

Gastronorm Supra Cabinet & Counter



Service Manual



Gastronorm Supra Cabinet & Counter

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1. GASTRONORM CABINETS AND COUNTERS FROM 1996 ONWARDS

1.1 INTRODUCTION


A microprocessor temperature controller which holds and displays a pre-set counter / cabinet air temperature. The controller performs many other functions which include automatic defrost initiation, alarm functions and calculation of stored product temperature.


The display fascia panel and microprocessor control board form a single integral unit, from here on referred to as the controller.


1.2 SYMBOLS AND INDICATORS


1.2.1 The symbols on the fascia panel consist of a seven segment display together with the following indicators and symbols.


1.2.2 Illuminated indicators — these appear adjacent to the three digit display.

1.2.3 **Condensing Unit** -  LED illuminated green when Condensing Unit output is high.

1.2.4 **Evaporator Fans** -  LED illuminated green when Evaporator Fan output is high.

1.2.5 **Condenser Clean** -  LED Illuminated green when Condenser Clean time (P2) has elapsed.

1.2.6 **Food temperature** -  LED illuminated amber when Calculated Stored Product Temperature is outside the pre-set High and Low Food Temperature Alarm Settings (C2 and C3 respectively).





1.2.7 **Door Open** -  LED illuminated red when the Door Alarm Delay (A1) has elapsed. Extinguished when all doors are re-closed.


1.3 PARAMETER PROGRAMMING AND OPERATING INSTRUCTIONS

1.3.1 The parameters which control the operation are divided into User Parameters (those to which the operator has access) and the Factory Set parameters (additional parameters not intended to be modified by the user).

1.3.2 User Parameter Programming — Access to the user parameters can be made by a simple series of key operations.

1.3.3 While the controller is switched in and operating normally, pressing the **SET** button will cause the controller to enter the programming mode, with the display showing **SET**. Further operation of the **SET** key causes the display to scroll through the User Parameters C1 to C4.



While the **SET** key is depressed, the parameter number is displayed, releasing the **SET** key causes the value of the parameter to be displayed. A parameter value may be altered using the  (increment) or  (Decrement key). While the  or  key is depressed, the parameter number is displayed, releasing the key causes the new value of the parameter (incremented or decremented) to be displayed.




1.3.4 To exit the User Parameter Programming Mode and return to normal operation of the Controller, the  key must be pressed while holding down the **SET** key. While both buttons are depressed the display will show **FIN** and releasing the buttons will return the Controller to normal operation with the display showing internal air temperature. Note, while the Controller is in the programming mode, control of the cabinet/ counter refrigeration components is still maintained.

Note, while in the programming mode, if no button is depressed for two minutes, the Controller will revert to normal operation.

1.3.5 Example:

Press SET	Display shows SET	
Press SET	Display shows C1	(while SET button is depressed)
	Display shows value	(when SET button is released)
Press SET	Display shows C2	(while SET button is depressed)
	Display shows value	(when SET button is released)

Pressing  or  buttons will cause the value of a parameter to increment.

Press 	Display shows C2	(while the  button is depressed)
	Display shows new value	(when the  button is released)

Press SET	Display shows C3	(while the SET button is depressed)
	Display shows new value	(when the SET button is released)

Press SET	Display shows C4	(while the SET button is depressed)
	Display shows ne value	(when the SET button is released)

Pressing the **SET** button after the last parameter will cause the display to return again to the first parameter.



Press SET	Display shows C1	(while SET button is depressed)
	Display shows value	(when SET button is released)

If desired, the controller can be caused to exit the programming mode having saved any new parameter values.




Press SET &  together	Display shows FIN Display shown Air Temp	(while buttons are depressed) (when buttons are released)
--	--	--

1.4 ENTERING FACTORY SET AND PROGRAMMING MODE




1.4.1 Display Factory Parameter

Access to the Factory Parameter settings is made by first entering the User Programme C1 to C4. Holding down the **SET** key and pressing the  key will cause the controller to display **FIN**. Releasing the  key and depressing the 'I/O' (with the **SET** key still pressed) will cause the controller to display **LLL**. Pressing the **SET** key will scroll through to parameter L1.




1.4.2 Display / Amend Parameters P1 - P6.

Holding the **SET** key and pressing the  key will cause the controller to display 'OPS'. Pressing the **SET** key will scroll through parameters P1 to P6. Parameter values may be altered using  or  key.


1.4.3 Display / Amend Parameters D1 - D8.

Holding the **SET** key and pressing the  key will cause the controller to display 'df'. Pressing the **SET** key will scroll through parameters D1 to D8. Parameter values may be altered using  or  key.

1.4.4 Display / Amend Parameters A1 - A6.

Holding the **SET** key and pressing the  key will cause the controller to display 'AL'. Pressing the **SET** key will scroll through parameters A1 to A8. Parameter values may be altered using  or  key.

1.4.5 Exit Factory Parameters.

To exit Factory Parameter Programming and return to normal operation of the controller, the **SET** key must be held down and the  key must be pressed. While both buttons are pressed, the display will show **FIN** and releasing the buttons will return the controller to normal operation.

Note, while in the programming mode, if no button is pressed for a period of thirty seconds, the controller will revert to normal operation.


1.4.6 Defrost.

During the Defrost operation the display will show DEF. The evaporator indicator will be off. At the end of the defrost operation there will be a drain down period when neither the compressor or evaporator will run, therefore both indicator lights will be off. During this period DEF will be displayed. Upon completion of the drain down period, the Recovery operation is initiated with the display showing REC.

The compressor will run and the green compressor on indicator will illuminate.

On completion of the fan delay period (either by temperature or time) the evaporator fan will run with the green fan indicator LED illuminated.

At the end of the Recovery time the display will revert back to displaying the internal cabinet temperature.

To initiate a MANUAL DEFROST press and hold the defrost button, press the  button, the display will show DEF, release both buttons.

The defrost will be the same as an automatic defrost.

