Elcold

User Instructions

Low Temperature Freezers Model UNI/LT

USER INSTRUCTIONS

Congratulations on your new low temperature freezer. We trust that it will serve you for many years to come. In order to gain optimum benefit from your freezer, please read the following instructions thoroughly and act accordingly. The low-temperature freezers are used for freezing and long-term storing of food products, medical preparations (vaccines, blood plasm, ect.) and other biological products.

1. Environmental protection and disposal.

The packaging is designed to protect the appliance and its components during transportation, and it is made of recyclable materials.

- Please return the packaging to an official collection point for recycling.
- Old appliances contain reusable materials and should not be disposed of together with household refuse.
- Remove the spring-action hinges from the appliance, in order to prevent children from being entrapped in the appliance.
- Ensure that no part of the refrigeration tubing is damaged as the refrigerant in the appliance risks escaping to the environment.
- Information about refrigerant type and amount will be found on the type plate on the rear of the appliance (Fig. 1).

2. Safety instructions.

- In order to prevent injuries and or damage to the appliance, it should be unpacked and set up by min. two people.
- If upon unpacking the appliance is found damaged, do not connect to the mains, but contact the supplier.
- Interference with or repair to the appliance should only be carried out by authorized personnel, in order to avoid any injuries. (contact the supplier for further information).
- Never put naked flames or other ignition sources inside the appliance.
- Never touch the freezers interior or products in the freezer when the freezer is operating. Use gloves or alike in order to avoid injuries (frost-bite).

- Keep the key to the appliance away from the appliance and out of the reach of children.

3. Connection to the mains.

- For safety reasons the appliance must be earthed. If you are in any doubt, please contact an authorized electrician.
- The appliance should be left for 5 hours before it is connected to the mains. If the appliance is connected before that, there is a risk of damaging the compressor.
- If for any reason the appliance is disconnected from the mains, please wait 10 minutes before re-connecting. The electronic starting device needs this time to cool down, before a safe re-start can be made.

4. Before use.

- Before use, the interior of the appliance should be cleaned with a mild soap solution, and wiped off with a dry clean cloth. Never use any kind of solvent or other chemicals.

5. Setting up the freezer.

The freezer should not be placed where it might be splashed with water, in extreme high humidity or in direct sunlight. Any of these factors may lead to a reduction in performance and shorten the life span of the components. The freezer should be placed on a horizontal level, and should not be placed close to a heating appliance or heating tubes. Allow a minimum of 50mm (2") clearance on the side and the back. The side with the ventilation grill should have a clearance of at least 100 mm (4") in order to allow the heat from the compressor motor to dissipate. Underneath the appliance there should be a gap of 15 mm approx. (1/2"). On a soft surface, e.g. carpet, it may be necessary to ensure the correct distance by means of spacers.

6. Electrical supply.

The electrical supply should always be in accordance with the rating plate on the back of the freezer.
The supply must always be in accordance with the law and regulations regarding electrical safety, if any doubts contact your supplier.
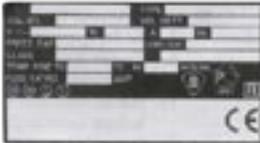
7. Starting Up.

In case the compressor does not start when the freezer has been plugged in, the electrical supply may not be in order. Check if there is an electricity supply to the plug or if the fuse is blown. If not please go to trouble shooting page 6. 18.

8.Operating the freezer

The empty freezer should be switched on for at least 5-6 hours prior to loading of the freezer. The freezer should not be loaded above the inside walls which is also the load line limit.

Please note: After the lid has been opened, there will be a vacuum created inside the freezer due to the low temperatures. Wait a few minutes before trying to reopen the lid otherwise the handle could be damaged. Fig. 1

9.Defrosting.

In order for the freezer to work to its maximum efficiency the cabinet should be defrosted when a approx. 2mm thick ice layer has formed inside the cabinet.

The ice layer is easily removed with a plastic or wooden scraper. Never use a sharp metal object which might will cause damage to the inner liner.
The defrosting frequency is determined mainly by two factors the usage pattern (number of lid openings) and the relative humidity. Excess water can be drained out by using the drain water outlet on the front of the freezer.

10.Cleaning.

Cleaning should be done when needed. When used in a dirty environment it might be necessary to remove the compressor compartment grill, and clean the compressor compartment eventually with a vacuum cleaner.
If the cleaning process is neglected there is a risk that the performance of the freezer will be effected, and even damage to the compressor could occur due to overheating.

