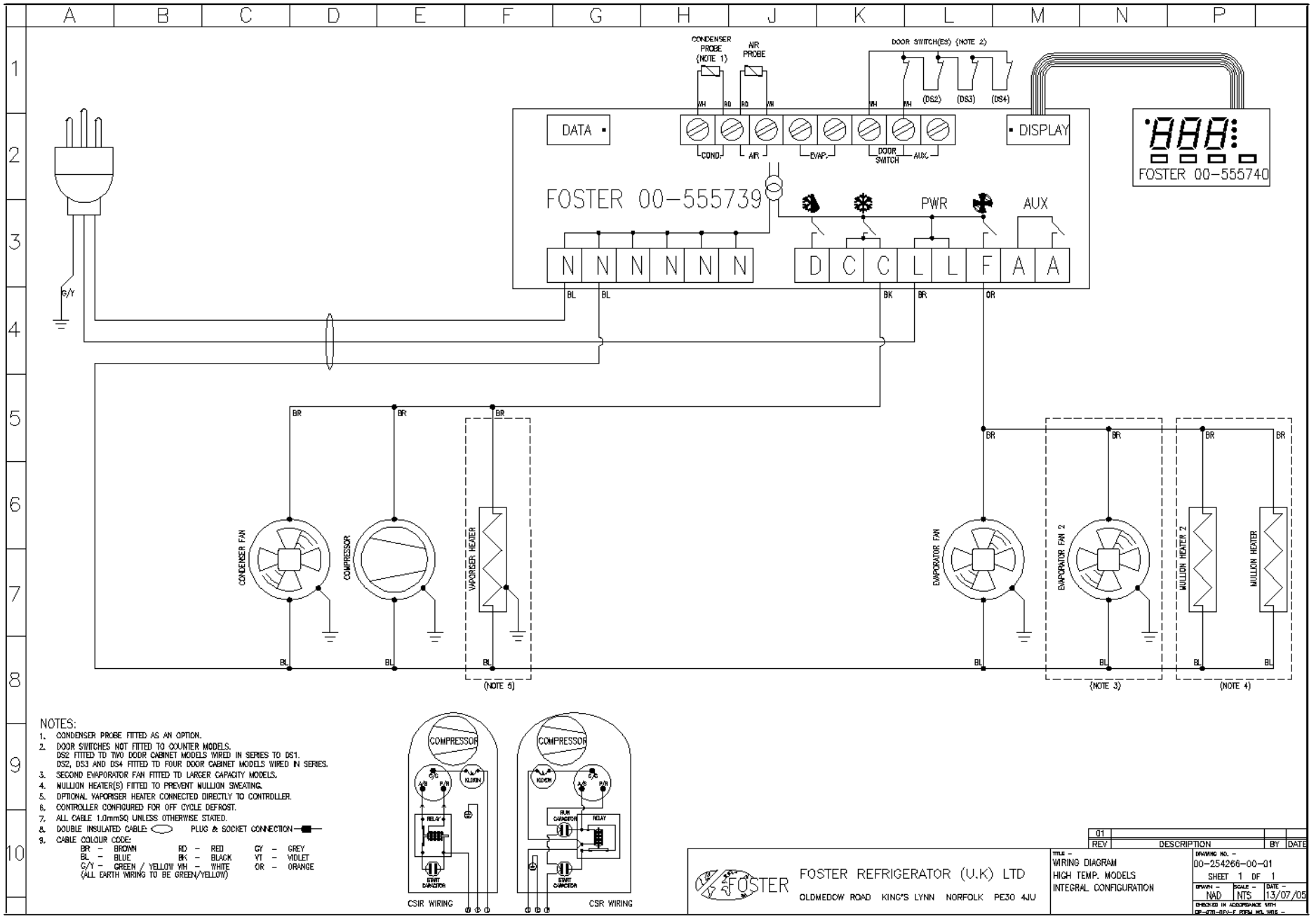
SIM	Display slowdown	**0**	**100**	**3**	exp.	**3**
ADR	Unit address	**1**	**255**	**1**	exp.	**1**

