

HOSHIZAKI CONTROLLER BOARD

MODEL IM-N series (HE)

SERVICE MANUAL

This service manual provides information on the controller board used for Hoshizaki IM series cubers.

Please also refer to the applicable service manual for each model.

If any information contained herein is inconsistent with the instruction or installation manual, follow the latter manual.

CONTENTS

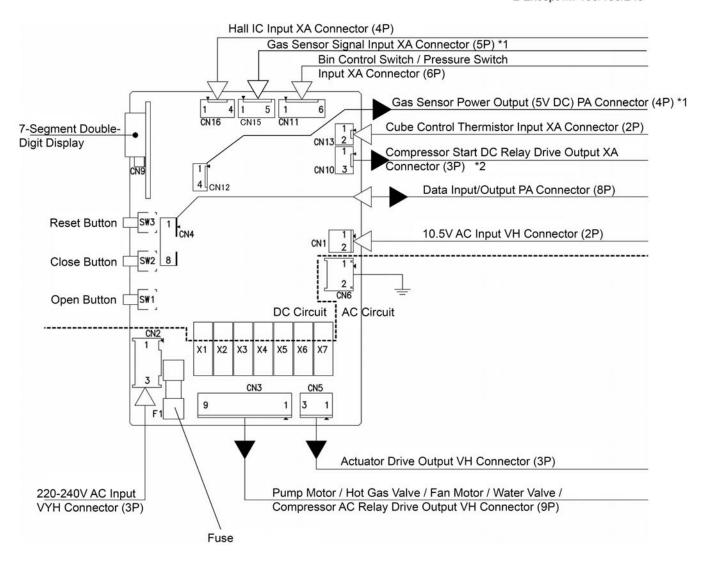
PAGE

1. 0	CONFIGURATION	1
[a] INPUT/OUTPUT LAYOUT	1
[b] INPUT/OUTPUT CIRCUIT	2
[c] BOARD CONFIGURATION	3
[d] SWITCH OPERATION	4
2. 0	DPERATION	5
[a] SOFT START	5
[b] WATER PAN OPENS	5
[c] DEFROST CYCLE	6
[d] WATER PAN CLOSES	6
[e] FREEZE CYCLE	6
[f] FREEZE COMPLETION CONTROL	8
[g] WATER SUPPLY CONTROL	-11
[h] AMBIENT TEMPERATURE CORRECTION	-11
[i] DIMPLE DIAMETER SETTING	-11
[j] BIN CONTROL CYCLE	12
[k] RESET SWITCH	12
[I] 7-SEGMENT LED	13
[m] GAS LEAKEAGE WARNING (HC-MODEL ONLY)	13
3. N	MODE SETTING	14
[a] WATER CIRCUIT FLUSH MODE	14
[b] MAINTENANCE MODE	15
[c] DISPLAY MODE (LOG CLEARING)	68
[d] MODEL CODE SETTING MODE	69
4. 7	'-SEGMENT DISPLAY	76
[a] NORMAL MODE	76
[b] MAINTENANCE MODE	76
[c] DISPLAY MODE	78
5. E	ERROR CODES	79
[a] ERROR CODES, CAUTION CODES	79
[b] SERVICE DIAGNOSIS	81
6. T	ROUBLESHOOTING	82
[a] INSTRUCTIONS FOR SERVICE ENGINEER	82
[b] CHECKING CONTROLLER BOARD	82
7. F	REMOVAL AND REPLACEMENT	83
8. T	IMING CHART	85

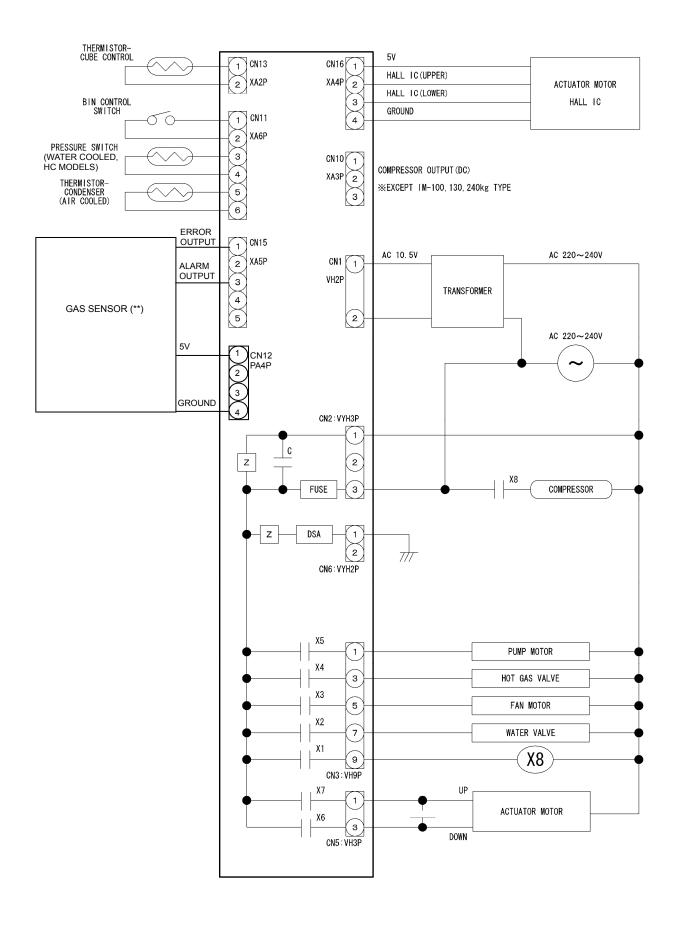
1. CONFIGURATION

[a] INPUT/OUTPUT LAYOUT

- *1 HC model only
- *2 Except IM-100/130/240

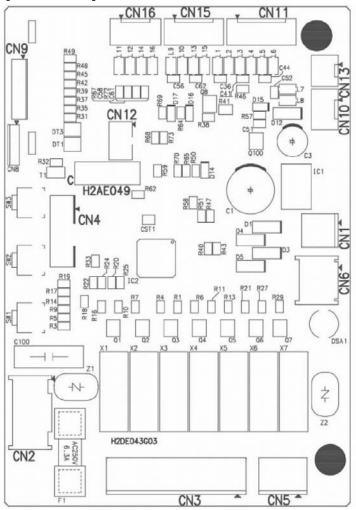


[b] INPUT/OUTPUT CIRCUIT (**: HC MODEL ONLY)

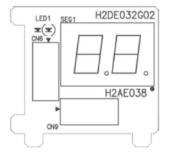


[c] BOARD CONFIGURATION

[Main Board]

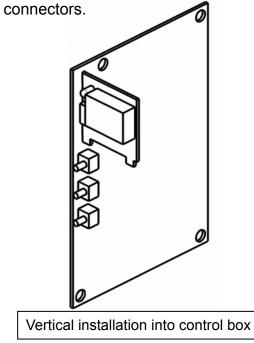


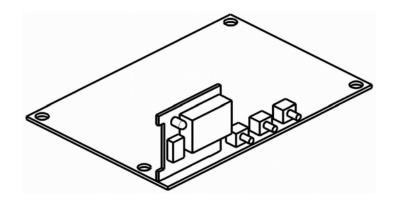
[Sub Board]



7-segment display board

The direction to install the sub board depends on models and is easily changeable by

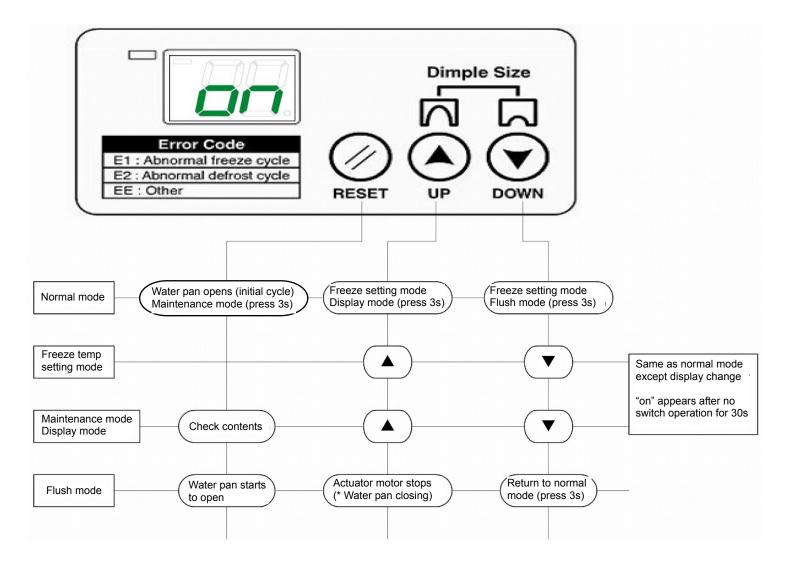




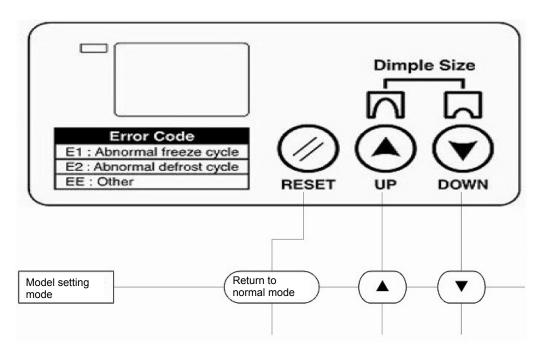
Horizontal installation into control box

[d] SWITCH OPERATION

1) The following is the switch operation flow in different modes. When pressed and released, the switch detects the operation by its pressing duration.



2) To clear the current model code information and enter the model setting mode, press the up and down switches together for 15 seconds while the model code is indicated in the display mode (see "3. [c] DISPLAY MODE").



2. OPERATION

This service manual specifies the basic operation of the controller board "Ver. 1.0A".

[a] SOFT START

- 1) When the power supply is turned on, the 7-segment LED shows "on" and the hot gas valve opens. After 30 seconds, the defrost cycle starts.
 - * If the reset switch is pressed during the 30-second standby time, the unit resets soft start and immediately starts operation.

[b] WATER PAN OPENS

- 1) The hot gas valve opens, the actuator motor starts, and the water pan starts to open.
- 2) After 20 seconds, the water valve opens to supply defrosting water (water pan cleaning water) for a specific time.
 - * The defrosting water supply time varies between the water temperatures above and below 13°C.
 - * In the initial cycle, the water temperature is not detected and assumed to be below 13°C, resulting in a longer defrosting water supply time.

- * The defrosting water supply time is adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").
- 3) The opening backup timer starts counting when the water pan starts to open. If the hall IC does not turn on within 3 minutes, the display shows "EE" and the unit stops for 60 minutes. If the error recurs after the unit resumes operation, the display shows "EE" and the unit shuts down (recorded as "E3" in error history).

[c] DEFROST CYCLE

- 1) After the water pan opens, the hot gas valve opens until the defrost completion temperature is reached.
- 2) If the defrost completion temperature is not reached even when the defrost backup timer counts up (30 minutes after water pan starts to open), the display shows "E2" and the unit stops.
 - If the hot gas valve fails to open, the unit may stop with the "E2" error.
 - * The defrost completion temperature is adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").

[d] WATER PAN CLOSES

- 1) When the cube control thermistor senses the evaporator temperature above the defrost completion temperature, the hot gas valve closes, the fan motor starts, and the water pan starts to close.
- 2) The closing backup timer starts counting when the water pan starts to close. If the hall IC does not turn on within 3 minutes, the display shows "EE" and the unit stops for 60 minutes. If the error recurs after the unit resumes operation, the display shows "EE" and the unit shuts down (recorded as "E4" in error history).
 - * In the initial cycle or when the water temperature is below 13°C, the water valve opens to supply defrosting water for 10 seconds after the water pan starts to close.

[e] FREEZE CYCLE

- 1) When the water pan closes and the hall IC turns on, the water valve opens to supply icemaking water for a specific time. The icemaking water supply time varies between startup, reset, and the end of bin control cycle and between partial drain flush and full drain flush (see note below).
 - * The icemaking water supply time and additional water supply time are adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").

Note:

<u>Full drain flush</u> - After a freeze cycle ends, the unit drains all the remaining water in the tank and refills the tank in the next freeze cycle.

<u>Partial drain flush</u> (default setting) - After a freeze cycle ends, the unit leaves the remaining water in the tank and adds some water to fill the tank in the next freeze cycle.

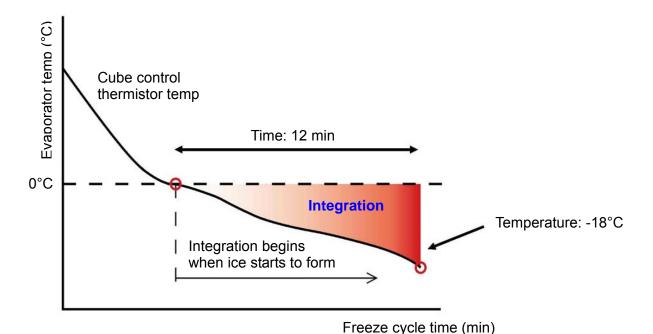
- 2) After icemaking water has been supplied, the pump motor starts.
- 3) After 30 seconds, the cube control thermistor senses the temperature that will be added with a predetermined offset value and used as the water temperature in the freeze cycle, water pan opening cycle, defrost cycle, and water pan closing cycle.
 - * The offset value for the cube control thermistor temperature is adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").
- 4) The freeze cycle is considered to be 100% complete when the predetermined target integrated values are reached.
 - * The target integrated values (temperature and time) for the freeze completion are adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").
- 5) To reduce ice forming on the water pan when the freeze completion rate reaches 100% at an ambient temperature below 30°C, the hot gas valve opens and closes two times for a specific time to raise the water pan temperature. Then, the actuator motor starts to open the water pan.
 - While the hot gas valve opens and closes, the freeze cycle is not considered to be complete and the pump motor and fan motor keep running.
 - * The ambient temperature setting and hot gas valve opening/closing time are adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").
- 6) Even if the freeze backup timer counts up (45/60 minutes after water pan starts to close), the unit stops with the "E1" error when the evaporator temperature is above 0°C.

If the hot gas valve fails to close, the unit may stop with the "E1" error.

* The backup timer setting is adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").

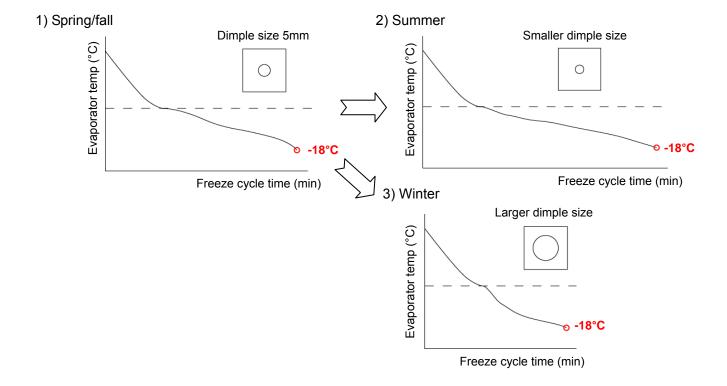
[f] FREEZE COMPLETION CONTROL

- 1) The target integrated values (cube control thermistor temperature and freeze cycle time) are set for freeze completion.
 - * The target integrated freeze completion temperature and time are adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").
- 2) After the cube control thermistor senses a temperature below 0°C, the cube control thermistor temperature and freeze cycle time are integrated every second.
- 3) When the integrated values reach the target, the freeze cycle completes.

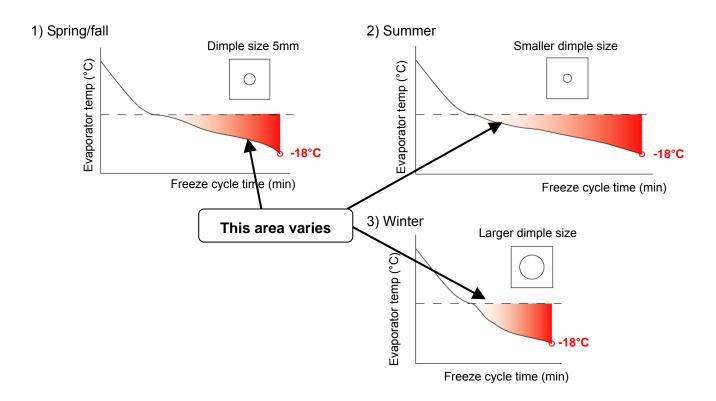


As the previous freeze completion control depended on the freeze completion temperature only, the dimple size varied in 1) spring/fall, 2) summer, and 3) winter even at the same freeze completion temperature.

For example, when the freeze completion temperature is -18°C and the dimple size is 5 mm, the freeze cycle time becomes longer and dimple size smaller in summer, and the freeze cycle time becomes shorter and dimple size larger in winter.



Comparison of the evaporator temperature curves finds that the red-colored area varies in different seasons.



This area corresponds to the energy on ice. Making these different areas into one can equalize the dimple size.

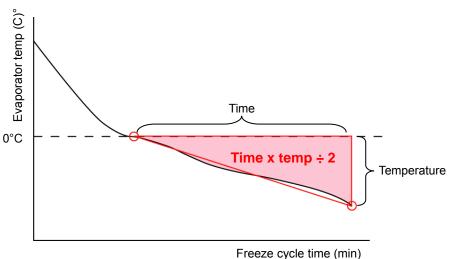
To calculate the energy required for ice production, the actual ice production area under 0°C in the evaporator temperature curve is approximated into a triangle.

This area can be calculated by

Time x temperature ÷ 2

Therefore,

Energy required for ice production = time x temperature \div 2



Providing the calculated energy to icemaking water can produce ice with fixed dimple size not affected by ambient conditions.

Actually, after the evaporator temperature becomes 0°C, the icemaker adds thermistor sensed temperature every second and continues ice production until the energy value calculated above (target freeze completion value) is reached.

To have stable ice production, it is necessary to calculate icemaking energy internally with the microprocessor. This energy calculation requires not just temperature but also time as shown in the above graph.

For this reason, both temperature and time are used to determine freeze completion for the IM N models (HE).

[g] WATER SUPPLY CONTROL

- 1) When the water pan closes and the hall IC turns on, the water valve opens to supply icemaking water for a specific time. The icemaking water supply time varies between startup, reset, and the end of bin control cycle and between partial drain flush and full drain flush.
 - * The icemaking water supply time and additional water supply time are adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").
- 2) After the water pan starts to open, the water valve opens in 20 seconds to supply defrosting water (water pan cleaning water) for a specific time. The defrosting water supply time varies between the water temperatures above and below 13°C. If the water temperature is below 13°C, the water valve opens for 10 seconds after the water pan starts to close.
 - * The defrosting water supply time is adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").
- 3) The water temperature is determined by a predetermined offset value plus the cube control thermistor temperature after icemaking water is supplied as mentioned in 1) and the pump motor runs for 30 seconds.
 - * The water temperature offset value is adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").

[h] AMBIENT TEMPERATURE CORRECTION

- At low ambient temperatures, the dimple diameter of ice cubes is increased by a
 predetermined rate between the ambient temperature and target integrated freeze
 completion value to prevent reduction in the evaporator temperature leading to
 excessive ice production.
 - * The rate between the ambient temperature and integrated value is adjustable in the maintenance mode (see "3. [b] MAINTENANCE MODE").

[i] DIMPLE DIAMETER SETTING

- 1) When the up or down switch is pressed, the current set point temperature (maintenance mode No. 2) is displayed (see "3. [b] MAINTENANCE MODE").
- When the up or down switch is pressed again, the set point temperature goes up or down in 0.5°C increments.
- 3) When the switches are not pressed for 30 seconds, the set point temperature is determined with "on" in the display.

[j] BIN CONTROL CYCLE

- 1) When the bin control switch stays on for more than 10 seconds, the bin control cycle starts and the icemaker stops. After the bin control switch stays off for more than 80 seconds, the bin control cycle ends and the icemaker restarts. (The hot gas valve opens 30 seconds before the icemaker restarts.)
 - For IM-240D/X_NE(-C) series only, if the bin control switch trips in the freeze cycle, the icemaker stops after completing the freeze and defrost cycles.
- After the bin control cycle ends (or when the power supply is turned on), the water pan starts to open (if the icemaker stopped while the water pan was closing).
- 3) If the bin control switch turns on while the water pan is opening after the power supply is turned on (or after the reset switch is pressed), the bin control cycle does not start. When the water pan opens and the hall IC turns on, the bin control cycle starts after 10 seconds and the icemaker stops.

