TEFCOLD®
Cool Products Worldwide

Gastro-Line Køleborde

Brugsvejledning

Modeller:

SA-I Serie
SS-I Serie
PT-I Serie

INDHOLD

VIGTIGE INFORMATIONER OG ENERGI BESPARENDE ANBEFALINGER

1. For at få det fulde udbytte af kølemøblet, bør De læse denne brugsvejledning igennem.
2. Det er brugers ansvar at anvende kølemøblet i henhold til instruktionerne.
3. Kontakt omgående forhandleren, såfremt der opstår fejl ved kølemøblet.
4. Kølemøblet bør anbringes i et tørt og tilstrækkeligt ventileret rum.
5. Kølemøblet bør ikke placeres i nærheden af varmekilder eller direkte sollys.
6. Varme drikke og madvarer bør køles ned inden de placeres i kølemøblet.
7. Væsker bør opbevares i tildækkede beholdere for ikke at få luftfugtigheden til at stige i kølemøblet og få køletiden til at forøges.
8. Åbne døre og skuffer så kortvarigt som muligt.
9. Kontrollere at døre og skuffer lukker tæt og rengør tætningslisterne jævnligt.
10. Bemærk at alle elektriske apparater kan medføre farer.
11. Opbevar ikke eksplosionsfarlige stoffer, f.eks. gas, benzin, æter og lignende.
12. Der er ikke brugt asbest eller CFC i konstruktionen.
13. Olien i kompressoren indeholder ikke PCB.

Kølemøblet indeholder det energirigtige og ikke ozonnedbrydende kølemiddel R600a/R290. Da R600a/R290 er en brandfarlig gasart, er det vigtigt, at kølekredsløbet ikke beskadiges under transport og ved installering.

Hvis kølekredsløbet alligevel beskadiges, skal du undgå at bruge åben ild i nærheden af køleskabet, ligesom der heller ikke må tilsluttes strøm til skabet. Sørg desuden for god udluftning i rummet. Er du i tvivl, skal du kontakte din leverandør.

UDPAKNING OG OPSTILLING

Produktet leveres emballeret, undersøg denne for skader inden udpakning.

EL-TILSLUTNING

Kølemøblet er beregnet for tilslutning til 220-240 V/50 Hz. Tilslutningen skal ske ved en stikkontakt, der bør være let tilgængelig.

Dette kølemøbel skal ekstrabeskyttes ifølge stærkstrømsreglementet. Dette gælder også, selvom der er tale om udskiftning af et eksisterende kølemøbel, der ikke har været ekstrabeskyttet. I bygninger opført før 1. april 1975 er ekstrabeskyttelsen i orden, hvis der er installeret HFI-afbryder, som beskytter den stikkontakt kølemøblet skal tilsluttes.

I begge disse tilfælde skal der, hvis stikkontakten er for trebenet stikprop, benyttes en trebenet stikprop, og lederen med grøn/gul isolation skal tilsluttes jordklemmen (mærket).

Hvis stikkontakten kun er for tobenet stikprop, benyttes en tobenet stikprop. Hvis brugeren selv monterer denne, skal lederen med grøn/gul isolation klippes af så tæt som muligt på det sted, hvor lederen går ind i stikproppen.

I alle andre tilfælde bør De lade en autoriseret el-installatør undersøge, hvordan De nemmest får ekstrabeskyttet kølemøblet. Hvis De ikke har ekstrabeskyttelse i bygningen i forvejen, anbefaler Elektricitetsrådet, at De lader el-installatøren opsætte en PFI- eller HPFI afbryder.

OPSTART

Inden kølemøblet tages i brug, anbefales det at rengøre dette, se afsnit om vedligeholdelse.

Vigtigt !

Hvis kølemøblet har ligget ned under transport, vent 2 timer før opstart.

