

FXT Cabinets FXT600H-A, FXT600L-A, FX1350HT-A, FXT1350L-A

# and









### Contents

| Environmental Management Policy  | 1        |
|----------------------------------|----------|
| Disposal Requirements            | 1        |
| Cabinet description              | 2        |
| Controller Operation             | 2 to 4   |
| Alarms and Warnings              | 3        |
| Information Menu                 | 4        |
| Parameter Setting and Adjustment | 4        |
| Parameters                       | 5 to 6   |
| General Arrangements             | 7 to 8   |
| Technical Data                   | 8        |
| Parts List                       | 9        |
| Wiring Diagram                   | 10 to 21 |

### **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 <u>not</u> 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 top of the cabinet.

The cabinets conform to ISO Climate Class 5.

Temperature is controlled by a LAE 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 refrigerant used is R134a on high temperature models and R404A on freezers.

Vaporisation is provided by a Hot Gas Defrost Coil fixed within the Vaporiser Tray.

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

All models are fitted with 80mm castors, swivel to the rear and swivel/lockable to the front.

# **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 for three seconds. The unit will start and the air temperature will be displayed.

Check set point by pressing the button

To increase on high temperature models set point press until required temperature is displayed.

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

### Refrigerator Factory Temperature Set Point +1°C to +4°C

To increase on low temperature models set point press increase on low temperature models set press in the low temperature models set press in the low temperature models are the low temperature models and the low temperature models are the

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

### 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 is displayed release.

On completion of the defrost 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

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

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.

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.



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).

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)

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.

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)

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 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-

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





Once selected press



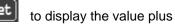
to display the value

Exit from the info menu by pressing



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



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 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 +





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'.

The LD2 Controller used on Low temperature Models has two sets of parameters, the standard parameters plus those that begin with'11'.

With parameter '11SM' set to 'HDD' the controller has the ability to control the cabinet in a more economic manner and still maintain the working temperature.

This will be noticed during the standard parameter settings, economy, the evaporator fan will cycle on and off therefore maintaining the cabinet temperature with the compressor running less frequently.

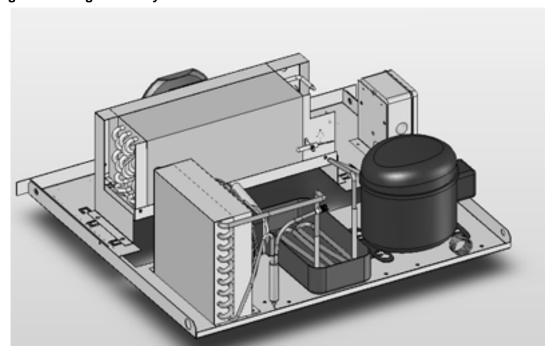
LD1 – 15E-01FST (00-555847) High Temperature Controller Parameter list

| Mnem. | Definition                                 | Min.               | Max     | Default | Dim. | VALUE |
|-------|--|--------------------|---------|---------|------|-------|
| ScL   | Readout scale                              | 1°C; 2°C; °F       |         | 2       | flag | 2     |
| SPL   | Minimum setpoint [1]                       | -40                | SPH     | 1       | °C   | 1     |
| SPh   | Maximum setpoint [1]                       | SPL 40             |         | 4       | °C   | 4     |
| SP    | Setpoint [ I ]                             | SPL                | SPH     | 1       | °C   | 1     |
| hYS   | Thermostat hysteresis [ I ]                | 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 [1]                      | 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; E             | LE; 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     |
| 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     |

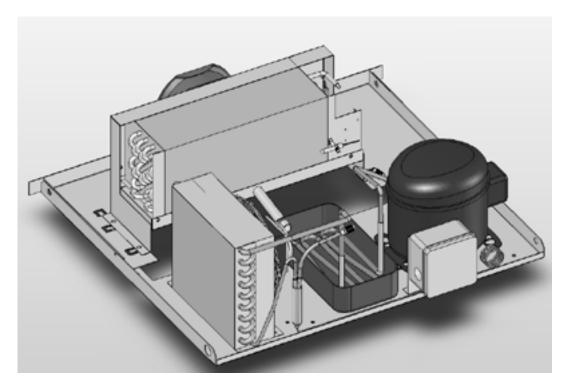
LD2-15E-01FST (00-555848) Low Temperature Controller Parameter List

| Mnem. | Definition                             | Min.          | Max     | Default | Dim.  | VALUES (B) |
|-------|--|---------------|---------|---------|-------|------------|
| ScL   | Readout scale                          | 1°C; 2°C; °F  |         | 1°C     | flag  | 2          |
| SPL   | Minimum setpoint [1]                   | -40           | SPH     | -25     | °C    | -21        |
| SPh   | Maximum setpoint [1]                   | SPL           | 40      | -19     | °C    | -19        |
| SP    | Setpoint [ I ]                         | SPL           | SPH     | -19     | °C    | -19        |
| hYS   | Thermostat hysteresis [ I ]            | 0.1           | 10      | 2       | °K    | 2          |
| 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 [1]                  | 0             | 24      | 3       | 1/24h | 3          |
| dLi   | Defrost end temperature                | -40           | 40      | 20      | °C    | 20         |
| dto   | Maximum defrost duration               | 1             | 120     | 20      | min.  | 20         |
| dty   | Defrost type                           | FAN; EI       | LE; 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  | HDD        |
| 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       | ехр.  | 1          |