[k] RESET SWITCH

- When the reset switch is pressed and released after the power supply is turned on, the soft start is reset within 3 seconds and the water pan starts to open in the initial cycle.
- 2) When the reset switch is pressed and released during operation (water pan opening or closing, defrost or freeze cycle), the icemaker returns to the initial cycle within 3 seconds and the water pan starts to open.
 - * The above control is available because the water pan position is detected by the hall IC not by a change switch.
- 3) When the reset switch is pressed and released while the icemaker is off in the bin control cycle, the icemaker returns to the initial cycle within 3 seconds, the bin control cycle ends and the water pan starts to open.
- 4) When the reset switch is pressed and released while the icemaker is off with an error, the icemaker returns to the initial cycle within 3 seconds, the error is reset and the water pan starts to open.
 - * When the icemaker returns to the initial cycle by the reset switch operation, the water temperature is assumed to be 0°C (below 13°C), the freeze back up timer is extended, the icemaking water supply time including additional water supply with the water pan closed doubles and the number of freeze cycles becomes 0.

[I] 7-SEGMENT LED

- 1) When the power supply is turned on, the display shows "on" and the automatic icemaking process starts.
- 2) When the up or down switch is pressed, the display shows the current setting. When the switch is pressed again, the setting becomes adjustable. When the switches are not pressed for 30 seconds, the adjusted setting is determined with "on" in the display.
- 3) When an error occurs, the display flashes the applicable error code.
- 4) In the maintenance mode, the display shows various settings.
- 5) In the display mode, the display shows various values and the error history.
- 6) In the water circuit flush mode, the segments of the ones digit light up in rotation.
 - * See "4. 7-SEGMENT DISPLAY" for further details.

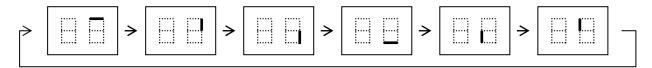
[m] GAS LEAKEAGE ALARM (HC MODEL ONLY)

- If the gas sensor detects gas leakage and sets off an alarm and E1 or E2 occurs, the icemaker stops with EF error. To diffuse the leaked gas, the condenser fan motor runs continuously.
- 2) If the gas sensor continues to detect gas leakage for the time set in the maintenance mode No. 91 and E1 or E2 does not occur, the icemaker determines that the sensor is sensitized and sets off A1 alarm.
- 3) If the detecting part of the gas sensor deteriorates causing an open circuit, the icemaker sets off A2 alarm.
- 4) When A1 and A2 alarms occur, icemaking operation continues but the condenser fan motor runs continuously just in case of gas leakage.
 - * The gas sensor is sensitive enough to detect flammable gas from outside as well as leaked gas from the icemaker. It cannot selectively detect gas leakage only from the icemaker. Therefore, a combination of the gas sensor and E1 and E2 errors is used for selective detection of gas leakage from the icemaker.
 - * If the gas sensor is exposed to high-concentrated flammable gas or silicon-base gas, it becomes irreversibly sensitized causing false detection (sensitization). Do not spray gas to the sensor to check operation or use silicone-type lubricant spray near the sensor.

3. MODE SETTING

[a] WATER CIRCUIT FLUSH MODE

1) When the down switch is pressed for 3 seconds during operation, the water circuit flush mode starts. The ones digit in the LED display lights up as follows.



- 2) There is no 30-second standby time after the power supply is turned on. While the compressor stays off, the actuator motor starts to open the water pan. After the water pan closes, the water valve opens to supply water. Then, the pump motor starts.
- 3) When the reset switch is pressed during the flush process, the water pan opens to drain the water pan and water tank. Then, the water pan closes again, the water valve opens to supply water, and the pump motor starts.
- 4) Repeat the above step 3) as required.
 - * Manually press the reset switch to open the water pan to drain water. If the icemaker keeps running in the flush mode with the water pan closed, the freeze backup timer operates and the display shows "E1".
 - * If the cube control thermistor senses a temperature below the defrost completion temperature, the water pan keeps open, the defrost backup timer operates and the display shows "E2".

To reset, press the down switch for 3 seconds.

Note:

- 1. The freeze backup timer and defrost backup timer are available in the water circuit flush mode. As the compressor is off in the flush mode, these timers operates to stop the icemaker in case the freeze or defrost cycle does not complete.
- 2. As the compressor is off in the flush mode, be sure to drop all ice cubes in the defrost cycle before starting the flush mode. If any ice cube is left on the evaporator, the defrost backup timer operates to stop the icemaker.
- 3. After the flush mode is reset, the icemaker resumes operation from the defrost cycle.
 - * If the up switch is pressed while the water pan is closing in the flush mode, the actuator motor stops and icemaking water is supplied for a specific time. Then, the pump motor starts to spray water. This allows for checking whether the spray holes are clogged or not.

[b] MAINTENANCE MODE

When the reset switch is pressed for more than 3 seconds, the maintenance mode starts to allow various set values to be checked or adjusted.

- 1) Press the reset switch for more than 3 seconds while the unit is running. The display shows "1".
- 2) Press the up switch to increase the number and the down switch to decrease the number.
- 3) Press the reset switch to select the desired number. The current set value flashes in the display.
- 4) Press the up switch to increase the set value and the down switch to decrease the set value.
- 5) Press the reset switch to select the desired value. The display shows the number again.

To reset, leave the switches untouched for 30 seconds.

Maintenance Mode List (**: HC MODEL ONLY)

	No	Item	Range	Step
	1	Defrost completion temp	2 to 20°C	1
	2	Integrated constant 1 (temp)	-5 to -40°C	0.5
	3	Integrated constant 2 (time)	5 to 90 min	1
Basic	4	Ambient temp correction operating temp for integrated value	10 to 50°C	1
	5	Ambient temp correction rate for integrated value	10 to 100% (00 = 100)	1
	6	Freeze backup timer	45 to 90 min	5
	10	Defrosting water supply time, water 1 to 99 sec, 99 = continuous temp less than 13°C		1
	11	Defrosting water supply time, water temp 13°C or more	1 to 99 sec	1
Water supply	12	Icemaking water supply time, normal	0 to 90 sec	1
	13	Water temp measurement correction value	+0 to +20K	1
	14	Full / partial drain flush selection	0: full / 1: partial	1
	15	Additional icemaking water supply time	0 to 90 sec	1
	21	Double stack bin control	0: No / 1: Yes	1
Other	22	Refrigeration unit operation in bin control cycle	0: No / 1: Yes	1
Model	30	Type	0: water-cooled (large) 1: small 2: medium / large 3: separate	1
Defrost cycle low temp control	34	Operating temp	40 to 70°C	1
Water regulator	36	Water regulator error detecting temp	0 to 50°C, 0: cancel	1
Compressor	37	Compressor output selection	0: X8 (DC relay) on 1: X1 (AC relay) on	1
Slush ice	50	Pump off time	0 to 90 sec, 0: no control	1
Siusifice	51	Water supply time	0 to 5 sec	1
Hard water	60	Operating condition	10 to 100% (00 = 100)	1
riard water	61	Water supply time	0 to 90 sec	1
Ice left in water		Operating temp	10 to 60°C	1
pan		Hot gas valve on time	0 to 20 sec	1
ραπ	72	Hot gas valve off time	10 to 60 sec	1
Ice bridge	73	Hot gas valve off time	0 to 30 sec	1
Low temp in defrost cycle	74	Operating temp	0 to 40°C	1
High Pressure	80	Sensed temp	55 to 70°C	1
Gas sensor (**)	90	Gas sensor type	0: No sensor 1: FIS 2: Cosmos	1
Jas sciisui ()	91	Gas sensor sensitization detecting time	0 to 99 (1=10 min)	1

Maintenance Mode Descriptions (**: HC MODEL ONLY)

	No	Item	Description
	1	Defrost completion temp	Temperature to complete defrost cycle
			(detected by cube control thermistor).
	2	Integrated constant 1	Target integrated value inside controller board
		(temp)	is determined by constants 1 and 2.
			Temperature in freeze cycle is integrated, and
			freeze cycle continues until target integrated
			value is reached. Basically, the smaller constant
			1 gets, the bigger integrated value and the
			smaller dimple diameter become.
	3	Integrated constant 2	Target integrated value inside controller board
		(time)	is determined by constants 1 and 2.
			Temperature in freeze cycle is integrated, and
			freeze cycle continues until target integrated
Basic			value is reached. Basically, the smaller constant
20.0.0			2 gets, the smaller integrated value and the
			bigger dimple diameter become.
	4	Ambient temp correction	Upper temperature limit to trip control to ensure
		operating temp for	minimum dimple size in low temp conditions
		integrated value	like at 1°C / wt 5°C.
	5	Ambient temp correction	Percentage of integrated value in low temp
		rate for integrated value	conditions against target integrated value to
			ensure minimum dimple size in low temp
			conditions like at 1°C / wt 5°C based on
			integrated value inside controller board determined by constants 1 and 2.
	6	Freeze backup timer	Timer setting to forcibly complete freeze cycle if
		l reeze backup timer	cube control thermistor cannot sense freeze
			completion temp.
	10	Defrosting water supply	Time to supply defrosting water to melt ice on
		time, water temp less than	
		13°C	Adjustable between 1 and 99 sec. When set to
			"99", defrosting water keeps running until cube
			control thermistor senses defrost completion
			temp.
	11	Defrosting water supply	Time to supply defrosting water to melt ice on
		time, water temp 13°C or	water pan at water supply temp of 13°C or
		more	more. Adjustable between 1 and 99 sec. When
			set to "99", defrosting water keeps running until
Water supply			cube control thermistor senses defrost
l rate. supp.y			completion temp.
	12	Icemaking water supply	Time to supply icemaking water depending on
	40	time, normal	partial or full drain flush.
	13	· ·	
		correction value	temp measured by cube control thermistor and
	14	Full / partial drain fluch	actual water supply temp. Selection between full and partial drain flush of
	14	Full / partial drain flush selection	icemaking water tank in case of cloudy ice
			production even after hard water control.
			Icemaking water supply time and water tank
			overflow pipe direction need to be changed.
	i	1	overnew pipe an editori fieda to be orialiged.

	4.5	TA LUC LI	T- (1 120 12 12 (
Water supply		Additional icemaking water supply time	Time to supply additional icemaking water required after pump motor starts following normal icemaking water supply time (necessary for IM-240 type).	
	21	Double stack bin control	Selection of bin control in case of double stack application.	
Other	22	Refrigeration unit operation in bin control cycle	Selection of control to prevent ice in storage bin from melting in bin control cycle (by operating refrigeration unit).	
Model	30	Туре	Selection of fan motor type. When set to "0", unit operates as water-cooled model.	
Defrost cycle low temp control	34	Operating temp	Set temp for continuous fan motor operation in defrost cycle to lower temp inside control box if ambient temp at the beginning of defrost cycle exceeds set point.	
Water regulator	36	Water regulator error detecting temp	Thermistor temp (water regulator outlet) in case of water regulator error and cooling water failure for water-cooled model.	
Compressor	37	Compressor output selection	Selection between AC supply and DC supply (normal setting = AC supply). Transformer voltage drop is too large to input both.	
Clush iso	50	Pump off time	Pump off time for slush ice control to stop pump after 2 min at evaporator temp of 3 to 4°C, quickly refrigerate evaporator before icemaking water supercools, and form ice core. When set to "0", there is no slush ice control.	
Slush ice	51	Water supply time	Time to supply water while pump is off for slush ice control. If slush ice is too much and cannot be prevented solely by pump off in No. 50, water is supplied while pump is off to slightly raise tank water temp.	
Hard water	60	Operating condition	Condition to operate cloudy ice control in hard water application indicated in percentage against target integrated value. After icemaking water supply starts, ice begins to form and freeze cycle integrated value reaches a certain level. Then, additional water is supplied to dilute concentrated icemaking water in water tank.	
	61	Water supply time	Time to supply water for hard water control.	
Ice left in water	70	Operating temp	Upper limit of operating temp to control ice left in water pan at the end of freeze cycle. Decrease amount of defrosting water by reducing ice left in opening water pan after freeze cycle.	
pan	71	Hot gas valve on time	Hot gas valve opening time to control ice left in water pan.	
	72	Hot gas valve off time	Hot gas valve closing time to control ice left in water pan.	
Ice bridge	73	Hot gas valve off time		
Low temp in defrost cycle	74	Operating temp	Upper temperature limit at the beginning of defrost cycle.	
		I	1	

High Pressure	80	Sensed temp	Temperature sensed by condenser thermistor
	90	Gas sensor type	Type of gas sensor. Gas sensor is invalid if "0"
			is selected.
	91	Gas sensor sensitization	If gas sensor detects flammable gas and E1 or
Gas Sensor (**)		detecting time	E2 does not occur, sensitization of gas sensor
Gas Genson ()			is doubted. If gas sensor continues to detect
			gas leakage for the set time and E1 or E2 does
			not occur, A1 alarm is set off to notify
			sensitization.

Maintenance Mode Settings (**: HC MODEL ONLY)

	No	Item	21CNE (50Hz)	30CNE (50Hz)	30CNE-25 (50Hz)
	1	Defrost completion temp	5	5	5
	2	Integrated constant 1 (temp)	-17.5	-17.5	-17.5
	3	Integrated constant 2 (time)	10	13	9
Basic	4	Ambient temp correction operating temp for integrated value	23	38	38
		Ambient temp correction rate for integrated value	80	75	80
		Freeze backup timer	45	45	45
		Defrosting water supply time, water temp less than 13°C	15	15	15
	11	Defrosting water supply time, water temp 13°C or more	6	6	6
	12	Icemaking water supply time, partial drain flush	20	20	20
		* Icemaking water supply time, full drain flush			
Water supply		Water temp measurement correction value	4	7	7
	14	* Full / partial drain flush selection	0	0	0
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Туре	1	1	1
Defrost cycle low temp control	34	Operating temp	45	45	45
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	0	0	0
Slush ice	50	Pump off time	0	0	0
	51	Water supply time	0	0	0
Hard water		Operating condition	10	10	10
ומוע Walci	61	Water supply time	0	0	0
Ice left in water	70	Operating temp	38	38	38
pan		Hot gas valve on time	10	10	0
pan		Hot gas valve off time	20	20	0
Ice bridge	73	Hot gas valve off time	0	0	0
Low temp in defrost cycle	74	Operating temp	15	15	15

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	30CWNE (50Hz)	21CNE NAVY (115V 60Hz)	30CNE (60Hz)
	1	Defrost completion temp	6	5	5
	2	Integrated constant 1 (temp)	-17.5	-18.0	-17.5
		Integrated constant 2 (time)	11	12	12
	4	Ambient temp correction	30	23	15
Basic		operating temp for integrated value			
		Ambient temp correction rate for integrated value	85	75	75
	6	Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	15	15	15
	11	Defrosting water supply time, water temp 13°C or more	6	6	6
	12	Icemaking water supply time, partial drain flush	20	20	20
		* Icemaking water supply time, full drain flush			
Water supply	13	Water temp measurement correction value	6	5	7
	14	* Full / partial drain flush selection	0	0	0
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Туре	0	1	1
Defrost cycle low temp control		Operating temp	45	40	40
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	0	0	0
Slush ice		Pump off time	0	0	0
Siusii ice		Water supply time	0	0	0
Hard water		Operating condition	10	10	10
riaid water	_	Water supply time	0	0	0
Ice left in water		Operating temp	38	43	43
pan		Hot gas valve on time	0	10	10
ραπ	_	Hot gas valve off time	0	20	20
Ice bridge		Hot gas valve off time	0	0	0
Low temp in defrost cycle	74	Operating temp	0	0	15

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	45CNE (50Hz)	45CNE-25 (50Hz)	45CNE (60Hz)
	1	Defrost completion temp	5	6	5
	-	Integrated constant 1 (temp)	-22.5	-20.0	-22.5
		Integrated constant 2 (time)	10	7	
		Ambient temp correction	23	20	10 23
Basic	4	operating temp for integrated value	23	20	23
	5	Ambient temp correction rate for integrated value	90	90	90
	6	Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	15	15	15
	11	Defrosting water supply time, water temp 13°C or more	7	7	7
	12	Icemaking water supply time, partial drain flush	22	22	22
		* Icemaking water supply time, full drain flush			
Water supply	13	Water temp measurement correction value	3	6	3
	14	* Full / partial drain flush selection	0	0	0
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Type	1	1	1
Defrost cycle low temp control		Operating temp	45	45	45
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	0	0	0
•	50	Pump off time	0	0	0
Slush ice		Water supply time	0	0	0
Hard water		Operating condition	10	10	10
naiu watei	61	Water supply time	0	0	0
Ice left in water	70	Operating temp	47	47	47
	71	Hot gas valve on time	2	0	2
pan	72	Hot gas valve off time	28	0	28
Ice bridge	73	Hot gas valve off time	0	0	0
Low temp in defrost cycle	74	Operating temp	20	20	20

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	45NE (50Hz)	45NE-25 (50Hz)	45NE (60Hz)
	1	Defrost completion temp	6	6	5
		Integrated constant 1 (temp)	-20.0	-19.0	-21.0
		Integrated constant 7 (time)	10	9	10
		Ambient temp correction	20	20	27
Basic	7	operating temp for integrated value	20	20	21
	5	Ambient temp correction rate for integrated value	85	90	95
	6	Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	15	15	15
	11	Defrosting water supply time, water temp 13°C or more	7	7	7
	12	Icemaking water supply time, partial drain flush	22	22	22
		* Icemaking water supply time, full drain flush			
Water supply	13	Water temp measurement correction value	4	4	5
		* Full / partial drain flush selection	0	0	0
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Type	1	1	1
Defrost cycle low temp control		Operating temp	45	45	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	0	0	0
Slush ice	50	Pump off time	0	0	0
Siusifice	51	Water supply time	0	0	0
Hard water		Operating condition	10	10	10
i iaiu walei	61	Water supply time	0	0	0
Ice left in water		Operating temp	47	45	46
		Hot gas valve on time	2	0	2
pan	_	Hot gas valve off time	28	0	28
Ice bridge	73	Hot gas valve off time	0	0	0
Low temp in defrost cycle	74	Operating temp	20	20	20

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	45NE-25	45WNE	45WNE
			(60Hz)	(50Hz)	(60Hz)
	1	Defrost completion temp	5	6	5
	2	Integrated constant 1 (temp)	-21.0	-19.0	-21.0
		Integrated constant 2 (time)	8	10	10
D : -	4	Ambient temp correction	27	25	20
Basic		operating temp for integrated value			
	5	Ambient temp correction rate for integrated value	95	90	90
	6	Freeze backup timer	45	45	45
		Defrosting water supply time,	15	15	15
	. •	water temp less than 13°C	.0	.0	
	11	Defrosting water supply time,	7	7	7
		water temp 13°C or more	-		-
	12	Icemaking water supply time, partial drain flush	22	22	22
		* Icemaking water supply time, full drain flush			
Water supply	13	Water temp measurement correction value	5	5	6
	14	* Full / partial drain flush	0	0	0
		selection		-	
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other		Refrigeration unit operation	0	0	0
		in bin control cycle	o l	Ü	
Model	30	Type	1	0	0
Defrost cycle low		Operating temp	48	45	48
temp control		operating temp		. •	
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	0	0	0
•		Pump off time	0	0	0
Slush ice		Water supply time	0	0	0
		Operating condition	10	10	10
Hard water		Water supply time	0	0	0
1 1 6 1		Operating temp	46	47	45
Ice left in water		Hot gas valve on time	0	0	0
pan		Hot gas valve off time	0	0	0
Ice bridge		Hot gas valve off time	0	0	0
Low temp in defrost cycle		Operating temp	20	0	0
		t to "O" (full drain fluich) chan	N 10	-1 45 -1 4- £	

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	45WNE-25 (60Hz)	65NE (50Hz)	65NE-25 (50Hz)
	1	Defrost completion temp	5	6	6
	2	Integrated constant 1 (temp)	-16.0	-19.5	-19.5
		Integrated constant 2 (time)	10	11	9
	4	Ambient temp correction	25	17	25
Basic		operating temp for integrated value			
	5	Ambient temp correction rate for integrated value	95	85	85
	6	Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	15	13	13
	11	Defrosting water supply time, water temp 13°C or more	7	10	10
	12	Icemaking water supply time, partial drain flush	22	29	29
		* Icemaking water supply time, full drain flush			
Water supply	13	Water temp measurement correction value	6	6	5
	14	* Full / partial drain flush selection	0	0	0
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Туре	0	1	1
Defrost cycle low temp control		Operating temp	48	48	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	0	0	0
Slush ice		Pump off time	0	0	0
Siusifice	51	Water supply time	0	0	0
Hard water	60	Operating condition	10	10	0
i iaiu watei		Water supply time	0	0	0
Ice left in water		Operating temp	45	47	47
pan		Hot gas valve on time	0	10	10
μαιι	72	Hot gas valve off time	0	20	20
Ice bridge		Hot gas valve off time	0	0	0
Low temp in defrost cycle	74	Operating temp	0	17	17

