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FOSTER REFRIGERATOR

Service Manual

EPro Cabinets & Counters with LCD28 Controller

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Environmental Management Policy for Service Manuals and Duets.

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.

EPro Cabinet and Counter Description

The EPro range comes in two formats, the Full Gastronorm and the Non-Gastronorm.
Both come with a choice of capacities and temperatures, the full format comes with 650x530 shelves whereas the Non-Gastronorm unit has a smaller shelf measuring 530x550.
The units are manufactured as a one piece shell with easy clean stainless steel exterior. Each conforms to the current legislation and exceeds the Montreal protocol by using zero ODP (ozone depleting substances) refrigerants and insulation. There is also the added option of having Hydrocarbon refrigerant.
Each unit's temperature is controlled by a microprocessor with digital temperature display. There are several temperature options available exceeding the Climate Class 5 operations by giving an ambient temperature to 43°C.
Each temperature display is also easy to read with a wipe clean finish.

The standard form of refrigeration system in this unit is integrated with an air-cooled condensing unit that allows cooled air to circulate through the evaporator, via the fan into storage areas. It does this by distributing the refrigerant into the evaporator controlled by a capillary.
Remote systems are also available as an option, the difference being, the evaporator is controlled by an expansion valve instead of capillary.
Other points to be made on these units are that they have coated coils to prevent corrosion and to help prolong the refrigerators life. They have easily removable thermal breaks, giving easy access to the door frame heater.
Also all have a wide magnetic gasket that gives a positive door seal.
Cabinets come with an easily removable plug box and lid, while cabinets have an easy access condensing unit fitted on the side to make servicing that much easier.

Controller Operation

LCD 28CS4E-B (00-555739) Controller

Operation Guidelines

LCD-5S -1FST Display (00-555992)

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

will be displayed.

Press and hold

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

To increase set point press

+

until required temperature is displayed.

To decrease set point press

+
until required temperature is displayed.

Factory Temperature Set Point
Refrigerator +1°C to +4°C
Meat 0°C to 2°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 dEF will be displayed release.

On completion of the defrost REC will be displayed until the cabinet temperature is achieved and then it will revert to displaying the normal cabinet temperature.

Set Unit to Standby.

Press **display shows** OFF

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. 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). 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.
If the alarm cannot be cancelled by doing this call your Foster Authorised Service Company.
Possible Causes: Faulty door switch. Door left open for more than 5minutes.

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. 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.
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, but this failure will have an effect on the defrost and therefore efficiency if allowed to continue.
Action: Replace Probe.

Information Menu

Pressing and releasing i•set 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 i•set repeatedly or scrolling through the menu using the ◄◄ or ►►II buttons.

Once selected press i•set to display the value

Exit from the info menu by pressing O/I or is 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 i•set to display the value plus O/I simultaneously for resetting to be completed.

To check the LOC status scroll through to LOC, press i•set to display status – YES to lock keys. – NO to leave keys accessible.
NOTE: with the keys locked it is not possible to turn the unit off or ON or to check the set point

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 ◄◄ + i•set + ►►II and keeping them pressed for 5 seconds.

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

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

Press i•set to display the value + ◄◄ or ►►II to change it.

Exit from set up is by pressing O/I 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 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'.

Controller Parameter List Incorporating Fuzzy Logic installed as from 1st March 2006.

Fuzzy Logic.
These are settings that maintain the temperature of the cabinet in a more energy efficient manner.
It works by controlling the evaporator fan/s, defrost and temperature in low usage times by transferring the operation to a second set of economy parameters.
When the cabinet is first switched On the economy settings control the operation of the temperature and will remain at those settings until the controller, by monitoring the door opening frequency and the air and evaporator temperatures, identifies a higher usage and switches over to the 11SM (2nd parameter set management).
When the economy settings are activated the cabinet temperature is allowed to rise to the setting (SP) setpoint [1].
This is set to a higher temperature setting to allow the air temperature to rise without having much of an impact on the product temperature.
In addition the fan/s will modulate (cycle for 30 seconds) as set in (FPC) evaporator fan On / Off Ratio.
The parameter is set at 1.
Changing the setting to 0 will have the fan running with the compressor. Set to 1 the fan will run for 30 seconds on and 60 seconds off. Set to 2 the fan will run for 60 seconds on and 60 seconds off and set to 3 the fan will run for 90 seconds on and 60 seconds off.
With FPC set to 1, 2 or 3 the fans will generate less heat into the cabinet therefore reduce the requirement of the condensing system.
NOTE:
Parameter FPC will only function with the parameter FTC set for YES. With FTC set to NO the fan will run all of the time apart from during defrost when it will be off during electric and hot gas defrost but on during a timed off cycle defrost.