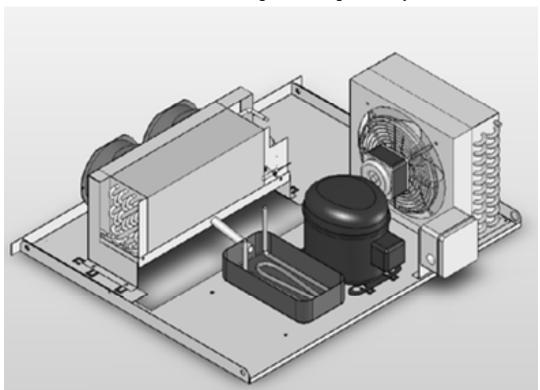
# FXT 600 Refrigeration Plug Assembly



FXT 1350HT Refrigeration Plug Assembly



FXT 1350LHT Refrigeration Plug Assembly



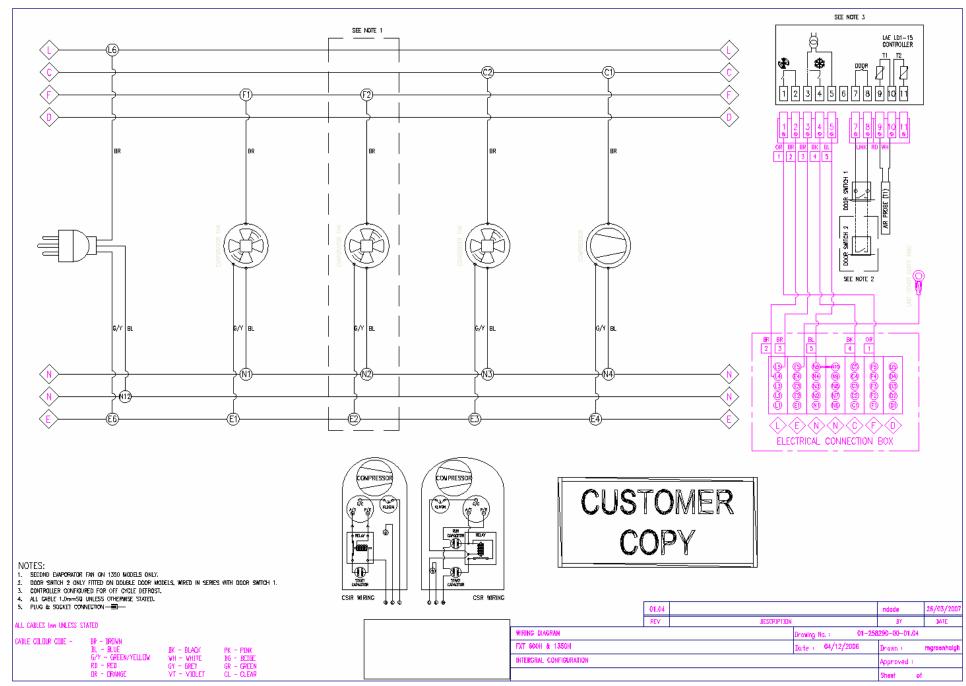
# **TECHNICAL DATA PRO CABINETS**

| Model                      |          | FXT600H-A       | FXT600L-A       | FXT1350H-A      | FXT1350L-A      |
|----------------------------|----------|-----------------|-----------------|-----------------|-----------------|
| Refrigerant                |          | R134a           | R404A           | R134a           | R404A           |
| Refrigerant Charge         |          | 380 grms        | 420 grms        | 530 grms        | 550 grms        |
| Compressor                 |          | GL80TB          | SC15CLX         | GP12TB          | SC21CLX         |
| Capillary                  |          | 3mts x 0.042    | 2.66mts x 0.042 | 2.80mts x 0.042 | 2.70mts x 0.047 |
| <b>Expansion Valve for</b> | Valve    | TN2-N           | TS2NL           | N/A             | N/A             |
| Remote Systems             | Orifice  | No 00           | No 00           | N/A             | N/A             |
| Defrost Type               |          | Timed Off Cycle | Electric        | Timed Off Cycle | Electric        |
| Voltage                    |          | 230-1-50        | 230-1-50        | 230-1-50        | 230-1-50        |
| Power                      | Watts    | 510             | 610             | N/A             | N/A             |
| Consumption                | Run Amps | 2.6             | 3.2             | 3.7             | 5.1             |
| Fuse Rating                |          | 10 Amp          | 10 Amp          | 10 Amp          | 10 Amp          |