11. Storage.

If the freezer is stored for a period of time, the lid should be kept open for free circulation of air inside the cabinet in order to avoid corrosion of the inner liner.

12. Temperature control UNI/LT- freezers.

The temperature inside the freezer is controlled by the electronic controller in the front grill. The controller has a digital readout of the temperature inside the cabinet. and

the option of changing the temperature inside the cabinet.

13. External voltage and temperature alarm.

Optionally the freezer can be equipped with a battery operated alarm box with connections for external alarm for voltage failure and temperature alarm. The battery should be exchanged every two years.
Please note! When commissioning the freezer, the battery must be turned into its correct position. More details on page 17.

14.Dixell controller.

15. Functions.

How to see the set point:
1.Press and immediately release the SET key, the display will now show the set point value.

2.Press and immediately release the SET key or wait for 5 seconds to display the probe value again.

How to lock and unlock the keyboard
1.Press the up and down keys simultaneously for more than 3.seconds.

How to change the set point
1.Press the SET key for more than 3.seconds to change the set point value.

2.The set point value will be displayed and the LED starts flashing.

3.To change the set point value, push the up or down arrow.

4. To memorise the new setting press the SET key again or wait 15 seconds for the controller to return to normal display of the probe temperature.

16. Setting the controllers offset value

The UNI/LT freezer is designed for long time and safe storage of sensitive products.
In some situations the UNI/LT freezer is also used for other applications like in laboratories for different low temperature test.

Depending on the actual situation it might be necessary to change the controllers offset value in order to get a correspondence between the reading on the display and the actual temperature inside the cabinet.
The factory setting is an offset of 0 dgr:C.
The offset can be adjusted in the following way.

Unlock the keyboard.

Enter the programming mode by pressing the SET and arrow down keys for 3 seconds.

Select the parameter "Ot" by pressing arrow up or down key.

Press the SET key to display its value.

Use arrow up or down to change its value.
The offset can be adjusted to +/- 12 dgr .C

Press SET to store the new value.

Press SET + arrow up or wait 15 seconds without pressing any key. The new value will now be stored.

For more detailed information about programming the Dixell controllers please consult the attached manuals.

17. Trouble shooting.

The appliance is not operating. Please check:
Is the electrical plug connected to the mains (wall socket)? Has the fuse blown?

The temperature inside the appliance is too high. Please check:
   Is the Dixell controller set to the correct temperature?
   Has an excess amount of ice formed inside the appliance?

The appliance is operating continuously. Please check:
   Is the ambient temperature very high?
   Has the appliance recently been loaded with a large amount of warm products?

If you have checked the above points and the appliance is still not working as expected, please contact your local dealer for further advice.

INSTALLING AND OPERATING INSTRUCTIONS

Digital controller with off cycle defrost
XR30C

GENERAL WARNING

⚠ Please read before using this manual

- This manual is part of the product and should be kept near the instrument for easy and quick reference.
- The instrument shall not be used for purposes different from those de scribed hereunder. It cannot be used as a safety device.
- Check the application limits before proceeding.

⚡ Safety Precautions

- Check the supply voltage is correct before connecting the instrument.
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high at- mospheric humidity to prevent forma- tion of condensation
- Warning: disconnect all electrical con- nections before any kind of mainte- nance
- Fit the probe where it is not accessible by the End User. The instrument must not be opened.
- In case of failure or faulty operation send the instrument back to the dis- tributor with a detailed description of the fault.
- Consider the maximum current which can be applied to each relay (see Technical Data).
- Ensure that the wires for probes, loads and the power supply are separated and far enough from each other, without crossing or intertwining.
- In case of applications in industrial environments, the use of mains filters (our mod. FT1) in parallel with inductive loads could be useful.

GENERAL DESCRIPTION

Model XR30C, format 32 x 74 mm, is a digital termostat with off cycle defrost designed for refrigeration applications at normal temper- ature. It provides two relay outputs, one for the compressor, the other one can be used for alarm signalling or as auxiliary output. The probe input can be selected between PTC or NTC. The instrument has a digital input, for alarm signalling, for switching the auxiliary output or for start a defrost cycle. The instru- ment is fully configurable through special parameters that can be easily programmed through the keyboard.

CONTROLLER LOADS

COMPRESSOR

The regulation is performed according to the temperature measured by the thermo- stat probe with a positive differential from the set point: if the temperature increases and reaches set point plus differential the compressor is started and then turned off when the temperature reaches the set point value again.
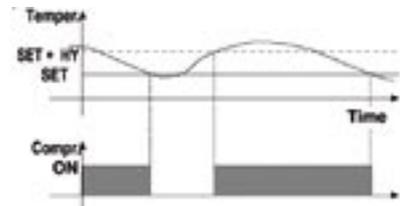
In case of fault in the thermostat probe the start and stop of the compressor are timed through parameters "COn" and "COF".