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	65NE-C (50Hz)	65NE-Q (50Hz)	65NE (60Hz)
	1	Defrost completion temp	9	7	4
	2	Integrated constant 1 (temp)	-22.0	-19.5	-19.5
	3	Integrated constant 2 (time)	22	40	12
Basic	4	Ambient temp correction operating temp for integrated value	25	35	17
	5	Ambient temp correction rate for integrated value	85	90	85
	6	Freeze backup timer	60	60	45
		Defrosting water supply time, water temp less than 13°C	13	1	13
	11	Defrosting water supply time, water temp 13°C or more	10	1	10
	12	Icemaking water supply time, partial drain flush	25	0	29
		* Icemaking water supply time, full drain flush			
Water supply	13	Water temp measurement correction value	5	6	6
	14	* Full / partial drain flush selection	0	0	0
	15	Additional icemaking water supply time, partial drain flush	0	15	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model		Туре	1	1	1
Defrost cycle low temp control	34	Operating temp	48	48	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor		Compressor output selection	0	0	0
Slush ice		Pump off time	0	0	0
Oldon loc		Water supply time	0	0	0
Hard water		Operating condition	10	10	10
riara water		Water supply time	0	0	0
Ice left in water		Operating temp	50	47	47
pan		Hot gas valve on time	10	0	10
•		Hot gas valve off time	20	0	20
Ice bridge		Hot gas valve off time	0	0	0
Low temp in defrost cycle		Operating temp	0	0	17

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	65NE-25 (60Hz)	65WNE (50Hz)	65WNE (60Hz)
	1	Defrost completion temp	8	6	5
	2	Integrated constant 1 (temp)	-18.5	-18.0	-20.0
	3	Integrated constant 2 (time)	9	14	10
	4	Ambient temp correction	25	40	30
Basic		operating temp for integrated value			
		Ambient temp correction rate for integrated value	85	95	100
		Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	13	13	13
	11	Defrosting water supply time, water temp 13°C or more	10	10	10
	12	Icemaking water supply time, partial drain flush	29	29	29
		* Icemaking water supply time, full drain flush			
Water supply	13	Water temp measurement correction value	5	6	5
	14	* Full / partial drain flush selection	0	0	0
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Туре	1	0	0
Defrost cycle low temp control		Operating temp	48	48	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	0	0	0
Slush ice		Pump off time	0	0	0
Siusii ice		Water supply time	0	0	0
Hard water		Operating condition	10	0	10
riaid water		Water supply time	0	0	0
Ice left in water		Operating temp	47	40	47
pan		Hot gas valve on time	10	10	10
ραιι		Hot gas valve off time	20	20	20
Ice bridge		Hot gas valve off time	0	0	0
Low temp in defrost cycle	74	Operating temp	0	0	0

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	65WNE-25
	NO	item	(60Hz)
	1	Defrost completion temp	6
	2	Integrated constant 1 (temp)	-15.0
	3	Integrated constant 2 (time)	11
	4	Ambient temp correction	40
Basic		operating temp for integrated	
		value	
	5	Ambient temp correction rate	100
		for integrated value	
	6	Freeze backup timer	45
	10	Defrosting water supply time,	13
		water temp less than 13°C	
	11	Defrosting water supply time,	10
	10	water temp 13°C or more	
	12	Icemaking water supply time,	29
		partial drain flush	
		* Icemaking water supply	
Matan accorde	40	time, full drain flush	
Water supply	13	Water temp measurement	5
	11	correction value	0
	14	* Full / partial drain flush	0
	15	selection	0
	15	Additional icemaking water supply time, partial drain	U
		flush	
		* Additional icemaking water	0
		supply time, full drain flush	
	21	Double stack bin control	1
Other	22	Refrigeration unit operation	0
		in bin control cycle	
Model	30	Туре	0
Defrost cycle low	34	Operating temp	48
temp control			
Water regulator	36	Water regulator error	0
vvatci regulator		detecting temp	
Compressor	37	Compressor output selection	0
Slush ice	50	Pump off time	0
Glacii ioc	51	Water supply time	0
Hard water	60	Operating condition	10
Tial a Water	61	Water supply time	0
Ice left in water	70		40
pan		Hot gas valve on time	10
	72	Hot gas valve off time	20
Ice bridge		Hot gas valve off time	0
Low temp in	74	Operating temp	0
defrost cycle		t to "O" (full drain fluch), abor	

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	100NE (50/60Hz)	100NE-C (50Hz)	100NE-23 (50/60Hz)
	1	Defrost completion temp	6	7	6
	2	Integrated constant 1 (temp)	-23.5	-20.0	-22.0
		Integrated constant 2 (time)	12	26	12
	4	Ambient temp correction	44	44	44
Basic		operating temp for integrated value			
		Ambient temp correction rate for integrated value	90	95	95
	6	Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	90	90	90
	11	Defrosting water supply time, water temp 13°C or more	30	30	30
	12	Icemaking water supply time, partial drain flush	35	35	35
		* Icemaking water supply time, full drain flush	70		70
Water supply	13	Water temp measurement correction value	8	8	7
	14	* Full / partial drain flush selection	1	1	1
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Type	2	2	2
Defrost cycle low temp control	34	Operating temp	48	48	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	1	1	1
Cluckies	50	Pump off time	0	0	0
Slush ice	51	Water supply time	0	0	0
Hard water	60	Operating condition	10	10	10
Tialu watei	61	Water supply time	0	0	0
Ice left in water	70	Operating temp	44	44	44
	71	Hot gas valve on time	10	10	10
pan	72	Hot gas valve off time	20	7 -20.0 26 44 95 45 90 30 35 70 8 1 0 0 1 0 1 0 1 0 0 44	20
Ice bridge	73	Hot gas valve off time	0	0	0
Low temp in defrost cycle	74	Operating temp	27	27	30

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	100NE-21	100CNE	100CNE-23
	1	Defrect completion temp	(50/60Hz)	(50Hz)	(50Hz) 7
	2	Defrost completion temp	6 -11.0	6	
		Integrated constant 1 (temp)			-23.5
		Integrated constant 2 (time)	5		11
Basic	4	Ambient temp correction operating temp for integrated	44	10	10
	-	value	100	100	100
		Ambient temp correction rate for integrated value			
		Freeze backup timer	45		45
	10	Defrosting water supply time, water temp less than 13°C	90	90	90
	11	Defrosting water supply time, water temp 13°C or more	30	30	30
	12	Icemaking water supply time, partial drain flush	35	35	35
		* Icemaking water supply time, full drain flush	70	70	70
Water supply	13	Water temp measurement correction value	7	9	7
	14	* Full / partial drain flush selection	1	1	1
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other		Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Type	2	2	2
Defrost cycle low temp control		Operating temp	48	48	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	1	1	1
•	50	Pump off time	0	0	0
Slush ice		Water supply time	0	0	0
I I a wal a fa w		Operating condition	10	10	10
Hard water		Water supply time	0	0	0
loo loft int		Operating temp	44	44	44
Ice left in water		Hot gas valve on time	10	10	10
pan		Hot gas valve off time	20	13 10 100 100 45 90 30 35 70 9 1 0 0 1 0 2 48 0 0 1 0 0 1 0 0 44 10 0 0 0 0 0 0 0 0 0	20
Ice bridge	_	Hot gas valve off time	0	0	0
Low temp in defrost cycle		Operating temp	30	27	30

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	100WNE (50/60Hz)	100WNE-21 (50/60Hz)	130NE (50Hz)
	1	Defrost completion temp	4	5	4
	2	Integrated constant 1 (temp)	-23.5	-10.0	-23.5
	3	Integrated constant 2 (time)	12	9	13
	4	Ambient temp correction	10	10	44
Basic		operating temp for integrated value			
		Ambient temp correction rate for integrated value	100	100	90
	6	Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	90	90	90
	11	Defrosting water supply time, water temp 13°C or more	30	30	30
	12	Icemaking water supply time, partial drain flush	35	35	35
		* Icemaking water supply time, full drain flush	70	70	70
Water supply	13	Water temp measurement correction value	8	8	10
	14	* Full / partial drain flush selection	1	1	1
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Type	0	0	2
Defrost cycle low temp control		Operating temp	48	48	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor	37	Compressor output selection	1	1	1
•		Pump off time	0	0	0
Slush ice	51	Water supply time	0	0	0
Hard water	60	Operating condition	10	10	10
Hard water	61	Water supply time	0	0	0
loo loft in water	70	Operating temp	30	30	44
Ice left in water		Hot gas valve on time	0	0	10
pan		Hot gas valve off time	D) -23.5 -10.0 D) 12 9 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 0 10 10 0 10 0 0 10 0 0 10 0 0 10 0 0 10 0 0 10 0 0 10 0 0 10 0 0 10 0 0 10 0 0 10 0 0	20	
Ice bridge		Hot gas valve off time	0	0	0
Low temp in defrost cycle		Operating temp	0	0	27

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	130NE-23 (50Hz)	130NE-21 (50Hz)	130WNE (50Hz)
	1	Defrost completion temp	6	12	5
	2	Integrated constant 1 (temp)	-20.0	-17.0	-20.0
	3	Integrated constant 2 (time)	12	5	13
Basic	4	Ambient temp correction operating temp for integrated value	44	50	29
	5	Ambient temp correction rate for integrated value	90	95	90
	6	Freeze backup timer	45	45	45
	10	Defrosting water supply time, water temp less than 13°C	90	90	90
	11	Defrosting water supply time, water temp 13°C or more	30	30	30
	12	Icemaking water supply time, partial drain flush	35	35	35
		* Icemaking water supply time, full drain flush	70	70	70
Water supply	13	Water temp measurement correction value	9	6	10
	14	* Full / partial drain flush selection	1	1	1
	15	Additional icemaking water supply time, partial drain flush	0	0	0
		* Additional icemaking water supply time, full drain flush	0	0	0
	21	Double stack bin control	1	1	1
Other	22	Refrigeration unit operation in bin control cycle	0	0	0
Model	30	Туре	2	2	0
Defrost cycle low temp control		Operating temp	48	45	48
Water regulator	36	Water regulator error detecting temp	0	0	0
Compressor		Compressor output selection	1	1	1
Slush ice		Pump off time	0	30	0
Olusii ICE		Water supply time	0	0	0
Hard water		Operating condition	10	10	10
riard water		Water supply time	0	0	0
Ice left in water		Operating temp	44	44	44
pan		Hot gas valve on time	10	0	0
•		Hot gas valve off time	20	0	0
Ice bridge		Hot gas valve off time	0	20	0
Low temp in defrost cycle	74	Operating temp	28	32	0

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier					
	Nia		240NE	240NE-23	240WNE
	No	Item	(50Hz)	(50Hz)	(50Hz)
	1	Defrost completion temp	6	6	4
	2	Integrated constant 1 (temp)	-20.0	-24.0	-19.5
	3	Integrated constant 2 (time)	13	12	13
	4	Ambient temp correction	40	45	43
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	95	100	90
		for integrated value			
		Freeze backup timer	45	45	45
	10	Defrosting water supply time,	95	95	95
	11	water temp less than 13°C		20	
l	11	Defrosting water supply time, water temp 13°C or more	30	30	30
	12	Icemaking water supply time,	30	30	30
	'-	partial drain flush	30	30	30
		* Icemaking water supply	60	60	60
		time, full drain flush	00		00
Water supply	13	Water temp measurement	11	12	10
		correction value			
	14	* Full / partial drain flush	1	1	1
		selection			
	15	Additional icemaking water	22	22	22
		supply time, partial drain			
		flush * Additional icemaking water	44	44	44
		supply time, full drain flush	44	44	44
	21	Double stack bin control	1	1	1
Other		Refrigeration unit operation	0	0	0
		in bin control cycle	ŭ	Ŭ	ŭ
Model	30	Type	2	2	0
Defrost cycle low	34	Operating temp	50	50	48
temp control					-
Water regulator	36	Water regulator error	0	0	0
vvater regulator		detecting temp			
Compressor	37	Compressor output selection	1	1	1
Slush ice		Pump off time	0	0	0
0.0011.00		Water supply time	0	0	0
Hard water		Operating condition	10	10	10
		Water supply time	0	0	0
Ice left in water		Operating temp	40	43	43
pan		Hot gas valve on time	2	0	2
•		Hot gas valve off time	28	0	28
Ice bridge		Hot gas valve off time	0	15	0
Low temp in	/4	Operating temp	33	28	0
defrost cycle		t to "O" (full drain flush), shan			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier						
	N.I		240DNE	240DNE-C	240DNE-32	
	No	Item	(50Hz)	(50Hz)	(50Hz)	
	1	Defrost completion temp	6	8	5	
	2	Integrated constant 1 (temp)	-19.0	-22.5	-19.0	
	3	Integrated constant 2 (time)	11	18	17	
		Ambient temp correction	10	26	10	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	100	90	100	
		for integrated value				
		Freeze backup timer	45		45	
	10	Defrosting water supply time,	95	95	95	
		water temp less than 13°C				
	11	Defrosting water supply time,	30	30	30	
	40	water temp 13°C or more	00	00		
	12	Icemaking water supply time, partial drain flush	30	30	30	
		* Icemaking water supply	60	60	60	
		time, full drain flush	00	00	60	
Water supply	13	Water temp measurement	9	10	9	
Trate: capp.y	'	correction value	Ü	10		
	14	* Full / partial drain flush	1	1	1	
		selection				
	15	Additional icemaking water	22	22	22	
		supply time, partial drain				
		flush				
		* Additional icemaking water	44	44	44	
		supply time, full drain flush				
0.0		Double stack bin control	1		1	
Other	22	Refrigeration unit operation	0	0	0	
	00	in bin control cycle			_	
Model		Туре	2		2	
Defrost cycle low	34	Operating temp	48	48	48	
temp control	00	NA/		0		
Water regulator	36	Water regulator error	0	0	0	
Compressor	37	detecting temp Compressor output selection	1	1	1	
		Pump off time	0		0	
Slush ice		Water supply time	0		0	
		Operating condition	10	_	10	
Hard water	61	Water supply time	0		0	
		Operating temp	44	ļ	44	
Ice left in water		Hot gas valve on time	5		0	
pan		Hot gas valve off time	25	90 45 95 30 30 60 10 1 22 44 1 0 22 48 0 10 0 11 0 0 37 10 20 0 17	0	
Ice bridge		Hot gas valve off time	0		0	
Low temp in		Operating temp	27		27	
defrost cycle	' -		~ 1	17		
	L	t to "O" (full drain flush) chan	N 40	145 1 1 6		

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier						
	N. I		240DNE-23	240DNE-21	240DWNE	
	No	Item	(50Hz)	(50Hz)	(50Hz)	
	1	Defrost completion temp	6	7	4	
	2	Integrated constant 1 (temp)	-19.0	-9.5	-19.0	
		Integrated constant 2 (time)	13	5	11	
		Ambient temp correction	10	10	30	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	100	100	90	
		for integrated value				
	6	Freeze backup timer	45	45	45	
	10	Defrosting water supply time,	95	95	95	
		water temp less than 13°C				
	11	Defrosting water supply time,	30	30	30	
		water temp 13°C or more				
	12	Icemaking water supply time,	30	30	30	
		partial drain flush				
		* Icemaking water supply	60	60	60	
		time, full drain flush				
Water supply	13	Water temp measurement	9	7	11	
	4.4	correction value				
	14	* Full / partial drain flush	1	1	1	
	45	selection	00	00	00	
	15	Additional icemaking water	22	22	22	
		supply time, partial drain flush				
		* Additional icemaking water	44	44	44	
		supply time, full drain flush	44	44	44	
	21	Double stack bin control	1	1	1	
Other		Refrigeration unit operation	0	0	0	
Otrici	22	in bin control cycle	O	o o	O	
Model	30	Type	2	2	0	
Defrost cycle low		Operating temp	48	48	48	
temp control		operating temp	10	10	10	
•	36	Water regulator error	0	0	0	
Water regulator		detecting temp	· ·			
Compressor	37	Compressor output selection	1	1	1	
•		Pump off time	0	0	0	
Slush ice		Water supply time	0	0	0	
11 1 1		Operating condition	10	10	10	
Hard water		Water supply time	0	0	0	
lee left : ···-t		Operating temp	44	30	47	
Ice left in water		Hot gas valve on time	0	0	5	
pan		Hot gas valve off time	0	0	25	
Ice bridge		Hot gas valve off time	0	20	0	
Low temp in		Operating temp	27	30	0	
defrost cycle						

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier						
	NI.	·	240DWNE-C	240DWNE-32	240DWNE-23	
	No	Item	(50Hz)	(50Hz)	(50Hz)	
	1	Defrost completion temp	8	4	4	
	2	Integrated constant 1 (temp)	-24.0	-19.0	-19.0	
	3	Integrated constant 2 (time)	18	18	13	
	4	Ambient temp correction	44	30	30	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	95	90	90	
		for integrated value	4.5	4.5	4-	
		Freeze backup timer	45	45	45	
	10	Defrosting water supply time,	95	95	95	
	11	water temp less than 13°C	30	20	00	
	11	Defrosting water supply time, water temp 13°C or more	30	30	30	
	12	Icemaking water supply time,	30	30	30	
	'-	partial drain flush		30	30	
		* Icemaking water supply	60	60	60	
		time, full drain flush				
Water supply	13	Water temp measurement	10	10	10	
		correction value				
	14	* Full / partial drain flush	1	1	1	
	4 -	selection				
	15	Additional icemaking water	22	22	22	
		supply time, partial drain flush				
		* Additional icemaking water	44	44	44	
		supply time, full drain flush	77	44	44	
	21	Double stack bin control	1	1	1	
Other		Refrigeration unit operation	0	0	0	
		in bin control cycle		Ĭ		
Model	30	Type	0	0	0	
Defrost cycle low	34	Operating temp	48	48	48	
temp control				_		
Water regulator	36	Water regulator error	0	0	0	
vvater regulator		detecting temp				
Compressor	37	Compressor output selection	1	1	1	
Slush ice	_	Pump off time	0	0	0	
0.00.1.100		Water supply time	0	0	0	
Hard water		Operating condition	10	10	10	
		Water supply time	0	0	0	
Ice left in water		Operating temp	44	47	47	
pan		Hot gas valve on time	10	0	0	
·		Hot gas valve off time	20	0	0	
Ice bridge		Hot gas valve off time	0	0	0	
Low temp in	74	Operating temp	0	0	0	
defrost cycle		t to "O" (full drain flush), char				

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier						
			240DNE	240DNE-23		
NO	item	(50Hz)	(60Hz)	(60Hz)		
1	Defrost completion temp	4	6	6		
2	Integrated constant 1 (temp)	-14.0	-19.0	-19.0		
3	Integrated constant 2 (time)	5	9	12		
		30	10	10		
	operating temp for integrated					
	value					
5	Ambient temp correction rate	95	100	100		
	for integrated value					
	•	45	45	45		
10		95	95	95		
11		30	30	30		
12		30	30	30		
		60	60	60		
12		40		0		
13		10	9	9		
1/1		1	1	1		
17		I	ı	Į į		
15		22	22	12		
		22	22	12		
	* Additional icemaking water	44	44	24		
	supply time, full drain flush					
21	Double stack bin control	1	1	1		
22	Refrigeration unit operation	0	0	0		
	in bin control cycle					
		0	2	2		
34	Operating temp	48	48	48		
36	I — — — — — — — — — — — — — — — — — — —	0	0	0		
	·	1	11	1		
				0		
				0		
	•			10		
	• • •			0		
	· · · · · · · · · · · · · · · · · · ·	 		44		
	<u> </u>	0	5	0		
		0	25	0		
73	Hot gas valve off time	0	0	0		
74	Operating temp	0	27	27		
	2 3 4 5 6 10 11 12 13 14 15 22 30 34 36 60 61 70 71 72 73	1 Defrost completion temp 2 Integrated constant 1 (temp) 3 Integrated constant 2 (time) 4 Ambient temp correction operating temp for integrated value 5 Ambient temp correction rate for integrated value 6 Freeze backup timer 10 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush * Icemaking water supply time, full drain flush * Full / partial drain flush selection 15 Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush * Pull / partial drain flush selection 15 Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush 21 Double stack bin control 22 Refrigeration unit operation in bin control cycle 30 Type 34 Operating temp 36 Water regulator error detecting temp 37 Compressor output selection 50 Pump off time 51 Water supply time 60 Operating condition 61 Water supply time 70 Operating temp 71 Hot gas valve on time	No Item 240DWNE-21 (50Hz) 1 Defrost completion temp 4 2 Integrated constant 1 (temp) -14.0 3 Integrated constant 2 (time) 5 4 Ambient temp correction operating temp for integrated value 5 Ambient temp correction rate for integrated value 6 Freeze backup timer 45 10 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush * Icemaking water supply time, full drain flush 13 Water temp measurement correction value 14 * Full / partial drain flush selection 15 Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush 22 supply time, partial drain flush 21 Double stack bin control 1 22 Refrigeration unit operation in bin control cycle 30 Type 0 34 Operating temp 48 36 Water regulator error detecting temp 37 Compressor output selection 1 50 Pump off time 0 51 Water supply time 0 60 Operating condition 10 61 Water supply time 0 70 Operating temp 47 71 Hot gas valve on time 0 73 Hot gas valve off time 0	Defrost completion temp		