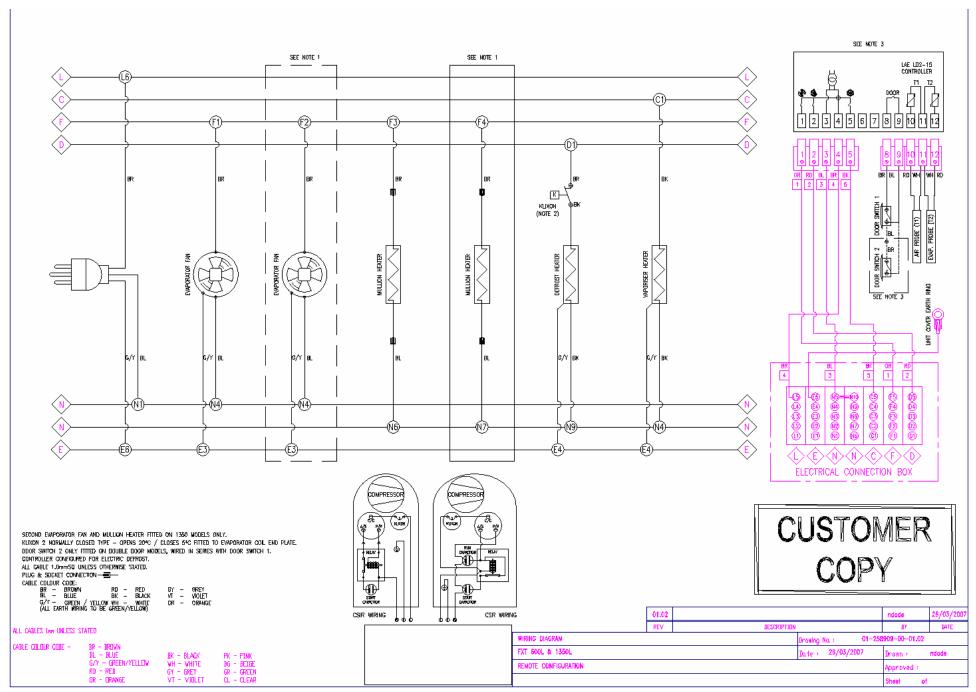
# **Spare Parts List**

| ITEM                      | DESCRIPTION                    | PART NUMBER  | MODEL                            |
|---------------------------|--------------------------------|--------------|----------------------------------|
| Compressor                | GL80TB                         | 00-555112    | FXT 600H                         |
| Compressor                | SC15CLX 230/50/1               | 00-554943    | FXT 600L                         |
| Compressor                | GP12TB R134 HBP                | 00-555666    | FXT1350H                         |
| Compressor                | SC21CLX 230/1/50               | 00-554989    | FXT1350L                         |
|                           |                                |              |                                  |
| Condenser Fan Motor       | Grid Mount 5W                  | 15470032     | FXT 600H                         |
| Condenser Fan Motor       | Grid Mount 16W                 | 15470027     | FXT 600L- FXT1350H -<br>FXT1350L |
| Condenser Coil            |                                | 00-554932    | FXT 600H                         |
| Condenser Coil            |                                | 00-878509-01 | FXT 600L                         |
| Condenser Coil            |                                | 00-878506-01 | FXT1350H                         |
| Condenser Coil            |                                | 00-878508-01 | FXT1350L                         |
| Drier                     | 1/4 Double Entry 1/4 out RI34A | 15480908     | All Models                       |
| Capillary                 | 3mts x 0.042                   |              | FXT 600H                         |
| Capillary                 | 2.660mts X 0.042               |              | FXT 600L                         |
| Capillary                 | 2.800mts x 0.042               |              | FXT1350H                         |
| Capillary                 | 2.700mts x 0.047               |              | FXT1350L                         |
| Vaporiser Tray            | 258X136X60.5mm                 | 15271004     | All Models                       |
| Evaporator Coil           | Coil 015158 Xtra               | 01-257437-01 | FXT 600H                         |
| Evaporator Coil           | Coil 015158 Xtra               | 01-257437-01 | FXT 600L- FXT1350H               |
| Evaporator Fan Motor      | Fulltech UF15PC23-BTH 29W      | 00-555871    | All Models                       |
| Defrost Heater            | Heater Rod 500W 230V           | 01-252379-01 | FXT 600L - FXT1350L              |
| Controller                | LAE LD1-15 (HT)                | 00-555847    | FXT 600H-FXT1350H                |
| Controller                | LAE LD2-15E-01FST (LT)         | 00-555848    | FXT 600L- FXT1350L               |
| Air Probe                 | 1.5M SN2K15P1                  | 00-555870    | All Models                       |
| Evaporator Probe          | 1.5M SN2K15P2                  | 00-555869    | FXT 600L - FXT1350L              |
| Door Switch Magnet        | Circular                       | 00-555828    | All Models                       |
| Circular Door Switch      | Reed Type                      | 00-555829    | All Models                       |
| Magnetic Half Door Gasket | 623x747                        | 01-231704-01 | All Half Door Models             |
| Magnetic Full Door Gasket | 623x1541                       | 01-231709-01 | All Full Door Models             |
| Miniature Rocker Switch   |                                | 00-554774    | Models With Glass Doors          |
| Lamp Transformer          | 230V TO 12V AC                 | 00-555933    | All Models                       |
| Lamp                      | 12V 20W MR11 Type              | 00-555934    | All Models                       |
| Lamp Fitting              | For 12V MR11 type              | 00-555935    | All Models                       |