DEFROST

Defrost is performed through a simple stop of the compressor. Parameter "IdF" controls the interval between defrost cycles, while its length is controlled by parameter "MdF".

FRONT PANEL COMMANDS

SET: To display target set point; in pro
gramming mode it selects a
parameter or confirm an opera
tion.

❄ (DEF) To start a manual defrost

(UP) To see the last temperature
alarm happened; in program
ming mode it browses the para-
meter codes or increases the
displayed value.
(DOWN) To see the last temp-
erature alarm happened; hold
pressed it switches the auxiliary
output; in programming mode it
browses the parameter codes or
decreases the displayed value.

KEY COMBINATIONS:
 + To lock & unlock the keyboard.
SET + To enter in programming mode.
SET + To return to the room temperature
display.

LED	MODE	FUNCTION
❄	ON	Compressor enabled
❄	Flashin g	Programming Phase (flashing with 🏠)
		Anti-short cycle delay enabled
❄	ON	Defrost enabled
❄	Flashin g	Programming Phase (flashing with ❄)
	ON	Second relay ON
🔔	ON	An temperature alarm happened

TEMPERATURE ALARM AND ITS DURATION
RECORDING (HACCP)

XR30C signals and records temperature
alarms, together with their duration and
max value reached. See drawing:

Ex. High temperature alarm
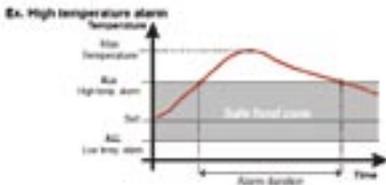
HOW TO SEE THE ALARM DURATION AND MAX
(MIN) TEMPERATURE

If the alarm LED is on, an alarm has taken
place.
To see the kind of alarm, the max (min)
reached temperature and alarm duration
do as follows:

1. Push the Up or Down key.
2. On the display the following mes
sage is shown::
"HAL" for high temperature alarm
("LAL" fot the minimum allarm),
followed by the Maximum (mini-
mum) temperature.
Then the "tiM" (tiMe) message is
displayed, followed by the "Dura-
tion" in h.mm.
3. Then the instrument displays the
temperature once again.

NOTE1: if an alarm is still occurring the "tim"
shows the partial duration.
NOTE2: the alarm is recorded when the tem-
perature come back to normal values

HOW TO RESET A RECORDED ALARM OR ONE
THAT IS STILL OCCURRING

1. Hold the SET key pressed for more
than 3s, while the recorded alarm
is displayed. (the rSt message will
be displayed)
2. To confirm the operation, the "rSt"
message starts blinking and the
normal temperature will be dis
played.

MAIN FUNCTIONS

HOW TO SEE THE SETPOINT
SET ☞ 1. Push and immediately release
the SET key: the display will show
the Set point value;
2. Push and immediately release
the SET key or wait for 5 sec-
onds to display the probe value
again.

HOW TO CHANGE THE SETPOINT
1. Push the SET key for more than 2
seconds to change the Set point
value;
2. The value of the set point will be

displayed and the LED starts
blinking;

3. To change the Set value push the
    o or n arrows within 10s.
4. To memorise the new set point
    value push the SET key again or
    wait 10s.

HOW TO START A MANUAL DEFROST

Push the DEF key for more than
2 seconds and a manual defrost
will start.

HOW TO SWITCH ON OR OFF THE SECOND RELAY(OAC= LHt)

AUX
ON   Hold pressed the n key for some
      seconds, till the AUX LED is turned
      on or OFF

HOW TO CHANGE A PARAMETER VALUE

To change the parameter's value operate
as follows:

1. Enter the Programming mode
   by pressing the Set and
   SET   DOWN key for 3s (and
          start blinking).
   2. Select the required parameter.
3. Press the "SET" key to display its value
   (now only the LED is blinking).
4. Use "UP" or "DOWN" to change its value.
5. Press "SET" to store the new value and
   move to the following parameter.

To exit: Press SET + UP or wait 15s without
pressing a key.
NOTE: the set value is stored even when the
procedure is exited by waiting the time-out
to expire.

THE HIDDEN MENU

The hidden menu Includes all the para-
meters of the instrument.