TERMOSTATEN

Termostaten er placeret i sidepanelet

Termostaten er for-programmeret så kølemøblet er klar til brug. Hvis der skal justeres i indstillinger følg denne vejledning.
Når skabet tændes vil display vise den aktuelle temperatur i møblet.

Vis indstillet temperatur:

SET Tryk på denne tast og display viser den indstillede temperatur, tryk igen for at vende tilbage til normal visning.

Indstil ny temperatur:

SET Tryk på denne tast i mere end 3 sec. og display viser den indstillede temperatur. (‘°C’ LED blinker)

 Tryk på denne tast for at hæve den indstillede temperatur..

 Tryk på denne tast for at sænke den indstillede temperatur.

SET Tryk på denne tast for at gemme den nye indstilling, display blinker med den nye værdi og vender derefter tilbage til normal visning.

Tastatur lås:

 Tryk på disse 2 taster samtidigt i 5 sekunder for at låse/åbne tastaturet.
Lås tastatur (Display viser „Pof“) eller åbne tastatur (Display viser ’Pon’).

Fejlkoder:

‘P1’ Blinker i display, betyder at rumføler er defekt.

‘P2’ Blinker i display, betyder at fordamperfæler er defekt.

ÆNDRING AF PARAMETRE

Se parameter oversigt og manualer fra side 74.

AFRIMNING

Kølemøblet afrimer automatisk med forprogrammerede intervaller. Hvis møblet belastes ekstremt med hyppige åbninger af dør eller hyppig udskiftning af varer, kan det blive nødvendigt at udføre en manuel afrimning.

Tryk på denne tast i mere end 3 sec., dette vil starte en manuel afrimning og derefter vende tilbage til normal drift.

Tøvand ledes ud til fordampning i en beholder, der er placeret i kompressorrum.

VEDLIGEHOLDELSE

Afbryd kølemøblet på stikkontakten.
Med passende mellemrum skal kølemøblet rengøres. Udvendig og indvendige rengøring foretages med svag sæbeopløsning og aftørres grundigt.
Rengøringsmidler må IKKE indeholde klor, klorforbindelser eller andre aggresive midler, da de kan forårsage tæringer på overflader og på det indvendige kølesystem.
Ventilationsristen holdes bedst rent ved hjælp af en støvsuger og en stiv børste.

SERVICE

Kølesystemet er et hermetisk lukket system og kræver ikke tilsyn, kun renholdelse.