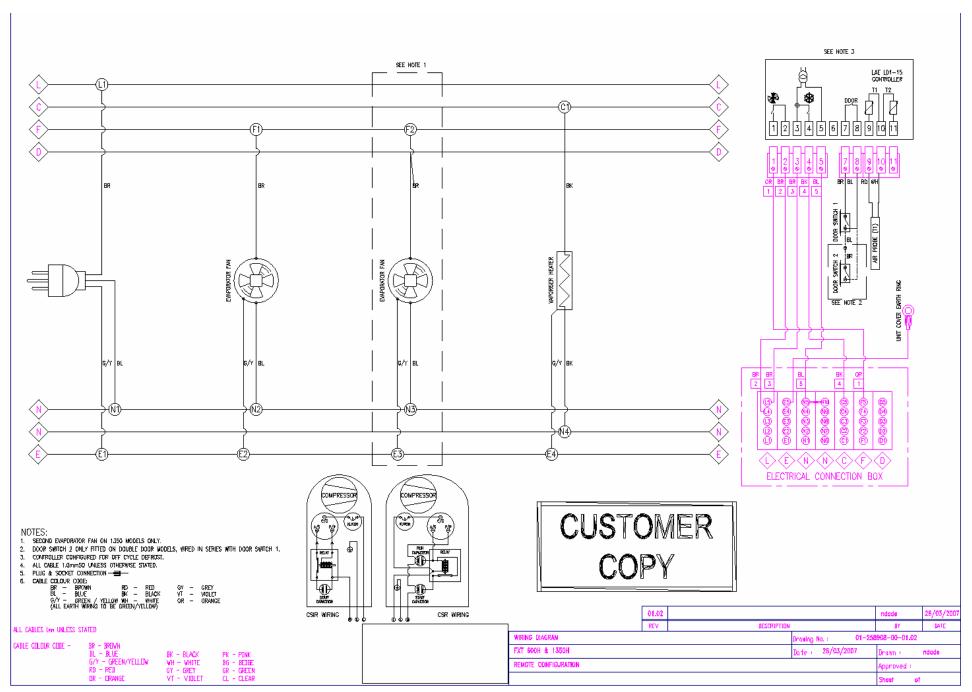
# Wiring Diagram FXT600H & 1350H Integral Configuration



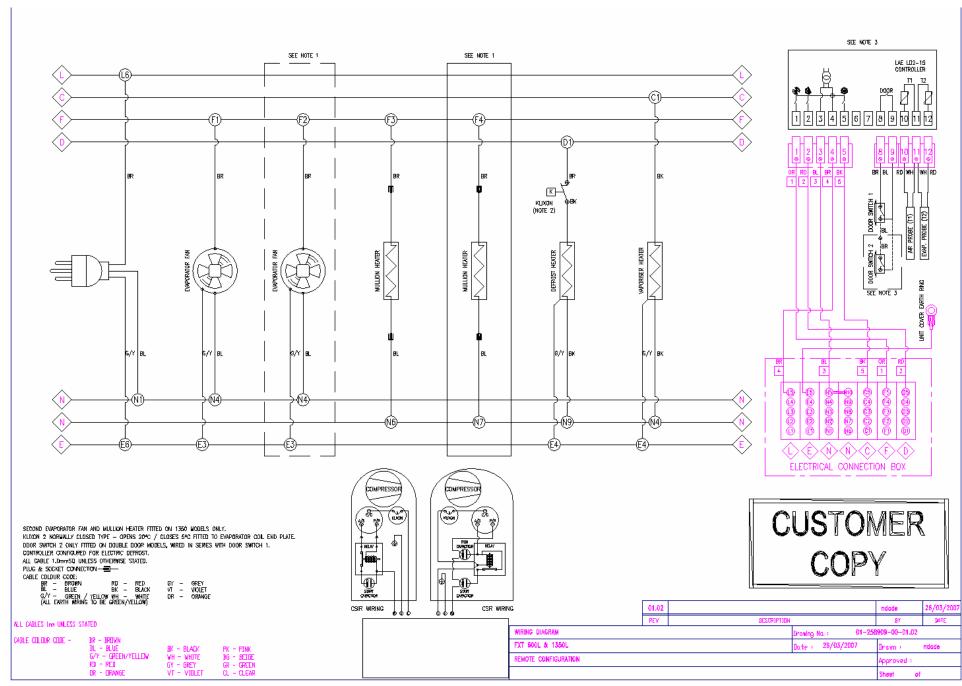
# Wiring Diagram FXT600L & 1350L Integral Configuration