LCD 28CS4E-B (00-555735) Controller Parameter lists

For models FSL 400L, FSL 600L, FSL 800L

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (C)
SCL	Readout scale	**1°C; 2°C; °F**		**1°C**	flag	**2**
SPL	Minimum setpoint [I]	**-30**	**SPH**	**-25**	°C	**-21**
SPH	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**-21**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-21**
HYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**3**
CRT	Minimum compressor rest time	**0**	**30**	**1**	min.	**2**
CDC	10 min. run cycle with PF1	**0**	**10**	**6**	min.	**6**
CSD	Compressor Stop delay after door open	**0**	**30**	**1**	min.	**1**
DFR	Defrost frequency [I]	**0**	**24**	**3**	1/24h	**4**
DLI	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
DTO	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
DTY	Defrost type	**FAN; ELE; GAS**		**ELE**	flag	**ELE**
DRN	Drain down time	**0**	**30**	**3**	min.	**2**
DDY	Display control during defrost	**0**	**60**	**10**	min.	**10**
FID	Fan operation in defrost	**NO**	**YES**	**NO**	flag	**NO**
FDD	Evaporator. Fan re-start	**-30**	**30**	**-50**	°C	**-5**
FTC	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**NO**
ATL	Low temperature alarm	**-12**	**0**	**0**	°K	**-5**
ATH	High temperature alarm	**0**	**12**	**5**	°K	**5**
ATD	Temperature alarm delay	**0**	**120**	**30**	min.	**90**
ADO	Door alarm delay	**0**	**30**	**5**	min.	**5**
AHT	Condenser HP Alarm	**0**	**70**	**60**	°C	**60**
AHM	AHT alarm management	**NON; ALR; STP**		**NON**	flag	**NON**
ACC	Condenser cleaning	**0**	**52**	**0**	wks	**0**
HDS	Eco->Heavy Duty sensitivity	**1**	**5**	**3**	flag	**3**
IISM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**NON**
IISL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-25**
IISH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**10**
IISP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-20**
IIHY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
IIDF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**1**
IIFT	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
SBY	Stand By button function	**NO**	**YES**	**YES**	flag	**YES**
DS	Door switch enabling	**NO**	**YES**	**NO**	flag	**YES**
OAU	AUX Output Control	**NON; 0-1; ALR**		**ALR**	flag	**NON**
OS1	Air probe offset	**-12.5**	**12.5**	**0**	°K	**0**
T2	Evaporator. Probe enabling	**NO**	**YES**	**YES**	flag	**YES**
OS2	Evaporator. Probe offset	**-12.5**	**12.5**	**0**	°K	**0**
T3	Condenser. Probe enabling	**NO**	**YES**	**NO**	flag	**NO**
OS3	Condenser. Probe offset	**-12.5**	**12.5**	**0**	°K	**0**
TLD	Logging Temp. Delay	**1**	**30**	**5**	min.	**5**
SIM	Display slowdown	**0**	**100**	**3**	exp.	**3**
ADR	Unit address	**1**	**255**	**1**	exp.	**1**

High Temperature Models Wiring Diagram Using Foster Controller LCD 28CS4E-B part number 00-555735



NOTES:

1. CONDENSER PROBE FITTED AS AN OPTION.
2. DOOR SWITCHES NOT FITTED TO COUNTER MODELS.
   DS2 FITTED TO TWO DOOR CABINET MODELS WIRED IN SERIES TO DS1.
   DS2, DS3 AND DS4 FITTED TO FOUR DOOR CABINET MODELS WIRED IN SERIES.
3. SECOND EVAPORATOR FAN FITTED TO LARGER CAPACITY MODELS.
4. MULLION HEATER(S) FITTED TO PREVENT MULLION SWEATING.
5. OPTIONAL VAPORISER HEATER CONNECTED DIRECTLY TO CONTROLLER.
6. CONTROLLER CONFIGURED FOR OFF CYCLE DEFROST.
7. ALL CABLE 1.0mmSQ UNLESS OTHERWISE STATED.
8. DOUBLE INSULATED CABLE: ⬭ PLUG & SOCKET CONNECTION —■
9. CABLE COLOUR CODE:

BR	BROWN	RD	RED	GY	GREY
BL	BLUE	BK	BLACK	VT	VIOLET
G/Y	GREEN / YELLOW	WH	WHITE	OR	ORANGE

(ALL EARTH WIRING TO BE GREEN/YELLOW)