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier						
	NI.		240DNE-21	240DWNE	240DWNE-21	
	No	Item	(60Hz)	(60Hz)	(60Hz)	
	1	Defrost completion temp	6	5	6	
	2	Integrated constant 1 (temp)	-14.0	-19.5	-15.0	
	3	Integrated constant 2 (time)	5	11	5	
	4	Ambient temp correction	10	30	30	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	100	90	90	
		for integrated value				
		Freeze backup timer	45	45	45	
	10	Defrosting water supply time,	95	95	95	
	11	water temp less than 13°C	00	00	00	
	11	Defrosting water supply time, water temp 13°C or more	30	30	30	
	12	Icemaking water supply time,	30	30	30	
	12	partial drain flush	30	30	30	
		* Icemaking water supply	60	60	60	
		time, full drain flush	00	00		
Water supply	13	Water temp measurement	9	9	9	
		correction value				
	14	* Full / partial drain flush	1	1	1	
		selection				
	15	Additional icemaking water	12	22	22	
		supply time, partial drain				
		flush	0.4	4.4	4.4	
		* Additional icemaking water supply time, full drain flush	24	44	44	
	21	Double stack bin control	1	1	1	
Other		Refrigeration unit operation	0	0	0	
Outer	22	in bin control cycle	U	U	0	
Model	30	Type	2	0	0	
Defrost cycle low			48	48	48	
temp control		operating temp	10	10	10	
•	36	Water regulator error	0	0	0	
Water regulator		detecting temp				
Compressor	37	Compressor output selection	1	1	1	
Slush ice		Pump off time	0	0	0	
Glasii icc		Water supply time	0	0	0	
Hard water	_	Operating condition	10	10	10	
		Water supply time	0	0	0	
Ice left in water		Operating temp	44	49	49	
pan		Hot gas valve on time	0	5	0	
·		Hot gas valve off time	0	25	0	
Ice bridge		Hot gas valve off time	0	0	0	
Low temp in	74	Operating temp	27	0	0	
defrost cycle		t to "O" (full drain flush), char				

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier						
	NI.		240ANE	240ANE-23	240AWNE	
	No	Item	(50Hz)	(50Hz)	(50Hz)	
	1	Defrost completion temp	5	5	4	
	2	Integrated constant 1 (temp)	-16.5	-20.0	-20.0	
	3	Integrated constant 2 (time)	10	13	9	
	4	Ambient temp correction	35	10	47	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	95	100	90	
		for integrated value				
		Freeze backup timer	45	45	45	
	10	Defrosting water supply time,	95	95	95	
	44	water temp less than 13°C				
	11	Defrosting water supply time,	30	30	30	
	12	water temp 13°C or more Icemaking water supply time,	20	22	20	
	12	partial drain flush	30	23	30	
		* Icemaking water supply	60	46	60	
		time, full drain flush	00	40	00	
Water supply	13	Water temp measurement	10	10	10	
,		correction value				
	14	* Full / partial drain flush	1	1	1	
		selection				
	15	Additional icemaking water	22	22	22	
		supply time, partial drain				
		flush				
		* Additional icemaking water	44	44	44	
	21	supply time, full drain flush Double stack bin control		1	4	
Other			1	1	1	
Other	22	Refrigeration unit operation in bin control cycle	0	0	0	
Model	30	Type	2	2	0	
Defrost cycle low		Operating temp	48			
temp control	34	Operating temp	40	48	48	
•	36	Water regulator error	0	0	0	
Water regulator		detecting temp	Ü	Ŭ	Ü	
Compressor	37	Compressor output selection	1	1	1	
Slush ice	50	Pump off time	0	0	0	
Siusifice	51	Water supply time	0	0	0	
Hard water		Operating condition	10	10	10	
Tiaid Water		Water supply time	0	0	0	
Ice left in water		Operating temp	35	45	47	
pan		Hot gas valve on time	2	0	2	
	72	Hot gas valve off time	28	0	28	
Ice bridge	73	Hot gas valve off time	0	15	0	
Low temp in	74	Operating temp	25	35	0	
defrost cycle						

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B0 and earlier						
	NIA		240AWNE	240AWNE-23	240AWNE-21	
	No	Item	(60Hz)	(60Hz)	(60Hz)	
	1	Defrost completion temp	4	6	6	
	2	Integrated constant 1 (temp)	-19.0	-20.0	-14.0	
	3	Integrated constant 2 (time)	12	14	5	
	4	Ambient temp correction	45	32	32	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	90	85	85	
		for integrated value				
		Freeze backup timer	45	45	45	
	10	Defrosting water supply time,	95	95	95	
	44	water temp less than 13°C		00	0.0	
	11	Defrosting water supply time,	30	30	30	
	12	water temp 13°C or more Icemaking water supply time,	30	20	20	
	12	partial drain flush	30	30	30	
		* Icemaking water supply	60	60	60	
		time, full drain flush	00		00	
Water supply	13	Water temp measurement	10	10	10	
		correction value				
	14	* Full / partial drain flush	1	1	1	
		selection				
	15	Additional icemaking water	22	22	22	
		supply time, partial drain				
		flush	4.4	4.4	4.4	
		* Additional icemaking water supply time, full drain flush	44	44	44	
	21	Double stack bin control	1	1	1	
Other		Refrigeration unit operation	0	0	0	
Otrici	22	in bin control cycle	U		U	
Model	30	Туре	0	0	0	
Defrost cycle low		Operating temp	48	48	48	
temp control			40	40	40	
•	36	Water regulator error	0	0	0	
Water regulator		detecting temp				
Compressor	37	Compressor output selection	1	1	1	
Slush ice	50	Pump off time	0	0	0	
Sidsiffice		Water supply time	0	0	0	
Hard water		Operating condition	10	10	10	
Tiara water		Water supply time	0	0	0	
Ice left in water		Operating temp	45	49	49	
pan		Hot gas valve on time	2	0	0	
h2		Hot gas valve off time	28	0	0	
Ice bridge		Hot gas valve off time	0	0	0	
Low temp in	74	Operating temp	0	0	0	
defrost cycle						

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B2 and later						
		, , ,	240NE	240NE-23	240NE-21	
	No	Item	(50Hz)	(50Hz)	(50Hz)	
	1	Defrost completion temp	6	6	6	
	2	Integrated constant 1 (temp)	-18.5	-23.0	-15.0	
	3	Integrated constant 2 (time)	13	12	5	
		Ambient temp correction	37	45	45	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	95	100	100	
		for integrated value				
		Freeze backup timer	45	45	45	
	10	Defrosting water supply time,	95	95	95	
		water temp less than 13°C				
	11	Defrosting water supply time,	30	30	30	
		water temp 13°C or more				
	12	Icemaking water supply time,	30	30	30	
		partial drain flush		00	00	
		* Icemaking water supply	60	60	60	
Water supply	12	time, full drain flush Water temp measurement	11	10	0	
vvater suppry	13	correction value	11	10	8	
	14	* Full / partial drain flush	1	1	1	
	' '	selection	'	•	'	
	15	Additional icemaking water	22	22	14	
		supply time, partial drain				
		flush				
		* Additional icemaking water	44	44	44	
		supply time, full drain flush				
		Double stack bin control	1	1	1	
Other	22	Refrigeration unit operation	0	0	0	
		in bin control cycle				
Model		Туре	2	2	2	
Defrost cycle low	34	Operating temp	45	50	50	
temp control						
Water regulator	36	Water regulator error	0	0	0	
	0.7	detecting temp		_		
Compressor	37	Compressor output selection	1	1	1	
Slush ice		Pump off time	0	0	0	
		Water supply time	0	0	0	
Hard water		Operating condition	10	43	45 8	
		Water supply time	0	<u> </u>		
Ice left in water		Operating temp	37	43	43	
pan		Hot gas valve of time	2	0	0	
		Hot gas valve off time	28	0	0	
Ice bridge		Hot gas valve off time	0	15	15	
Low temp in	74	Operating temp	28	32	32	
defrost cycle		to "O" (full drain fluch), chan				

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SEC	OP (Danfoss) compressor: auxiliary	code B2 and I	ater	code B1
			240WNE	240WNE-23	240DNE
	No	Item	(50Hz)	(50Hz)	(50Hz)
	1	Defrost completion temp	5		5
	2	Integrated constant 1 (temp)	-17.5		-14.5
	3	Integrated constant 2 (time)	11		11
	4	Ambient temp correction	30		10
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	95		100
		for integrated value			
		Freeze backup timer	45		45
	10	Defrosting water supply time,	95		95
		water temp less than 13°C			
	11	Defrosting water supply time,	30		30
		water temp 13°C or more			
	12	Icemaking water supply time,	30		30
		partial drain flush			
		* Icemaking water supply	60		60
		time, full drain flush			
Water supply	13	Water temp measurement	11		9
		correction value			
	14	* Full / partial drain flush	1		1
		selection			
	15	Additional icemaking water	22		22
		supply time, partial drain			
		flush	4.4		4.4
		* Additional icemaking water	44		44
	04	supply time, full drain flush	4		4
Othor		Double stack bin control	1		1
Other	22	Refrigeration unit operation	0		0
Madal	20	in bin control cycle	0		
Model		Type	0		2
Defrost cycle low	34	Operating temp	45		45
temp control	26	Motor regulator error			
Water regulator	30	Water regulator error	0		0
Compressor	37	detecting temp	1		1
Compressor		Compressor output selection Pump off time	1 0		<u>1</u> 0
Slush ice			0		0
		Water supply time Operating condition	10		10
Hard water	61	•	0		
	_	Water supply time			0
Ice left in water		Operating temp Hot gas valve on time	50 2		50 2
pan		<u> </u>			
loc brides		Hot gas valve off time	28		28
Ice bridge		Hot gas valve off time	0		0
Low temp in	/4	Operating temp	0		30
defrost cycle	<u> </u>	t to "O" (full drain fluch), chan			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code E	31 and later	
	No	Item	240DNE-C	240DNE-32	240DNE-23
	INO	item	(50Hz)	(50Hz)	(50Hz)
	1	Defrost completion temp		4	5
	2	Integrated constant 1 (temp)		-21.0	-21.0
	3	Integrated constant 2 (time)		17	12
	4	Ambient temp correction		10	44
Basic		operating temp for integrated value			
	5	Ambient temp correction rate		100	95
		for integrated value		100	
	6	Freeze backup timer		45	45
	10	Defrosting water supply time,		95	95
		water temp less than 13°C			
	11	Defrosting water supply time, water temp 13°C or more		30	30
	12	Icemaking water supply time,		30	30
	-	partial drain flush		30	3
		* Icemaking water supply		9	60
		time, full drain flush			
Water supply	13	Water temp measurement correction value		1	9
	14	* Full / partial drain flush		22	1
		selection			
	15	Additional icemaking water supply time, partial drain flush		1	22
		* Additional icemaking water supply time, full drain flush		44	44
	21	Double stack bin control		1	1
Other		Refrigeration unit operation in bin control cycle		0	0
Model	30	Type		2	2
Defrost cycle low				48	45
temp control	J 1	Operating temp		40	75
Water regulator	36	Water regulator error detecting temp		0	0
Compressor	37	Compressor output selection		1	1
•		Pump off time		0	0
Slush ice	51	Water supply time		0	0
	60	Operating condition		10	10
Hard water	61	Water supply time		0	0
1.6	70	Operating temp		44	44
lce left in water	71	Hot gas valve on time		0	2
pan	72	Hot gas valve off time		0	28
Ice bridge		Hot gas valve off time		0	0
	74	Operating temp		27	30
defrost cycle		t to "0" (full drain fluch), chan			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B1 and later						
			240DNE-21	240DWNE	240DWNE-C	
	No	Item	(50Hz)	(50Hz)	(50Hz)	
	1	Defrost completion temp	7	5	9	
	2	Integrated constant 1 (temp)	-10.5	-17.5	-26.5	
	3	Integrated constant 2 (time)	7	11	18	
		Ambient temp correction	10	30	44	
Basic		operating temp for integrated	-	00		
		value				
	5	Ambient temp correction rate	100	95	95	
		for integrated value				
		Freeze backup timer	45	45	45	
	10	Defrosting water supply time,	95	95	95	
		water temp less than 13°C				
	11	Defrosting water supply time,	30	30	30	
	40	water temp 13°C or more	20			
	12	Icemaking water supply time,	30	30	30	
		partial drain flush	60	00	00	
		* Icemaking water supply	60	60	60	
Water supply	12	time, full drain flush Water temp measurement	8	11	9	
vvater suppry	13	correction value	O	11	9	
	14	* Full / partial drain flush	1	1	1	
	• •	selection	•	•	•	
	15	Additional icemaking water	22	22	22	
		supply time, partial drain				
		flush				
		* Additional icemaking water	44	44	44	
		supply time, full drain flush				
		Double stack bin control	1	1	1	
Other	22	Refrigeration unit operation	0	0	0	
		in bin control cycle				
Model		Туре	2	0	0	
Defrost cycle low	34	Operating temp	45	45	48	
temp control						
Water regulator	36	Water regulator error	0	0	0	
	0.7	detecting temp	4			
Compressor	37	Compressor output selection	1	1	1	
Slush ice		Pump off time	0	0	10	
		Water supply time	0 10	0 10	0	
Hard water		Operating condition	0	0	10	
		Water supply time Operating temp	30	50	44	
Ice left in water		Hot gas valve on time	0			
pan		<u> </u>		2	10	
Landa 1.1		Hot gas valve off time	0	28	20	
Ice bridge		Hot gas valve off time	20	0	0	
Low temp in	/4	Operating temp	30	0	0	
defrost cycle	<u> </u>	t to "O" (full drain fluch), chan	<u> </u>			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B1 and later					
				240DWNE-23	240DWNE-21
	No	Item	(50Hz)	(50Hz)	(50Hz)
	1	Defrost completion temp	4	4	4
	2	Integrated constant 1 (temp)	-23.0	-23.0	-18.0
	3	Integrated constant 2 (time)	18	13	5
	4	Ambient temp correction	30	30	30
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	90	90	95
		for integrated value			
		Freeze backup timer	45	45	45
	10	Defrosting water supply time,	95	95	99
	44	water temp less than 13°C			
	11	Defrosting water supply time,	30	30	30
	12	water temp 13°C or more Icemaking water supply time,	20	20	20
	12	partial drain flush	30	30	30
		* Icemaking water supply	60	60	60
		time, full drain flush	00	00	00
Water supply	13	Water temp measurement	10	10	11
		correction value	. •		
	14	* Full / partial drain flush	1	1	1
		selection			
	15	Additional icemaking water	22	22	22
		supply time, partial drain			
		flush			
		* Additional icemaking water	44	44	44
	04	supply time, full drain flush	4	4	4
Othor		Double stack bin control	1	1	1
Other	22	Refrigeration unit operation	0	0	0
Model	30	in bin control cycle Type	0	0	0
			0	0	0
Defrost cycle low temp control	34	Operating temp	48	48	48
•	36	Water regulator error	0	0	0
Water regulator	30	detecting temp	U	U	0
Compressor	37	Compressor output selection	1	1	1
	50	Pump off time	0	0	0
Slush ice		Water supply time	0	0	0
I land water		Operating condition	10	10	10
Hard water		Water supply time	0	0	0
11-63		Operating temp	47	47	47
Ice left in water	71	Hot gas valve on time	0	0	0
pan		Hot gas valve off time	0	0	0
Ice bridge		Hot gas valve off time	0	0	25
Low temp in		Operating temp	0	0	0
defrost cycle					
		to "O" (full drain fluch), char	N 40	145 1 1 6	

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B2 and later						
			240DNE	240DNE-23	240DNE-21	
	No	Item	(60Hz)	(60Hz)	(60Hz)	
	1	Defrost completion temp	5		6	
	2	Integrated constant 1 (temp)	-19.0		-21.0	
		Integrated constant 2 (time)	11		5	
		Ambient temp correction	10		30	
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	100		90	
		for integrated value				
	6	Freeze backup timer	45		45	
	10	Defrosting water supply time,	95		95	
		water temp less than 13°C				
	11	Defrosting water supply time,	30		30	
		water temp 13°C or more				
	12	Icemaking water supply time,	30		30	
		partial drain flush				
		* Icemaking water supply	60		60	
		time, full drain flush				
Water supply	13	Water temp measurement	9		9	
		correction value				
	14	* Full / partial drain flush	1		1	
		selection				
	15	Additional icemaking water	22		22	
		supply time, partial drain				
		flush	4.4		4.4	
		* Additional icemaking water	44		44	
	24	supply time, full drain flush	4		1	
Other		Double stack bin control	<u>1</u> 0		0	
Other	22	Refrigeration unit operation	U		U	
Model	20	in bin control cycle Type	2		2	
<u></u>		* .	<u> </u>		48	
Defrost cycle low temp control	34	Operating temp	45		40	
temp control	36	Water regulator error	0		0	
Water regulator	30	detecting temp	U		U	
Compressor	37	Compressor output selection	1		1	
•		Pump off time	0		0	
Slush ice		Water supply time	0		0	
		Operating condition	10		10	
Hard water		Water supply time	0		0	
		Operating temp	48		49	
Ice left in water		Hot gas valve on time	2		0	
pan		Hot gas valve off time	28		0	
Ice bridge		Hot gas valve off time	0		0	
Low temp in		Operating temp	30		0	
defrost cycle	′ +	operating temp	30		J	
achost cycle	<u> </u>					

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B2 and later							
			240DWNE	240DWNE-23	240DWNE-21		
	No	Item	(60Hz)	(60Hz)	(60Hz)		
	1	Defrost completion temp	5		6		
	2	Integrated constant 1 (temp)	-17.5		-21		
	3	Integrated constant 2 (time)	11		5		
	4	Ambient temp correction	10		30		
Basic		operating temp for integrated					
		value					
	5	Ambient temp correction rate	100		90		
	6	for integrated value Freeze backup timer	45		45		
		Defrosting water supply time,					
	10	water temp less than 13°C	95		95		
	11	Defrosting water supply time,	30		30		
	• •	water temp 13°C or more	30		30		
	12	Icemaking water supply time,	30		30		
		partial drain flush					
		* Icemaking water supply	60		60		
		time, full drain flush					
Water supply	13	Water temp measurement	8		8		
	4.4	correction value					
	14	* Full / partial drain flush selection	1		1		
	15	Additional icemaking water	22		22		
	'	supply time, partial drain	22		22		
		flush					
		* Additional icemaking water	44		44		
		supply time, full drain flush					
		Double stack bin control	1		1		
Other	22	Refrigeration unit operation	0		0		
		in bin control cycle					
Model		Туре	0		0		
Defrost cycle low	34	Operating temp	45		48		
temp control	26	Water regulator error	0		0		
Water regulator	30	Water regulator error detecting temp	0		0		
Compressor	37	Compressor output selection	1		1		
· · · · · · · · · · · · · · · · · · ·		Pump off time	0		0		
Slush ice		Water supply time	0		0		
l landatan		Operating condition	10		10		
Hard water		Water supply time	0		0		
loo loft in water	70	Operating temp	49		49		
Ice left in water	71	Hot gas valve on time	2		0		
pan	72	Hot gas valve off time	28		0		
Ice bridge	73	Hot gas valve off time	0		0		
Low temp in		Operating temp	0		0		
defrost cycle		-					