1.5 FACTORY SET PARAMETERS

SET No.	CABINET MODELS			COUNTER MODELS		
1	GS	501, 601, 1131, 1351, 2101	HT	GSC	ALL	H
	GS	501, 601, 1131, 1351, 2101	HTR	GSC	ALL	HR
	GS	501, 601, 1131	HU			
	GS	501, 601, 1131	HUR			
	GS	ALL (High Temp Section)	HLT			
2	GS	501, 601, 1131	WT			
	GS	501, 601, 1131	WTR			
	GS	501, 601, 1131	WU			
	GS	501, 601, 1131	WUR			
3	GS	601, 1131	FT	GSC	ALL	F
				GSC	ALL	FR
4	GS	501, 601, 1131, 1351	LT	GSC	ALL	L
5	GS	501, 601, 1131, 1351	MT	GSC	ALL	M
6	GS	501, 601, 1131, 1351	CT	GSC	ALL	C
7	GS	2101	MT	GSC	ALL	MR
	GS	501, 601, 1131, 1351, 2101	MTR			
	GS	501, 601, 1131	MU			
	GS	501, 601, 1131	MUR			
8	GS	2101	CT	GSC	ALL	CR
	GS	501, 601, 1131, 1351, 2101	CTR			
	GS	501, 601, 1131	CU			
	GS	501, 601, 1131	CUR			
9	GS	501, 601	LU	GSC	ALL	LR
	GS	ALL (Low Temp Section)	HLT			
10	GS	501, 601, 1351	LTR			
	GS	ALL (Low Temp Section)	LUR			
11	GS	2101	LT			
	GS	2101	LTR			
	GS	1131	LU			

Parameter Set No.		1	2	3	4	5	6	7	8	9	10	11	
Parameter													
Temperature Set Point	C1	1	10	-1	-21	-2	0	-2	0	-21	-21	-21	C1
High Food Temp Alarm	C2	8	19	5	-15	5	8	5	8	-15	-15	-15	C2
Low Temp Food Alarm	C3	0	4	-3	-25	-4	-1	-4	-1	-25	-25	-25	C3
Condenser Clean Interval	C4	0	0	0	0	0	0	0	0	0	0	0	C4
Time Since Last Defrost	L1												L1
Temperature Differential	P1	3	2	2	3	2	2	2	2	3	3	3	P1
Time Between Condenser Clean	P2	15	15	15	15	15	15	15	15	15	15	15	P2
Maximum Set Point	P3	5	17	2	-15	0	2	0	2	-15	-15	-15	P3
Minimum Set Point	P4	1	5	-2	-25	-3	-1	-3	-1	-25	-25	-25	P4
Evap Fan Operating During Defrost	P5	1	1	1	0	0	0	0	0	0	0	0	P5
Air Temperature Offset	P6	0	0	0	0	0	0	0	0	0	0	0	P6
Number of Defrost Per Day	D1	4	4	4	4	4	4	4	4	4	4	4	D1
Termination Temperature	D2	30	30	30	30	30	30	15	15	20	30	15	D2
Termination Time	D3	15	15	15	10	5	5	10	10	15	15	12	D3
Defrost Type	D4	0	0	0	1	1	1	0	0	0	0	0	D4
Drain Down Time	D5	1	0	1	1	1	1	1	1	1	1	1	D5
Fan Delay Time	D6	5	5	5	5	3	3	3	3	5	5	5	D6
Fan Delay Temperature	D7	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	D7
Recovery Time	D8	5	5	5	8	5	5	5	5	5	5	5	D8
Door Alarm Delay	A1	5	5	5	5	5	5	5	5	5	5	5	A1
Internal Audible Alarm Select	A2	1	1	1	1	1	1	1	1	1	1	1	A2
External Alarm Select	A3	1	1	1	1	1	1	1	1	1	1	1	A3
Probe Failure Response	A4	0	0	0	0	0	0	0	0	1	1	1	A4
Max. High Food Temp Alarm	A5	10	20	8	-10	8	10	8	10	-10	-10	-10	A5
Min. Low Food Temp Alarm	A6	-5	2	-5	-30	-5	-2	-5	-2	-30	-30	-30	A6

1.6 ERROR ANNUNCIATION

1.6.1 Should a temperature probe failure occur the controller will indicate the fault by flashing on the fascia: **PF1** or **PF2**.

PF1. When an air probe fault occurs the Condensing Unit Output may fall low depending on the status of the parameter Probe Failure Response (A4).

PF2. If an evaporator probe failure occurs, the parameter defrost Termination Temperature (D2) is ignored and defrosts are caused to terminate only after the period Termination Time (D3) has elapsed.


Please Note:

As of November 1998 the **RED** defrost probe (PF2) has been removed and replaced with a 5.1kOhm Resistor.

All new controllers come with the resistor fitted. Should you require resistors you can contact the Product Support at King's Lynn and they will be issued free of charge.

For Supra Cabinet and Counter products having hot gas defrost, no changes are required to the parameter settings.

For Supra Cabinet and Counter electric defrost models, a heat limit Klixon should be fitted as an additional safety device. The type of Klixon to be fitted will depend on the particular model, for further information on type contact the Product Support Department on Telephone Number: 01553 691122.

The effect of removing the probe will mean that the coil probe will always be shown as between -1°C or +1°C when pressing the  button.

1.5.2 Ferrite Ring Suppressor on the Supra Controller.

As of October 1998 a ferrite core has been fitted to give immunity to the controller from mains borne electrical noise ("EFT" = Electrical Fast Transients). The ferrite operates by absorbing energy from the noise, thus reducing the amount of noise passed on to the controller.

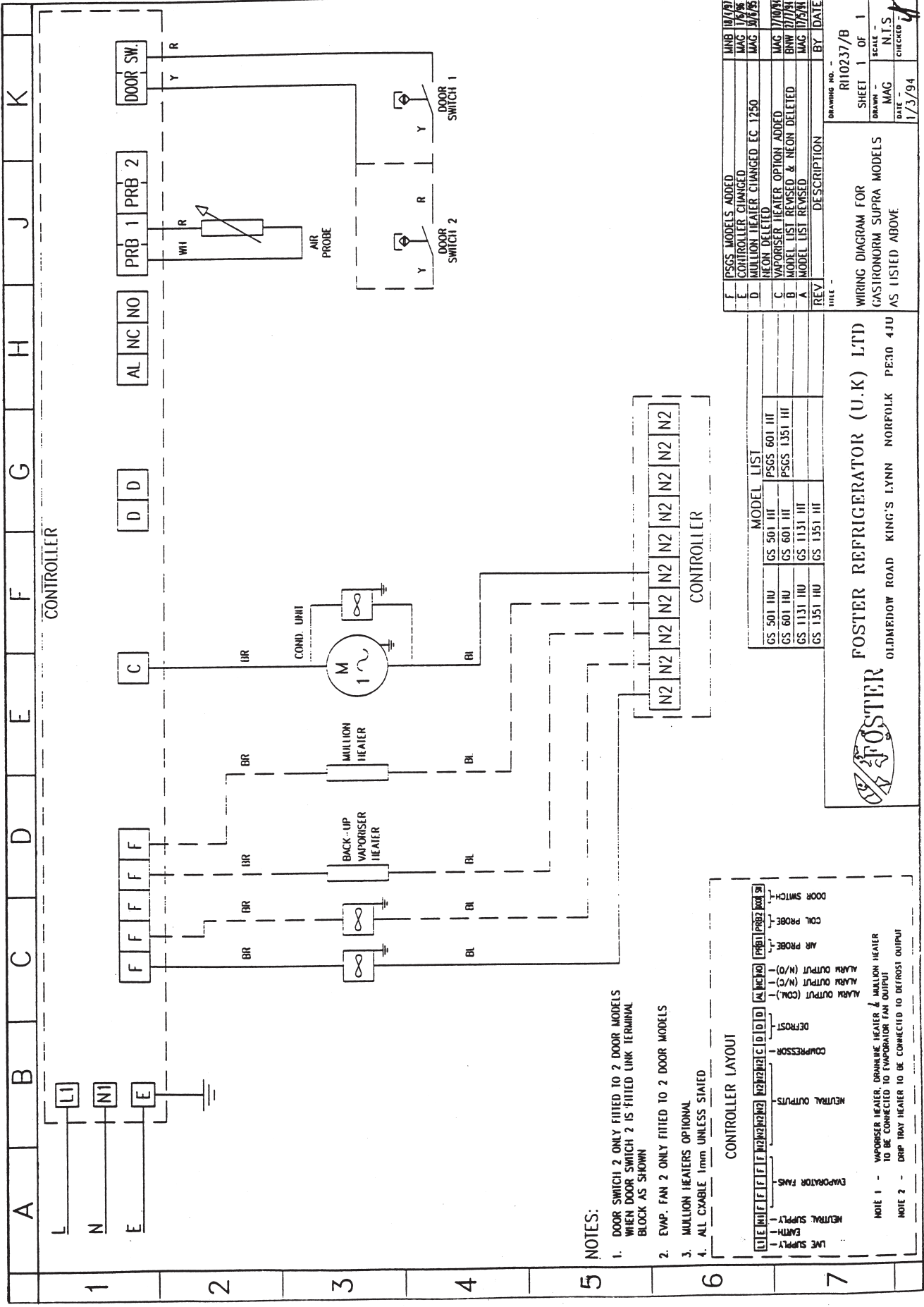
For further information contact the Product Support Department on Telephone Number: 01553 691122.