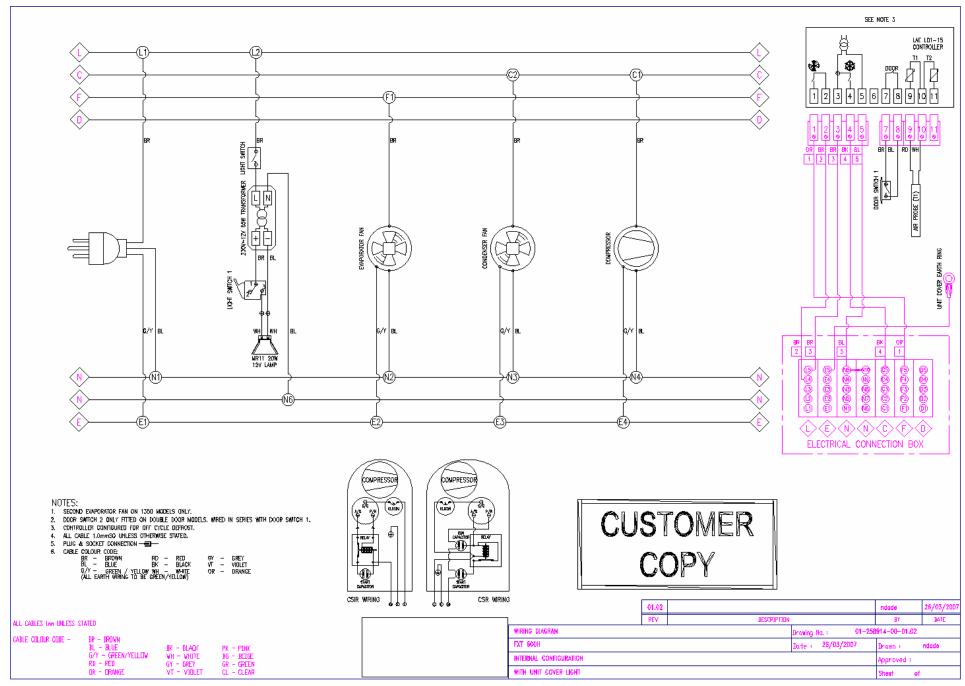
# Wiring Diagram FXT600H & 1350H Remote Configuration



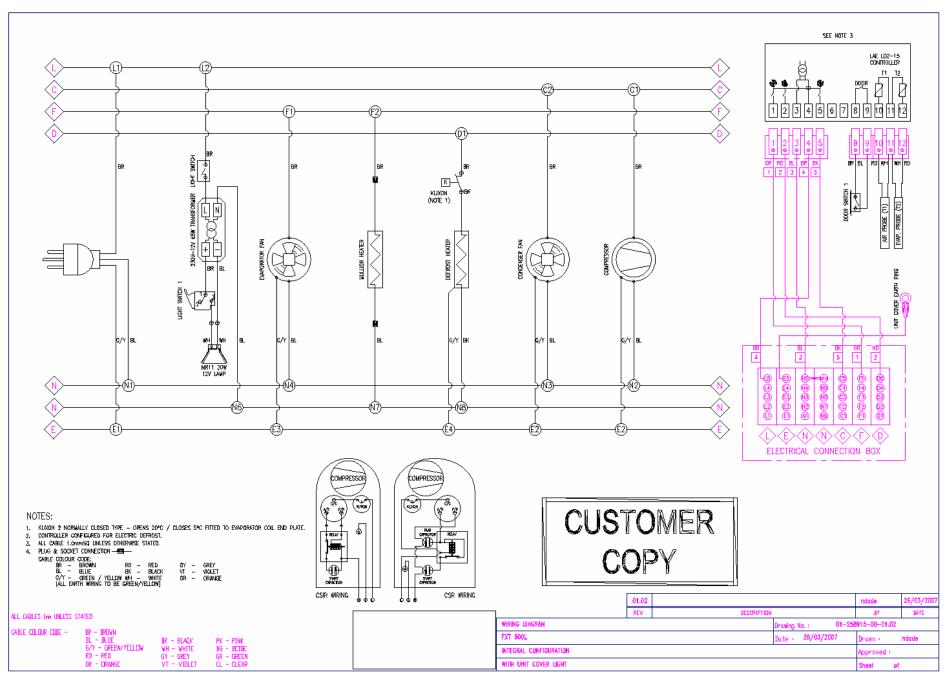
# Wiring Diagram FXT600L & 1350L Remote Configuration



