

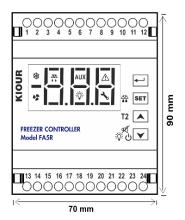
Read carefully these instructions before installing and using this device and keep them for future reference. Attention to installation and electrical wiring. Use this device only as described in this document and never use itself as a security device. The device must be disposed of in accordance with local standards for the collection of electrical and electronic equipment.



#### **DESCRIPTION**

FA5R is a temperature controller for ventilated freezer rooms with deFrost control and smart defrost function. It has two temperature sensors for the cabinet and the evaporator, five relays: compressor 30A, fan 5A, deFrost 10A, lamp 5A, and auxiliary/alarm 10A; one alarm buzzer and two digital inputs for controlling the door of the room (DOOR indication) and for the protection of a person inside the room (indication MAN). Both sensors can be either NTC or PTC by adjusting a parameter. The controller via the serial input can connect either via Cloud on the CORTEX platform or via pc to the CAMIN Modbus network for full monitoring and data logging of the device.

#### INDICATIONS AND BUTTONS FUNCTION



Display indications					
*	compressor ON				
<b>জ</b>	fan ON				
**	defrost ON				
AUX	aux relay ON				
Ÿ	lamp ON				
<u> </u>	alarm ON				
4	malfunction ON				

Keyboa	Keyboard				
	enter the parameter's menu				
SET XX.	display the parameter's value enter parameter's value manual defrost				
T2	up arrow display evaporator temperature T2				
(b) %	down arrow mute buzzer lamp is on/ off (check below) ON/OFF device (check below)				

For more indications regarding the alarms please see at page 5

### ADJUSTING TEMPERATURE - SET POINT

- Press to display the first parameter **SPo**.
- to display its value and with the T2 or 💇 we change **SPo** value.
- to save the new value. The device is working with the new adjustment.

### **INDUSTRIAL FACTORY SETTINGS**

- to display its value and press to enter the value 31. Press to store the value to parameter Cod.
- again to exit the parameter menu, 'YES' is displayed on the screen. All appropriate factory settings are now stored in the device.

### **ON/OFF DEVICE**

To activate or deactivate the device, press for 7 seconds



# **ON/OFF LAMP**

If we select the *manual* operation of the room lamp, dLA = 0, then to turn it on or off, press for 3 seconds

If we select the automatic operation of the room lamp, dLA = 1, then the lamp opens and closes based on the room door switch. By setting a desired time in the tLA parameter, when the room door closes, the lamp stays on for tLA time and then turns off automatically.

### **MANUAL DEFROST**

Press for 3 seconds to start a manual defrost with duration based on the parameter **dd2**. For more information regarding the defrost, check the description of parameter dt6.

## SOS ALARM - MAN INSIDE THE ROOM

From parameter 22, EnP = 1, we activate the digital input for the use of a button inside the room, in order to protect a person locked inside the room. In contacts 8 and 11 (MAN contact) we connect a button with NC contact. When the button is pressed, all functions and alarms are deactivated and the lamp relay is activated. The 'SOS' alarm appears on display. The button must reset to restart the thermostat. The lamp goes out manually.

#### PROGRAMMING A PARAMETER

ATTENTION: to gain full access to the parameter's menu, the 2<sup>nd</sup> parameter Cod must be adjusted to 22 (see parameter table page 2).

- Press to enter the parameter menu.
- 2. Choose the parameter you want to adjust by pressing or fight and press to display its value
- 3. Press or to change its value and then press to store the new value.
- Press to exit the parameter menu.