1.5.3 Door Open Alarm

When the door is open the evaporator fans are switched off. The green **LED** will flash. After a pre-programmed set point an audible alarm will be turned on and the red alarm **LED** will flash. This alarm will be cleared when the door is closed.

If the door is left open for more than five minutes the compressor will also be turned off, i.e., nothing will be on except the lights.

WIRING DIAGRAM



- NOTES:**
1. DOOR SWITCH 2 ONLY FITTED TO 2 DOOR MODELS WHEN DOOR SWITCH 2 IS FITTED LINK TERMINAL BLOCK AS SHOWN
 2. EVAP. FAN 2 ONLY FITTED TO 2 DOOR MODELS
 3. MILLION HEATERS OPTIONAL
 4. ALL CABLE 1mm UNLESS STATED

CONTROLLER LAYOUT

LINE SUPPLY	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26	L27	L28	L29	L30	L31	L32	L33	L34	L35	L36	L37	L38	L39	L40	L41	L42	L43	L44	L45	L46	L47	L48	L49	L50	L51	L52	L53	L54	L55	L56	L57	L58	L59	L60	L61	L62	L63	L64	L65	L66	L67	L68	L69	L70	L71	L72	L73	L74	L75	L76	L77	L78	L79	L80	L81	L82	L83	L84	L85	L86	L87	L88	L89	L90	L91	L92	L93	L94	L95	L96	L97	L98	L99	L100
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NOTE 1 - VAPOURISER HEATER, DRAINAGE HEATER & MILLION HEATER TO BE CONNECTED TO VAPOURISER FAN OUTPUT

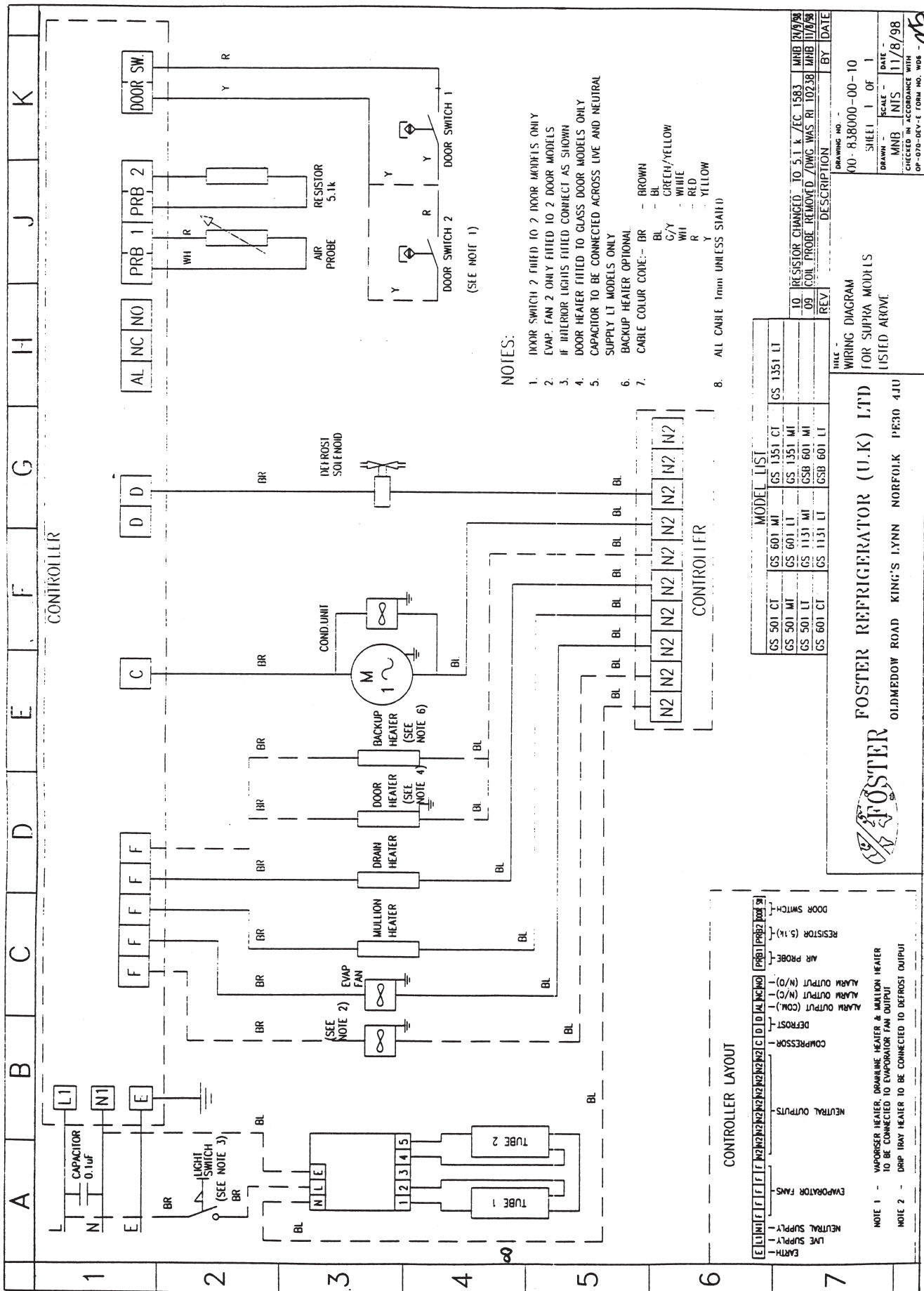
NOTE 2 - DRIP TRAY HEATER TO BE CONNECTED TO DEFROST OUTPUT