Fan Operation.
The evaporator fan/s will run normally when the compressor is running but will commence cycling when the compressor is in the off cycle mode.
The fans will run without the compressor during timed off cycle defrost but will not run during hot gas or electric defrost.
For models that don't have door switches fitted the fuzzy logic will not function as the controller is unable to monitor door opening factors.

Auto Defrost operation.
The defrost frequency is determined by the usage of the machine.
In the economy mode it may not perform a defrost as by monitoring the air temperature, evaporator temperature and door opening factor it may decide that there is insufficient ice build up on the evaporator so defrosting is not required.
The parameter DFR (defrost frequency) is set for 3. The cabinet will perform at least 1 defrost per day and with the setting at 3 it has the potential to initiate up to 2 additional defrost in the economy mode.
Should the cabinet experience constant usage the controller will switch automatically to the second parameter settings indicated by the controller LED adjacent to illuminating, which could under circumstances of heavy usage initiate up to 6 defrosts per day.
The second parameter settings preceded by 11 will now be active,
It is important to note that during the first few days of operation the defrosting frequency may be at regular intervals but these will reduce as the controller monitors the operation.

Controller parameters for models manufactured prior to March 1st 2006

The parameter settings for the cabinets produced prior to March 1st 2006 can be altered to the following parameter lists and will function as described above.

Note
Parameter FPC is not included so by setting FTC to YES will cause the fan/s to run for 30 seconds on and 60 seconds off.
Changing the remaining parameters to those listed will initiate the controller operation for the fuzzy logic set up.

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

Parameter list for High Temperature cabinets including: -
PROB600H-A, PROG1100H-A, PROG1350H, PROG1350HP-A, PROG 300/300HH-A, PROG500H-A, PROG600H-A, PROG600HP-A, PROG600HE-A, PROS400H-A, PSG1100H-A, PSG1350H-A, PSG300/300H-A, PSG500H-A, PSG600H-A, PSG600HE-A, PSS1000H-A, PSS450H-A.
Parameter list for High Temperature counters including: -
LL1/2H-A, PRO1/2H-A, PRO1/2HR-A, PRO1/3H-A, PRO1/3HR-A, PRO1/4H-A, PRO1/4HR-A, PRO2/1H-A, PRO2/1HR-A, PRO2/2H-A, PRO2/2HR-A, PRO2/3H-A, PRO2/3HR-A,
Note: For all counters adjust parameter 'DS' to NO as no door switches are fitted.

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	**3**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**2**
hYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**3**
crt	Minimum compressor rest time	**0**	**30**	**1**	min.	**1**
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	**3**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**15**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; 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	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**1**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**3**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**1**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Low Temperature cabinets with hot gas defrost including: -
PROB600L-A, PROG1100L-A, PROG1350L-A, PROG300/300L-A, PROG500L-A, PROG600L-A, PROG600LE-A, PROS400L-A, PSG1100L-A, PSG1350L-A, PSG300/300L-A, PSG500L-A, PSG600L-A, PSG600LE-A.

Parameter list for Low Temperature counters with hot gas defrost including: -
PRO1/2L-A, PRO1/3L-A, PRO1/4L-A, PRO2/1L-A, PRO2/2L-A, PRO2/3L-A,
Note: For all counters adjust parameter 'DS' to NO as no door switches are fitted.