## **TECHNICAL SPECIFICATIONS**

Model **FA5R** power supply: 230VAC 50/60Hz / Maximum power consumption: 3W. Model **FA5RW** switching power supply: 100-264VAC 50/60Hz 5W It is recommended using a power supply safety fuse: 0.5A (not included)

Room and evaporator temperature sensors NTC 10K 1% 25°C IP68 scale -50÷+110°C (-58÷+230°F) (or PTC 1K 25°C scale -50÷+150°C (-58÷+302°F) not included) / Accuracy: ±0.5°C

Alarm buzzer / Serial input

Two digital inputs: one NO / NC for room door control (DOOR indication) and one NC contact for in-room human protection (MAN indication)

Compressor relay 30A res. 250VAC NO contact / Fan and lamp relays NO contact 250VAC 5A / Defrost relay NO contact 250VAC 10A

Relay AUX SPDT 250VAC NO contact 10A and NC contact 3A / Max current load 16A

Connections: cable cross section 2.5 mm² for all relays / cable cross section from 0.25 to 1.0 mm² for the sensors and door switch

Connections with terminal blocks 18A using cable with cable cross section up to 2.5 mm² / It is recommended using a torque wrench with maximum torque 0.4Nm

Operating temperature: -15÷+55°C / Storage temperature: -20÷+80°C The device is mounted on  $\Omega$  rail / Dimensions 70x90x65mm

Firmware: V2

#### **SERIAL INPUT**

FA5R connects via serial input to the following options:

- Cloud IoT CORTEX platform: connection to the cloud and the CORTEX platform for monitoring recording and managing the thermostat from your mobile, tablet or any computer, notifications via email and Viber SMS
- CAMIN program: local connection and monitoring recording and management of the thermostat through the CAMIN program installed on a local computer.

### **SMART DEFROST**

Smart defrost operation: the thermostat finds automatically the ideal operating temperature of the evaporator. If the evaporator operates at a temperature lower than the constant temperature based on dSt parameter and for a time longer than the constant timer dS1 parameter, defrosting begins.

Smart defrost operates in parallel and independently from the conventional defrost. Both defrost modes can operate at the same time based on the respective settings. By enabling smart defrost, it is recommended to adjust conventional defrost to operate in safe mode - for example once every 48 hours: parameter No 22, dFr = 48. If smart defrost is not executed, then the conventional defrost will start after 48 hours from the last successful defrost. Each time a smart defrost is executed, the timer of the conventional defrost is renewed.

Smart defrost is activated from parameter No 29, dSE = 1.

It is recommended during the start-up of the temperature controller, to execute a smart defrost cycle, parameter No 30, dSb = 1.

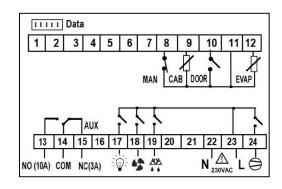
Constants time dS1 and temperature dSt are formed based on the ice status of the evaporator: if we observe ice, we reduce the constants.

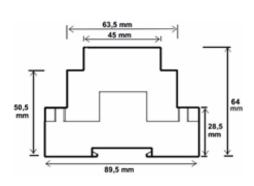
### **ELECTRICAL DIAGRAM - DIMENSIONS**

**ATTENTION**: according to safety standards, the device must be properly positioned and protected from any contact with electrical parts. The device must be fastened in such a way that it cannot be removed without the use of tools. Disconnect the main safety switch of the installation before proceeding to any maintenance. Disconnect the power supply of the device before proceeding to any maintenance. Do not place the device near heat sources, equipment containing strong magnets, in areas affected by direct sunlight or rain. Prevent electrostatic discharges and sharp objects from been inserted to the device. Separate signal cables from power supply cables to prevent electromagnetic disorders. Signal cables must never be in the same pipe with the power supply cables. **ATTENTION**: Read carefully the technical specifications and make sure that the working conditions are appropriate. According to safety standards, the device must be fastened in such a way that it cannot be removed without the use of tools.

Dimensions are in mm. The device is mounted on  $\Omega$  rail din and restrained with plastic side bracket.







