Controller Operation

LD1 Controller as used on High temperature Models

LD2 Controller as used on Low temperature Models

Operation Guidelines

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 **O/I** for three seconds. The unit will start and the air temperature will be displayed.

Check set point by pressing the button **i•set**

To increase on high temperature models set point press **i•set** + **▶▶** until required temperature is displayed.

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

To increase on low temperature models set point press **i•set** + **❄•◀◀** until required temperature is displayed.

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

Refrigerator Factory Temperature Set Point +1°C to +4°C
Freezer Factory Temperature Set Point -19°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 temperature is achieved and then it will revert to displaying the normal cabinet temperature.

Set Unit to Standby.

Press **O/I** **display** **OFF** **shows**

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. Loss of refrigerant.

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.

DO   Will be displayed.

The alarm will sound but can be silenced by pressing.   **O/I**

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 (Condenser probe is not fitted to these models).

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.

Periodic Condenser Clean (not used on these models)

CL   Will be displayed

This indicates the timed portion of the clean interval has been exceeded and the condenser should be cleaned.

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 by

pressing   **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 [0/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'.

LD1 – 15E-01FST (00-555847) High Temperature Controller Parameter list

Note: On models with glass doors parameter 'DS' is set to 'NO' as a mechanical switch is fitted to operate the light/s and fan/s on door opening.

Note: On counter models 'DS' is set to 'NO' as no door switches are fitted.

Mnem.	Definition	Min.	Max	Default	Dim.	VALUE
ScL	Readout scale	1°C; 2°C; °F		2	flag	2
SPL	Minimum setpoint [l]	-40	SPH	1	°C	1
SPh	Maximum setpoint [l]	SPL	40	4	°C	4
SP	Setpoint [l]	SPL	SPH	1	°C	1
hYS	Thermostat hysteresis [l]	0.1	10	3	°K	3
crt	Minimum compressor rest time	0	30	1	min.	1
cdc	Compressor regulation with T1 failure	0	10	6	%	6
fPc	Evaporator Fan Timed control	0	4	2	rate	2
dFr	Defrost frequency [l]	0	24	4	rate	4
dLi	Defrost end temperature	-40	40	15	°C	15
dto	Maximum defrost duration	1	120	15	min.	15
dty	Defrost type	FAN; ELE; GAS		OFF	flag	OFF
drn	Drain down time	0	30	1	min.	1
ddY	Defrost display control	0	60	5	min.	5
ATL	Low alarm differential	-12	0	-5	°C	-5
ATH	High alarm differential	0	12	5	°C	5
ATD	Alarm Temperature Delay	0	120	90	Min	90
Aht	Condenser alarm temperature	0	75	60	°C	60
AHm	Condenser high temperature alarm operation	NON/ALR/STP		NON	flag	NON
Acc	Periodic condenser cleaning	0	52	0	wks	0
Sb	Button (01) enabling	YES	NO	YES	flag	YES
DS	Door switch enabling	YES	NO	YES	flag	YES
cSd	Compressor stop delay from door opening	0	30	1	Min.	1
Ado	Door alarm delay	0	30	5	min.	5
bAu	Manual control enabling	YES	NO	NO	flag	NO
OAu	Auxilliary output control mode	1/0-1/MAN/FAN/DEF/		FAN	flag	FAN
oS1	Probe T1 offset	-12	125	0	°K	0
t2	Function probe T2	NON/DEF/CND		NON	flag	NON
OS2	Probe T2 offset	-12	12	0	°K	0
TLD	Delay for min/max temperature storage	1	30	5	Min.	5
Sim	Display slowdown	0	100	3	flag	3
Adr	Unit address	1	255	1	flag	1

LD2-15E-01FST (00-555848) Low Temperature Controller Parameter List
Note: On models with glass doors parameter 'DS' is set to 'NO' as a mechanical switch is fitted to operate the light/s and fan/s on door opening.

Mnem.	Definition	Min.	Max	Default	Dim.	VALUES
ScL	Readout scale	1°C; 2°C; °F		1°C	flag	2
SPL	Minimum setpoint [I]	-40	SPH	-25	°C	-21
SPh	Maximum setpoint [I]	SPL	40	-19	°C	-21
SP	Setpoint [I]	SPL	SPH	-19	°C	-21
hYS	Thermostat hysteresis [I]	0.1	10	2	°K	3
crt	Minimum compressor rest time	0	30	1	min.	1
cdc	10 min. run cycle with PF1	0	10	6	%	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	-40	40	20	°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	2	min.	2
ddY	Display control during defrost	0	60	10	min.	10
Fid	Fan operation in defrost	YES	NO	NO	flag	NO
Fdd	Evaporator. Fan re-start	-40	40	-50	°C	0
Ftc	Fan timed control [I]	YES	NO	YES	flag	YES
FT1	Fan stop delay (after compressor stop)	0	180	20	Sec,s	20
FT2	Timed fan stop (fan off time)	0	30	1	Min.	1
FT3	Timed fan run (air stir time)	0	30	1	Min.	1
Atl	Low alarm differential	-12	0	-5	°K	-5
Ath	High alarm differential	0	12	5	°K	5
Atd	Temperature alarm delay	0	120	90	min.	90
Ado	Door alarm delay	0	30	5	min.	5
Acc	Periodic condenser cleaning	0	52	0	wks	0
hdS	Sensitivity function Eco->Heavy Duty	1	5	3	flag	3
11SM	2nd parameter set management	NON; MAN; HDD		NON	flag	NON
11SL	Minimum setpoint [II]	-40	IISH	-21	°C	-21
11SH	Maximum setpoint [II]	IISL	40	-21	°C	-21
11SP	Setpoint [II]	IISL	IISH	-21	°C	-21
11HY	Thermostat hysteresis [II]	0.1	10	3	°K	3
11dF	Defrost frequency [II]	0	24	6	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	YES	NO	YES	flag	YES
oS1	Probe T1 offset	-12	12	0	°K	0
t2	Probe T2 enabling	YES	YES	YES	flag	YES
OS2	Evaporator. Probe offset	-12	12	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