HOW TO ENTER THE HIDDEN MENU

1. Enter the Programming mode
   by pressing the Set + n key for
   SET   3s (LED 1 and start blinking).
   2. When a parameter is displayed
   keep pressed the Set+ n for
   more than 7s. The Pr2 label will
   be displayed immediately fol-
   lowed from the HY parameter.

NOW YOU ARE IN THE HIDDEN
MENU.

3. Select the required parameter.
4. Press the "SET" key to display its value
   (Now only the LED is blinking).
5. Use o or n to change its value.
6. Press "SET" to store the new value and
   move to the following parameter.

To exit: Press SET + o or wait 15s without
pressing a key.
NOTE: the set value is stored even when the
procedure is exited by waiting the time-out
to expire.

HOW TO MOVE A PARAMETER FROM THE HIDDEN MENU TO THE FIRST LEVEL AND VICE-VERSA.

Each parameter present in the HIDDEN
MENU can be removed or put into "THE
FIRST LEVEL" (user level) by pressing "SET+ n"
In HIDDEN MENU when a parameter is pres-
ent in First Level the decimal point is on.

HOW TO LOCK THE KEYBOARD

1. Keep pressed for more than 3 s the o and
   n keys.
2. The "POF" message will be displayed and
   the keyboard will be locked. At this point
   it will be possible only to see the set point
   or the MAX o Min temperature stored
3. If a key is pressed more than 3s the "POF"
   message will be displayed.

TO UNLOCK THE KEYBOARD

Keep pressed together for more than 3s the
and keys, till the "Pon" message will be
displayed.

THE CONTINUOUS CYCLE

When defrost is not in progress,
it can be activated by holding
the "o" key pressed for about 3
seconds.

The compressor operates in continuous
mode for the time set through the "CCt"
parameter. The cycle can be terminated
before the end of the set time using the
same activation key "o" for 3 seconds.

PARAMETERS

NOTE: the parameters preceded by dots are in the Hidden Menu.

REGULATION

Hy Differential: (0,1 ÷ 25,5°C / 1÷255 °F) Intervention differential for set point. Compressor Cut IN is Set Point Plus Differential (Hy). Compressor Cut OUT is when the temperature reaches the set point.

• LS Minimum set point: (- 50°C÷SET-58°F÷ SET): Sets the minimum acceptable value for the set point.
• US Maximum set point: (SET÷110°C/ SET÷ 230°F). Set the maximum acceptable value for set point.

Ot Thermostat probe calibration: (-12.0÷ 12.0°C; -120÷120°F) allows to adjust possible offset of the thermostat probe.

• OdS Outputs activation delay at start up: (0÷255min) This function is enabled at the initial start up of the instrument and inhibits any output activation for the period of time set in the parameter.

AC Anti-short cycle delay: (0÷50 min) minimum interval between the compressor stop and the following restart.

• CCt Compressor ON time during continuous cycle: (0.0÷24.0h; res. 10min) Allows to set the length of the continuous cycle: compressor stays on without interruption for the CCt time. Can be used, for instance, when the room is filled with new products.
• COn Compressor ON time with faulty probe: (0÷255 min) time during which the compressor is active in case of faulty thermostat probe. With COn=0 compressor is always OFF.
• COF Compressor OFF time with faulty probe: (0÷255 min) time during which the compressor is OFF in case of faulty thermostat probe. With COF=0 compressor is always active.

CH Type of action: CL = cooling; Ht = heating.

DISPLAY

• CF Temperature measurement unit: °C=Celsius; °F=Fahrenheit. WARNING: When the measurement unit is changed the SET point and the values of the parameters Hy, LS, US, Ot, ALU and ALL have to be checked and modified if necessary).

rES Resolution (for °C): (in = 1°C; dE = 0.1 °C) allows decimal point display.

DEFROST

IdF Interval between defrost cycles: (0÷120h) Determines the time interval between the beginning of two defrost cycles.

MdF (Maximum) length for defrost: (0÷255min) When P2P = n, (not evaporator probe: timed defrost) it sets the defrost duration, when P2P = y (defrost end based on temperature) it sets the maximum length for defrost.

• dFd Temperature displayed during defrost: (rt = real temperature; it = temperature at defrost start; SEt = set point; dEF = "dEF" label)
• dAd MAX display delay after defrost: (0÷255min). Sets the maximum time between the end of defrost and the restarting of the real room temperature display.

ALARMS

• ALC Temperature alarms configuration: (Ab; rE) Ab= absolute temperature: alarm temperature is given by the ALL or ALU values. rE = temperature alarms are referred to the set point. Temperature alarm is enabled when the temperature exceeds the "SET+ALU" or "SET-ALL" values.