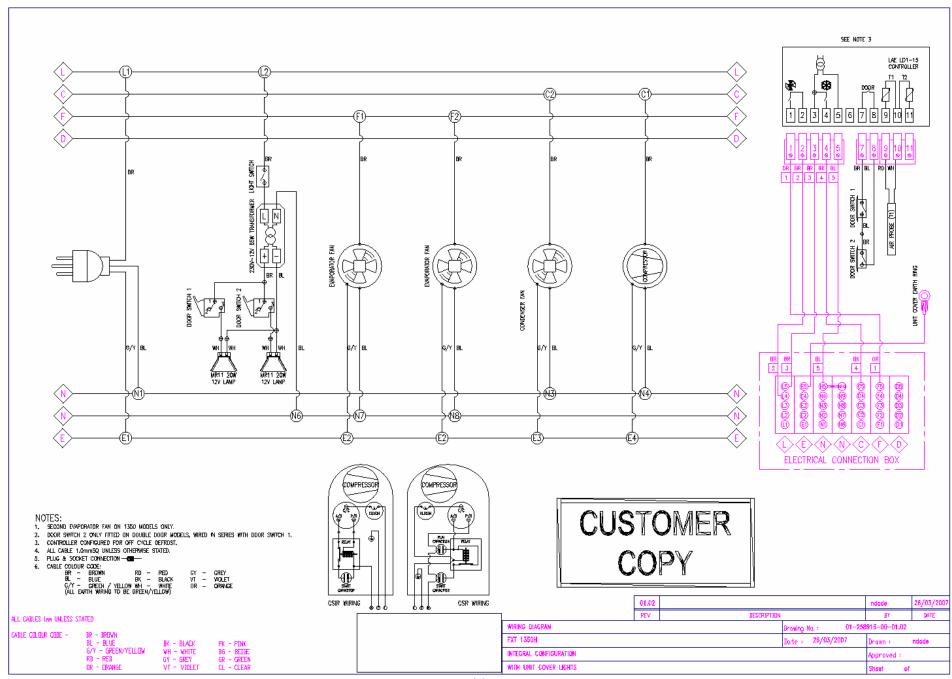
# Wiring Diagram FXT600H Integral Configuration with Lights



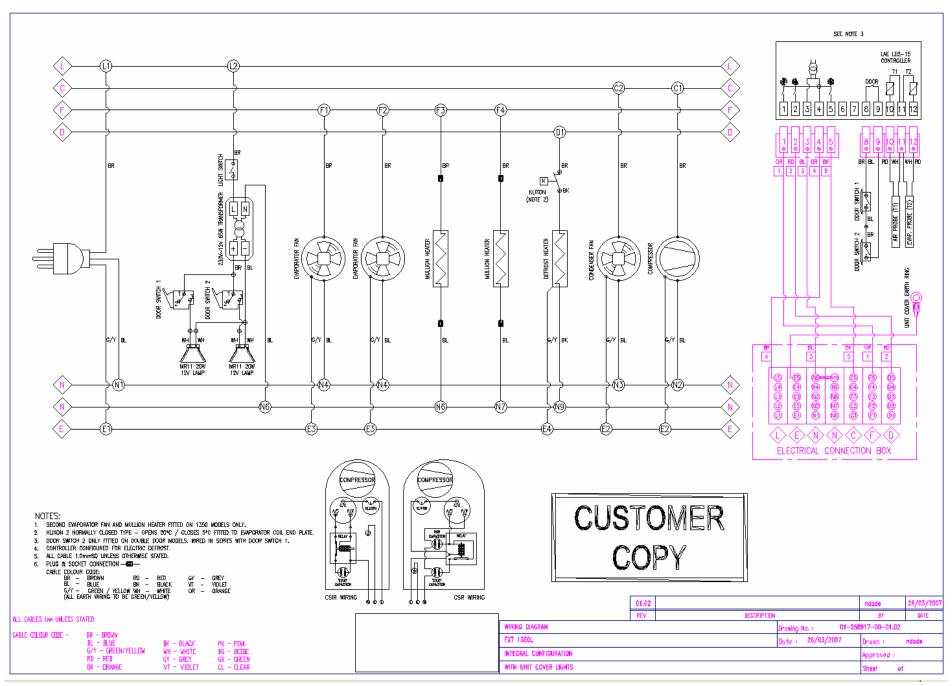
# Wiring Diagram FXT600L Integral Configuration with Lights