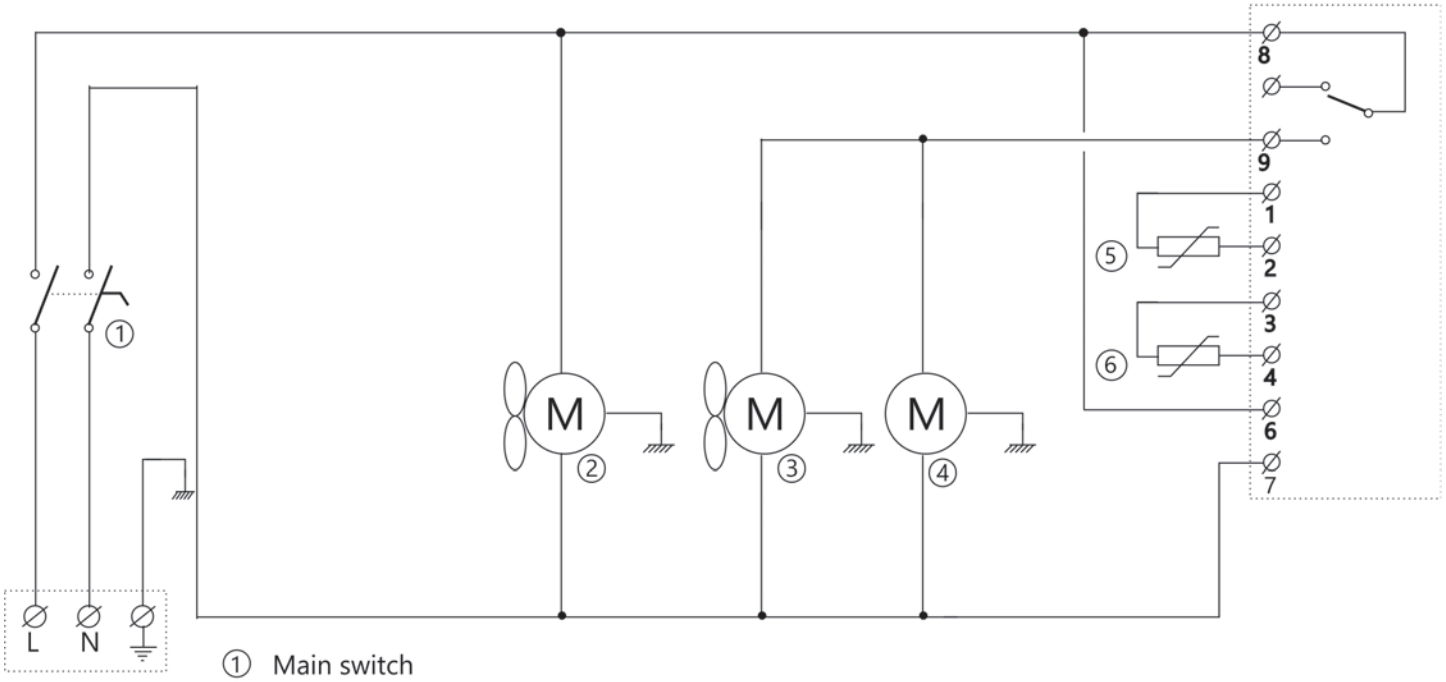
Ved svigt i kølevirkningen, undersøg om årsagen er afbrydelse i stikkontakt eller sikringsgruppe.

Kan grunden til svigt ikke findes, må De henvende Dem til Deres leverandør. Ved al henvendelse bedes De oplyse skabets typenavn og serienummer. Disse oplysninger findes på typenummerskiltet placeret indvendigt i højre side.

BORTSKAFFELSE

Når det udtjente kølemøbel skal bortskaffes, skal det ske på en miljømæssig forsvarlig måde. Vær opmærksom på reglerne for bortskaffelse. Der kan være særlige krav og betingelser, der skal overholdes.

XR02CX



① Main switch
② Evaporator fan
③ Condenser fan
④ Compressor
⑤ Cabinet probe
⑤ Evaporator probe

SA/SS-Series

DIGITAL CONTROLLER
XR02CX

1. CONTENTS

2. GENERAL WARNINGS

PLEASE READ BEFORE USING THIS MANUAL

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

SAFETY PRECAUTIONS

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

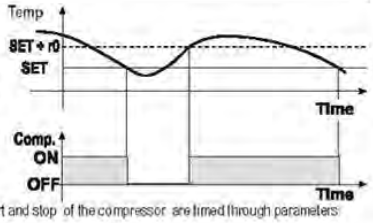
GENERAL DESCRIPTION

Model **XR02CX**, **format 32 x 74 x 50 mm**, is a digital thermostat with off cycle defrost designed for refrigeration applications at normal temperature. It provides a relay output to drive the compressor. It is also provided with 2 NTC probe input. The instrument is fully configurable through special parameters that can be easily programmed through the keyboard or the by HOTKEY.

REGULATION

THE REGULATION OUTPUT

The regulation is performed according to the temperature measured by the thermostat probe with a positive differential from the set point: if the temperature increases and reaches set point plus differential the compressor is started and then turned off when the temperature reaches the set point value again.



In case of fault in the thermostat probe the start and stop of the compressor are timed through parameters "**Cy**" and "**Cn**".

DEFROST

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

FRONT PANEL COMMANDS

SET — To display target set point, in programming mode it selects a parameter or confirm an operation.

To start a manual defrost.

In programming mode it browses the parameter codes or increases the displayed value.