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B1 and later							
		, , , , , , , , , , , , , , , , , , ,	240ANE	240ANE-23	240ANE-21		
	No	Item	(50Hz)	(50Hz)	(50Hz)		
	1	Defrost completion temp	7	4	5		
	2	Integrated constant 1 (temp)	-20.0	-20.0	-12.0		
	3	Integrated constant 2 (time)	11	11	8		
	4	Ambient temp correction	10	10	10		
Basic		operating temp for integrated			-		
		value					
	5	Ambient temp correction rate	100	100	100		
		for integrated value					
		Freeze backup timer	45	45	45		
	10	Defrosting water supply time,	95	95	95		
	4.4	water temp less than 13°C					
	11	Defrosting water supply time,	30	30	30		
	40	water temp 13°C or more		00	0.0		
	12	Icemaking water supply time, partial drain flush	30	23	30		
		* Icemaking water supply	60	60	60		
		time, full drain flush	60	60	60		
Water supply	13	Water temp measurement	8	8	10		
Trator cappry	'0	correction value	O		10		
	14	* Full / partial drain flush	1	1	1		
		selection	·	•			
	15	Additional icemaking water	22	22	22		
		supply time, partial drain					
		flush					
		* Additional icemaking water	44	44	44		
		supply time, full drain flush					
		Double stack bin control	1	1	1		
Other	22	Refrigeration unit operation	0	0	0		
		in bin control cycle					
Model		Туре	2	2	2		
	34	Operating temp	45	48	45		
temp control				_			
Water regulator	36	Water regulator error	0	0	0		
_	37	detecting temp Compressor output selection	1	1	1		
Compressor		Pump off time	1 0	0	0		
Slush ice		Water supply time	0	0	0		
		Operating condition	10	10	10		
Hard water		Water supply time	0	0	0		
		Operating temp	50	45	30		
Ice left in water		Hot gas valve on time	2	0	0		
pan		Hot gas valve off time	28	0	0		
lee bridge		Hot gas valve off time	0	15	10		
Ice bridge Low temp in							
defrost cycle	/4	Operating temp	28	30	25		
	l	t to "O" (full drain flush), chan	N 40	145 1 1 5			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B1 and later							
			240AWNE	240AWNE-23	240ANE		
	No	Item	(50Hz)	(50Hz)	(60Hz)		
	1	Defrost completion temp	5				
	2	Integrated constant 1 (temp)	-17.5				
		Integrated constant 2 (time)	11				
		Ambient temp correction	30				
Basic		operating temp for integrated					
		value					
	5	Ambient temp correction rate	95				
		for integrated value					
		Freeze backup timer	45				
	10	Defrosting water supply time,	95				
		water temp less than 13°C					
	11	Defrosting water supply time,	30				
	4.0	water temp 13°C or more					
	12	Icemaking water supply time,	30				
		partial drain flush	00				
		* Icemaking water supply time, full drain flush	60				
Water supply	12	Water temp measurement	10				
vvaler suppry	13	correction value	10				
	14	* Full / partial drain flush	1				
	' '	selection	'				
	15	Additional icemaking water	22				
		supply time, partial drain					
		flush					
		* Additional icemaking water	44				
		supply time, full drain flush					
		Double stack bin control	1				
Other	22	Refrigeration unit operation	0				
		in bin control cycle					
Model		Type	0				
	34	Operating temp	45				
temp control							
Water regulator	36	Water regulator error	0				
	0.7	detecting temp					
Compressor	37	Compressor output selection	1				
Slush ice		Pump off time	0				
		Water supply time	0				
Hard water		Operating condition	10				
		Water supply time	0				
Ice left in water		Operating temp	50				
pan		Hot gas valve on time	2				
		Hot gas valve off time	28				
Ice bridge		Hot gas valve off time	0				
Low temp in	74	Operating temp	0				
defrost cycle							

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B2 and later						
			240AWNE	240AWNE-23	240AWNE-21	
	No	Item	(60Hz)	(60Hz)	(60Hz)	
	1	Defrost completion temp	5		7	
	2	Integrated constant 1 (temp)	-16.0		-16.0	
		Integrated constant 2 (time)	11		5	
		Ambient temp correction	47		32	
Basic	-	operating temp for integrated	.,		02	
		value				
	5	Ambient temp correction rate	95		85	
		for integrated value				
	6	Freeze backup timer	45		45	
	10	Defrosting water supply time,	95		95	
		water temp less than 13°C				
	11	Defrosting water supply time,	30		30	
		water temp 13°C or more				
	12	Icemaking water supply time,	30		30	
		partial drain flush				
		* Icemaking water supply	60		60	
Water eupply	42	time, full drain flush	0		0	
Water supply	13	Water temp measurement correction value	9		8	
	1/1	* Full / partial drain flush	1		1	
	17	selection	ļ		I	
	15	Additional icemaking water	22		22	
		supply time, partial drain	22		22	
		flush				
		* Additional icemaking water	44		44	
		supply time, full drain flush				
	21	Double stack bin control	1		1	
Other	22	Refrigeration unit operation	0		0	
		in bin control cycle				
Model		Type	0		0	
Defrost cycle low	34	Operating temp	48		48	
temp control						
Water regulator	36	Water regulator error	0		0	
		detecting temp				
Compressor	37	Compressor output selection	1		1	
Slush ice		Pump off time	0		0	
		Water supply time	0		0	
Hard water		Operating condition	10		10	
		Water supply time	0		0	
Ice left in water		Operating temp	47		49	
pan		Hot gas valve on time	2		0	
		Hot gas valve off time	28		0	
Ice bridge		Hot gas valve off time	0		0	
Low temp in	74	Operating temp	0		0	
defrost cycle		to "O" (full drain fluch), chan				

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code C1 and later					
	,		240DSNE	240DSNE-23	
	No	Item	(50Hz)	(50Hz)	
	1	Defrost completion temp	5	5	
	2	Integrated constant 1 (temp)	-22.0	-22.0	
	3	Integrated constant 2 (time)	11	10	
	4	Ambient temp correction	10	10	
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	100	100	
	6	for integrated value Freeze backup timer	45	45	
		·	45	45	
	10	Defrosting water supply time, water temp less than 13°C	95	95	
	11	Defrosting water supply time,	30	30	
		water temp 13°C or more	00		
	12	Icemaking water supply time,	30	30	
		partial drain flush			
		* Icemaking water supply	60	60	
		time, full drain flush			
Water supply	13	Water temp measurement	13	13	
	1/	correction value * Full / partial drain flush	1	1	
	14	selection	1	'	
	15	Additional icemaking water	22	22	
		supply time, partial drain			
		flush			
		* Additional icemaking water	44	44	
		supply time, full drain flush			
0.0		Double stack bin control	1	1	
Other	22	Refrigeration unit operation	0	0	
Model	20	in bin control cycle		2	
Model Defrost cycle low		Type	3	3	
temp control	34	Operating temp	0	0	
•	36	Water regulator error	0	0	
Water regulator		detecting temp	Ü		
Compressor	37	Compressor output selection	1	1	
Slush ice	50	Pump off time	0	0	
Siusifice		Water supply time	10	10	
Hard water		Operating condition	0	0	
Tidia Water		Water supply time	0	0	
Ice left in water		Operating temp	49	49	
pan		Hot gas valve on time	0	0	
·		Hot gas valve off time	0	0	
Ice bridge		Hot gas valve off time	0	0	
Low temp in	74	Operating temp	22	22	
defrost cycle]	t to "O" (full drain fluch), chan	N 10	1.45	

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	No	Item	240ANE-HC	240ANE-HC-23
	INO	item	(50Hz) (**)	(50Hz) (**)
	1	Defrost completion temp	3	3
	2	Integrated constant 1 (temp)	-21.0	-20.5
	3	Integrated constant 2 (time)	10	19
	4	Ambient temp correction	38	38
Basic		operating temp for integrated		
		value		
	5	Ambient temp correction rate	95	74
		for integrated value		
		Freeze backup timer	45	45
	10	Defrosting water supply time,	95	95
	4.4	water temp less than 13°C		
	11	Defrosting water supply time,	30	30
	40	water temp 13°C or more		00
	12	Icemaking water supply time, partial drain flush	30	30
		* Icemaking water supply	60	60
		time, full drain flush	00	00
Water supply	13	Water temp measurement	10	10
Traite: eapp.y		correction value	10	10
	14	* Full / partial drain flush	1	1
		selection	·	
	15	Additional icemaking water	22	22
		supply time, partial drain		
		flush		
		* Additional icemaking water	44	44
		supply time, full drain flush		
•		Double stack bin control	1	1
Other	22	Refrigeration unit operation	0	0
		in bin control cycle		
Model		Type	2	2
Defrost cycle low	34	Operating temp	61	61
temp control				_
Water regulator	36	Water regulator error	0	0
•	27	detecting temp	4	4
Compressor	37	•	1	1
Slush ice		Pump off time	0	0
		Water supply time	0 10	10
Hard water		Operating condition Water supply time	0	0
		Operating temp	38	38
Ice left in water		Hot gas valve on time		
pan			10	10
las 1.22		Hot gas valve off time	20	20
Ice bridge		Hot gas valve off time	0	0
Low temp in	/4	Operating temp	20	20
defrost cycle	00	Canaad tama	00	00
High Pressure		Sensed temp	63	63
0		Gas sensor type	1	1
Gas sensor	91		12	12
		detecting time		

* Copeland compressor: auxiliary code B1 and earlier							
	NI.		240DNE	240DNE-23	240DNE-21		
	No	Item	(60Hz)	(60Hz)	(60Hz)		
	1	Defrost completion temp	6	6	6		
	2	Integrated constant 1 (temp)	-19.0	-19.0	-14.0		
	3	Integrated constant 2 (time)	9	12	5		
	4	Ambient temp correction	10	10	10		
Basic		operating temp for integrated					
		value					
	5	Ambient temp correction rate	100	100	100		
	_	for integrated value		4=	4-		
		Freeze backup timer	45	45	45		
	10	Defrosting water supply time,	95	95	95		
	11	water temp less than 13°C		00	00		
	11	Defrosting water supply time, water temp 13°C or more	30	30	30		
	12	Icemaking water supply time,	30	30	30		
	'-	partial drain flush	30	30	30		
		* Icemaking water supply	60	60	60		
		time, full drain flush	00				
Water supply	13	Water temp measurement	9	9	9		
		correction value					
	14	* Full / partial drain flush	1	1	1		
		selection					
	15	Additional icemaking water	22	12	12		
		supply time, partial drain					
		flush * Additional icemaking water	44	24	24		
		supply time, full drain flush	44	24	24		
	21	Double stack bin control	1	1	1		
Other		Refrigeration unit operation	0	0	0		
		in bin control cycle	O				
Model	30	Туре	2	2	2		
Defrost cycle low		Operating temp	48	48	48		
temp control							
Water regulator	36	Water regulator error	0	0	0		
vvalei regulatoi		detecting temp					
Compressor	37	Compressor output selection	1	1	1		
Slush ice		Pump off time	0	0	0		
Oldon loc		Water supply time	0	0	0		
Hard water		Operating condition	10	10	10		
	61	Water supply time	0	0	0		
Ice left in water		Operating temp	44	44	44		
pan		Hot gas valve on time	5	50	5		
		Hot gas valve off time	25	0	0		
Ice bridge		Hot gas valve off time	0	0	0		
Low temp in	74	Operating temp	27	27	27		
defrost cycle	<u> </u>	t to "O" (full drain fluch), chan			<u> </u>		

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B1 and earlier						
_			240DWNE	240DWNE-21		
	No	Item	(60Hz)	(60Hz)		
	1	Defrost completion temp	5	6		
	2	Integrated constant 1 (temp)	-19.5	-15.0		
	3	Integrated constant 2 (time)	11	5		
	4	Ambient temp correction	30	30		
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	90	90		
		for integrated value				
	6	Freeze backup timer	45	45		
	10	Defrosting water supply time,	95	95		
	44	water temp less than 13°C		00		
	11	Defrosting water supply time, water temp 13°C or more	30	30		
	12	Icemaking water supply time,	30	30		
	'-	partial drain flush	30	30		
		* Icemaking water supply	60	60		
		time, full drain flush				
Water supply	13	Water temp measurement	9	9		
		correction value				
	14	* Full / partial drain flush	1	1		
	4.5	selection				
	15	Additional icemaking water	22	22		
		supply time, partial drain flush				
		* Additional icemaking water	44	44		
		supply time, full drain flush	77	7-7		
	21	Double stack bin control	1	1		
Other	22	Refrigeration unit operation	0	0		
		in bin control cycle	-			
Model	30	Туре	0	0		
Defrost cycle low	34	Operating temp	48	48		
temp control						
Water regulator	36	Water regulator error	0	0		
	0.7	detecting temp				
Compressor	37	Compressor output selection	1	1		
Slush ice		Pump off time Water supply time	0	0		
		Operating condition	10	10		
Hard water		Water supply time	0	0		
		Operating temp	49	49		
Ice left in water		Hot gas valve on time	5	0		
pan		Hot gas valve off time	25	0		
Ice bridge		Hot gas valve off time	0	0		
Low temp in		Operating temp	0	0		
defrost cycle	' =		U			
		t to "O" (full drain flush) shan	N 40	- 1 45 - 1 4- 5-		

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* Copeland compressor: auxiliary code B1 and earlier							
	NI.		240AWNE	240AWNE-23	240AWNE-21		
	No	Item	(60Hz)	(60Hz)	(60Hz)		
	1	Defrost completion temp	4	6	6		
	2	Integrated constant 1 (temp)	-19.0	-20.0	-14.0		
	3	Integrated constant 2 (time)	12	14	5		
	4	Ambient temp correction	45	32	32		
Basic		operating temp for integrated					
		value					
	5	Ambient temp correction rate	90	85	85		
		for integrated value		4.5	4-		
		Freeze backup timer	45	45	45		
	10	Defrosting water supply time,	95	95	95		
	11	water temp less than 13°C		00	00		
	11	Defrosting water supply time, water temp 13°C or more	30	30	30		
	12	Icemaking water supply time,	30	30	30		
	'-	partial drain flush	30	30	30		
		* Icemaking water supply	60	60	60		
		time, full drain flush	00				
Water supply	13	Water temp measurement	10	10	10		
		correction value					
	14	* Full / partial drain flush	1	1	1		
		selection					
	15	Additional icemaking water	22	22	22		
		supply time, partial drain flush					
		* Additional icemaking water	44	44	44		
		supply time, full drain flush	44	44	44		
	21	Double stack bin control	1	1	1		
Other		Refrigeration unit operation	0	0	0		
		in bin control cycle	O				
Model	30	Туре	0	0	0		
Defrost cycle low		Operating temp	48	48	48		
temp control							
Water regulator	36	Water regulator error	0	0	0		
vvaler regulator		detecting temp					
Compressor	37	Compressor output selection	1	1	1		
Slush ice		Pump off time	0	0	0		
Oldon loc		Water supply time	0	0	0		
Hard water		Operating condition	10	10	10		
		Water supply time	0	0	0		
Ice left in water		Operating temp	45	49	49		
pan		Hot gas valve on time	2	0	0		
		Hot gas valve off time	28	0	0		
Ice bridge		Hot gas valve off time	0	0	0		
Low temp in	74	Operating temp	0	0	0		
defrost cycle		t to "O" (full drain fluch), chan					

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SECOP (Danfoss) compressor: auxiliary code B1 and later							
		, , , ,	240NE	240NE-23	240NE-21		
	No	Item	(50Hz)	(50Hz)	(50Hz)		
	1	Defrost completion temp	6				
	2	Integrated constant 1 (temp)	-18.5				
	3	Integrated constant 2 (time)	13				
		Ambient temp correction	37				
Basic		operating temp for integrated	0.				
		value					
	5	Ambient temp correction rate	95				
		for integrated value					
	6	Freeze backup timer	45				
	10	Defrosting water supply time,	95				
		water temp less than 13°C					
	11	Defrosting water supply time,	30				
		water temp 13°C or more					
	12	Icemaking water supply time,	30				
		partial drain flush					
		* Icemaking water supply	60				
\\/_t=========	40	time, full drain flush					
Water supply	13	Water temp measurement	11				
	4.4	correction value					
	14	* Full / partial drain flush	1				
	15	selection Additional icemaking water	20				
	15	supply time, partial drain	22				
		flush					
		* Additional icemaking water	44				
		supply time, full drain flush	77				
	21	Double stack bin control	1				
Other		Refrigeration unit operation	0				
		in bin control cycle	U				
Model	30	Туре	2				
		Operating temp	45				
temp control	• •		70				
•	36	Water regulator error	0				
Water regulator		detecting temp	· ·				
Compressor	37	Compressor output selection	1				
·	50	Pump off time	0				
Slush ice		Water supply time	0				
Lland water		Operating condition	10				
Hard water		Water supply time	0				
Ice left in water	70	Operating temp	37				
		Hot gas valve on time	2				
pan		Hot gas valve off time	28				
Ice bridge		Hot gas valve off time	0				
Low temp in		Operating temp	28				
defrost cycle	′ ¬		20				
	<u> </u>	t to "O" (full drain flush), chan	N. 40	1.45			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* S	ECOP (Danfoss) compressor:	auxiliary code	B1 and later	
		240WNE	240WNE-23	240WNE-21
INO	item	(50Hz)	(50Hz)	(50Hz)
1	Defrost completion temp	5		
		-17.5		
3	Integrated constant 2 (time)	11		
		30		
	value			
5	Ambient temp correction rate	95		
6	Freeze backup timer	45		
10	Defrosting water supply time,	95		
	water temp less than 13°C			
11	Defrosting water supply time,	30		
	water temp 13°C or more			
12	Icemaking water supply time,	30		
	partial drain flush			
	* Icemaking water supply	60		
13	Water temp measurement	11		
14	* Full / partial drain flush	1		
	selection			
15	•	22		
		44		
	• .	0		
34	Operating temp	45		
36	•	0		
	, ,			
		28		
		0		
74	Operating temp	0		
	No 1 2 3 4 5 6 10 11 12 13 14 15 15 16 6 6 1 70 71 72 73	1 Defrost completion temp 2 Integrated constant 1 (temp) 3 Integrated constant 2 (time) 4 Ambient temp correction operating temp for integrated value 5 Ambient temp correction rate for integrated value 6 Freeze backup timer 10 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush * Icemaking water supply time, full drain flush 13 Water temp measurement correction value 14 * Full / partial drain flush selection 15 Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, full drain flush 21 Double stack bin control 22 Refrigeration unit operation in bin control cycle 30 Type 34 Operating temp 36 Water regulator error detecting temp 37 Compressor output selection 50 Pump off time 51 Water supply time 60 Operating condition 61 Water supply time 70 Operating temp	No ltem 240WNE (50Hz) 1 Defrost completion temp 5 2 Integrated constant 1 (temp) -17.5 3 Integrated constant 2 (time) 11 4 Ambient temp correction 30 operating temp for integrated value 5 Ambient temp correction rate for integrated value 6 Freeze backup timer 45 10 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush * Icemaking water supply time, full drain flush selection 13 Water temp measurement 11 correction value 14 * Full / partial drain flush selection 15 Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, full drain flush selection 12 Refrigeration unit operation in bin control cycle 30 Type 0 34 Operating temp 45 36 Water regulator error detecting temp 37 Compressor output selection 1 50 Pump off time 0 50 Operating condition 10 61 Water supply time 0 70 Operating temp 50 71 Hot gas valve on time 2 72 Hot gas valve off time 0	Defrost completion temp 5

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code	B1 and later	
	No	Item	240DNE	240DNE-23	240DNE-21
	NO	item	(50Hz)	(50Hz)	(50Hz)
	1	Defrost completion temp	5	5	
		Integrated constant 1 (temp)	-14.5	-21.0	
		Integrated constant 2 (time)	11	12	
	4	Ambient temp correction	10	44	
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	100	95	
		for integrated value			
		Freeze backup timer	45	45	
	10	Defrosting water supply time,	95	95	
		water temp less than 13°C			
	11	Defrosting water supply time,	30	30	
		water temp 13°C or more			
	12	Icemaking water supply time,	30	30	
		partial drain flush			
		* Icemaking water supply	60	60	
		time, full drain flush			
Water supply	13	Water temp measurement	9	9	
	4.4	correction value			
	14	* Full / partial drain flush	1	1	
	45	selection		00	
	15	Additional icemaking water	22	22	
		supply time, partial drain			
		flush * Additional icemaking water	44	44	
		supply time, full drain flush	44	44	
	21	Double stack bin control	1	1	
Other		Refrigeration unit operation	0	0	
Other	22	in bin control cycle	U	0	
Model	30	Type	2	2	
Defrost cycle low		Operating temp	45	45	
temp control	34	Operating temp	40	45	
•	36	Water regulator error	0	0	
Water regulator	30	detecting temp	O		
Compressor	37	Compressor output selection	1	1	
•		Pump off time	0	0	
Slush ice		Water supply time	0	0	
	_	Operating condition	10	10	
Hard water		Water supply time	0	0	
		Operating temp	50	44	
Ice left in water		Hot gas valve on time	2	2	
pan		Hot gas valve off time	28	28	
Ice bridge		Hot gas valve off time	0	0	
Low temp in		Operating temp	30	30	
defrost cycle	' -		50		
	L	t to "O" (full drain flush) chan			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SEC	OP ((Danfoss) compressor: auxiliar	y code B1 and l	ater
	No	Item	240DNE-32	240DNE-C
			(50Hz)	(50Hz)
	1	Defrost completion temp		
	2	Integrated constant 1 (temp)		
	3	Integrated constant 2 (time)		
	4	Ambient temp correction		
Basic		operating temp for integrated		
		value		
	5	Ambient temp correction rate		
		for integrated value		
		Freeze backup timer		
	10	Defrosting water supply time,		
	4.4	water temp less than 13°C		
l	11	Defrosting water supply time,		
	40	water temp 13°C or more		
	12	Icemaking water supply time, partial drain flush		
		* Icemaking water supply		
		time, full drain flush		
Water supply	13	Water temp measurement		
water suppry	13	correction value		
	14	* Full / partial drain flush		
	• •	selection		
	15	Additional icemaking water		
		supply time, partial drain		
		flush		
		* Additional icemaking water		
		supply time, full drain flush		
	21	Double stack bin control		
Other	22	Refrigeration unit operation		
		in bin control cycle		
Model		Туре		
Defrost cycle low	34	Operating temp		
temp control				
Water regulator	36	Water regulator error		
vvater regulator		detecting temp		
Compressor	37	Compressor output selection		
Slush ice		Pump off time		
Siusii ice		Water supply time		
Hard water		Operating condition		
		Water supply time		
Ice left in water pan		Operating temp		
		Hot gas valve on time		
	72	Hot gas valve off time		
Ice bridge	73	Hot gas valve off time		
Low temp in	74	Operating temp		
defrost cycle				