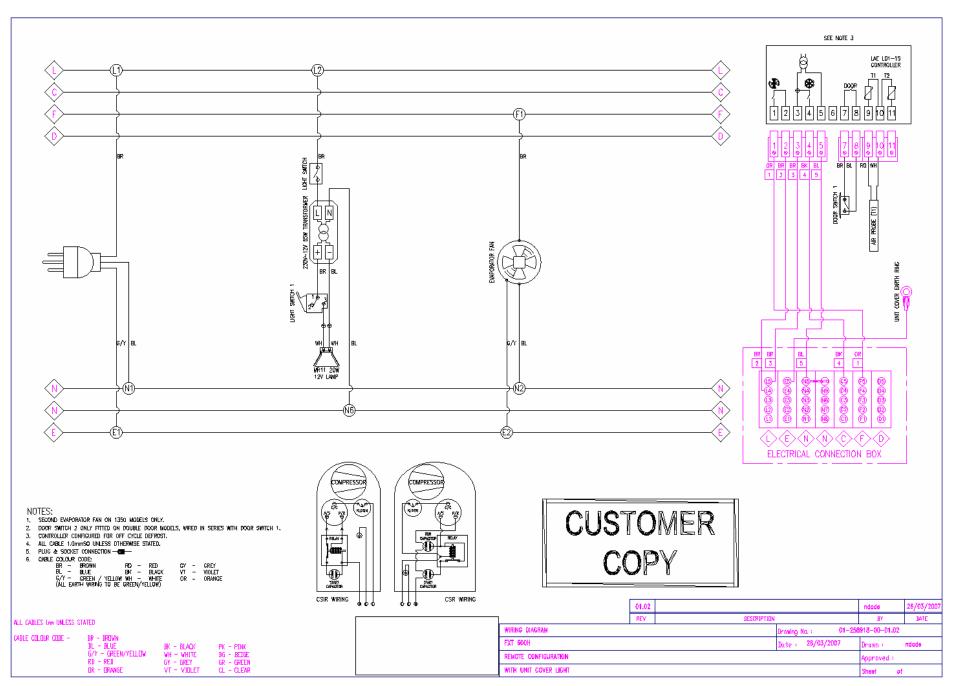
# Wiring Diagram FXT1350H Integral Configuration with Lights



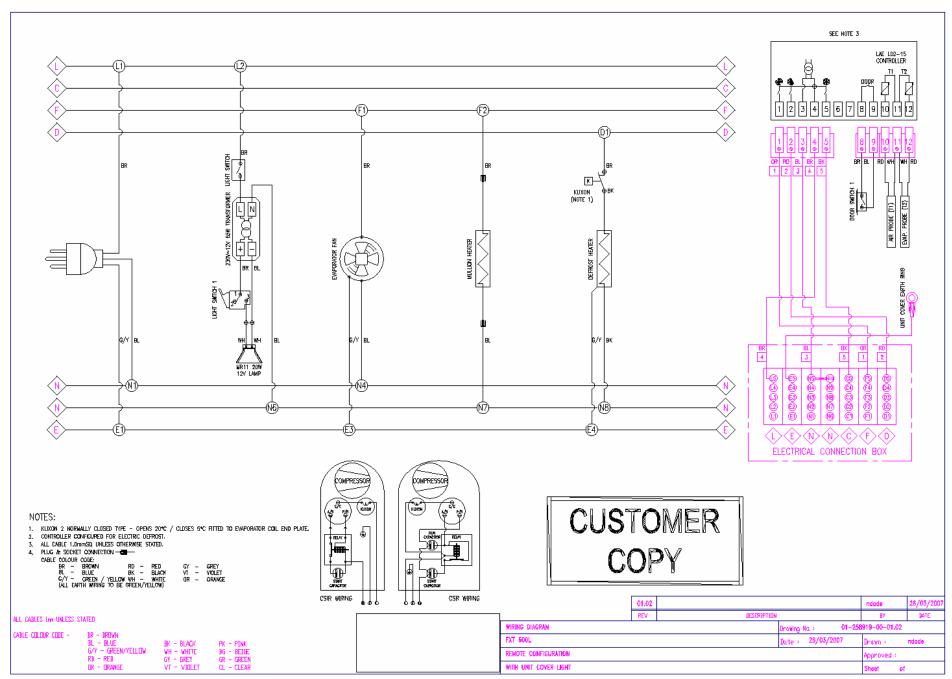
# Wiring Diagram FXT1350L Integral Configuration with Lights