PARA	PARAMETER'S TABLE						
No		description	min	max	FA5R	UOM	
1	SPo	SET POINT: room temperature setting	LSP	HSP	-21.0	°C/°F	
2	Cod	Enter password Cod = 22 and press to access all parameters menu	0	255	0	-	
		13 - TEIMPERATURE					
3	diF	Differential of room temperature SPo (thermostat delay)	0.1	25.5	3.0	°C/°F °C/°F	
5	LSP HSP	Lower setting limit of SPo  Maximum setting limit of SPo	-50.0 -50.0	+150 +150	-21.0 -10.0	°C/°F	
6	dEC	Temperature indication as integer or decimal, where 0 = integer / 1 = decimal	0	1	1 = decimal	-	
7	SEn	Sensor type NTC/PTC 0 = PTC / 1 = NTC	0	1	1=NTC	-	
8	SE1	Room sensor offset	-10.0	+10.0	0.0	°C/°F	
9	SE2	Evaporator sensor offset	-10.0	+10.0	0.0	°C/°F	
10	tdS	Delay in displaying the actual room temperature on the screen when the door opens  Evaporator's sensor operation 0 = OFF sensor	0	255	0	minutes	
11	oS2	1 = ON sensor  When the sensor is OFF, by pressing it is displayed "".  During defrosting, when the evaporator sensor is off, the defrost end temperature is the room temperature.	0	1	1= ON	-	
12	C_F	Temperature measurement unit: toggling between $^{\circ}$ C/ $^{\circ}$ F does not adjust the SPo automatically, it must be changed by the user : 0 = $^{\circ}$ C / 1 = $^{\circ}$ F	0	1	0=°C	°C/°F	
ALARI	MS	changed by the doct . 0 - 071 - 1					
13	ALo	Low room temperature	-50.0	+150	-25.0	°C/°F	
14	AHi	High room temperature	-50.0	+150	0.0	°C/°F	
15	At2	Time delay in activating "AHi", "ALo" and the buzzer among them. This setting does not apply to sensor failure and door alarm1 = OFF buzzer 0 = immediately buzzer is ON 1 to 120 min = delay in buzzer activation	-01	120	20	minutes	
16	AF1	Alarm setting 0 = automatic OFF, where the alarm stops once the cause of the alarm disappears. 1 = manual OFF, where the alarm indication remains even if the cause of the alarm disappears and it's cleared only by pressing the buzzer stops and turns on to state that the cause of the alarm still exists.	0	1	0 = auto	-	
DIGITA	AL INPUT	T – DOOR SWITCH					
17	dLd	Door switch operation 0=OFF 1=NC (normally close contact) 2=NO (normally open contact) If cabinet's door is open during defrost (electrical or hot-gas) for more than timer tdo, then defrost relay turns OFF and resumes once door is closed. Defrost duration based on timer dd2 stops counting as long as the door is open and resumes once it closes.	0	2	1=ON with NC	-	
18	tdo	Time delay in deactivating the compressor once the door opens  If the tdo time is longer than the time of the tAd parameter, then the "dor" alarm is activated after a tdo time.	1	250	120	sec	
19	tAd	Time delay in activating door alarm "dor" once the door opens If timer tAd is smaller than timer tdo, then the alarm "dor" is activated after timer tdo elapses.	0	250	0	minutes	
20	dLA	Adjust lamp function  0 = manual: the lamp turns on - off by holding down  1 = automatic: when the room door opens, the lamp turns on and when the door closes, the lamp goes out.  When the door switch is OFF, the lamp does not light up.	0	1	1=auto	-	
21	tLA	Delay time in switching off the lamp when the door is closed. This setting is activated if the lamp setting is in automatic mode, parameter dLA.	0	60	0	minutes	
22	EnP	MAN input switch operation - human protection inside the cabinet  0 = OFF  1 = ON	0	1	0 = OFF	-	
DEFR	OST		l .				
23	dt6	Type of defrost  0 = electrical: compressor OFF, resistance ON  1 = hot gas: compressor ON, resistance ON  Defrost with the evaporator's temperature sensor ON  Automatic or manual defrost ends either with time adjusted from the parameter dd2 or with defrost end temperature dE5, whatever comes first. Automatic or manual defrost does not start if the evaporator temperature is greater than the defrost end temperature dE5.  Defrost with the evaporator's temperature sensor OFF  Defrost end temperature is the room temperature.  Automatic defrost ends either with time adjusted from the parameter dd2, or with defrost end temperature dE5, whatever comes first.  Manual defrost starts regardless of the room's temperature and ends after time adjusted in parameter dd2 elapses.	0	1	0 = electrical	-	