F	PSGS MODELS ADDED	MWB 18/7/97
E	CONTROLLER CHANGED	MAG 17/6/96
D	MILLION HEATER CHANGED EC 1250	MAG 16/6/95
C	NEON DELETED	MAG 17/10/94
B	VAPOURISER HEATER OPTION ADDED	BNW 17/7/94
A	MODEL LIST REVERSED & NEON DELETED	MAG 17/2/94
REV	DESCRIPTION	BY DATE
DRAWING NO. - R110237/B		
SHEET 1 OF 1		
SCALE -		
DRAWN - MAG		N.T.S.
DATE - 1/3/94		CHECKED -

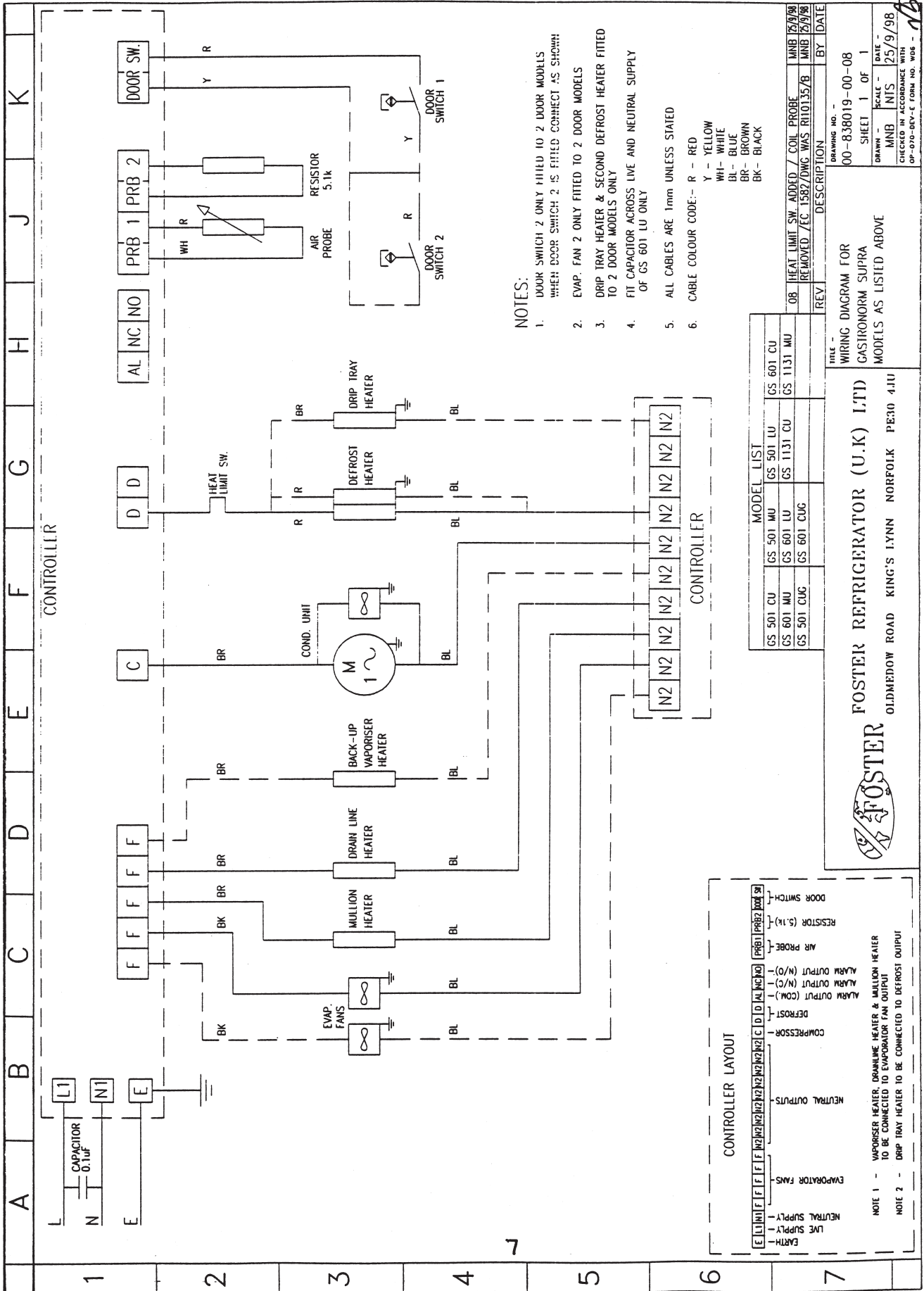
FOSTER REFRIGERATOR (U.K) LTD
 OLDMEADOW ROAD KING'S LYNN NORFOLK PE30 4JU



WIRING DIAGRAM



WIRING DIAGRAM



7

CONTROLLER LAYOUT

E	L	N	E	F	F	F	F	F	F	F	D	D	C	D	A	L	N	C	N	O	PRB1	PRB2	DOOR SW
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	------	------	---------

NOTE 1 - VAPORISER HEATER, DRAIN LINE HEATER & MULLION HEATER TO BE CONNECTED TO EVAPORATOR FAN OUTPUT
NOTE 2 - DRIP TRAY HEATER TO BE CONNECTED TO DEFROST OUTPUT

REV	DESCRIPTION	BY	DATE
08	HEAT LIMIT SW. ADDED / COIL PROBE REMOVED / EC 1582/DWG WAS R110135/8	MNB	15/9/98
		MNB	15/9/98

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

TITLE - WIRING DIAGRAM FOR GASTRONORM SUPRA MODELS AS LISTED ABOVE

DRAWING NO. - 00-838019-00-08
 SHEET 1 OF 1

DATE - 25/9/98
 SCALE - N/S
 CHECKED IN ACCORDANCE WITH OF-070-001-E FORM NO. W05 - 1/8

2. CONTROLLER OPERATION FOR CABINETS FROM 1994 TO 1996

2.1 SERVICE DATA

One function of the controller is to provide certain data which may assist engineers in fault diagnosis.