AUX — In programming mode it browses the parameter codes or decreases the displayed value.

KEYS COMBINATION

- ▼ + ▲ — To lock or unlock the keyboard
- SET + ▼ — To enter in programming mode
- SET + ▲ — To return to room temperature display

LED	MODO	SIGNIFICATO
❄	On	Compressore enabled
	Flashing	Anti short cycle delay enabled (AC parameter)
❄	On	Defrost in progress
	Flashing	Dripping in progress
°C	On	Measurement unit
	Flashing	Programming mode
°F	On	Measurement unit
	Flashing	Programming mode

HOW TO SEE THE SET POINT

1. Push and immediately release the **SET** key, the set point will be showed;
2. Push and immediately release the **SET** key or wait about 5s to return to normal visualisation.

HOW TO CHANGE THE SETPOINT

1. Push the SET key for more than 2 seconds to change the Set point value;
2. The value of the set point will be displayed and the "°C" or "°F" LED starts blinking;
3. To change the Set value push the ▲ or ▼ arrows within 10s.
4. To memorise the new set point value push the SET key again or wait 10s.

HOW TO START A MANUAL DEFROST (ONLY XR02CX)

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

HOW TO CHANGE A PARAMETER VALUE

To change the parameter's value operate as follows:

1. Enter the Programming mode by pressing the **SET+ ▼** keys for 3s (**"°C" or "°F"** LED starts blinking).
2. Select the required parameter. Press the "**SET**" key to display its value.
3. Use ▲ or ▼ to change its value.
4. Press "**SET**" to store the new value and move to the following parameter.

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

HIDDEN MENU

The hidden menu includes all the parameters of the instrument.

HOW TO ENTER THE HIDDEN MENU

1. Enter the Programming mode by pressing the **SET+ ▼** keys for 3s (**"°C" or "°F"** LED starts blinking).
2. Released the keys, then push again the **SET+ ▼** keys for more than 7s. The L2 label will be displayed immediately followed from the Hy parameter.
   NOW YOU ARE IN THE HIDDEN MENU.
3. Select the required parameter.
4. Press the "**SET**" key to display its value.
5. Use ▲ or ▼ to change its value.
6. Press "**SET**" to store the new value and move to the following parameter.

To exit: Press **SET+ ▲** or wait 15s without pressing a key.
NOTE1: if none parameter is present in L1, after 3s the "nP" message is displayed. Keep the keys pushed till the L2 message is displayed.
NOTE2: the set value is stored even when the procedure is exited by waiting the time-out to expire.

HOW TO MOVE A PARAMETER FROM THE HIDDEN MENU TO THE FIRST LEVEL AND VICEVERSA.

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

TO LOCK THE KEYBOARD

1. Keep pressed for more than 3s the ▲ and ▼ keys.
2. The "**OF**" message will be displayed and the keyboard will be locked. If a key is pressed more than 3s the "OF" message will be displayed.

TO UNLOCK THE KEYBOARD

Keep pressed together for more than 3s the ▲ and ▼ keys till the **"on"** message will be displayed.

7. PARAMETERS

REGULATION

Hy Differential: (0.1°C ÷ 25°C) Intervention differential for set point. Compressor Cut IN is SET POINT + differential (Hy). Compressor Cut OUT is when the temperature reaches the set point.
LS Minimum SET POINT: (-55°C÷SET/-58°F÷SET): Sets the minimum value for the set point.
US Maximum SET POINT: (SET÷99°C/ SET÷99°F). Set the maximum value for set point.
ot First probe calibration: (-9.9÷9.9°C) allows to adjust possible offset of the first probe.
P2 Evaporator probe presence: n= not present; **y=** the defrost stops by temperature.
oE Second probe calibration: (-9.9÷9.9°C) allows to adjust possible offset of the second probe.
od Outputs activation delay at start up: (0÷99min) This function is enabled at the initial start up of the instrument and inhibits any output activation for the period of time set in the parameter.
AC Anti-short cycle delay: (0÷50 min) minimum interval between the compressor stop and the following restart.
Cy Compressor ON time with faulty probe: (0÷99 min) time during which the compressor is active in case of faulty thermostat probe. With Cy=0 compressor is always OFF.
Cn Compressor OFF time with faulty probe: (0÷99 min) time during which the compressor is OFF in case of faulty thermostat probe. With Cn=0 compressor is always active.