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Age							
Display indication during defrost   20   40   -1   -1   -1   -1   -1   -1   -1   -	27	4D3		0	15	2	minutos
def	21	urs		U	15		minutes
0 = room temperature is displayed in the ord of indirects if the displayed and the display after its displayed from the display after its displayed from the ord displayed after this end of Gefords, 'Gef' or 'SPo - dF', only when d'4 = -1 or -2.    0   150   0   minutes							
1 to 40 minutes = "VFF" is displayed from 1 to 40 minutes from the initiation of defineds.  The display of fir is also terminated by the condition => room temperature - SPo = dFF, only when dY = -1 or -2.  1	28	dY4	-01 = "dFr" is displayed when room temperature is greater than SPo + diF	-2	40	-1	minutes
the first person of the display diff is also termined by the condition -> room temperature - <bpo -="" 1="" 2.="" 4="" also="" by="" condition="" diff="" diff.="" display="" if="" is="" of="" only="" or="" termined="" the="" when=""  =""> room temperature -<bpo -="" diff.="" td=""  <=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></bpo></bpo>							
SMART DEFROST - more details at page 2   SMART DEFROST - more defrost page 2   SMART DEFROST - more defrost page 3   SMART D							
SMART DEFROST - more dealls at page 2	29	dt5		0	150	0	minutes
dSE   0 = OFF	SMAR	T DEFRO					
1 = ON							
31 dsb	30	dSE		0	1	0 = OFF	-
35							
dSZ   Minimum time between two successive smart defrost   dollar time constant, delays more the start of smart defrost and increases the igo on the evaporator   continues to the evaporator   dollar time on time o	31	dSb		0	1	1 = ON	-
33   dS1   Time constant a steady increase in the constant, delays more the start of smart defrost and increases the confidency of the proportion of the component of the constant and the constant defrost and increases   1   20   3   minutes							
1	32	dS2		40	255	60	minutes
Add   St   Temperature constant: a steady increase in the constant, delays more start of the smart defrost and increases   0.5   5.0   1.0   °C/°F	33	dS1		1	20	3	minutes
198    the ice on the evaporator	0.4					4.0	00/05
Solid   Compressor's minimum mine ON   0   15   0   minutes	34	dSt		0.5	5.0	1.0	°C/°F
CP2   Compressor's priminum pause time OFF   Campressor's promise sensor malfunction LF1   1 = campressor OFF   O = compressor OFF							
Compressor (FF 0 = compressor) in case of room's sensor malfunction LF1 - 1 = compressor (FF 0 = compressor) (FF 0 = compresso				_			
-1 = compressor OFF 0F3	36	CP2		Ü	15	3	minutes
37   CF3   0 = compressor ON while defrost starts based on timer dFr and ends based on timer dd2 or defrost end temperature dE5, whichever comes first. 1 to 15 min = compressor time ON while defrost starts based on timer dFr and ends based on timer dd2 or defrost end temperature dE5, whichever comes first.   38   CF4   Compressor time OFF in case of room's sensor malfunction							
temperature dcs., winchever comes must be defrost starts based on timer dFr and ends based on timer dd2 or defrost end temperature dcs., whichever comes first.  38	27	CE2		1	15	2	
defrost end temperature dE5, whichever comes first.	31	CF3		-1	15	3	minutes
Section   Compressor time OFF in case of room's sensor malfunction   1   15   3   minutes							
Evaporator's fan operation   -0.2 = continuously ON for evaporator's temperature smaller than temperature Fo1   -0.1 = continuously ON   -0.2 = continuously ON   -0.2 = continuously ON   -0.3 = continuously ON   -0.4 = continuously ON   -0.4 = continuously ON   -0.5 =	38	CF4		1	15	3	minutes
FIZE Continuously ON for evaporator's temperature smaller than temperature Fo1 -01 = continuously ON 0 = parallel operation to the compressor 1+15 min = parallel operation to the compressor and when the compressor is OFF, the fan stops after the selected minutes  Fo1  40  Fo1  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter GS2 = 1), if the evaporator's sensor is OFF, the parameter does not operate. For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter GS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas) With the sensor of the evaporator 2 deadwated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4. The Fd4 time starts counting as soon as the defrost is over.  42  Fd4  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  RELAY AUX / ALARM  AU1 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX of the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor is controlled by a pressure switch. The AUX relay we connect the magnetic of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor is contr							
Ft2							
Pt2   0   = parallel operation to the compressor   1+15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes   Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).   If the evaporator's sensor is OFF, the parameter does not operate.   For more information check the parameters F12 (No 39) and Fd3 (No 41).   Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)   0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1   1 = ON when the evaporator's temperature is smaller than Fo1   1 = ON when the evaporator's temperature is smaller than Fo1   2 = always ON in both types of defrost (electrical / hot gas)   With the sensor of the evaporator's 12 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.   Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).   O 60   0   minutes      RELAY AUX / ALARM relay operation   0 = OFF   1 = ON in case of any alarm - all alarms activate it   2 = ON in parallel with the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off.   4 = pump-down operation with NC contact: the relays functions are similar to option 3.							
1+15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1). If the evaporator's sensor is OFF, the parameter does not operate. For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas) With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the diripping time (parameter dr9) and starts after a time Fd4. The Fd4 time starts counting as soon as the defrost is over.  42 Fd4 Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  RELAY AUX / ALARM  AU1 AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor relay is constantly activated and the compressor's relay switches to the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network 5 100 40 msec  45 trE Response time of the device on network 5 100 40 msec	00		-U = CONTINUOUSIV UN			-1= ON	minutes