The function is 'LLL' in factory set parameters. Access into this function is described in the general operating instructions.

Function

L1 The data displayed shows the time in hours since the last defrost.

This can be of help if a complaint of 'icing' up of the evaporator has been received as this allows the engineer to check that defrost occurs and whether under certain circumstances the defrost period is long enough.

L2 In the event of high frequency door opening the value is displayed between 0 and 10.

This value is a percentage of the door opening time.

<u>Display</u>	<u>Door Operation</u>
00	Door closed for 100% of the time.
1	Door has been open for 10% of the time.
2	Door has been open for 20% of the time.
3	Door has been open for 30% of the time.
4	Door has been open for 40% of the time.
5	Door has been open for 50% of the time.
6	Door has been open for 60% of the time.
7	Door has been open for 70% of the time.
8	Door has been open for 80% of the time.
9	Door has been open for 90% of the time.
10	Door has been open for 100% of the time.

This data can be useful if an engineer is called to investigate poor performance / high cabinet temperature as he can see from the factor displayed if heavy door usage could be the cause of the performance experienced.

L3 The data displayed will be the door open factor (L2) at the time of the last overtemperature warning occurred.


The values displayed will change automatically as the operation of the cabinet changes. It is not possible to change the values using the increment and decrement buttons.

2.2 INTRODUCTION


This is a multi-function microprocessor digital temperature controller which not only controls and displays the cabinet temperature but has other features and displays.

2.3 DISPLAYS

2.3.1 Compressor.


The cycle of the compressor is indicated by means of a green **LED** adjacent to the symbol  on the facia. When illuminated the compressor is running during the normal running operation or during defrost if the hot gas method is used.

2.3.2 Evaporator Fan.


The operation of the evaporator is indicated by means of a green **LED** adjacent to the symbol  whilst it is illuminated.

When the door is opened the green **LED** will 'flash'. When closed it will revert back to a solid display.

2.3.3 Condenser Clean.

Adjacent to the condenser symbol  is a green **LED** that illuminates if the compressor run time exceeds the value entered in the service programme (the value is based on hundreds of hours). If illuminated clean the condenser and re-set the compressor run hours in the customer programme C4.

2.3.4 Food Temperature Value.

The temperature of the 'food' within the cabinet is monitored via the microprocessor which 'calculates' from the air sensing probe the stored food temperature. If this temperature is within the high/low food temperature conditions set within the factory service parameters, the green LED at the top left hand corner of the display window will be illuminated. If it is outside the high/low settings the red **LED** adjacent to the  symbol will be illuminated.

It should be noted that as the monitoring system simulates actual food there will be a delay in reaching the 'safe' conditions after initial start up of the cabinet. This time could be up to 6-8 hours depending on storage temperature.

2.4 PARAMETER PROGRAMMING AND OPERATING INSTRUCTIONS

The controller is a multi-function microprocessor having five levels of control operation. The 'end user' has access only to one level limiting accidental changing of operation parameters.

2.4.1 Switching On.







With power connected to the cabinet the display on the controller fascia will be — — —
Switch on by depressing the on/off button. The display will show actual internal temperature plus compressor and evaporator fan LED's.


2.4.2 User Operation.

Cut out temperature.






2.4.3 Press SET — display — SET

2.4.4 Press SET again — display — C1
Release — display — cut out temperature


2.4.5 To adjust — press  or  buttons: during this process as the  or  buttons is pressed the parameter will be displayed and releasing it will show the value. As the button is continuously pressed the value will change. When the required value is set cease pressing the  or  buttons.

2.4.6 To exit operation press SET — display C2.
Hold SET press  — display FIN.
Release both buttons. The cabinet will operate to the new value.

To change high/low alarm setting



- 2.4.7 Press SET — display SET.
Press SET — display C1.
Release — display value of C1.
- 2.4.8 Press SET — display C2 (high temp alarm).
Release — display value of C2.
To adjust press  or  as instruction 1.3.5 page 4.
- 2.4.9 Press SET — display C3 (low temp alarm).
Release — display value of C3.
To adjust press  or  as instruction 1.3.5 page 4.
- 2.4.10 Press SET — display C4 (condenser clean, hours reset).
Release — display value — compressor run hours.
To reset to zero  as instruction 1.3.5 page 4.

To exit programming and allow the cabinet to operate normally.

- 2.4.11 Press SET — display C1.
Hold SET and press  button — display FIN
Release both buttons for normal operation.

NOTE: If no changes are made during a programming operation for 2 minutes, the controller will reset itself automatically for normal operation.



2.5 ENTERING FACTORY SET AND PROGRAMMING MODE

Press and hold SET — display SET.
Press  whilst still holding SET — display FIN.
Release  — display FIN.
Press on/off I/O whilst still holding SET — display LLL.
Release all buttons.



To change parameter in information mode.

- 2.5.1 Press SET — display L1.
Release — display value.
- 2.5.2 Press SET — display L2
Release — display value.
- 2.5.3 Press SET — display L3.
Release — display value.




To exit without entering any other value.

- 2.5.4 Press SET — display L1.
Press  whilst still holding SET — display SET.
Release  whilst still holding SET — display FIN.
Release both buttons.




2.5.5 Display Factory Parameter.

Access to the Factory Parameter settings is made by first entering the User Programme C1 to C4. Holding down the **SET** key and pressing the  key will cause the controller to display **FIN**. Releasing the  key and depressing the 'I/O' (with the **SET** key still pressed) will cause the controller to display **LLL**. Pressing the **SET** key will scroll through the parameters L1, L2 and L3.




2.5.6 Display / Amend Parameters P1 - P7.

Holding the **SET** key and pressing the  key will cause the controller to display '**OPS**'. Pressing the **SET** key will scroll through the parameters P1 to P7. Parameter values may be altered using the  or  key.


2.5.7 Display / Amend Parameters D1 - D7.

Holding the **SET** key and pressing the  key will cause the controller to display '**df**'. Pressing the **SET** key will scroll through the parameters D1 to D7. Parameter values may be altered using the  or  key.

2.5.8 Display / Amend Parameters A1 - A6.

Holding the **SET** key and pressing the  key will cause the controller to display '**AL**'. Pressing the **SET** key will scroll through the parameters A1 to A6. Parameter values may be altered using the  or  key.

2.5.9 Exit Factory Parameters.

To exit Factory Parameter Programming and return to normal operation of the controller, the **SET** key must be held down and the  must be pressed. While both buttons are pressed, the display will show **FIN** and releasing the buttons will return the controller to normal operation.

Note, while in the programming mode, if no button is pressed for a period of thirty seconds, the controller will revert to normal operation.

2.5.10 Defrost.


During the Defrost operation the display will show DEF. The evaporator indicator will be off. At the end of the defrost operation there will be a drain down period when neither the compressor or evaporator will run, therefore both indicator lights will be off. During this period DEF will be displayed.