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (B)
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	**-19**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-19**
hYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**2**
crt	Minimum compressor rest time	**0**	**30**	**1**	min.	**1**
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	**3**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; ELE; GAS**		**ELE**	flag	**GAS**
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	**0**
Ftc	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-21**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**-21**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-21**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Low Temperature cabinets with electric defrost including: -
PROB600LR-A, PROG500LR-A. PROG600LR-A, PROS400LR-A, PSG500LR-A, PSG600LR-A, PSS1000L-A, PSS450L-A. **PROB600LW-A for this model adjust parameter 'DTO' to 10.**
Parameter list for Low Temperature counters with electric defrost including: -
PRO1/2LR-A, PRO1/3LR-A, PRO1/4LR-A, PRO2/1LR, PRO2/2LR-A, PRO2/3LR-A,
Note: For all counters adjust parameter 'DS' to NO as no door switches are fitted.

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	**-19**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-19**
hYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**2**
crt	Minimum compressor rest time	**0**	**30**	**1**	min.	**1**
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	**3**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; 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	**0**
Ftc	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-21**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**-21**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-21**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Meat Temperature cabinets with hot gas defrost including: -
PROB600M-A, PROG1350M-A, PROG600M-A, PSG1350M-A, PSG600M-A, PROS525M-A, PROS950M-A, PROG1100M-A, PROS1500M-A, PROS400M-A, PSG1100M-A, PSG500M-A.
Parameter list for Meat Temperature counters with hot gas defrost including: -
LL2/1MD-A, LL2/1MS-A, LL2/2M-A, LL2/4M-A, PRO1/2M-A, PRO1/3M-A, PRO1/4M-A, PRO2/1M-A, PRO2/2M-A PRO2/3M-A.
Note: For all counters adjust parameter 'DS' to NO as no door switches are fitted.

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (D)
ScL	Readout scale	**1°C; 2°C; °F**		**1°C**	flag	**2**
SPL	Minimum setpoint [I]	**-30**	**SPH**	**-25**	°C	**-2**
SPh	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**0**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-1**
hYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**2**
crt	Minimum compressor rest time	**0**	**30**	**1**	min.	**1**
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	**3**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; ELE; GAS**		**ELE**	flag	**GAS**
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	**8**
Ftc	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-2**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**-2**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-2**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**2**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Meat Temperature cabinets with electric defrost including: -
PROB600MW-A, PROG1350MR-A, PROG600MR-A, PSG1350MR-A, PSG600MR-A, CS1350MR-A, CS600MR-A, PROB600MR-A, PROG600MR-A, PROS525MR-A, PROS950MR-A, PROG1100MR-A, PROS11502MR-A, PROS400MR-A, PSG1100MR-A, PSG500MR-A, PSS1000M-A, PSS450M-A.
Parameter list for Meat Temperature counters with electric defrost including: -
PRO1/2MR-A, PRO1/3MR-A, PRO1/4MR-A, PRO2/1MR-A, PRO2/2MR-A, PRO2/3MR-A.
Note: For all counters adjust parameter 'DS' to NO as no door switches are fitted.

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (E)
ScL	Readout scale	**1°C; 2°C; °F**		**1°C**	flag	**2**
SPL	Minimum setpoint [I]	**-30**	**SPH**	**-25**	°C	**-2**
SPh	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**0**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-1**
hYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**2**
crt	Minimum compressor rest time	**0**	**30**	**1**	min.	**1**
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	**3**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; 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	**8**
Ftc	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-2**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**-2**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-2**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**2**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Fish cabinets including: -
PROG1350F-A, PROG600F-A, PROS400F-A

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (F)
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	**2**
crt	Minimum compressor rest time	**0**	**30**	**1**	min.	**1**
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	**0**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**15**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; ELE; GAS**		**ELE**	flag	**FAN**
drn	Drain down time	**0**	**30**	**3**	min.	**3**
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	**-50**
Ftc	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**NON**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-25**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**10**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-20**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Bakery Models including: -
Greggs 20BSR, Greggs 40BSR, PRO 20BSR, PRO 40BSR.
PRO 68HB: Adjust parameter 'SPL' to '1'.