ALU MAXIMUM temperature alarm: (SET÷110°C; SET÷230°F) when this temperature is reached the alarm is enabled, after the "ALd" delay time.

ALL Minimum temperature alarm: (-50.0 ÷ SET°C; -58÷230°F when this temperature is reached the alarm is enabled, after the "ALd" delay time.

• ALd Temperature alarm delay: (0÷255 min) time interval between the detection of an alarm condition and alarm signalling.
• dAO Exclusion of temperature alarm at startup: (from 0.0 min to 23.5h) time interval between the detection of the temperature alarm condition after instrument power on and alarm signalling.

SECOND RELAY AND DIGITAL INPUT

• tbA Alarm relay silencing (with oAC=ALr): (n= silencing disabled: alarm relay stays on till alarm condition lasts, y =silencing enabled: alarm relay is switched OFF by pressing a key during an alarm).

OA1 Second relay configuration: ALr: alarm; LHt: auxiliary; onF: always on; dEF: do not select it!.; FAn: do not select it!.; AoP Alarm relay polarity: it set if the alarm relay is open or closed when an alarm happens. CL= the relay is closed; oP = the relay is open

i1P Digital input polarity: oP: the digital input is activated by opening the contact; CL: the digital input is activated by closing the contact.

i1F Digital input configuration:
EAL = external alarm: "EA" message is displayed; bAL = serious alarm "CA" message is displayed. PAL = pressure switch alarm, "CA" message is displayed; dor = door switch function; dEF = activation of a defrost cycle; LHt =switch on the second relay if oA1=LHt; Htr= kind of action inversion (cooling – heating).

did: (0÷255 min)
with i1F= EAL or i1F = bAL digital input alarm delay: delay between the detection of the external alarm condition and its signalling. with i1F= dor: door open signalling delay with i1F = PAL: time for pressure switch function: time interval to calculate the number of the pressure switch activation.

nPS Pressure switch number: (0 ÷15) Number of activation of the pressure switch, during the "did" interval, before signalling the alarm event (I2F= PAL). If the nPS activation in the did time is reached, switch off and on the instrument to restart normal regulation.

• odc Compressor status when open door:
  no, Fan = normal; CPr, F_C = Compressor OFF

OTHER
PbC Type of probe: it allows to set the kind of probe used by the instrument: PbC = PBC probe, ntC = NTC probe.
• rEL Software release for internal use.
• Ptb Parameter table code: readable only.

DIGITAL INPUT

The free contact digital input is programmable in five different configurations by the "i1F" parameter.

DOOR SWITCH INPUT (i1F = dor)
It signals the door status and the corre-sponding relay output status through the "odc" parameter:

> no, Fan = normal (any change);
> CPr, F_C = Compressor OFF;

Since the door is opened, after the delay time set through parameter "did", the door alarm is enabled, the display shows the message "dA" and the regulation restarts. The alarm stops as soon as the external digital input is disabled again. With the door open, the high and low temperature alarms are disabled.

GENERIC ALARM (i1F = EAL)
As soon as the digital input is activated the unit will wait for "did" time delay before signalling the "EAL" alarm message. The outputs status don't change. The alarm stops just after the digital input is de-activated.

SERIOUS ALARM MODE (i1F = bAL)
When the digital input is activated, the unit will wait for "did" delay before signalling the "CA" alarm message. The relay outputs are switched OFF. The alarm will stop as soon as the digital input is de-activated.

PRESSURE SWITCH (i1F = PAL)
If during the interval time set by "did" parameter, the pressure switch has reached the number of activation of the "nPS" parameter, the "CA" pressure alarm message will be displayed. The compressor and the regulation are stopped. When the digital input is ON the compressor is always OFF. If the nPS activation in the did time is reached, switch off and on the instrument to restart normal regulation.

SWITCHING SECOND RELAY ON (i1F = LHt)
With oA1= LHt it switches on and off the second relay.

START DEFROST (i1F = dFr)
It starts a defrost if there are the right conditions. After the defrost is finished, the normal regulation will restart only if the digital input is disabled otherwise the instrument will wait until the "MdF" safety time is expired.

INVERSION OF THE KIND OF ACTION: HEATINGCOOLING (i1F = Htr)
This function allows to invert the regulation of the controller: from cooling to heating and viceversa.