Selected minutes	39	Ft2		-2	15	continuo	minutes
Fo1	39	Ft2	0 = parallel operation to the compressor	-2	15	continuo	minutes
Fot   If the evaporator's sensor is OFF, the parameter does not operate. For more information check the parameters F12 (No 39) and Fd3 (No 41).	39	Ft2	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes	-2	15	continuo	minutes
For more information check the parameters Ft2 (No 39) and Fd3 (No 41).    Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas) With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4. The Fd4 time starts counting as soon as the defrost is over.    42   Fd4   Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).    AUX / ALARM   AUX / ALARM relay operation	39	Ft2	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation	-2	15	continuo	minutes
Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)			0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).		-	continuo	
0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas) With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4. The Fd4 time starts counting as soon as the defrost is over.  42 Fd4 Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  RELAY AUX / ALARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX of the compressor relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  4 Add Device address on network 5 100 40 msec  4 5 trE Response time of the device on network 5 100 40 msec			0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.		-	continuo	
41 Fd3 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  42 Fd4 Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  RELAY AUX / ALARM  AUX / ALARM relay operation  0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor  43 AU1 3 = pump-down operation with NO contact: the operation of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off.  4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network  5 100 40 msec  46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200  0 3 3 3 -			0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)		-	continuo	
With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4. The Fd4 time starts counting as soon as the defrost is over.  42 Fd4 Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  RELAY AUX / ALARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network 5 100 40 msec 46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200 0 3 3 3 -			0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1		-	continuo	
a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  RELAY AUX / ALARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network 45 trE Response time of the device on network 46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200  0 3 3 3 -	40	Fo1	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1	-50.0	+100	continuo usly	
The Fd4 time starts counting as soon as the defrost is over.    Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).    RELAY AUX / ALARM	40	Fo1	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)	-50.0	+100	continuo usly	
AUX / ALARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  4 Add Device address on network 4 Response time of the device on network 5 100 40 msec 4 BAUV rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200 0 3 3 3 -	40	Fo1	0 = parallel operation to the compressor  1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)  0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1  1 = ON when the evaporator's temperature is smaller than Fo1  2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for	-50.0	+100	continuo usly	
RELAY AUX / ALARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  4 Add Device address on network 5 100 40 msec 4 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200 0 3 3 3 -	40	Fo1	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.	-50.0	+100	continuo usly	
AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network 5 100 40 msec 45 trE Response time of the device on network 5 100 40 msec 6 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200 6 3 3 3 -	40	Fo1	0 = parallel operation to the compressor  1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)  0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1  1 = ON when the evaporator's temperature is smaller than Fo1  2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost ends	-50.0	+100	continuo usly -2.0	°C/°F
0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network 45 trE Response time of the device on network 46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200  1 - O	40 41 42	Fd3	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).	-50.0	+100	continuo usly -2.0	°C/°F
AU1 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX 0 4 0 - relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network  45 trE Response time of the device on network  46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200  5 1 0 3 3 3 -	40 41 42	Fd3	0 = parallel operation to the compressor  1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)  0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1  1 = ON when the evaporator's temperature is smaller than Fo1  2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  ALARM	-50.0	+100	continuo usly -2.0	°C/°F
AU1 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off.  4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network  5 100 40 msec  45 trE Response time of the device on network  5 100 40 msec  46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200  6 3 3 3 -	40 41 42	Fd3	0 = parallel operation to the compressor  1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)  0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1  1 = ON when the evaporator's temperature is smaller than Fo1  2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  ALARM  AUX / ALARM relay operation  0 = OFF	-50.0	+100	continuo usly -2.0	°C/°F
relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off.  4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network  5 100 40 msec  45 trE Response time of the device on network  5 100 40 msec  46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200	40 41 42	Fd3	0 = parallel operation to the compressor  1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)  0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1  1 = ON when the evaporator's temperature is smaller than Fo1  2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  ALARM  AUX / ALARM relay operation  0 = OFF  1 = ON in case of any alarm - all alarms activate it	-50.0	+100	continuo usly -2.0	°C/°F
switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  NETWORK - GENERAL SETTINGS  44 Add Device address on network  45 trE Response time of the device on network  46 bAU Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200  5 100 40 msec  6 100 3 3 3 -	40 41 42 RELAY	Fd3 Fd4 YAUX/A	0 = parallel operation to the compressor  1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1)  0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1  1 = ON when the evaporator's temperature is smaller than Fo1  2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  ALARM  AUX / ALARM relay operation  0 = OFF  1 = ON in case of any alarm - all alarms activate it  2 = ON in parallel with the compressor	-50.0	+100	continuo usly -2.0 0	°C/°F
minute from the end of the defrost, the compressor relay switches off.           4 = pump-down operation with NC contact: the relays functions are similar to option 3.           NETWORK - GENERAL SETTINGS           44         Add         Device address on network         0         255         1         -           45         trE         Response time of the device on network         5         100         40         msec           46         bAU         Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200         0         3         3         -	40 41 42 RELAY	Fd3 Fd4 YAUX/A	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  **ALARM**  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX	-50.0	+100	continuo usly -2.0 0	°C/°F
NETWORK - GENERAL SETTINGS           44         Add         Device address on network         0         255         1         -           45         trE         Response time of the device on network         5         100         40         msec           46         bAU         Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200         0         3         3         -	40 41 42 RELAY	Fd3 Fd4 YAUX/A	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  ALARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1	-50.0	+100	continuo usly -2.0 0	°C/°F
44         Add         Device address on network         0         255         1         -           45         trE         Response time of the device on network         5         100         40         msec           46         bAU         Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200         0         3         3         -	40 41 42 RELAY	Fd3 Fd4 YAUX/A	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  ALARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off.	-50.0	+100	continuo usly -2.0 0	°C/°F
45         trE         Response time of the device on network         5         100         40         msec           46         bAU         Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200         0         3         3         -	40 41 42 RELAY	Fd3 Fd4 YAUX/A	0 = parallel operation to the compressor 1÷15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  **LARM*  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.	-50.0	+100	continuo usly -2.0 0	°C/°F
46 <b>bAU</b> Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200 0 3 3 -	40 41 42 RELAY	Fd3 Fd4 YAUX/A	0 = parallel operation to the compressor 1+15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  ALLARM  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor's relay switches to the AUX relay, while the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off.  4 = pump-down operation with NC contact: the relays functions are similar to option 3.	-50.0	+100	continuo usly  -2.0  0  0	°C/°F  - minutes
4	40 41 42 RELAY 43	Fd3 Fd4 YAUX/A AU1	0 = parallel operation to the compressor 1+15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  AUX/ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 3 = pump-down operation with NO contact: the operation of the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off. 4 = pump-down operation with NC contact: the relays functions are similar to option 3.  ENERAL SETTINGS  Device address on network	-50.0 0 0	+100	continuo usly  -2.0  0  0	°C/°F  - minutes  -
	40 41 42 RELAY 43  NETW 44 45	Fd3 Fd4 YAUX/A AU1 ORK - GA Add trE	0 = parallel operation to the compressor 1+15 min = parallel operation with the compressor and when the compressor is OFF, the fan stops after the selected minutes  Evaporator's temperature controlling the fan operation during defrost and normal operation (parameter oS2 = 1).  If the evaporator's sensor is OFF, the parameter does not operate.  For more information check the parameters Ft2 (No 39) and Fd3 (No 41).  Evaporator's fan operation during defrost the with evaporator's sensor ON (parameter oS2 = 1) 0 = OFF and after defrost starts with the compressor if the evaporator's temperature is smaller than Fo1 1 = ON when the evaporator's temperature is smaller than Fo1 2 = always ON in both types of defrost (electrical / hot gas)  With the sensor of the evaporator T2 deactivated, the fan of the evaporator is OFF during the defrost and for a time as long as the dripping time (parameter dP3) and starts after a time Fd4.  The Fd4 time starts counting as soon as the defrost is over.  Time delay in activating the fan after defrost ends and only if the evaporator's temperature is smaller than temperature Fo1 (check parameter Fd3).  AUX / ALARM relay operation 0 = OFF 1 = ON in case of any alarm - all alarms activate it 2 = ON in parallel with the compressor 1 = ON in parallel with the compressor relay is constantly activated and the compressor is controlled by a pressure switch. In the AUX relay we connect the magnetic of the compressor and the defrost is only electric. After 1 minute from the end of the defrost, the compressor relay switches off.  4 = pump-down operation with NC contact: the relays functions are similar to option 3.  EVERENCE SETTINGS  Device address on network	-50.0 0 0	+100 2 60 4 255 100	-2.0  0  0  1 40	°C/°F  - minutes  - msec