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	**0**
SPh	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**10**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**2**
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	**6**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; 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	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**0**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**10**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**1**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Bakery Models including: -
Greggs 20BSF, Greggs 40BSF, PRO 20BSF, PRO 40BSF.
PRO 68LB: Adjust parameter 'SPL' to '-30', 'SPH' to'5', 'SP' to '-18' and 'dFr' to '4'.

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (B)
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	**-18**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-19**
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	**6**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; ELE; GAS**		**ELE**	flag	**GAS**
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	**0**
Ftc	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-25**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**-15**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-21**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**3**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	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**

Parameter list for Bakery Models including: -
PRO 16DR, PRO 16VE, PRO 24VE, DR 16VE and DR 24VE.
PRO 20DR, PRO 40DR. Adjust parameter 'SPL' to '-5', 'SPH' to '10', 'SP' to '-4' and 'FDD' to '-8'

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES (D)
ScL	Readout scale	**1°C; 2°C; °F**		**1°C**	flag	**2**
SPL	Minimum setpoint [I]	**-30**	**SPH**	**-25**	°C	**-4**
SPh	Maximum setpoint [I]	**SPL**	**30**	**10**	°C	**-4**
SP	Setpoint [I]	**SPL**	**SPH**	**-20**	°C	**-4**
hYS	Thermostat hysteresis [I]	**0.1**	**10**	**2.5**	°K	**2**
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	**3**
dLi	Defrost end temperature	**-30**	**30**	**15**	°C	**20**
dto	Maximum defrost duration	**1**	**120**	**20**	min.	**20**
dty	Defrost type	**OFF; ELE; GAS**		**ELE**	flag	**GAS**
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	**8**
Ftc	Fan timed control [I]	**NO**	**YES**	**YES**	flag	**YES**
FPc	Evaporator fan On / Off Ratio	**0**	**3**	**1**	flag	**1**
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**
11SM	2nd parameter set management	**NON; MAN; HDD**		**NON**	flag	**HDD**
11SL	Minimum setpoint [II]	**-30**	**IISH**	**-25**	°C	**-4**
11SH	Maximum setpoint [II]	**IISL**	**30**	**10**	°C	**-4**
11SP	Setpoint [II]	**IISL**	**IISH**	**-20**	°C	**-4**
11HY	Thermostat hysteresis [II]	**0.1**	**10**	**3**	°K	**2**
11dF	Defrost frequency [II]	**0**	**24**	**1**	1/24h	**6**
11Ft	Fan timed control [II]	**NO**	**YES**	**NO**	flag	**NO**
Sb	Stand By button function	**NO**	**YES**	**YES**	flag	**YES**
dS	Door switch enabling	**NO**	**YES**	**NO**	flag	**NO**
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**

Technical Data EPro Cabinets

Model	Gas	Gas Charge	Compressor	Capillary	Defrost Type	Voltage	Power Consumption		Fuse Rating
							Watts	Amps	
EPRO S 400H	R134A	380 grms	FR7.5GX	2.8m x 0.042	Timed Off Cycle	230/50/1	295	2.1	10 Amp
EPRO S 400L	R404A	360 grms	SC15CL	3.0m x 0.047	Hot Gas	230/50/1	641	3.1	10 Amp
EPRO G 500H	R134A	380 grms	FR7.5GX	2.8m x 0.042	Timed Off Cycle	230/50/1	295	2.1	10 Amp
EPRO G 500L	R404A	360 grms	SC15CL	3.0m x 0.047	Hot Gas	230/50/1	641	3.1	10 Amp
EPRO G 600H	R134A	380 grms	FR7.5GX	2.8m x 0.042	Timed Off Cycle	230/50/1	349	2.5	10 Amp
EPRO G 600M	R134A	380 grms	FR7.5GX	2.8m x 0.042	Hot Gas	230/50/1	389	2.7	10 Amp
EPRO G 600L	R404A	360 grms	SC15CL	3.0m x 0.047	Hot Gas	230/50/1	709	3.4	13 Amp
EPRO G 1100H	R134A	450 grms	SC15GX	3.0m x 0.054	Timed Off Cycle	230/50/1	567	3.8	10 Amp
EPRO G 1100L	R404A	660 grms	CAJ2446Z-SE	3.0m x 0.054	Hot Gas	230/50/1	920	4.5	13 Amp
EPRO G 1350H	R134A	450 grms	SC15GX	3.0m x 0.054	Timed Off Cycle	230/50/1	655	4.7	10 Amp
EPRO G 1350M	R134A	450 grms	SC15GX	3.0m x 0.054	Hot Gas	230/50/1	738	5.0	10 Amp
EPRO G 1350L	R404A	660 grms	CAJ2446Z-SE	3.0m x 0.054	Hot Gas	230/50/1	934	4.6	13 Amp
EPRO G 300/300 HL	R134A	320 grms	FR7.5GX	3.0m x 0.042	Timed Off Cycle	230/50/1	936	5.1	10 Amp
	R404A	300 grms	SC15CL	3.0m x 0.042	Electric	230/50/1			13 Amp
EPRO B 600H	R134A	380 grms	FR7.5GX	2.8m x 0.042	Timed Off Cycle	230/50/1	349	2.5	10 Amp
EPRO B 600L	R404A	360 grms	SC15CL	3.0m x 0.047	Hot Gas & Electric	230/50/1	709	3.4	13 Amp
PRO G 600F	R134A	270 grms	FR7.5GX	3.0m x 0.054	Timed Off Cycle	230/50/1	349	2.4	10 Amp