DIGITAL INPUTS POLARITY

The digital input polarity depends on the "i1P" parameter.

i1P=CL: the input is activated by closing the contact.

i1P=OP: the input is activated by opening the contact

INSTALLATION AND MOUNTING

Instrument XR30C shall be mounted on vertical panel, in a 29x71 mm hole, and fixed using the special bracket supplied.

To obtain an IP65 protection grade use the front panel rubber gasket (mod. RG-C) as shown in figure.

PANEL

BRACKET
(PUSH TO RELEASE)
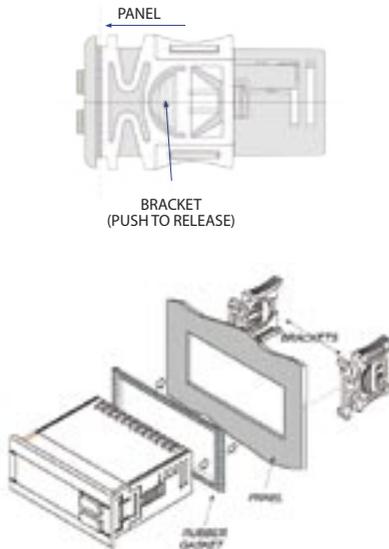
The temperature range allowed for correct operation is 0÷60 °C. Avoid places subject to strong vibrations, corrosive gases, excessive dirt or humidity. The same recommendations apply to probes. Let air circulate by the cooling holes.

ELECTRICAL CONNECTIONS

The instrument is provided with screw terminal block to connect cables with a cross section up to 2,5 mm2. Before connecting cables make sure the power supply complies with the instrument's requirements. Separate the probe cables from the power supply cables, from the outputs and the power connections. Do not exceed the maximum current allowed on each relay, in case of heavier loads use a suitable external relay.

PROBE CONNECTION

The probes shall be mounted with the bulb upwards to prevent damages due to casual liquid infiltration. It is recommended to place the thermostat probe away from air streams to correctly measure the average room temperature. Place the defrost termination probe among the evaporator fins in the coldest place, where most ice is formed, far from heaters or from the warmest place during defrost, to prevent premature defrost termination.

HOW TO USE THE HOT KEY

HOW TO PROGRAM A HOT KEY FROM THE INSTRUMENT (UPLOAD)

1. Program one controller with the front keypad.
2. When the controller is ON, insert the "Hot key" and push o key; the "uPL" message appears followed a by flashing "End"
3. Push "SET" key and the End will stop flashing.
4. Turn OFF the instrument remove the "Hot Key", then turn it ON again.

NOTE: the "Err" message is displayed for failed programming. In this case push again key if you want to restart the upload again or remove the "Hot key" to abort the operation.

HOW TO PROGRAM AN INSTRUMENT USING A HOT KEY (DOWNLOAD)

1. Turn OFF the instrument.
2. Insert a programmed "Hot Key" into the 5 PIN receptacle and then turn the Controller ON.
3. Automatically the parameter list of the "Hot Key" is downloaded into the Controller memory, the "doL" message is blinking followed a by flashing "End".
4. After 10 seconds the instrument will restart working with the new parameters.
5. Remove the "Hot Key"..

NOTE: the message "Err" is displayed for failed programming. In this case turn the unit off and then on if you want to restart the download again or remove the "Hot key" to abort the operation.

ALARM SIGNALS

Alarm signals;	
Message	Cause
EE	Date or memory failure
P1	Probe failure
HA	Max. temp. alarm
LA	Min. temp. alarm

ALARM RECOVERY

Probe alarm "P1" starts some seconds after the fault in the related probe; it automatically stops some seconds after the probe restarts normal operation. Check connections before replacing the probe.
Temperature alarms "HA" and "LA" automatically stop as soon as the thermostat temperature returns to normal values and when defrost starts.
Alarms "EA" and "CA" (with i1F=bAL) recover as soon as the digital input is disabled.
Alarm "CA" (with i1F=PAL) recovers only by switching off and on the instrument.

TECHNICAL DATA

Housing: self extinguishing ABS.
Case: XR30C frontal 32x74 mm; depth 60mm;
Mounting: XR30C panel mounting in a 71x29mm panel cut-out
Protection: IP20.
Frontal protection: IP65 with frontal gasket RG-C (optional).
Connections: Screw terminal block ≤ 2,5 mm2 wiring.
Power supply: according to the model:
12Vac/dc, ±10%; 24Vac/dc, ±10%; 230Vac ±10%, 50/60Hz, 110Vac ±10%, 50/60Hz
Power absorption: 3VA max
Display: 3 digits, red LED, 14,2 mm high.