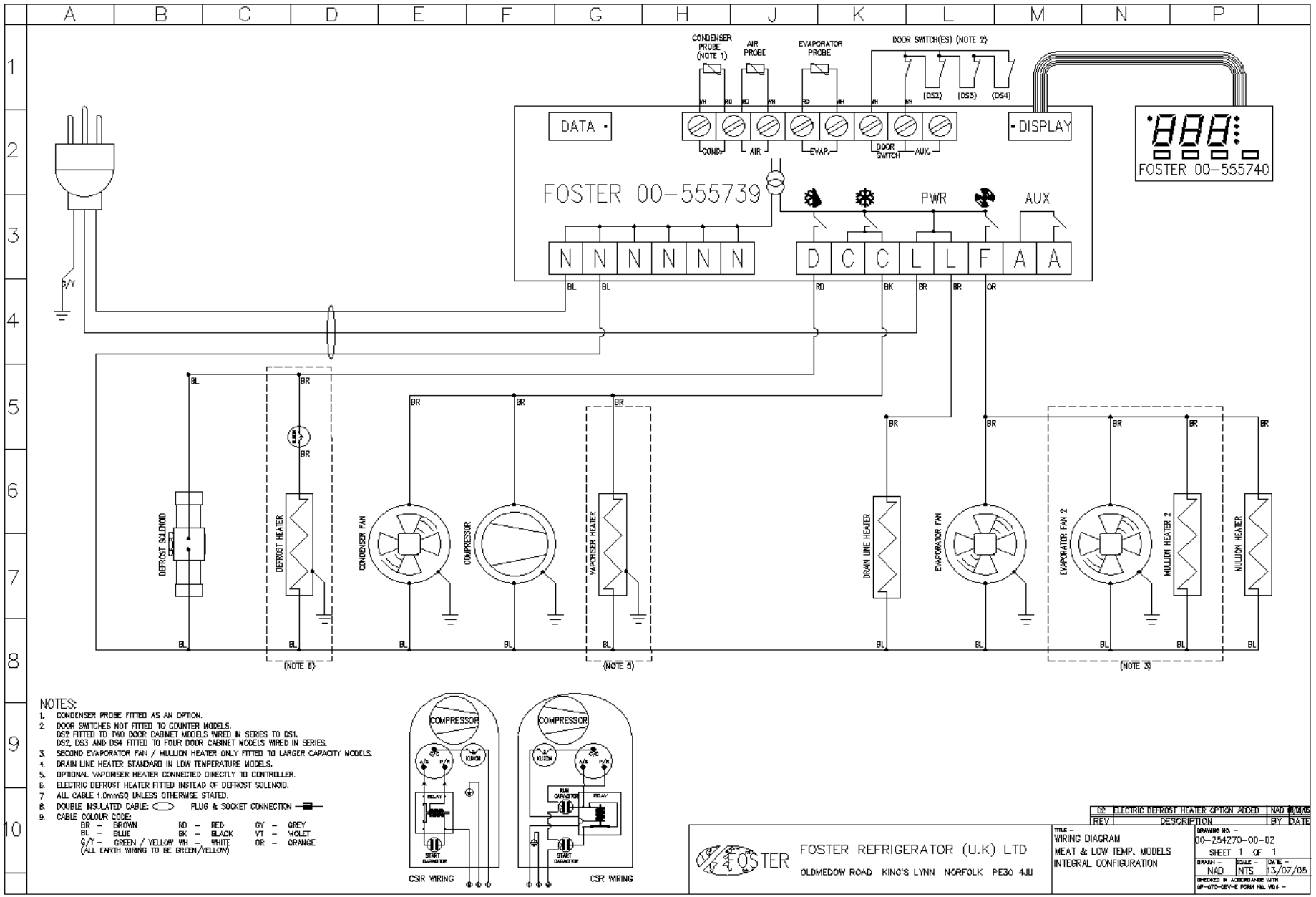
REV	DESCRIPTION	BY	DATE
01			

FOSTER REFRIGERATOR (U.K) LTD
OLDMEDOW ROAD KING'S LYNN NORFOLK PE30 4JU

TITLE – WIRING DIAGRAM HIGH TEMP. MODELS INTEGRAL CONFIGURATION

DRAWING NO. – 00-254266-00-01
SHEET 1 OF 1
DRWN – NAD | SCALE – NTS | DATE – 13/07/05
CHECKED IN ACCORDANCE WITH DP-QTI-PRV-F ITEM NO. N/A –

Low Temperature Models Wiring Diagram Using Foster Controller LCD 28CS4E-B part number 00-555735



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FSLSM/05/05