Technical Data EPro Counters

Model	Gas	Gas Charge	Compressor	Capillary	Defrost Type	Voltage	Power Consumption		Fuse Rating
							Watts	Amps	
EPRO 1/2H	R134A	315 grms	FR7.5GX	3.0m X 0.042	Timed Off Cycle	230/50/1	290	2	10 Amp
EPRO 1/2M	R134A	315 grms	FR7.5GX	3.0m X 0.042	Hot Gas	230/50/1	330	2.1	10 Amp
EPRO 1/2L	R404A	335 grms	SC15CL	3.0m X 0.042	Hot Gas	230/50/1	670	3.2	10 Amp
EPRO 1/3H	R134A	315 grms	FR7.5GX	3.0m X 0.042	Timed Off Cycle	230/50/1	340	2.4	10 Amp
EPRO 1/3M	R134A	315 grms	FR7.5GX	3.0m X 0.042	Hot Gas	230/50/1	400	2.6	10 Amp
EPRO 1/3L	R404A	360 grms	SC15CL	3.0M X 0.042	Hot Gas	230/50/1	690	3.3	10 Amp
EPRO 1/4H	R134A	370 grms	SC12GX	3.0M X 0.054	Timed Off Cycle	230/50/1	520	3.4	10 Amp
EPRO 1/4M	R134A	370 grms	SC12GX	3.0m X 0.054	Hot Gas	230/50/1	600	3.7	10 Amp
EPRO 1/4L	R404A	375 grms	SC21CLX	3.0m X 0.054	Hot Gas	230/50/1	810	3.8	13 Amp
EPRO 2/2H	R134A	365 grms	FR7.5GX	3.0m X 0.042	Timed Off Cycle	230/50/1	380	2.6	10 Amp
EPRO 2/2L	R404A	360 grms	SC15CL	3.0m X 0.042	Hot Gas	230/50/1	710	3.4	10 Amp
EPRO 2/3H	R134A	380 grms	SC12GX	3.0m X 0.054	Timed Off Cycle	230/50/1	550	3.6	10 Amp
EPRO 2/3L	R404A	380 grms	SC21CLX	3.0m X 0.054	Hot Gas	230/50/1	840	4	13 Amp

Note: The Power Consumption values referred to as tested are to the ECA test standard. Actual power consumption will be greatly affected by ambient temperature, loading, usage and cabinet maintenance.