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code	B1 and later	
	No	Item	240DWNE (50Hz)	240DWNE-23 (50Hz)	240DWNE-21 (50Hz)
	1	Defrost completion temp	5		
	2	Integrated constant 1 (temp)	-17.5		
	3	Integrated constant 2 (time)	11		
	4	Ambient temp correction	30		
Basic		operating temp for integrated value			
	5	Ambient temp correction rate for integrated value	95		
	6	Freeze backup timer	45		
	10	Defrosting water supply time, water temp less than 13°C	95		
	11	Defrosting water supply time, water temp 13°C or more	30		
	12	Icemaking water supply time, partial drain flush	30		
		* Icemaking water supply time, full drain flush	60		
Water supply	13	Water temp measurement correction value	11		
	14	* Full / partial drain flush selection	1		
	15	Additional icemaking water supply time, partial drain flush	22		
		* Additional icemaking water supply time, full drain flush	44		
	21	Double stack bin control	1		
Other	22	Refrigeration unit operation in bin control cycle	0		
Model	30	Туре	0		
Defrost cycle low temp control	34	Operating temp	45		
Water regulator	36	Water regulator error detecting temp	0		
Compressor	37	Compressor output selection	1		
Slush ice	50	Pump off time	0		
Siusii ice		Water supply time	0		
Hard water		Operating condition	10		
		Water supply time	0		
		Operating temp	50		
pan		Hot gas valve on time	2		
		Hot gas valve off time	28		
Ice bridge		Hot gas valve off time	0		
Low temp in defrost cycle	74	Operating temp	0		

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

* SEC	OP ((Danfoss) compressor: auxiliar	y code B1 and la	ater
		•	240DWNE-32	240DWNE-C
	No	Item	(50Hz)	(50Hz)
	1	Defrost completion temp		
	2	Integrated constant 1 (temp)		
	3	Integrated constant 2 (time)		
	4	Ambient temp correction		
Basic		operating temp for integrated		
		value		
	5	Ambient temp correction rate		
		for integrated value		
		Freeze backup timer		
	10	Defrosting water supply time,		
		water temp less than 13°C		
	11	Defrosting water supply time,		
	40	water temp 13°C or more		
	12	Icemaking water supply time,		
		partial drain flush		
		* Icemaking water supply time, full drain flush		
Water supply	12	Water temp measurement		
water suppry	13	correction value		
	14	* Full / partial drain flush		
	'	selection		
	15	Additional icemaking water		
		supply time, partial drain		
		flush		
		* Additional icemaking water		
		supply time, full drain flush		
	21	Double stack bin control		
Other	22	Refrigeration unit operation		
		in bin control cycle		
Model		Туре		
Defrost cycle low	34	Operating temp		
temp control				
Water regulator	36	Water regulator error		
		detecting temp		
Compressor		Compressor output selection		
Slush ice		Pump off time		
Olusii icc		Water supply time		
Hard water	60	Operating condition		
riaiu watei	61	Water supply time		
11-6: (70	Operating temp		
Ice left in water	71	Hot gas valve on time		
pan		Hot gas valve off time		
Ice bridge		Hot gas valve off time		
Low temp in		Operating temp		
defrost cycle	• •	- - - - - - - - - -		
•		t to "O" (full drain fluch) char	No. 10 an	d 45 alaa ta fu

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code I	B1 and later	
		240ANE 240ANE-23 24			
	No	Item	(50Hz)	(50Hz)	(50Hz)
	1	Defrost completion temp	7		
	2	Integrated constant 1 (temp)	-20.0		
	3	Integrated constant 2 (time)	11		
		Ambient temp correction	10		
Basic		operating temp for integrated	. •		
		value			
	5	Ambient temp correction rate	100		
		for integrated value			
	6	Freeze backup timer	45		
	10	Defrosting water supply time,	95		
		water temp less than 13°C			
	11	Defrosting water supply time,	30		
		water temp 13°C or more			
	12	Icemaking water supply time,	30		
		partial drain flush			
		* Icemaking water supply	60		
Water supply	12	time, full drain flush	0		
Water supply	13	Water temp measurement correction value	8		
	1/1	* Full / partial drain flush	1		
	17	selection	ļ		
	15	Additional icemaking water	22		
		supply time, partial drain	22		
		flush			
		* Additional icemaking water	44		
		supply time, full drain flush			
	21	Double stack bin control	1		
Other	22	Refrigeration unit operation	0		
		in bin control cycle			
Model		Type	2		
Defrost cycle low	34	Operating temp	45		
temp control					
Water regulator	36	Water regulator error	0		
		detecting temp			
Compressor	37	Compressor output selection	1		
Slush ice		Pump off time	0		
014011100		Water supply time	0		
Hard water		Operating condition	10		
		Water supply time	0		
Ice left in water pan		Operating temp	50		
		Hot gas valve on time	2		
		Hot gas valve off time	28		
Ice bridge		Hot gas valve off time	0		
Low temp in	74	Operating temp	28		
defrost cycle		to "O" (full drain fluch), chan			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code l	B1 and later		
		240AWNE 240AWNE-23 240				
	No	Item	(50Hz)	(50Hz)	(50Hz)	
	1	Defrost completion temp	5			
	2	Integrated constant 1 (temp)	-17.5			
	3	Integrated constant 2 (time)	11			
	4	Ambient temp correction	30			
Basic		operating temp for integrated				
		value				
	5	Ambient temp correction rate	95			
		for integrated value				
		Freeze backup timer	45			
	10	Defrosting water supply time,	95			
	44	water temp less than 13°C				
	11	Defrosting water supply time,	30			
	12	water temp 13°C or more Icemaking water supply time,	20			
	12	partial drain flush	30			
		* Icemaking water supply	60			
		time, full drain flush	00			
Water supply	13	Water temp measurement	10			
		correction value	. •			
	14	* Full / partial drain flush	1			
		selection				
	15	Additional icemaking water	22			
		supply time, partial drain				
		flush				
		* Additional icemaking water	44			
	04	supply time, full drain flush	4			
Other		Double stack bin control	1			
Other	22	Refrigeration unit operation in bin control cycle	0			
Model	30	Type	0			
		• -	0			
temp control	34	Operating temp	45			
•	36	Water regulator error	0			
Water regulator		detecting temp	O			
Compressor	37	Compressor output selection	1			
		Pump off time	0			
Slush ice		Water supply time	0			
Hard water		Operating condition	10			
		Water supply time	0			
Ice left in water pan	70	Operating temp	50			
	71	Hot gas valve on time	2			
		Hot gas valve off time	28			
Ice bridge		Hot gas valve off time	0			
Low temp in		Operating temp	0			
defrost cycle			Ŭ			
		t to "O" (full drain flush), chan	N 40			

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code	B2 and later	
	No	Item	240DNE (60Hz)	240DNE-23 (60Hz)	240DNE-21 (60Hz)
	1	Defrost completion temp	5		
	2	Integrated constant 1 (temp)	-19.0		
	3	Integrated constant 2 (time)	11		
		Ambient temp correction	10		
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	100		
		for integrated value			
		Freeze backup timer	45		
	10	Defrosting water supply time,	95		
		water temp less than 13°C			
	11	Defrosting water supply time,	30		
		water temp 13°C or more			
	12	Icemaking water supply time,	30		
		partial drain flush			
		* Icemaking water supply	60		
		time, full drain flush			
Water supply	13	Water temp measurement	9		
		correction value			
	14	* Full / partial drain flush	1		
		selection			
	15	Additional icemaking water	22		
		supply time, partial drain			
		flush	4.4		
		* Additional icemaking water	44		
	24	supply time, full drain flush Double stack bin control	1		
Other			<u> </u>		
Other	22	Refrigeration unit operation	U		
Model	30	in bin control cycle Type	2		
Defrost cycle low		Operating temp	<u> </u>		
temp control	34	Operating temp	40		
terrip control	36	Water regulator error	0		
Water regulator	30	detecting temp	U		
Compressor	37	Compressor output selection	1		
Compressor		Pump off time	0		
Slush ice		Water supply time	0		
		Operating condition	10		
Hard water		Water supply time	0		
Ice left in water pan		Operating temp	48		
		Hot gas valve on time	2		
		Hot gas valve off time	28		
lee bridge		Hot gas valve off time	0		
Ice bridge Low temp in		Operating temp	30		
defrost cycle	/4	Operating temp	30		
	L	t to "O" (full drain flush), chan		1.15	

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code	B2 and later	
			240DWNE	240DWNE-23	240DWNE-21
	No	Item	(60Hz)	(60Hz)	(60Hz)
	1	Defrost completion temp	5		
	2	Integrated constant 1 (temp)	-17.5		
	3	Integrated constant 2 (time)	11		
	4	Ambient temp correction	10		
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	100		
		for integrated value			
		Freeze backup timer	45		
	10	Defrosting water supply time,	95		
	44	water temp less than 13°C			
	11	Defrosting water supply time,	30		
	12	water temp 13°C or more Icemaking water supply time,	20		
	12	partial drain flush	30		
		* Icemaking water supply	60		
		time, full drain flush	00		
Water supply	13	Water temp measurement	8		
		correction value	_		
	14	* Full / partial drain flush	1		
		selection			
	15	Additional icemaking water	22		
		supply time, partial drain			
		flush			
		* Additional icemaking water	44		
	24	supply time, full drain flush Double stack bin control	4		
Other			1		
Other	22	Refrigeration unit operation in bin control cycle	0		
Model	30	Type	0		
		Operating temp			
temp control	34	Operating temp	45		
•	36	Water regulator error	0		
Water regulator		detecting temp	O		
Compressor	37	Compressor output selection	1		
·	50	Pump off time	0		
Slush ice		Water supply time	0		
Hard water		Operating condition	10		
	61	Water supply time	0		
Ice left in water pan	70	Operating temp	49		
	71	Hot gas valve on time	2		
	72	Hot gas valve off time	28		
Ice bridge		Hot gas valve off time	0		
Low temp in		Operating temp	0		
defrost cycle			•		
		t to "O" (full drain fluch) chan	N 40		

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

	* S	ECOP (Danfoss) compressor:	auxiliary code	B2 and later	
		240AWNE 240AWNE-23			
	No	Item	(60Hz)	(60Hz)	(60Hz)
	1	Defrost completion temp	5		
	2	Integrated constant 1 (temp)	-16.0		
	3	Integrated constant 2 (time)	11		
	4	Ambient temp correction	47		
Basic		operating temp for integrated			
		value			
	5	Ambient temp correction rate	95		
		for integrated value			
		Freeze backup timer	45		
	10	Defrosting water supply time,	95		
		water temp less than 13°C			
	11	Defrosting water supply time,	30		
	40	water temp 13°C or more			
	12	Icemaking water supply time,	30		
		partial drain flush			
		* Icemaking water supply time, full drain flush	60		
Water supply	13	Water temp measurement	9		
vvater suppry	13	correction value	9		
	14	* Full / partial drain flush	1		
	' '	selection	'		
	15	Additional icemaking water	22		
		supply time, partial drain			
		flush			
		* Additional icemaking water	44		
		supply time, full drain flush			
	21	Double stack bin control	1		
Other	22	Refrigeration unit operation	0		
		in bin control cycle			
Model		Туре	0		
Defrost cycle low	34	Operating temp	48		
temp control					
Water regulator	36	Water regulator error	0		
		detecting temp			
Compressor	37	Compressor output selection	1		
Slush ice		Pump off time	0		
014011100		Water supply time	0		
Hard water		Operating condition	10		
		Water supply time	0		
Ice left in water pan		Operating temp	47		
		Hot gas valve on time	2		
		Hot gas valve off time	28		
Ice bridge		Hot gas valve off time	0		
Low temp in	74	Operating temp	0		
defrost cycle					

^{*} When No. 14 is set to "0" (full drain flush), change Nos. 12 and 15 also to full drain flush settings.

Defrost completion temp 3 2 Integrated constant 1 (temp) -21.0 3 Integrated constant 2 (time) 4 Ambient temp correction operating temp for integrated value 5 Ambient temp correction rate for integrated value 5 Freeze backup timer 45 4 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp less than 13°C 12 Icemaking water supply time, water temp las°C or more 12 Icemaking water supply time, partial drain flush * Icemaking water supply time, full drain flush 13 Water temp measurement correction value 14 * Full / partial drain flush 1 Selection 15 Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water * Additional icem		No	Item	240ANE-HC
2 Integrated constant 1 (temp)				(50Hz) (**)
Basic 3 Integrated constant 2 (time) 10 4 Ambient temp correction operating temp for integrated value 5 Ambient temp correction rate for integrated value 6 Freeze backup timer 45 10 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush 13 Water temp measurement correction value 14 Full / partial drain flush 15 Additional icemaking water supply time, partial drain flush 15 Additional icemaking water supply time, partial drain flush 21 Double stack bin control 1 22 Refrigeration unit operation in bin control cycle 22 Double stack bin control 1 22 Refrigeration unit operation in bin control cycle 34 Operating temp 61 4 Operating temp 62 Operating temp 0 0 0 0 0 0 0 0 0			-	3
Ambient temp correction operating temp for integrated value 5 Ambient temp correction rate for integrated value 6 Freeze backup timer 45 10 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush 13 Water temp measurement correction value 14 * Full / partial drain flush 10 Correction value 14 * Full / partial drain flush selection 15 Additional icemaking water supply time, full drain flush * Additional icemaking water supply full drain flush * Additional icemaking water supply fu			,	-21.0
Sasic		3		10
Sample S	Dania	4		28
5	Basic			
for integrated value 6 Freeze backup timer 45 10 Defrosting water supply time, water temp less than 13°C 11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush 8 10 10 10 10 10 10 10		-		0.5
6 Freeze backup timer		Э		95
10 Defrosting water supply time, water temp less than 13°C		6		45
water temp less than 13°C			·	
11 Defrosting water supply time, water temp 13°C or more 12 Icemaking water supply time, partial drain flush * Icemaking water supply time, full drain flush * Icemaking water supply time, full drain flush * Icemaking water supply time, full drain flush * Full / partial drain flush * Full / partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply time * O		10		95
Water temp 13°C or more 12 Icemaking water supply time, partial drain flush * Icemaking water supply time, full drain flush * Icemaking water supply time, full drain flush 13 Water temp measurement correction value 14 * Full / partial drain flush 1 selection 15 Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, full drain flush 21 Double stack bin control 1 22 Refrigeration unit operation in bin control cycle Model 30 Type 2 2 2 2 2 2 2 3 3 3		11	•	30
12				
Partial drain flush * Icemaking water supply time, full drain flush * Icemaking water supply time, full drain flush * Icemaking water supply time, full drain flush * Full / partial drain flush * Additional icemaking water supply time, partial drain flush * Additional icemaking water supply time, full drain flush * Additional icemaking water supply t		12		30
time, full drain flush 10				
13 Water temp measurement correction value				60
Correction value				
14	Water supply	13		10
Selection 15		4.4		4
15		14	<u> </u>	1
Supply time, partial drain flush * Additional icemaking water supply time, full drain flush 21		15		22
Slush ice Hard water Pan Flush Flush *Additional icemaking water supply time, full drain flush 1		13	_	22
* Additional icemaking water supply time, full drain flush 21 Double stack bin control 1 22 Refrigeration unit operation in bin control cycle 30 Type 2 2 2 2 2 2 2 2 2				
Supply time, full drain flush 21 Double stack bin control 1 1 22 Refrigeration unit operation 0 in bin control cycle 34 Operating temp 61 25 36 Water regulator error 0 detecting temp 0 37 Compressor output selection 1 36 Water supply time 0 37 Water supply time 0 38 Water supply time 0 39 Water supply time 0 30 Water supply time 0 30 Water supply time 0 31 Water supply time 0 32 Water supply time 0 34 Water supply time 0 Water supply time 0 Water supply time 0 0 Water supply time 0 0 0 0 0 0 0 0 0				44
Other 22 Refrigeration unit operation in bin control cycle 0 Model 30 Type 2 Defrost cycle low temp control 34 Operating temp 61 Water regulator 36 Water regulator error detecting temp 0 Compressor 37 Compressor output selection 1 Slush ice 50 Pump off time 0 51 Water supply time 0 60 Operating condition 10 Hard water 61 Water supply time 0 Ice left in water pan 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Ice bridge 73 Hot gas valve off time 0 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 Gas sensor 91 Gas sensor sensitization 12				
In bin control cycle 30 Type 2		21	Double stack bin control	1
Model 30 Type 2 Defrost cycle low temp control 34 Operating temp 61 Water regulator 36 Water regulator error detecting temp 0 Compressor 37 Compressor output selection 1 Slush ice 50 Pump off time 0 51 Water supply time 0 60 Operating condition 10 61 Water supply time 0 70 Operating temp 28 1ce left in water pan 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12	Other	22	Refrigeration unit operation	0
Defrost cycle low temp control 34 Operating temp 61 Water regulator 36 Water regulator error detecting temp 0 Compressor 37 Compressor output selection 1 Slush ice 50 Pump off time 0 51 Water supply time 0 60 Operating condition 10 61 Water supply time 0 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 Gas sensor 91 Gas sensor sensitization 12				
temp control 36 Water regulator error detecting temp 0 Compressor 37 Compressor output selection 1 Slush ice 50 Pump off time 0 51 Water supply time 0 Hard water 60 Operating condition 10 61 Water supply time 0 10 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 10 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 Gas sensor 91 Gas sensor sensitization 12				
Water regulator 36 Water regulator error detecting temp 0 Compressor 37 Compressor output selection 1 Slush ice 50 Pump off time 0 51 Water supply time 0 60 Operating condition 10 61 Water supply time 0 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 Gas sensor 91 Gas sensor sensitization 12	,	34	Operating temp	61
Compressor 37 Compressor output selection 1	temp control	00	NA/	
Compressor 37 Compressor output selection 1 Slush ice 50 Pump off time 0 51 Water supply time 0 60 Operating condition 10 61 Water supply time 0 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Ice bridge 73 Hot gas valve off time 0 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 Gas sensor 91 Gas sensor sensitization 12	Water regulator	36		0
Slush ice 50 Pump off time 0 51 Water supply time 0 Hard water 60 Operating condition 10 61 Water supply time 0 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Ice bridge 73 Hot gas valve off time 0 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12	Compressor	37		1
Siush ice	Compressor			
Hard water 60 Operating condition 10 61 Water supply time 0 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Ice bridge 73 Hot gas valve off time 0 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12	Slush ice			
Column				
Ice left in water pan 70 Operating temp 28 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12	Hard water		. •	
Ice left in water pan 71 Hot gas valve on time 20 72 Hot gas valve off time 10 Ice bridge 73 Hot gas valve off time 0 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12				
72 Hot gas valve off time			· · · · · ·	
Ice bridge 73 Hot gas valve off time 0 Low temp in defrost cycle 74 Operating temp 20 High Pressure 80 Sensed temp 63 90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12	pan			
Low temp in defrost cycle High Pressure 80 Sensed temp 90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12	Ice bridge			
defrost cycle63High Pressure80 Sensed temp6390 Gas sensor type1Gas sensor91 Gas sensor sensitization12				-
High Pressure80Sensed temp6390Gas sensor type1Gas sensor91Gas sensor sensitization12			- - - -	20
90 Gas sensor type 1 Gas sensor 91 Gas sensor sensitization 12		80	Sensed temp	63
Gas sensor 91 Gas sensor sensitization 12			-	
	Gas sensor			12
detecting time			detecting time	

[c] DISPLAY MODE (LOG CLEARING)

When the up switch is pressed for more than 3 seconds, the display mode starts to allow various items and logs to be checked, displayed or cleared.

- 1) Press the up switch for more than 3 seconds while the unit is running. The display shows "n1".
- 2) Press the up switch to increase the number and the down switch to decrease the number.
- 3) Press the reset switch to select the desired number. The current value appears in the display.
- 4) Press the reset switch while the value is displayed. The display shows the number again.