Upon completion of the drain down period, the Recovery operation is initiated with the display showing REC.

The compressor will run and the green compressor on indicator will illuminate.

On completion of the fan delay period (either by temperature or time) the evaporator fan will run with the green fan indicator LED illuminated.

At the end of the Recovery time the display will revert back to displaying the internal cabinet temperature.

To initiate a MANUAL DEFROST press and hold the defrost button, press the  button, the display will show DEF, release both buttons.

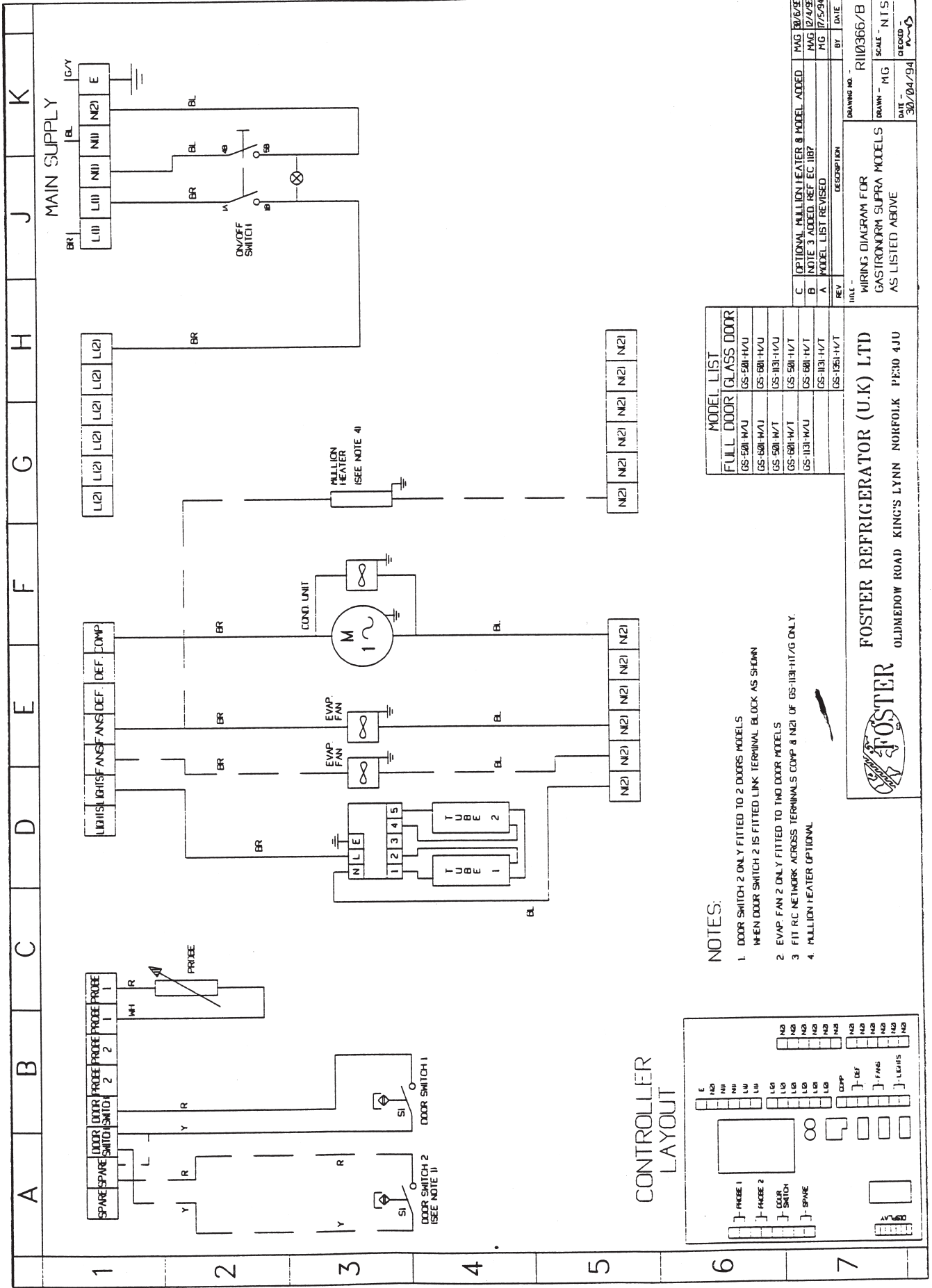
The defrost will be the same as an automatic defrost.

2.7 FACTORY SET PARAMETERS

SET No.	CABINET MODELS			SET No.	CABINET MODELS			
1	GS	501, 601, 1131, 1351, 2101	HT	7	GS	2101	MT	
	GS	501, 601, 1131, 1351, 2101	HTR		GS	501, 601, 1131, 1351, 2101	MTR	
	GS	501, 601, 1131	HU		GS	501, 601, 1131	MU	
	GS	501, 601, 1131	HUR		GS	501, 601, 1131	MUR	
	GS	ALL (High Temp Section)	HLT		8	GS	2101	CT
2	GS	501, 601, 1131	WT	GS		501, 601, 1131, 1351, 2101	CTR	
	GS	501, 601, 1131	WTR	GS		501, 601, 1131	CU	
	GS	501, 601, 1131	WU	GS		501, 601, 1131	CUR	
	GS	501, 601, 1131	WUR	9		GS	501, 601	LU
3	GS	601, 1131	FT		GS	ALL (Low Temp Section)	HLT	
	4	GS	501, 601, 1131, 1351		LT	10	GS	501, 601, 1351
GS		501, 601, 1131, 1351	MT		GS		1131	LUR
5	GS	501, 601, 1131, 1351	CT	11	GS	2101	LT	
6	GS	501, 601, 1131, 1351			GS	2101	LTR	
					GS	1131	LU	