Technical Data EPro Cabinets using R290 Refrigerant

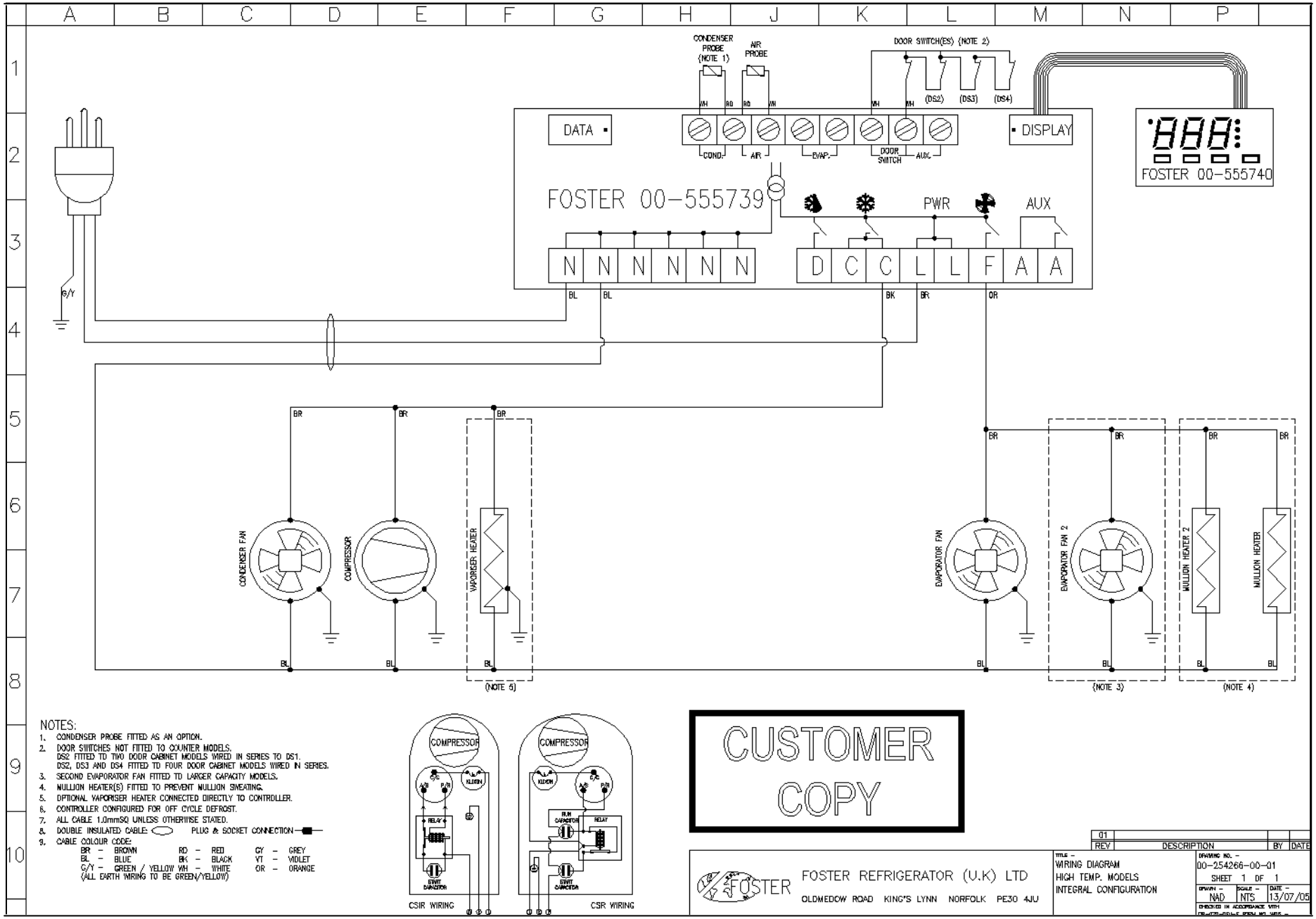
Model	Gas	Gas Charge	Compressor	Capillary	Defrost Type	Voltage	Power Consumption		Fuse Rating
							Watts	Amps	
EPRO S 400H	R290	150 grms	TL5CNX	2.8m x 0.042	Timed Off Cycle	230/50/1	295	2.1	10 Amp
EPRO S 400L	R290	150 grms	SC15CNX	3.0m x 0.042	Hot Gas	230/50/1	641	3.1	10 Amp
EPRO G 500H	R290	150 grms	TL5CNX	2.8m x 0.042	Timed Off Cycle	230/50/1	295	2.1	10 Amp
EPRO G 500L	R290	150 grms	SC15CNX	3.0m x 0.042	Hot Gas	230/50/1	641	3.1	10 Amp
EPRO G 600H	R290	150 grms	TL5CNX	2.8m x 0.042	Timed Off Cycle	230/50/1	349	2.5	10 Amp
EPRO G 600M	R290	150 grms	TL5CNX	2.8m x 0.042	Hot Gas	230/50/1	389	2.7	10 Amp
EPRO G 600L	R290	150 grms	SC15CNX	3.0m x 0.042	Hot Gas	230/50/1	709	3.4	13 Amp
EPRO G 1100H	R290	150 grms	SC12CNX	3.0m x 0.054	Timed Off Cycle	230/50/1	567	3.8	10 Amp
EPRO G 1100L	R290	220 grms	MX23FB	3.0m x 0.054	Hot Gas	230/50/1	920	4.5	13 Amp
EPRO G 1350H	R290	150 grms	SC12CNX	3.0m x 0.054	Timed Off Cycle	230/50/1	655	4.7	10 Amp
EPRO G 1350M	R290	150 grms	SC12CNX	3.0m x 0.054	Hot Gas	230/50/1	738	5.0	10 Amp
EPRO G 1350L	R290	220 grms	MX23FB	3.0m x 0.054	Hot Gas	230/50/1	934	4.6	13 Amp
EPRO B 600H	R290	150 grms	TL5CNX	2.8m x 0.042	Timed Off Cycle	230/50/1	349	2.5	10 Amp
EPRO B 600L	R290	150 grms	SC15CNX	3.0m x 0.042	Hot Gas & Electric	230/50/1	709	3.4	13 Amp