To reset, leave the switches untouched for 30 seconds.

To clear, press the up and down switches together for 5 seconds while the value is displayed.

Display Mode List

No	Item	Description	Clear
n1	Freeze cycle time count up (min)	0 to 99 min	No
n2	Freeze cycle completion rate (%)	0 to 100% (00 = 100%)	No
n3	Current cube control thermistor temp	Rounded to the nearest whole number	No
n4	Current ambient thermistor temp	Rounded to the nearest whole number	No
n5	Water temp (presumed)	"H" for 13°C or more "L" for less than 13°C	No
n6	Current condenser thermistor temp	Rounded to the nearest whole number	No
h1	Last freeze cycle time (min)	Same as current freeze cycle time. Freeze cycle is not considered complete if interrupted by bin control switch or reset switch.	Yes
h2	Number of freeze cycles	Number of cycles completed. 10 is added every 10 cycles. Freeze cycle is not considered complete or counted in if interrupted by bin control switch or reset switch.	Yes
h3	Total number of freeze cycles	<pre>< Display > e.g. 655350 cycles (start)</pre>	No

h4	Error log	Display up to 5 errors from latest to oldest for 1 sec ON, 0.5 sec OFF, "" at the end, then back to latest error. In case of less than 5 errors, display oldest error, "", then back to latest one. < Display > e.g. E5 (latest), E4, E3, E2, E1 (oldest) (latest) (oldest) E5→off→E4→off→E3→off→E2→off→E1→off→	Yes
h5	Software version	For Ver 1.0A, display "01."→"0A"→"01."alternately for 1 sec ON, 0.5 sec OFF.	No
h6	Default model code	Display set model codes from "00" to "FF"	No
		(hexadecimal, 256 patterns)	(*)

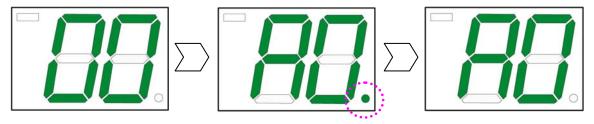
^{*} To clear the model code, press the up and down switches together for 15 seconds (for controller board replacement and setting error correction only).

[d] MODEL CODE SETTING MODE

Note: Use this mode only when the controller board is replaced or the model code setting needs to be corrected.

- 1) When the up switch is pressed for more than 3 seconds, the display mode starts and the display shows "n1".
- 2) Press the up or down switch to have "h6" in the display.
- 3) Press the reset switch. The current memorised model code appears in the display.
- 4) Press the up and down switches together for 15 seconds. The display shows "00".
- 5) Press the up switch to increase the first digit in the 7-segment display, and the down switch to increase the second digit. The digit changes in the following order: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F, H. Set the proper model code according to the model code list below. When a preset model code is displayed, the dot on the bottom right lights up.
- 6) When the chosen preset model code is displayed, press the reset switch to store the board memory (the display shows "on" and the machine will then always start up with this memorized program as default).
 - * To check the current memorised model code, view in the display mode (follow steps 1) to 3) above).

<Controller board replaced> <Chosen model code displayed> <Model code memorised>



Model Code List (**: HC MODEL ONLY)

1st	2nd	Model
Digit	Digit	IM 20CNE
}	<u>0</u> 1	IM-30CNE
}	2	IM-30CNE-25
	3	IM-30CNE (60Hz)
}	3 4	IM-30CNE-25 (60Hz) IM-21CNE
}	4 5	
}	6	IM-21CNE 115V (60Hz) [Navy] IM-21CNE WV
}	7	
1		IM-30WNE
}	8	IM-30WNE-25
}	9	
	A	
}	В	
}	С	
	D	
}	E	
	F	IN ACME
}	0	IM-45NE
}	1	IM-45NE-25
	2	IM-45NE (60Hz)
}	3	IM-45NE-25 (60Hz)
}	4	IM-45WNE
	5	IM-45WNE-25
	6	IM-45WNE (60Hz)
2	7	IM-45WNE-25 (60Hz)
	8	
	9	111 / 111 0
	A	IM-45NE-C
	В	
	С	
	<u>D</u>	
	<u>E</u>	
	F	

	0	IM-45CNE
	1	IM-45CNE-25
	2	IM-45CNE (60Hz)
	3	IM-45CNE-25 (60Hz)
	4	
	5	
	6	
	7	
3	8	
	9	
	A	
	В	
	C	
	D	
	E	
	F	
	0	IM-65NE
	1	IM-65NE-25
	2	IM-65NE (60Hz)
	3	IM-65NE-25 (60Hz)
	4	IM-65WNE
	5	IM-65WNE-25
	6	IM-65WNE (60Hz)
	7	IM-65WNE-25 (60Hz)
4	8	IM-65NE-Q
	9	IIVI-05IVE-Q
	A	IM-65NE-C
	В	IIVI-05INE-C
	С	
	D	
	E	
	F 0	IM 400NIT
	1	IM-100NE
	2	IM-100NE-23 IM-100NE-21
	3	IM-100NE (60Hz)
	-	
	<u>4</u> 5	IM-100NE-23 (60Hz)
	6	IM-100NE-21 (60Hz)
	7	IM-100CNE IM-100CNE-23
5	8	IM-100CNE-23 IM-100CNE-21
	9	IIVI- IUUCINE-Z I
	-	IM 100NE C
	A	IM-100NE-C
	В	
	С	
	D	
	E	
	F	

	0	IM 400MNIT
	0	IM-100WNE
	1	NA 400MNIE 04
	2	IM-100WNE-21
	3	IM-100WNE (60Hz)
	4	
	5	IM-100WNE-21 (60Hz)
	6	
6	7	
	8	
	9	
	Α	IM-100WNE-C
	В	
	С	
	D	
	Е	
	F	
	0	IM-130NE
	1	IM-130NE-23
	2	IM-130NE-21
	3	
	4	IM-130WNE
	5	
	6	
	7	
7	8	
	9	
	A	
	В	
	C	
	D	
	E	
	F	
	0	
	1	
	2	
	3	
	4	
	5	
	6	
8	7	
	8	
	9	
	A	
	В	
	С	
	D	
	E	
	F	

	0	
	1	
	2	
	3	
	4	
	5	
	6	
9	7	
	8	
	9	
	Α	
	В	
	С	
	D	
	Е	
	F	
	0	IM-240DNE, IM-240XNE [auxiliary code B0 & earlier]
	1	IM-240DNE-23, IM-240XNE-23 [auxiliary code B0 & earlier]
	2	IM-240DNE-21, IM-240XNE-21 [auxiliary code B0 & earlier]
	3	IM-240DNE-32, IM-240XNE-32 [auxiliary code B0 & earlier]
	4	IM-240DNE (60Hz), IM-240XNE (60Hz) [auxiliary code B1 & earlier]
	5	IM-240DNE-23 (60Hz), IM-240XNE-23 (60Hz) [auxiliary code B1 & earlier]
	6	IM-240DNE-21 (60Hz), IM-240XNE-21 (60Hz) [auxiliary code B1 & earlier]
	7	IM-240DNE-C [auxiliary code B1 & later]
Α	8	IM-240DNE, IM-240XNE [auxiliary code B1 & later]
	9	IM-240DNE-23, IM-240XNE-23 [auxiliary code B1 & later]
	Α	IM-240DNE-C, IM-240XNE-C
	В	IM-240DNE-21, IM-240XNE-21 [auxiliary code B1 & later]
	С	IM-240DNE-32, IM-240XNE-32 [auxiliary code B1 & later]
	D	IM-240DNE (60Hz), IM-240XNE (60Hz) [auxiliary code B2 & later]
	Е	
	F	
	0	IM-240DWNE, IM-240XWNE [auxiliary code B0 & earlier]
	1	IM-240DWNE-23, IM-240XWNE-23 [auxiliary code B0 & earlier]
	2	IM-240DWNE-21, IM-240XWNE-21 [auxiliary code B0 & earlier]
	3	IM-240DWNE-32, IM-240XWNE-32 [auxiliary code B0 & earlier]
	4	IM-240DWNE (60Hz), IM-240XWNE (60Hz) [auxiliary code B1 & earlier]
	5	INTELLODIVIAL (OUTIZ), INTELLOTIVIAL (OUTIZ) [auxilially code DT & earlier]
	+	IM 240DWNE 21 (60Hz) IM 240VWNE 21 (60Hz) Janvillary 2242 P1 9 227127
	7	IM-240DWNE-21 (60Hz), IM-240XWNE-21 (60Hz) [auxiliary code B1 & earlier] IM-240DWNE, IM-240XWNE [auxiliary code B1 & later]
В		
	8	IM-240DWNE-23, IM-240XWNE-23 [auxiliary code B1 & later]
	9	IM-240DWNE-21, IM-240XWNE-21 [auxiliary code B1 & later]
	A	IM-240DWNE-C [auxiliary code B0 & earlier]
	В	IM-240DWNE-32, IM-240XWNE-32 [auxiliary code B1 & later]
	С	IM-240DWNE (60Hz), IM-240XWNE (60Hz) [auxiliary code B2 & later]
	D	
	E	IM-240DWNE-21(60Hz), IM-240XWNE-21(60Hz) [auxiliary code B2 & later]
	F	IM-240DWNE-C[auxiliary code B1 & later]

	0	IM-240ANE [auxiliary code B0 & earlier]
	1	IM-240ANE-23 [auxiliary code B0 & earlier]
	2	IN 2 107 TVE 20 [duximary code be a carrier]
	3	
	4	IM-240ANE [auxiliary code B1 & later]
	5	IM-240ANE-23 [auxiliary code B1 & later]
	6	IM-240ANE-21 [auxiliary code B1 & later]
	7	[assumer, code e. letter]
С	8	
	9	
	Α	
	В	
	С	
	D	
	Е	
	F	
	0	IM-240AWNE [auxiliary code B0 & earlier]
	1	
	2	
	3	IM-240AWNE (60Hz) [auxiliary code B1 & earlier]
	4	IM-240AWNE-23 (60Hz) [auxiliary code B1 & earlier]
	5	IM-240AWNE-21 (60Hz) [auxiliary code B1 & earlier]
	6	IM-240AWNE [auxiliary code B1 & later]
D	7	
	8	IM-240AWNE-21 (60Hz) [auxiliary code B2 & later]
	9	IM-240AWNE (60Hz) [auxiliary code B2 & later]
	Α	
	В	
	С	
	D	
	E	
	F	
	0	IM-240NE [auxiliary code B1 & earlier]
	1	IM-240NE-23 [auxiliary code B1 & earlier]
	2	
	3	
	4	
	5	IM-240WNE [auxiliary code B1 & earlier]
	6	IM 240NE formiliant and a D2 9 leter?
E	7	IM-240NE [auxiliary code B2 & later]
	8	IM-240NE-23 [auxiliary code B2 & later]
	9	
	A B	
	С	IM-240WNE [auxiliary code B1 & later]
	D	IIVI-240VVIVE [auxiliary code DT & later]
	E	
	F	
	Г	

	0	IM-240DSNE, IM-240XSNE [auxiliary code C1 & later]
	1	IM-240DSNE-23, IM-240XSNE -23 [auxiliary code C1 & later]
	2	
	3	
	4	
	5	
	6	
F	7	
Г	8	
	9	
	Α	
	В	
	С	
	D	
	Е	
	F	
	0	IM-240ANE-HC
	1	IM-240ANE-HC-23
	2	
	3	
	4	
	5	
	6	
H (**)	7	
''()	8	
	9	
	Α	
	В	
	С	
	D	
	Е	
	F	

4. 7-SEGMENT DISPLAY

[a] NORMAL MODE

Item	Display			
Power on Defrost cycle Freeze cycle Bin full				
Freeze temp setting	Display range from -5.0 to -40.0			
Error code	Flash E1: Abnormal freeze cycle E2: Abnormal defrost cycle EE: Other (See "5. ERROR CODES")			
Water circuit flush				

[b] MAINTENANCE MODE

No.	Item	Display (example)		
1	Defrost completion temp		15	16°C
2	Integrated constant 1 (temp)	-18°C	-18.5°C	Dot appears for value with ".5" as in -18.5°C
3	Integrated constant 2 (time)		21	21 min
4	Ambient temp correction operating temp for integrated value	Same as No. 1		

5	Ambient temp correction rate for integrated value	90% 100% (last 2 digits only)
6	Freeze backup timer	Same as No. 3
10	Defrosting water supply time, water temp less than 13°C	Same as No. 3 (unit: sec)
11	Defrosting water supply time, water temp 13°C or more	Same as No. 3 (unit: sec)
12	Icemaking water supply time, normal	Same as No. 3 (unit: sec)
13	Water temp measurement correction value	Same as No. 1
14	Full / partial drain flush selection	Same as Nos. 21 and 22
15	Additional icemaking water supply time	Same as No. 3 (unit: sec)
21	Double stack bin control	0 1
22	Refrigeration unit operation in bin control cycle	
30	Model type	Same as Nos. 21 and 22 (Setting range from 0 to 3)
34	Defrost cycle low temp control, operating temp	Same as No. 1
36	Water regulator error detecting temp	Same as No. 1
37	Compressor output selection	Same as Nos. 21 and 22
50	Slush ice, pump off time	Same as No. 3 (unit: sec)
51	Slush ice, water supply time	Same as No. 3 (unit: sec)
60	Hard water, operating condition	Same as No. 5
61	Hard water, water supply time	Same as No. 3 (unit: sec)
70	Ice left in water pan, operating temp	Same as No. 1
71	Ice left in water pan, hot gas valve on time	Same as No. 3 (unit: sec)
72	Ice left in water pan, hot gas valve off time	Same as No. 3 (unit: sec)
73	Ice bridge, hot gas valve off time	Same as No. 3 (unit: sec)
74	Low temp in defrost cycle, operating temp	Same as No. 1

[c] DISPLAY MODE

No.	Item	Display (example)
_	n*, h*	
n1	Freeze cycle time count up (min)	21 min or 21% 100% (last 2 digits only)
n2	Freeze cycle completion rate (%)	
n3	Current cube control thermistor temp	-19°C 24°C
n4	Current ambient thermistor temp	
n5	Water temp (presumed)	Water temp 13°C or more Water temp less than 13°C
n6	Current condenser thermistor temp	Same as n3 and n4
h1	Last freeze cycle time (min)	21 min
h2	Number of freeze cycles	If counted number of cycles is 162100
h3	Total number of freeze cycles	
h4	Error log	If 3 errors from latest to oldest are E4, E3, and E1
h5	Software version	Ver 1.0A is displayed as follows alternately for 1 sec ON and 0.5 sec OFF \[\sum_{\text{op}} \under \text{op} \text{op} \text{op} \lambda_{\text{op}} \sum_{\text{op}} \under \text{op} \text{op} \text{op} \lambda_{\text{op}} \under \text{op} \under \under \text{op} \under \under \text{op} \under \text{op} \und
h6	Default model code	Set model codes from "00" to "FF" (hexadecimal, 256 patterns)

5. ERROR CODES

[a] ERROR CODES, CAUTION CODES (**: HC MODEL ONLY)

- * When the controller board detects an error, the display shows one of the following error, caution and alarm codes in the display mode. Operation depends on the type of error.
- * The error and caution codes other than E1 and E2 are indicated as "EE" or "EF" in the 7-segment display at the time of occurrence. The error log is indicated up to five errors from the latest entry.

Error	Item	Description	Operation	Reset	
E1	Freeze error	Freeze backup timer (45/60 minutes after water pan starts to close) counts up before freeze cycle completes, and evaporator temperature is 0°C or higher.	Shut down	Press reset switch	
E2	Defrost error	Defrost backup timer (30 minutes after water pan starts to open) counts up before defrost cycle completes.	Shut down	Press reset switch	
E3	Water pan opening error	Water pan has not fully opened within 60 seconds, and 3 minutes have passed even with opening failure control.	Halt	Press reset	
	, 0	Unit resumes operation after 60 minutes and repeats the above error.	Shut down		
E4	Water pan closing error	Water pan has not fully closed within 60 seconds, and 3 minutes have passed even with closing failure control.	Halt	Press reset switch	
	closing endi	Unit resumes operation after 60 minutes and repeats the above error.	Shut down		
E5	High temperature error	Evaporator temperature stays 60°C or higher for 5 seconds or more.	Shut down	Press reset switch	
E9	Condenser thermistor error	Condenser thermistor circuit is open or shorted for 2 seconds.	Shut down	Replace thermistor	
EA	Data error	Model setting data memory IC is defective.	Shut down	Replace controller board	
EC	Cube control thermistor error	Cube control thermistor circuit is open or shorted for 2 seconds.	Shut down	Replace thermistor	
Ed	Water regulator error	Cooling water cannot stop by water regulator error, and thermistor senses set point or lower temperature.	Continue	Press reset switch	
EF (**)	Gas Leakage	Gas sensor detects gas leakage and error occurs in icemaking performance. (E1 or E2)	Fan motor runs continuously and unit shuts down	Press reset switch	

Caution	Item	Description	Operation	Reset
C2	High pressure	[Air-cooled] Condenser thermistor (IM-130, 240 type only) senses 63°C or higher temperature. [Water-cooled] Pressure switch senses 2.65MPa or higher pressure.	Compress or stops	After 5 minutes, condensing temperature 50°C or lower, pressure 1.96MPa or lower

Alarm	Item	Description	Operation	Reset
A1 (**)	Sensor sensitivity abnormal	Sensor has abnormal sensitivity and sends false signal.	Compressor stops	Replace sensor
A2 (**)	Sensor circuit open	Sensor circuit is open and cannot detect gas leakage.	Fan motor runs continuously and icemaking operation continues.	Replace sensor

[b] SERVICE DIAGNOSIS (**: HC MODEL ONLY)

Error	Check	Possible Cause	Remedy	
	Water valve	Closing failure	Clean or replace	
		Gas leak	Repair	
	Refrigeration circuit	Clogged capillary	Replace heat exchanger	
		Clogged expansion valve	Replace	
		Defective	Replace	
	Compressor	Starting failure	Check supply voltage or replace	
E1			electrical components	
	Compressor relay	Coil circuit open	Replace	
	Condenser	Clogged	Clean	
		Locked	Replace	
	Fan motor	Low RPM	Replace	
		Broken fan	Replace fan	
	Hot gas valve	Closing failure	Replace	
	Cube control thermistor	Disconnected	Reconnect	
E2	Hot gas valve	Opening failure	Replace	
	Controller board	Defective	Replace	
	Actuator motor	Defective	Replace	
E3	Controller board	Relay contact failure	Replace	
		Defective	Replace	
	Actuator motor	Defective	Replace	
E4	Controller board	Relay contact failure	Replace	
		Defective	Replace	
E5	Hot gas valve	Closing failure	Replace	
	Controller board	Relay contact failure	Replace	
E9	Condenser thermistor	Open or short circuit	Replace	
	Controller board	Connector disconnected	Reconnect	
EA	Controller board	Defective	Replace	
EC	Cube control thermistor	Open or short circuit	Replace	
	Controller board	Connector disconnected	Reconnect	
Ed	Water regulator	Clogged with foreign matter	Unclog	
	Traisi regulate.	Corroded spring	Replace	
EF (**)	Refrigeration circuit	Gas leakage	Repair	

Caution	Check	Possible Cause	Remedy	
	Air-cooled condenser	Dirty with oily smoke, low condensing capacity	Clean	
		Clogged filter	Clean	
C2	Water-cooled condenser	Dirty with scale, low condensing capacity	Clean	
	Water circuit	Low water	Check shutoff valve	
	Fan motor	Defective	Replace	
	Ambient temperature	Too high	Ventilate and cool down	

Alarm	Check	Possible Cause	Remedy
A1 (**)	Gas sensor	Gas sensor sensitization	Replace
A2 (**)	Gas sensor	Gas sensor open circuit	Replace

6. TROUBLESHOOTING

[a] INSTRUCTIONS FOR SERVICE ENGINEER

- Check that the icemaker has been earthed properly. If not, the controller board will not work properly.
- 2) Do not change wiring and connections, or the controller board will not work properly.
- 3) Do not touch the electronic devices on the controller board or the back of the controller board.
- 4) Do not repair the electronic devices and parts on the controller board in the field except for the fuse (250V AC, 6.3A, 5mm DIA x 20mm).
- 5) To get static free, always touch the metal part of the icemaker before servicing.
- 6) Handle the controller board by the edges only.
- 7) Do not drop the controller board on the floor.

[b] CHECKING CONTROLLER BOARD

- Before checking the controller board, check the cube control thermistor and bin control switch for proper operation. See "BEFORE CHECKING CONTROLLER BOARD" in the service manual for the applicable model.
- 2) If the above parts are operating properly, check each part according to "5. [b] SERVICE DIAGNOSIS".