DISPLAY

CF Measurement unit: (°C÷°F) **°C** =Celsius, **°F** =Fahrenheit. **WARNING**: When the measurement unit is changed the SET point and the values of the parameters Hy, LS, US, oE, o1, AU, AL have to be checked and modified if necessary).
rE Resolution (only for °C): (dE ÷ in) **dE=** decimal between -9.9 and 9.9°C, **in=** integer.
Ld Default display: (P1 ÷ P2) P1= thermostat probe; P2= evaporator probe. SP=Set point.
dy Display delay: (0÷15 min.) when the temperature increases, the display is updated of 1 °C/1°F after this time.

DEFROST

dE Defrost termination temperature: (-50÷50°C) if **ot=Y** it sets the temperature measured by the evaporator probe, which causes the end of defrost.

id Interval between defrost cycles: (0~99 ore) Determines the time interval between the beginning of two defrost cycles.
Md Maximum length for defrost: (0÷99 min. with 0 no defrost) when **ot=n**, (not evaporator probe timed defrost) it sets the defrost duration, when **ot = y** (defrost end based on temperature) it sets the maximum length for defrost.
dF Display during defrost: (rt / it / St / dF) rt= real temperature, it= start defrost temperature, St= SET-POINT, dF= label dF.

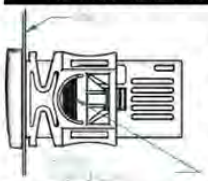
ALARMS

AU Maximum temperature alarm: (AL~99°C) when this temperature is reached the alarm is enabled, after the "**Ad**" delay time.
AL Minimum temperature alarm: (-55~AU°C) when this temperature is reached the alarm is enabled, after the "**Ad**" delay time.
Ad Temperature alarm delay: (0~99 min) time interval between the detection of an alarm condition and alarm signalling.
dA Exclusion of temperature alarm at startup: (0~99 min) time interval between the detection of the temperature alarm condition after instrument power on and alarm signalling.

OTHER

d2 Evaporator probe display (read only)
Pt Parameter code table
rL Software release

INSTALLATION AND MOUNTING



Instrument **XR02CX** shall be mounted on vertical panel, in a 29x71 mm hole, and fixed using the special bracket supplied.
The temperature range allowed for correct operation is 0÷60 °C. Avoid places subject to strong vibrations, corrosive gases, excessive dirt or humidity. The same recommendations apply to probes. Let air circulate by the cooling holes.

ELECTRICAL CONNECTIONS

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

9.1 PROBES

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

HOW TO USE THE HOT KEY

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

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

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

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

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

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

ALARM SIGNALLING

Mess.	Cause	Outputs
"P1"	Room probe failure	Compressor output according to "Cy" e "Cn"
"P2"	Evaporator probe failure	Defrost end is timed
"HA"	Maximum temperature alarm	Outputs unchanged
"LA"	Minimum temperature alarm	Outputs unchanged
"EA"	External alarm	Outputs unchanged
"CA"	Serious external alarm	All outputs OFF.
"dA"	Door Open	Compressor and fans restarts

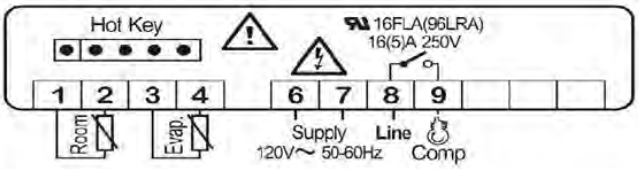
11.1 ALARM RECOVERY

Probe alarms **P1**" and "**P2**" start some seconds after the fault in the related probe; they automatically stop some seconds after the probe restarts normal operation. Check connections before replacing the probe. Temperature alarms "**HA**" and "**LA**" automatically stop as soon as the temperature returns to normal values.
Alarms **"EA"** and **"CA"** (with iF=bL) recover as soon as the digital input is disabled.