Technical Data EPro Counters using R290 Refrigerant

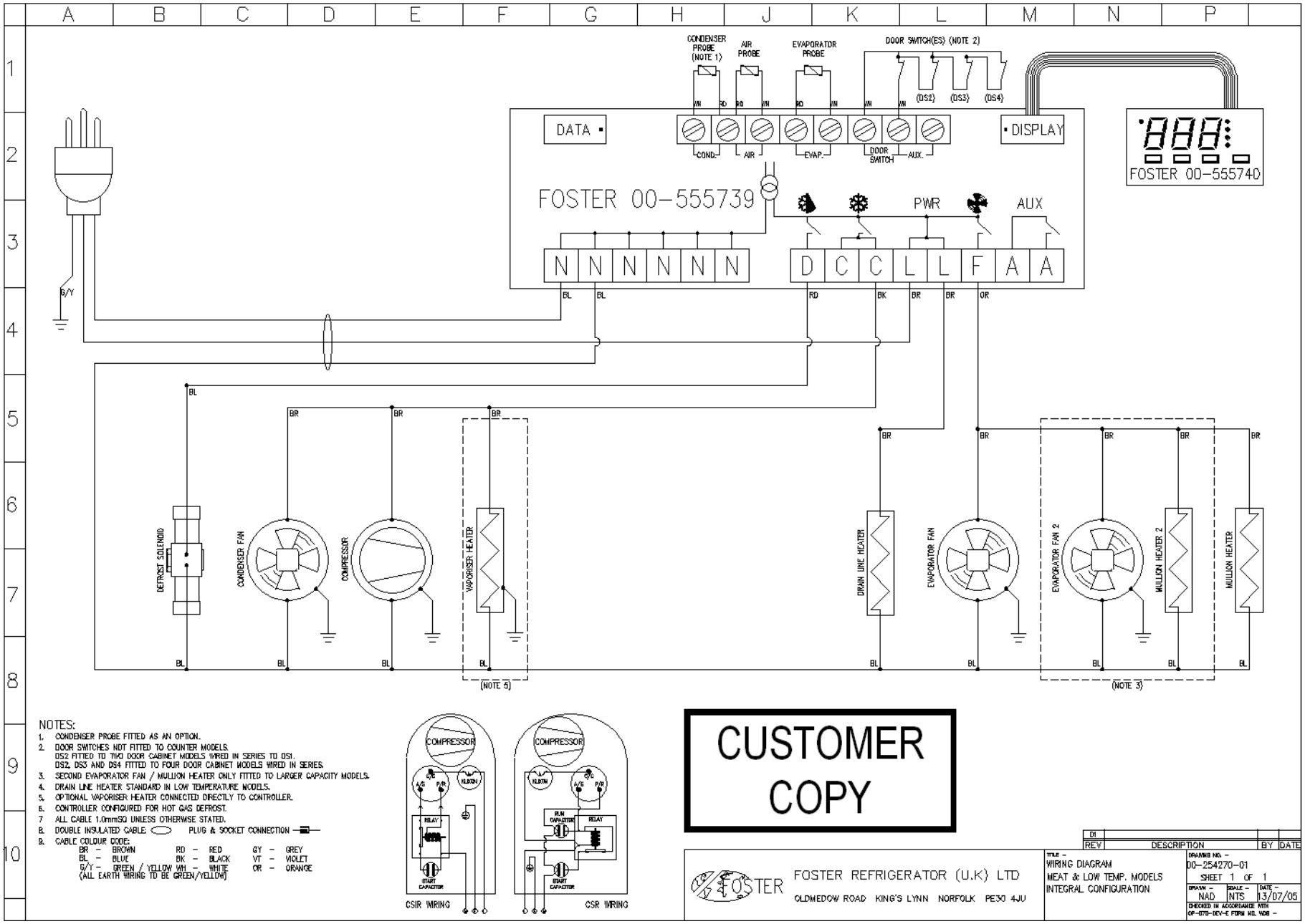
Model	Gas	Gas Charge	Compressor	Capillary	Defrost Type	Voltage	Power Consumption		Fuse Rating
							Watts	Amps	
EPRO 1/2H	R290	150 grms	TL5CNX	3.0m X 0.042	Timed Off Cycle	230/50/1	290	2	10
EPRO 1/2M	R290	150 grms	TL5CNX	3.0m X 0.042	Hot Gas	230/50/1	330	2.1	10
EPRO 1/2L	R290	150 grms	SC15CNX	3.0m X 0.042	Hot Gas	230/50/1	670	3.2	10
EPRO 1/3H	R290	150 grms	TL5CNX	3.0m X 0.042	Timed Off Cycle	230/50/1	340	2.4	10
EPRO 1/3M	R290	150 grms	TL5CNX	3.0m X 0.042	Hot Gas	230/50/1	400	2.6	10
EPRO 1/3L	R290	150 grms	SC15CNX	3.0m X 0.042	Hot Gas	230/50/1	690	3.3	10
EPRO 1/4H	R290	150 grms	SC12CNX	3.0m X 0.054	Timed Off Cycle	230/50/1	520	3.4	10
EPRO 1/4M	R290	150 grms	SC12CNX	3.0m X 0.054	Hot Gas	230/50/1	600	3.7	10
EPRO 2/2H	R290	150 grms	TL5CNX	3.0m X 0.042	Timed Off Cycle	230/50/1	380	2.6	10
EPRO 2/2L	R290	150 grms	SC15CNX	3.0m X 0.042	Hot Gas	230/50/1	710	3.4	10
EPRO 2/3H	R290	150 grms	SC12CNX	3.0m X 0.054	Timed Off Cycle	230/50/1	550	3.6	10

Note: The Power Consumption values referred to as tested are to the ECA test standard. Actual power consumption will be greatly affected by ambient temperature, loading, usage and cabinet maintenance.

Wiring Diagram for High Temperature Models



Wiring Diagram for Low Temperature Models



Foster European Operations

France
Foster Refrigerator France SA
Tel: (33) 01 34 30 22 22. Fax: (33) 01 30 37 68 74.
Email: commercial@fosterfrance.com

Germany
Foster Refrigerator Gmbh,
Tel: (49) 781 990 7840. Fax (49) 781 990 7844.
Email: info@foster-gmbh.de

Foster Refrigerator
Oldmedow Road
Kings Lynn
Norfolk
PE30 4JU

Tel: 0843 216 8833
Fax: 0843 216 4707
Website: www.fosterrefrigerator.co.uk
Email: support@foster-uk.com

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