		Enter the new value, exit the parameter menu by pressing and toggle the power supply of the device				
47	Pro	Cabinet's program (factory settings) is displayed – no access	-	-	31	-
48	tPE	Unique product number – no access	-	-	228	-
49	SrU	Room service - condenser cleaning: after the end of the selected time, the indication "SrU" is displayed and informs that the room needs service. The thermostat continues to operate normally and its functions are not suspended.  -01 = disabled function 0 to 150 weeks = remaining time to activate the "SrU" room service update. The countdown starts with the entry of the number. Whenever we enter the parameter, the remaining time until the activation of the "SrU" update is displayed. To deactivate the update enter SrU = -1.	-1	150	-1	weeks
50	UEr	Firmware version – no access	-	-	3.X.X	-

## **ALARM'S TABLE**

1	LF1	Room sensor malfunction			
2	LF2	Evaporator sensor malfunction			
3	ALo	Low room temperature			
4	AHi	High room temperature			
5	day open dos diam (mon the day opens)				
	uoi	The alarm is activated after the time tdo expires			
6	sos	Man inside the cabinet alarm, when the button inside the cabinet is pressed, all functions and other alarms are deactivated and the lamp relay is activated.			
0	303	The button must reset to restart the thermostat.			
7	SrU	Room service notification: timer has elapsed and the cabinet needs a service (see parameter 49, SrU)			
8	EEr	Error in memory RAM: re-enter the SPo (see Adjusting temperature – SET POINT page 1)			
The	The alarms are automatically deactivated once the cause of the alarm disappears.				

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The device is under two year's guarantee. The guarantee is valid only if the manual instructions have been applied. The control and service of the device must be done by an authorized technician. The guarantee covers only the replacement or the service of the device. KIOUR PC implements a Quality Management System according to EN ISO 9001:2015 Standard with registration number 01013192. KIOUR preserves the right to adjust its products without further notice.

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