Parameter Set No.		1	2	3	4	5	6	7	8	9	10	11	
Parameter													
Temperature Set Point	C1	2	10	-1	-21	-1	0	-2	0	-21	-21	-21	C1
High Food Temp Alarm	C2	8	15	5	-15	5	8	5	8	-15	-15	-15	C2
Low Temp Food Alarm	C3	0	4	-3	-25	-4	-1	-4	-1	-25	-25	-25	C3
Condenser Clean Interval	C4	0	0	0	0	0	0	0	0	0	0	0	C4
Time Since Last Defrost	L1												L1
Door Open Factor	L2												L2
Door Open Factored At Last Alarm Cond.L3													L2
Temperature Differential	P1	3	2	2	3	2	2	2	2	3	3	3	P1
Condenser Clean Interval	P2	15	15	15	15	15	15	15	15	15	15	15	P2
Compressor Rest Time	P3	0	0	0	0	0	0	0	0	0	0	0	P3
Food Probe Offset	P4	0	0	0	0	0	0	0	0	0	0	0	P4
Maximum Set Point	P5	5	15	2	-15	0	2	0	2	-15	-15	-15	P5
Minimum Set Point	P6	1	5	-2	-25	-3	-1	-3	-1	-25	-25	-25	P6
Fans On In Defrost	P7	1	1	1	0	0	0	0	0	0	0	0	P7
Defrost Type	D1	0	0	0	1	1	1	0	0	0	0	0	D1
Defrost Per Day	D2	4	4	4	4	4	4	4	4	4	4	4	D2
Termination Temperature	D3	30	30	30	30	30	30	15	15	20	30	15	D3
Termination Time	D4	15	15	15	10	5	5	10	10	15	15	12	D4
Drain Down Time	D5	1	0	0	1	1	1	1	1	1	1	1	D5
Fan Delay Time	D6	5	5	5	5	3	3	3	3	5	5	5	D6
Fan Delay Temperature	D7	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5	D7
Door Alarm Delay	A1	5	5	5	5	5	5	5	5	5	5	5	A1
Alarm Required	A2	1	1	1	1	1	1	1	1	1	1	1	A2
Probe Failure Response	A3	1	1	1	0	1	1	1	1	0	0	0	A3
Max High Alarm	A4	10	20	8	-10	8	10	8	10	-10	-10	-10	A4
Min Low Alarm	A5	-5	2	-5	-30	-5	-2	-5	-2	-30	-30	-30	A5
Recovery Time	A6	5	5	5	8	5	5	5	5	5	5	5	A6

WIRING DIAGRAM



MODEL LIST	
FULL DOOR GLASS DOOR	
GS-50H-H/U	GS-50H-H/U
GS-60H-H/U	GS-60H-H/U
GS-50H-H/T	GS-103H-H/T
GS-60H-H/T	GS-50H-H/T
GS-103H-H/U	GS-60H-H/T
GS-103H-H/T	GS-103H-H/T
GS-103H-H/T	GS-103H-H/T

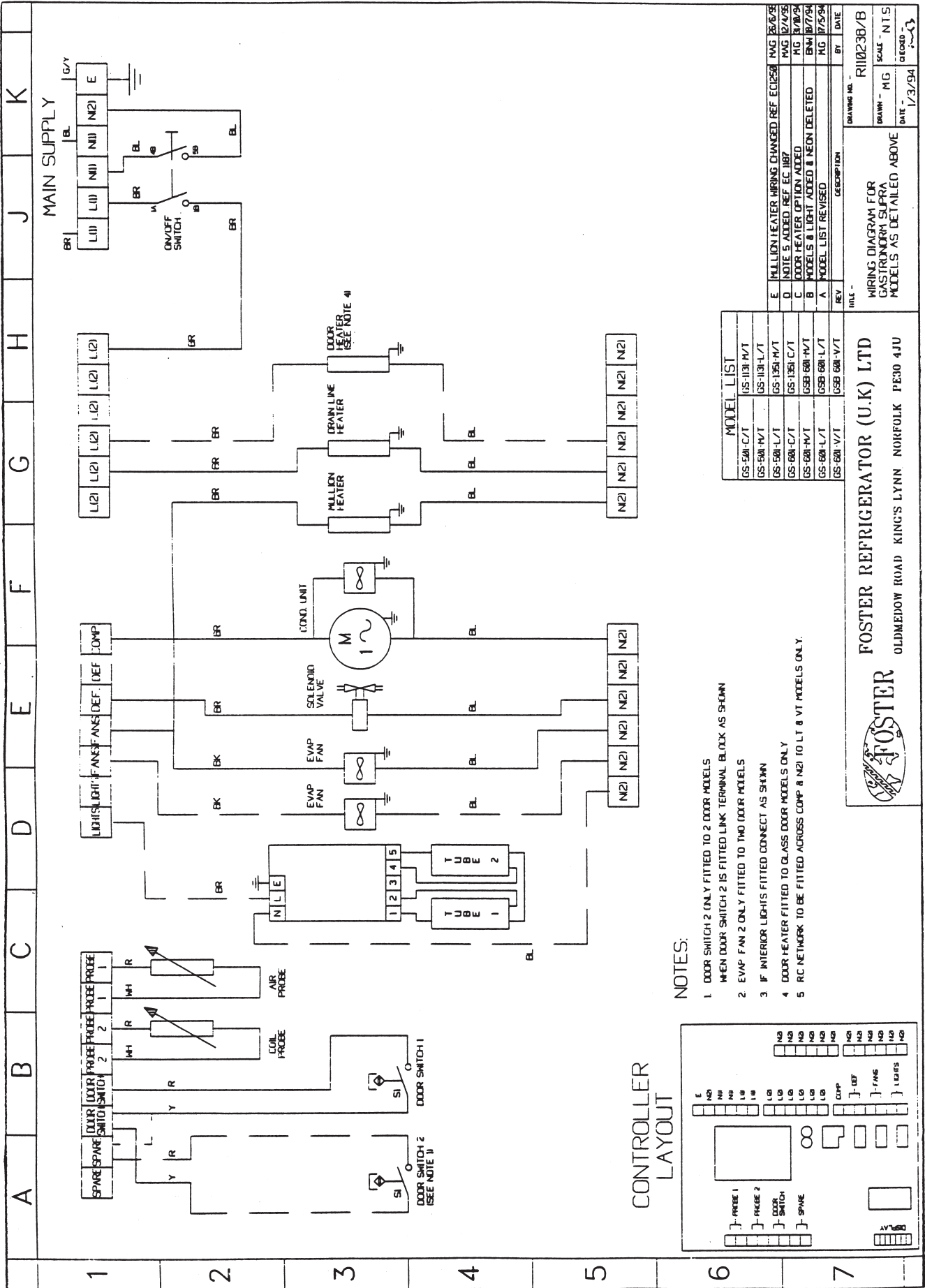
- NOTES:
- DOOR SWITCH 2 ONLY FITTED TO 2 DOORS MODELS
WHEN DOOR SWITCH 2 IS FITTED LINK TERMINAL BLOCK AS SHOWN
 - EVAP FAN 2 ONLY FITTED TO TWO DOOR MODELS
 - FIT RC NETWORK ACROSS TERMINALS COMP & N(2) OF GS-103H-H/U/G ONLY
 - MULLION HEATER OPTIONAL

REV	DESCRIPTION	BY	DATE
C	OPTIONAL MULLION HEATER & MODEL ADDED	MAG	30/6/94
B	NOTE 3 ADDED. REF EC 1187	MAG	17/4/94
A	MODEL LIST REVISED	MG	17/5/94

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



WIRING DIAGRAM



NOTES:

- 1. DOOR SWITCH 2 ONLY FITTED TO 2 DOOR MODELS WHEN DOOR SWITCH 2 IS FITTED LINK TERMINAL BLOCK AS SHOWN
- 2. EVAP FAN 2 ONLY FITTED TO TWO DOOR MODELS
- 3. IF INTERIOR LIGHTS FITTED CONNECT AS SHOWN
- 4. DOOR HEATER FITTED TO GLASS DOOR MODELS ONLY
- 5. RC NETWORK TO BE FITTED ACROSS COMP & M2 TO LT & VT MODELS ONLY.