TECHNICAL DATA

Housing: self extinguishing ABS.
Case: frontal 32x74 mm; depth 60mm;
Mounting: panel mounting in a 71x29mm panel cut-out
Protection: IP20; **Frontal protection:** IP65
Connections: disconnectable terminal block ≤ 2,5 mm² wiring and 6.3mm fast-on
Power supply: according to the model ±10%, 230Vac ±10%, 50/60Hz, 110Vac ±10%, 50/60Hz
Power absorption: 3.5 VA max
Display: 2 digits, red LED, 14,2 mm high; **Inputs**: 2 NTC
Relay outputs: compressor SPST 8(3) A, 250Vac; 20(8)A 250Vac
Data storing: on the non-volatile memory (EEPROM)
Kind of action: 1B; **Pollution grade:** 2; **Software class:** A;
Rated impulsive voltage: 2500V; **Overvoltage Category**: II
Operating temperature: 0~60 °C; **Storage temperature:** -30~85 °C
Relative humidity: 20÷85% (no condensing)
Measuring and regulation range: NTC -40~110°C (-40~230°F);
Resolution: 0,1 °C or 1°C or 1 °F (selectable); **Accuracy (ambient temp. 25°C)**: ±0,7 °C±1 digit

CONNECTIONS



NOTE: Fast-on maximum current 16A

DEFAULT SETTING VALUES

LBL	DESCRIPTION	RANGE	DEFAULT	LEVEL
REGULATION				
Hy	Differential	0.1 ÷ 25°C/1 ÷ 45°F	4 °C	L1
LS	Minimum Set Point	-55°C÷SET/-67°F÷SET	-2 °C	L2
US	Maximum Set Point	SET÷99°C/ SET÷210°F	8 °C	L2
ot	First probe calibration	-9.9÷9.9°C/-18÷18°F	0.0	L2
P2	Second probe presence	n ÷ Y	y	L2
oE	Second probe calibration	-9.9÷9.9°C/-18÷18°F	0.0	L2
od	Outputs activation delay at start up	0 ÷ 99 min	3	L2
AC	Anti-short cycle delay	0 ÷ 50 min	5	L1
Cy	Compressor ON time faulty probe	0 ÷ 99 min	15	L2
Cn	Compressor OFF time faulty probe	0 ÷ 99 min	30	L2
DISPLAY				
CF	Measurement units	°C÷°F	°C	L2
rE	Resolution (only for °C)	dE ÷ in	in	L1
Ld	Default Display	P1 ÷ P2 ÷ SP	P1	L2
dy	Display delay	0 ÷ 15 min	5	L2
DEFROST				
dE	Defrost termination temperature	-50÷50°C/-58÷122°F	8 °C	L1
id	Interval between defrost cycles	0 ÷ 99 hours	6	L1
Md	Maximum length for defrost	0 ÷ 99 min.	20	L1
dF	Display during defrost	rt ÷ in ÷ dE	it	L2
ALARMS				
AU	Maximum temperature alarm	ALL÷99°C / ALL÷210°F	99 °C	L2
AL	Minimum temperature alarm	-55°C÷ALU/-67°F÷ALU	-50 °C	L2
Ad	Temperature alarm delay	0 ÷ 99 min	15	L2
dA	Exclusion of temperature alarm at startup	0 ÷ 99 min	99	L2
OTHER				
d2	Evaporator probe display	Read Only	---	L1
Pt	Parameter code table	Read Only	---	L2
rL	Firmware release	Read Only	---	L2

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Specifications subject to changes without prior notification.