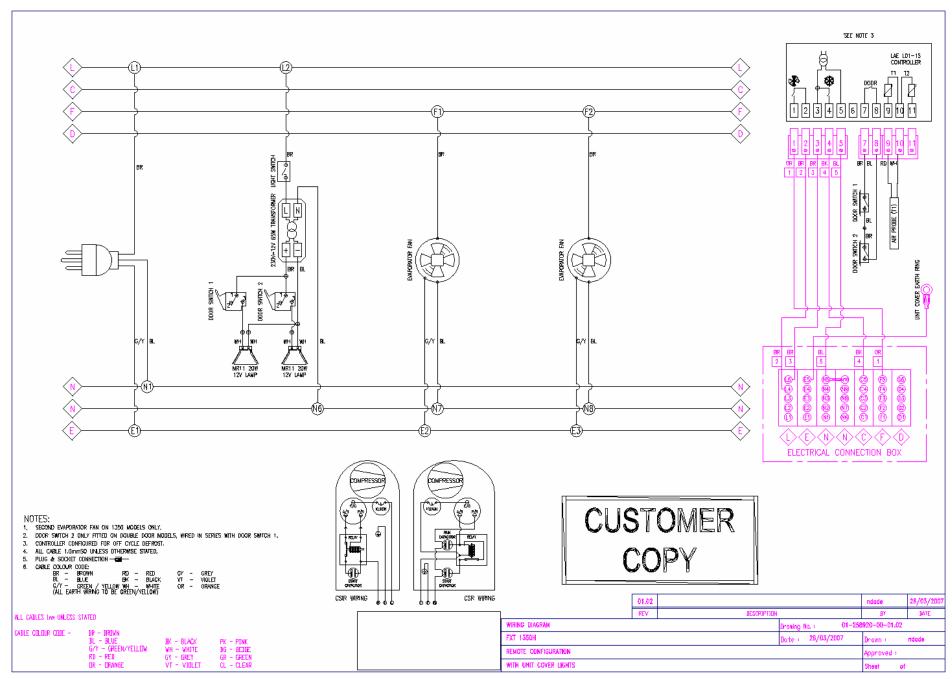
# Wiring Diagram FXT600H Remote Configuration with Lights



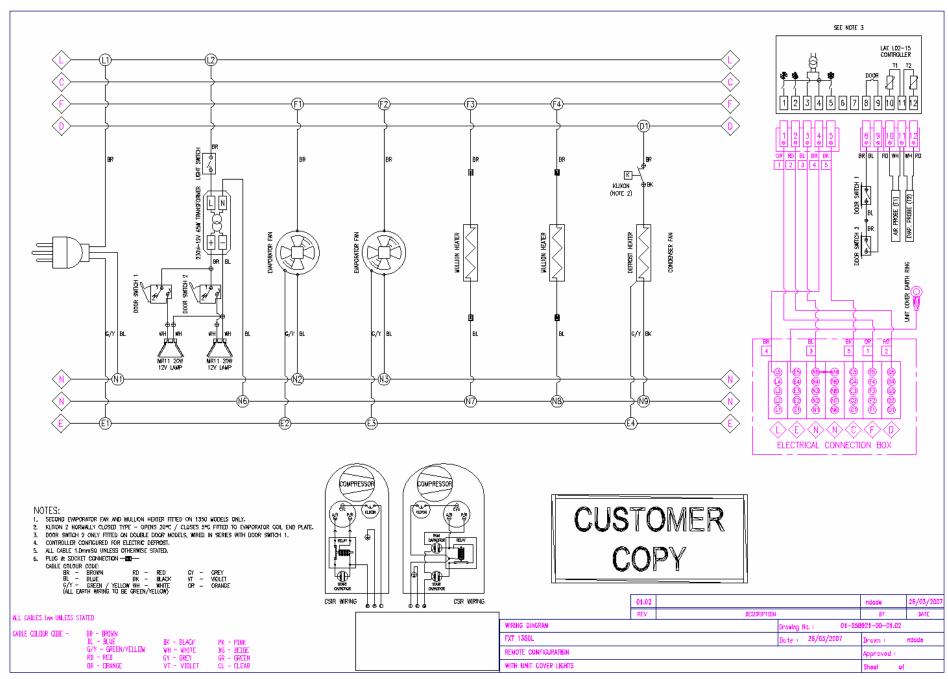
# Wiring Diagram FXT600L Remote Configuration with Lights



# Wiring Diagram FXT1350H Remote Configuration with Lights



# Wiring Diagram FXT1350L Remote Configuration with Lights





# Foster European Operations

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