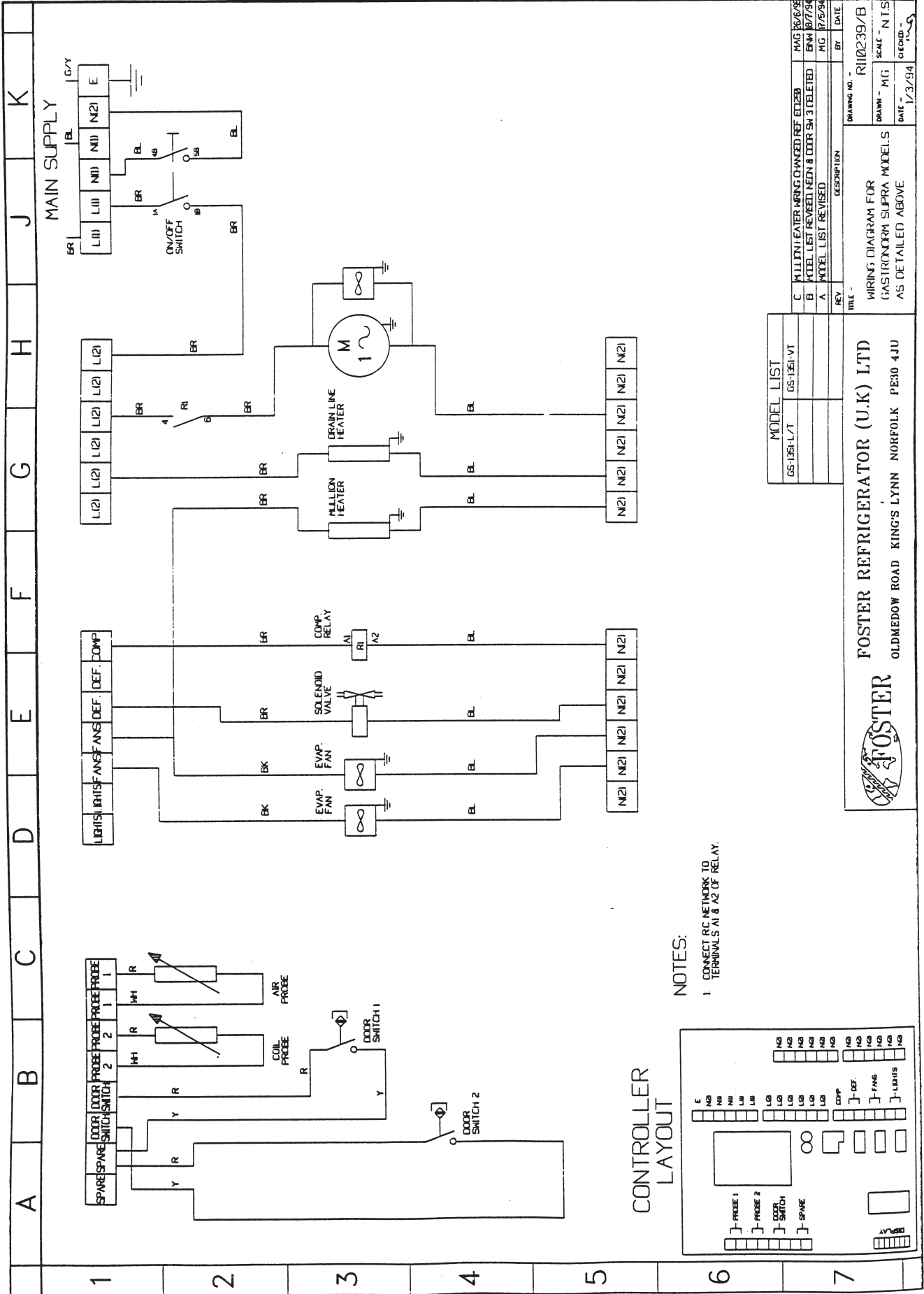
MODEL LIST	
GS-50M-C/T	GS-103-M/V1
GS-50M-M/T	GS-103-L/T
GS-50M-L/T	GS-135I-M/T
GS-60M-C/T	GS-135I-C/T
GS-60M-M/T	GSB-60M-M/T
GS-60M-L/T	GSB-60M-L/T
GS-60M-V/T	GSB-60M-V/T

DRAWING NO. - R11023B/B
 WIRING DIAGRAM FOR GASTRO-NORM SUPRA MODELS AS DETAILED ABOVE
 SCALE - M.G.
 DATE - 1/3/94
 DRAWN - NTS
 CHECKED -

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

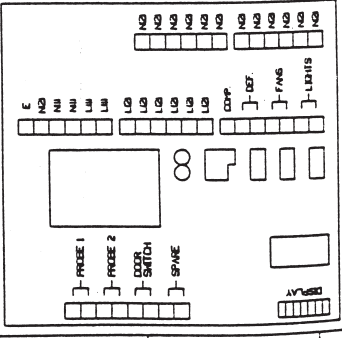
E MILLION HEATER WIRING CHANGED REF EC 258 MAG 26/8/98
 D NOTE 5 ADDED REF EC 187 MAG 12/1/98
 C DOOR HEATER OPTION ADDED MAG 10/10/94
 B MODELS 8 LIGHT ADDED & NEON DELETED BWA 18/7/94
 A MODEL LIST REVISED MAG 17/5/94
 REV BY DATE

WIRING DIAGRAM



NOTES:
 1. CONNECT R.C. NETWORK TO TERMINALS A1 & A2 OF RELAY.

CONTROLLER LAYOUT



REV	DESCRIPTION	DATE
C	MILLION HEATER WIRING CHANGED REF. ED 230	MAG 06/06/94
B	MODEL LIST REVISED NEON & DOOR SW 3 DELETED	ENW 07/07/94
A	MODEL LIST REVISED	MG 17/06/94

MODEL LIST	DESCRIPTION
GS-135L/1	GS-135L-V1

FOSTER REFRIGERATOR (U.K) LTD
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WIRING DIAGRAM FOR
 GASTROFORM SUPRA MODELS
 AS DETAILED ABOVE

DRAWING NO.	DATE
RI10239/B	1/3/94