Inputs: 1 NTC or PTC probe.
Digital input: free contact
Relay outputs:
   compressor: SPST relay 8(3) A, 250Vac or SPST relay 20(8)A; 250Vac
second relay: SPDT relay 8(3) A, 250Vac or
Data storing: on the non-volatile memory (EEPROM).
Kind of action: 1B; Pollution grade: normal;
Software class: A.
Operating temperature: 0÷60 °C.
Storage temperature: -30÷85 °C.
Relative humidity: 20÷85% (no condensing)
Measuring and regulation range:
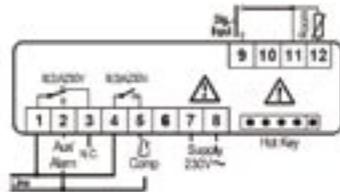   NTC probe: -40÷110°C (-40÷230°F)
   PTC probe: -50÷150°C (-58÷302°F)
Resolution: 0,1 °C or 1°C or 1 °F (selectable).
Accuracy (ambient temp. 25°C): ±0,7 °C ±1 digit

CONNECTIONS
XR30C: 8A compressor

12Vac/dc supply: connect to the terminals 7 and 8.
24Vac/dc supply: connect to the terminals 7 and 8.
120Vac supply: connect to the terminals 7 and 8.

DEFAULT SETTING VALUES

Label	Name	Range	°C/°F
Set	Set point	LS+US	3,0/37
HY	Differential	0,1-25,5ºC/ 1-255ºF	2,0/4
LS	Minimum set point	-50ºC-SET/ -58ºF-SET	-50,0/-58
US	Maximum setpoint	SET-110ºC/ SET-230ºF	110/230
Ot	Thermostat probe calibration	-12-12ºC/ -120-120ºF	0,0
Ods	Outputs delay at start up	0-255 min	0
AC	Anti-short cycle delay	0-50 min	1
CCt	Continuos cycle duration	0,0-24,0 h	0,0
COn	Compressor ON time with faulty probe	0-255 min	15
COF	Compressor OFF time with faulty probe	0-255 min	30
CH	Kind of action	CL=cooling Ht=heating	CL
CF	Temperature measurement	ºC - ºF	ºC/ºF
rES	Resolution	in=integer dE=dec. point	dE/-
IdF	Interval between defrost cycles	1-120 ore	8
MdF	(Maximum) length for defrost	0-255 min	20
dFd	Displaying during defrost	rt, it, SEt, DEF	it
dAd	MAX display delay after defrost	0-255 min	30
ALc	Temp. alarmsconfiguration	rE=related to set; Ab=absolute	Ab
ALU	MAXIMUM temp. alarm	Set-110,0ºC; Set-230ºF	110/230
ALL	Mimimum temp. alarm	-50,0ºC-Set/ -58ºF-Set	-50/-58
ALd	Temperature alarm delay	0-255 min	15
dAO	Delay of temp. alarm at start up	0-23 h e 50´	1,3
tbA	Alarm relay silencing	n=no y=yes	Y
oA1	2nd relay configuration	ALr=alarm; dEF=no select it; LHt=auxiliary; onF=always on: Fan=no select it	LHt
AoP	Second relay polarity (oA1=ALr)	oP; cL	cL
i1P	Digital input polarity	oP=opening; CL=closing	cL
i1F	Digital input configuration	EAL=extern alarm; bAL=lock regulation; PAL=press switch; dor=door switch; dEF=defrost LHt=switch on 2nd relay; Htr=cooling - heating	LHt
did	Digital input delay	0-255 min	5
NpS	Number of activation of pressure switch	0-15	15
odc	Compressor status with open door:	no, Fan=normal; CPr; F_C=Compr. OFF	no
PbC	Kind of probe	Ptc; ntc	ntc/Ptc
rEL	Software release	--	4,0
Ptb	Map code	--	-

Hidden parameters

Factory settings UNI/LT models.

Dixell XR30C		115 volt	230 volt
Description	Label	Setting Farenheit	Setting Celcius
Set point	Set	-45	-45
Different (Hysteresis)	Hy	3	3
Minimum set point	LS	-58	-50
Maximum set point	US	0	0
Offset	Ot	0	0
Output delay start up	Ods	1	1
Anti-short cycle delay	AC	3	3
Continious cycle delay	CCt	0	0
Compressor ON time with probe failure	COn	60	60
Compressor OFF time with probe failure	COF	5	5
Type of action (cooling, heating)	CH	CL	CL
Temperature measurement unit	CF	F	C
Interval between defrost cycles	IdF	120	120
Maximum lenght for defrost	Mdf	0	0
Displaying during defrost	dFd	Set	Set
Max. display delay after defrost	dAd	0	1
Temp. alarms configuration	Alc	Ab	Ab
Maximum temp. alarm	ALU	-33	-36
Minimum temp. alarm	ALL	-58	-50
Temp. alarm delay	Ald	120	120
Delay of temp. alarm start up	dAo	24	24
Probe selection	PbC	Ptc	Ptc
N/A	Rel	3	3
N/A	Ptb	84	84