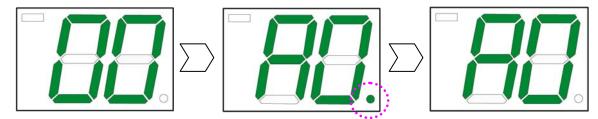
7. REMOVAL AND REPLACEMENT

The replacement controller board is in common use for the entire IM_N models (HE).

To replace:

- 1) Unplug the icemaker or disconnect the power source.
- 2) Remove the front cover and control box cover.
- 3) Disconnect all the connectors from the controller board. Remove the controller board from the control box.
- 4) Install the replacement controller board in the control box. Reconnect the connectors.
- 5) Replace the control box cover and front cover.
- 6) Plug in the icemaker or connect the power source. As the replacement controller board has not been set for the proper model code, the 7-segment display illuminates "00".
 - * The code "00" does not belong to any model.
- 7) Press the up switch to increase the first digit in the 7-segment display, and the down switch to increase the second digit. The digit changes in the following order: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F, H. Set the proper model code according to the model code list provided with the replacement controller board (see 3. [d] MODEL CODE SETTING MODE). When a preset model code is displayed, the dot on the bottom right lights up.
- 8) When the chosen preset model code is displayed, press the reset switch to store the board memory (the display shows "on" and the machine will then always start up with this memorized program as default).

<Controller board replaced> <Chosen model code displayed> <Model code memorised>

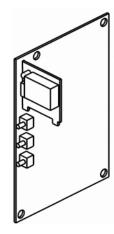


- * To check the current memorised model code, view in the display mode (press and hold the up switch for 3 seconds the display changes to "n1", then press the up switch several times to find "h6", then press the reset switch and the memorised code appears in the display).
- * If for any reason the machine needs to be reset back to the factory settings, hold the up and down switches for 15 seconds whilst the code is displayed (in display mode). The machine will stop working and the display will reset to "00" (cleared memory).

The controller board will then need to be reprogrammed (select and memorise the correct code for the machine) using steps 7) and 8) above.

Note:

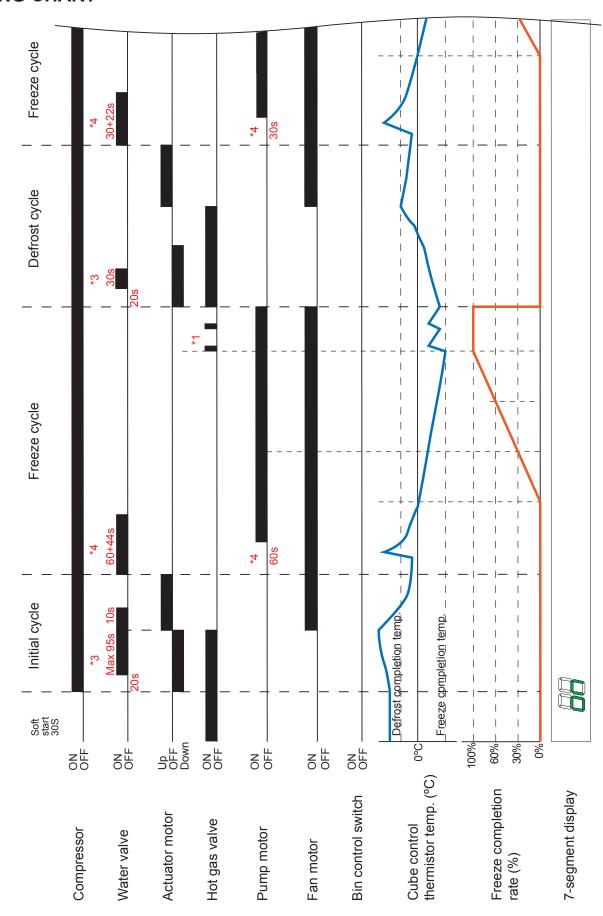
- 1. Be sure to get static free before servicing the controller board.
- 2. Do not touch the controller board with wet or dirty hands.
- 3. Do not impact the controller board. If it drops on the floor, do not use it.
- 4. Do not hold the leads when disconnecting the connectors.
 - * Locking connectors must be unlocked before being disconnected.
 - * Reconnect the connectors properly.
- 5. Install the new controller board in its correct position.
- 6. Bind the wiring inside the control box the way it was.
 - * Do not push the wiring on the controller board.
 - * Do not bind the thermistor leads and high voltage wires together.



8. TIMING CHART

[IM-240 type] For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice production at normal temperature (partial drain flush) (RT 15°C, WT above 13°C)



[IM-240 type]For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice storage at normal temperature (partial drain flush) (RT 15°C, WT above 13°C)

Freeze cycle 60+44s | Defrost | cycle 80s Bin control cycle Defrost cycle 30s Freeze cycle Defrost completion temp. -reeze completion temp 100% - %09 Up OFF Down ပ္စ 30% % N H NO PHO N N N N N ON OFF ON OFF NO PHO thermistor temp. (°C) Freeze completion rate (%) 7-segment display Bin control switch Actuator motor Hot gas valve Cube control Compressor Water Valve Pump motor Fan motor

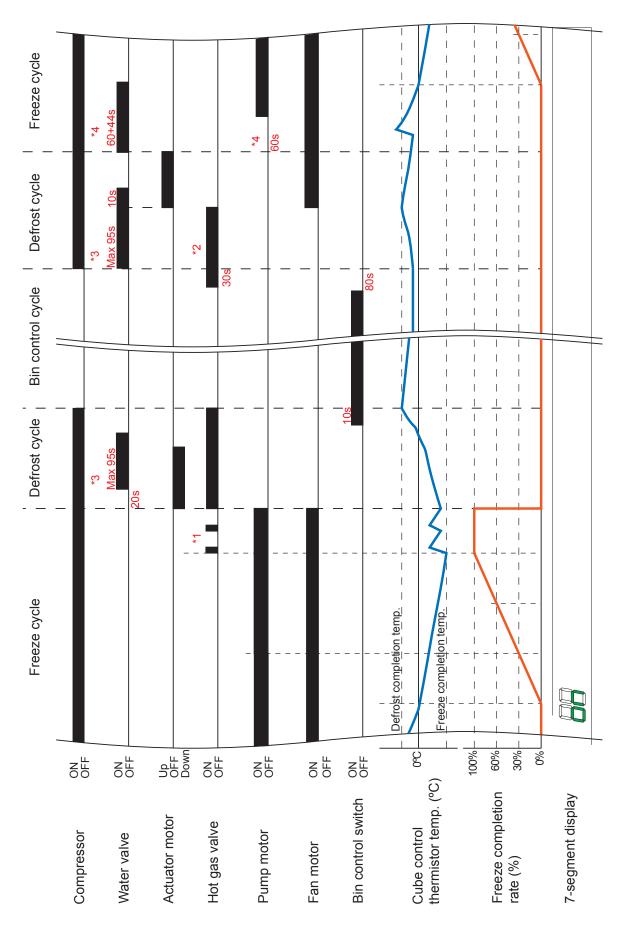
[IM-240 type]For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice production at low temperature (partial drain flush) (RT 15°C, WT below 13°C)

Freeze cycle 30 + 22sDefrost cycle **95**s က္ 20s * Freeze cycle 60+44s 809 * Freeze cpmpletion temp. Initial cycle Defrost completion temp. Max 95s Soft start 30S 100% Up OFF Down \ \%09 ပ္စ N H H N H N H H 30% % N H N H N N H thermistor temp. (°C) Freeze completion rate (%) 7-segment display Bin control switch Actuator motor Hot gas valve Cube control Compressor Water valve Pump motor Fan motor

[IM-240 type]For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice storage at low temperature (partial drain flush) (RT 15°C, WT below 13°C)



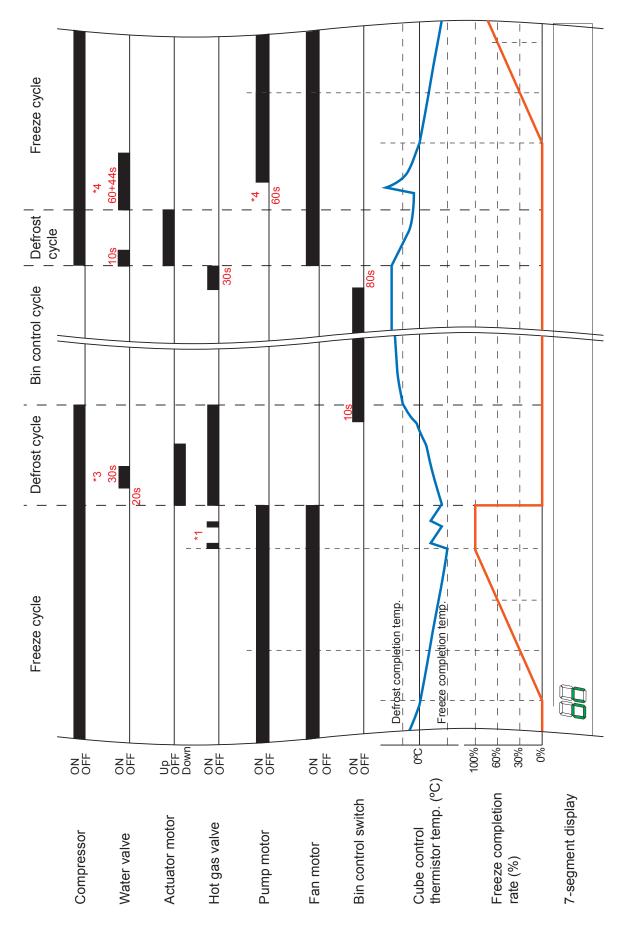
[IM-240 type]For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice production at normal temperature (full drain flush) (RT 15°C, WT above 13°C)

Freeze cycle * Defrost cycle 30s Freeze cycle 60+44s s09 *4 Initial cycle Freeze completion temp. Defrost completion temp. Max 95s Soft start 30S Up OFF – Down 100% %09 ပ္ပ NO PHO NO PFI 30% % NO H NO H NO IL NO H thermistor temp. (°C) Freeze completion 7-segment display Bin control switch Actuator motor Hot gas valve Cube control Compressor Water valve Pump motor Fan motor rate (%)

[IM-240 type]For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice storage at normal temperature (full drain flush) (RT 15°C, WT above 13°C)



[IM-240 type] For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice production at low temperature (full drain flush) (RT 15°C, WT below 13°C)

Freeze cycle 60+44s Defrost cycle 95s 20s Freeze cycle 60+44s * Initial cycle Freeze completion temp. Defrost completion temp. Max 95s Soft start 30S |%09 100% Up OFF -Down ပ္တ 30% % NO PHO NO PHO NO PHO PHO NO PHO PHO N PHO N H thermistor temp. (°C) Freeze completion rate (%) 7-segment display Bin control switch Actuator motor Hot gas valve Cube control Compressor Pump motor Water valve Fan motor

[IM-240 type]For IM-21 to 130 type, see notes on timing charts *1 to 4.

Ice storage at low temperature (full drain flush) (RT 15°C, WT below 13°C)

Freeze cycle 60+44s Defrost cycle Max 95s <u>ې</u> 80s Bin control cycle Defrost cycle Defrost completion temp. Freeze cycle Freeze completion temp. 100% %09 30% ٦% Up OFF Down ပ္ N H N PH ON OFF N H ON OFF N PFO thermistor temp. (°C) Freeze completion 7-segment display Bin control switch Actuator motor Hot gas valve Cube control Compressor Pump motor Water valve Fan motor rate (%)

[IM-21 to 65 type]

Notes on timing charts (*1, *2, *3, *4)

	Item		21CNE 30CNE	30WNE	45NE 45CNE	45WNE	65NE	65WNE	
*3 Defrosting temp less that	15s				1:	3s			
*3 Defrosting temp 13°C o	• •	oly time (water	6	S	7	's	1	0s	
*4 Icemaking supply time (•	ditional water n flush)							
	*4 Icemaking water / additional water supply time (full drain flush)			20/0s		22/0s		29/0s	
	Standard ice	Ambient temp in control	20°C or less		30°C or less			°C ess	
*1 Water		Hot gas valve on/off time	10/20s	0/0s	2/28s	0/0s	10/	20s	
control	Variant ice	Ambient temp in control					20°C or less		
	(-25)	Hot gas valve on/off time	0/	0s	0/	0s	10/	20s	
*2 Defrost	Ambient temp in control		10°C or less		10°C or less		10°C or less		
"	Hot gas va	lve on/off time	40/40s		40/40s		40/40s		

- 1) When the power is turned on or the unit resumes operation after a bin control cycle, the water temperature is considered less than 13°C and the water valve opens for 15 seconds (IM-21 to 45 type) or 13 seconds (IM-65 type) to supply defrosting water. If the water temperature is normal, the water pan opens and immediately starts to close again. In this case, defrosting water flows for 10 seconds and not for the above supply time.
- 2) The pump motor starts after the water pan closes and the icemaking water supply completes.

[IM-100 to 130 type]

Notes on timing charts (*1, *2, *3, *4)

	Item		100NE	130NE	100WNE	130WNE	
*3 Defrosting water supply time (water temp less than 13°C, or initial cycle)			90s				
*3 Defrosting temp 13°C o	water supply r more)	time (water	30s				
	y water / addition partial drain flu			35	/0s		
*4 Icemaking water / additional water supply time (full drain flush)			70/0s				
	Standard ice	Ambient temp in control	20°C (or less			
*1 Water		Hot gas valve on/off time	10/2	20s	0/	0s	
control	Variant ice	Ambient temp in control	20°C (or less			
		Hot gas valve on/off time	10/2	20s	0/0s		
cycle low	Ambient temp in control		10°C (or less	SS		
	Hot gas valve	on/off time	40/	40s			

- 1) When the power is turned on or the unit resumes operation after a bin control cycle, the water temperature is considered less than 13°C and the water valve opens for 90 seconds to supply defrosting water. If the water temperature is normal, the water pan opens and immediately starts to close again. In this case, defrosting water flows for 10 seconds and not for the above supply time.
- 2) In the partial drain flush setting, when the power is turned on or the unit resumes operation after a bin control cycle, the water valve opens for 70 seconds (35s x 2) to supply icemaking water to supply additional icemaking water.
- 3) In the full drain flush setting, the icemaking water supply time is 70 seconds. The water supply time will not be doubled when the power is turned on or the unit resumes operation after a bin control cycle.
- 4) The pump motor starts after the water pan closes and the icemaking water supply completes.

Partial drain flush - after 35 seconds, or after 70 seconds (35s x 2) when the power is turned on or the unit resumes operation after a bin control cycle Full drain flush - after 70 seconds

[IM-240 type with Copeland compressor]

Notes on timing charts (*1, *2)

	Item	240DNE 240DNE-C 240DWNE 240DWNE-C					
Defrosting water supply time (water temp less than 13°C, or initial cycle)			95s				
Defrosting w 13°C or more	ater supply time)	e (water temp		30s			
Icemaking w time (partial		l water supply		30	/22s		
Icemaking water / additional water supply time (full drain flush)				60/44s			
		Ambient temp	30°C	20°C	30°C	20°C	
		in control	or less	or less	or less	or less	
*1 Water		Hot gas valve on/off time	5/25s	10/20s	5/25s	10/20s	
pan defrost control		Ambient temp in control	any temp		any temp		
		Hot gas valve on/off time	0/0s		0/0s		
*2 Defrost	Ambient temp in control		10°C or less				
cycle low temp control	Hot gas valve	on/off time	40/40s				

	Item		240NE	240ANE	240WNE	240AWNE	
Defrosting water supply time (water temp less than 13°C, or initial cycle)			95s				
Defrosting water supply time (water temp 13°C or more)			30s				
Icemaking water / additional water supply time (partial drain flush)				30/	22s		
Icemaking water / additional water supply time (full drain flush)				60/	44s		
		Ambient temp in control	20°C (or less	ss 30°C or le		
*1 Water		Hot gas valve on/off time	2/28s				
control	Variant ice	Ambient temp in control	any t	temp			
	(-23, -21, -32)	Hot gas valve on/off time	0/	0s			
*2 Defrost	Ambient temp	in control	10°C	or less			
cycle low temp control	Hot gas valve	on/off time	40/	40s			

- 1) When the power is turned on or the unit resumes operation after a bin control cycle, the water temperature is considered less than 13°C and the water valve opens for a maximum of 95 seconds to supply defrosting water. If the water temperature is normal, the water pan opens and immediately starts to close again. In this case, defrosting water flows for 10 seconds and the above supply time may be shorter than 95 seconds.
- 2) In the partial drain flush setting, when the power is turned on or the unit resumes operation after a bin control cycle, the water valve opens for 60 seconds (30s x 2) to supply icemaking water and for 44 seconds (22s x 2) to supply additional icemaking water.
- 3) In the full drain flush setting, the icemaking water supply time is 60 seconds and the additional water supply time is 44 seconds. The water supply time will not be doubled when the power is turned on or the unit resumes operation after a bin control cycle.
- 4) The pump motor starts after the water pan closes and the icemaking water supply completes.

Partial drain flush - after 30 seconds, or after 60 seconds (30s x 2) when the power is turned on or the unit resumes operation after a bin control cycle Full drain flush - after 60 seconds

[IM-240 type with SECOP (Danfoss) compressor]

Notes on timing charts (*1, *2)

Item			240DNE 240DNE-C 240DWNE 240DWNE-C					
	water supply		95s					
	temp less than 13°C, or initial cycle) *3 Defrosting water supply time (water							
temp 13°C o		time (water		3	30s			
	water / addition	onal water						
	partial drain flu			30	/22s			
*4 Icemaking	g water / addition (full drain flush	onal water		60)/44s			
	Standard ice	Ambient temp in control			0°C less			
	Cylinder ice	Hot gas valve on/off time	2/28s	10/20s	2/28s	10/20s		
	Variant ice (32mm)	Ambient temp in control	any temp		any temp			
*1 Water		Hot gas valve on/off time	0/0s		0/0s			
control	Variant ice (23mm)	Ambient temp in control	20°C or less		any temp			
		Hot gas valve on/off time	2/28s		0/0s			
	Variant ice	Ambient temp in control	20°C or less		any temp			
	(21mm)	Hot gas valve on/off time	2/28s		0/0s			
*2 Defrost cycle low	Ambient temp	in control	10°C	or less				
	Hot gas valve	on/off time	40/40s					

	Item		240NE	240ANE	240WNE	
*3 Defrosting water supply time (water temp less than 13°C, or initial cycle)			95s			
	*3 Defrosting water supply time (water temp 13°C or more)			30s		
	ig water / addit (partial drain f			30/22s		
	*4 Icemaking water / additional water supply time (full drain flush)			60/44s		
	Standard ice Cylinder ice	Ambient temp in control	20°C or less 30°C or less			
*1 Water		Hot gas valve on/off time	2/28s			
control	Variant ice	Ambient temp in control	any t			
		Hot gas valve on/off time	0/0s			
*2 Defrost cycle	Ambient temp in control		10°C or less			
low temp control	Hot gas valve	on/off time	40/40s			

(**: HC MODEL ONLY)

	Item		240AWNE	240ANE- HC (**)	240ANE- HC-23 (**)	
	g water supply nan 13°C, or in	,	95s			
*3 Defrosting temp 13°C	g water supply or more)	time (water		30s		
	g water / addit (partial drain f			30/22s		
	g water / addit (full drain flusl		60/44s			
	Standard ice	Ambient temp in control	30°C or less			
*1 Water	-	Hot gas valve on/off time	2/28s 10/20s		20s	
control		Ambient temp in control				
	(-23, -21, -32)	Hot gas valve on/off time				
*2 Defrost cycle	Ambient temp in control			7°C c	or less	
low temp control	Hot gas valve on/off time			40/40s		

- 1) When the power is turned on or the unit resumes operation after a bin control cycle, the water temperature is considered less than 13°C and the water valve opens for a maximum of 95 seconds to supply defrosting water. If the water temperature is normal, the water pan opens and immediately starts to close again. In this case, defrosting water flows for 10 seconds and the above supply time may be shorter than 95 seconds.
- 2) In the partial drain flush setting, when the power is turned on or the unit resumes operation after a bin control cycle, the water valve opens for 60 seconds (30s x 2) to supply icemaking water and for 44 seconds (22s x 2) to supply additional icemaking water.
- 3) In the full drain flush setting, the icemaking water supply time is 60 seconds and the additional water supply time is 44 seconds. The water supply time will not be doubled when the power is turned on or the unit resumes operation after a bin control cycle.
- 4) The pump motor starts after the water pan closes and the icemaking water supply completes.
 - Partial drain flush after 30 seconds, or after 60 seconds (30s x 2) when the power is turned on or the unit resumes operation after a bin control cycle Full drain flush after 60 seconds
- 5) For IM-240ANE-HC, in the defrost cycle low temperature control mode, the icemaker continuously supplies defrosting water during defrost cycle.