Technical specifications:

UNI/LT		11	21	31	41	51
Ambient temperature	°C	+10˚ to +30˚	+10˚ to +30˚	+10˚ to +30˚	+10˚ to +30˚	+10˚ to +30˚
Gross volume	litres	130	227	301	360	418
Gross volume	cu. ft.	4,6	8,0	10,6	12,7	14,8
Height on feet	mm	860	860	860	860	860
Height with open lid	mm	1560	1560	1560	1560	1560
Width	mm	720	1055	1300	1500	1700
Insulation thickness	mm	100	100	100	100	100
Depth excl. handle and hinges	mm	730	730	730	730	730
Power consumption UNI/LT at +25˚ C (230V 50Hz)	Watts	210	360	360	400	420
Fuse	A	10	10	10	10	10
Temeprature range UNI/LT	°C	-30˚ to -45˚	-30˚ to -45˚	-30˚ to -45˚	-30˚ to -45˚	-30˚ to -45˚
Noise level UNI/LT	dBa	< 51	< 51	< 51	< 51	< 51
Weight	kg	50	63	75	80	92
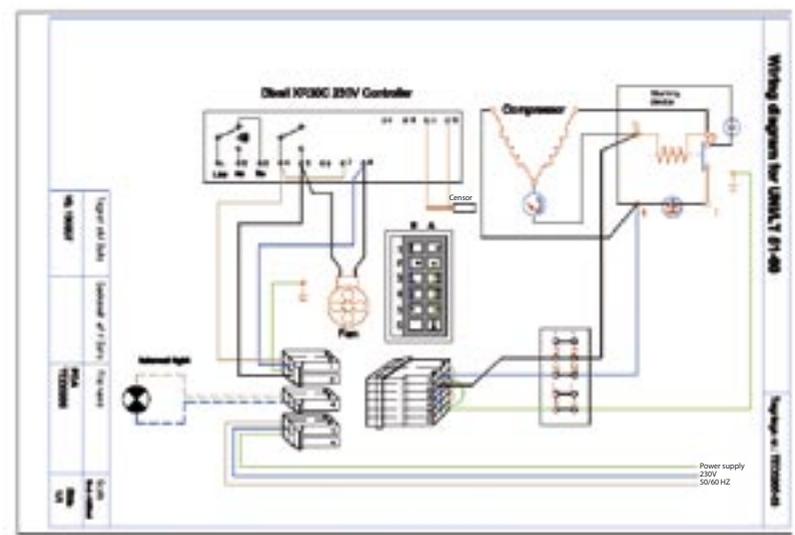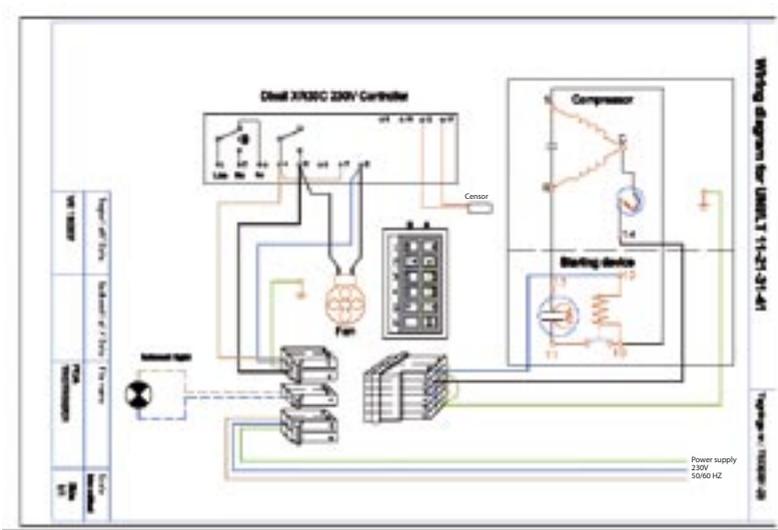
Wiring diagrams

Wiring diagrams

User Instructions Low Temperature Freezers Model UNI/LT

Wiring diagrams