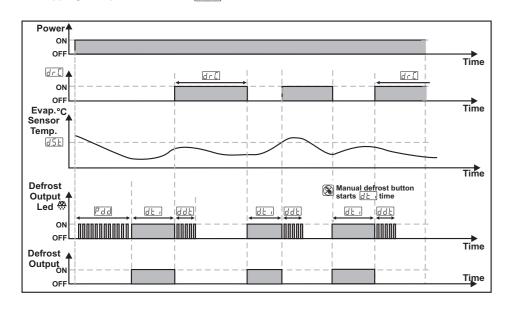
6.3 Operation Graphics of ESM-3712-CN Cooling Controller

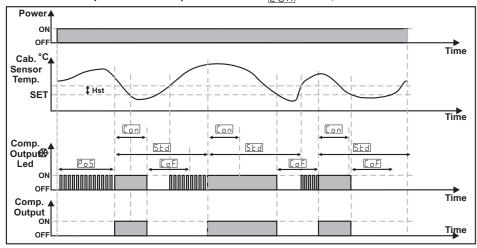
1-Defrost time parameter value $2 \le 1$, Defrost repeat cycle parameter value $\exists r \vdash \exists 1$,

Defrost at power on selection and defrost delay parameter value $\boxed{P \triangleleft d} \ge 1$,

Dripping time parameter value dd ≥ 1 ise;



2- Compressor start delay at power on parameter value $\lceil \frac{1}{2} \rceil \ge 1$, Compressor start - start delay parameter value 5 ± d ≥ 1, Minimum compressor ON time parameter value [2 o n ≥ 1 ise;



7. Failure Messages in ESM-3712-CN Cooling Controller

2-56 message blinking.

Evaporator temperature sensor failure. sensor connection is wrong or there is no sensor connection. 3- R! message blinking.

For absolute alarm, if cabinet temperature sensor value is lower than temperature alarm minimum

4- RH message blinking.

For absolute alarm, if cabinet temperature sensor value is higher than temperature alarm maximum parameter $\frac{H \cup H}{}$ value and for relative alarm, if cabinet temperature sensor value is higher than (Temperature Set + \(\Pi \ \mu \ \mathred{H} \), then \(\Pi \ \mathred{H} \) message starts to blink. If buzzer function selection parameter b u F is 2 or 4, internal buzzer starts to operate.

5- A | message blinking.

When the digital input is active and digital input function selection parameter value [Fn] is 0 or 2 , message starts to blink.

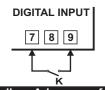
6- ☐ I⊓ message blinking.

When the digital input is active and digital input function selection parameter value 4 F n is 1 or 4 message starts to blink. If buzzer function selection parameter buF is 2 or 4, internal buzzer starts to operate



While defrost time parameter value $\lfloor d \rfloor \lfloor l \rfloor \geq 1$, button 3 sn. protection parameter value Prb = 0 or 2 and defrost output is inactive, in main operation screen if defrost button is pressed for 3 seconds manual defrost will be active

8.1 Manual Defrost Operation with Digital Input



While digital input function selection parameter value 4 F n = 3 if digital input contact selection parameter value [] =1 (normally open NO) and the K switch is getting closed, or if digital input contact selection parameter value dEE =2 (normally close NC) and the K switch is getting opened manual defrost will be active

9.Modbus Adresses of Device Status Parameters (Read Input Register)

MODBUS ADRES:30001 Cabinet Temperature Value

MODBUS ADRES:30002 Evaporator Temperature Value MODBUS ADRES:30003 Led Status 0.bit °C Led. 4.bit Fan Led. 5.bit Defrost Led.

13.bit Programming Led, 14.bit Set Led MODBUS ADRES:30004 Device Status :

0.bit Alarm Status, 1.bit Buzer Status 2 bit Cabinet Sensor Lost Status 3.bit Evaporator Sensor Lost Status

6.bit Compressor Led, 7.bit Alarm Led

7.bit Defrost Status

MODBUS ADRES:30005 Output Status: 0.bit Compressor Output 1.bit Defrost Output 2.bit Fan Output

MODBUS ADRES:30006 Device Type and Version

10. Specifications

Cooling Controle

Housing&Mounting : 76 mm x 34.5 mm x71 mm plastic housing for panel

Panel cut-out is 71 x 29 mm Protection Class : NEMA 4X (IP65 at front, IP20 at rear) 6.4 Entering To The Programming Mode, Changing and Saving Parameter

When SET button is pressed for 5 Note1: If programming mode seconds, "P" led starts to blink. If accessing password is 0, programming mode entering password is different from 0,

programming mode entering screen instead of programming Pr [will be observed.

Temperature Unit Selection Screen [-F] is observed screen accessing password



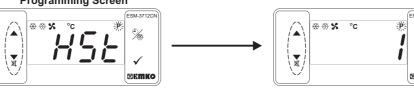
Password Entering Screen

password with increment and decrement

Programming Screen

Password Entering Screen

Enter programming mode accessing



Press SET button for accessing to the parameter value. Press increment button for accessing to the next parameter, press decrement button for accessing to the previous parameter



Compressor Output Hysteresis Parameter Value Press set button for saving

the parameter

Environmental Ratings

Overvoltage Category

Operating Conditions

Supply Voltage and Power

Temperature Sensor Inputs

Sensor Break Protection

11.Ordering Information

3 24V~ (±%15) 50/60Hz - 1.5VA 4 115V~ (±%15) 50/60Hz - 1.5VA

5 230V~ (±%15) 50/60Hz - 1.5VA

ay Output (5 A@250 V ~ at resistive load, 1 NO

Relay Output (5 A@250 V ~ at resistive load, 1 NO)

PTCS-M6L30.K1.5.1/8" (PTC Liquid Probe with 1.5 mt silicon cal

NTC-M5L20.K1.5 (NTC Sensor, thermoplastic moulded with

NTC-M6L50.K1.5 (NTC Sensor, stainless steel housing with

1.5 m cable for cooling application)

1.5 m cable for cooling application)

PTC-M6L40.K1.5 (PTC Air Probe with 1.5 mt silicon cabl

V Temp. Sensor which is given with ESM-3712-CN

NTC Input Type or PTC Input Type

Pollution Degree

Installation

Accuracy

Display

LED

Sampling Cycle

Control Form

Relay Outputs

Internal Buzzer

ESM-3712-CN (77x35 DIN Size)

A Supply Voltage

BC Input Type

FG Defrost Output

HI Fan Output

Approvals

Storage / Operating Temperature

Storage / Operating Humidity

Compressor Output **Hysteresis Parameter Value** Change the value with increment

and decrement buttons.

Compressor Output

Press increment button for accessing to the

operation screen automatically.

1- 5 h | message blinking. Cabinet temperature sensor failure. Sensor connection is wrong or there is

Main Operating Screer

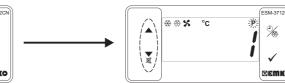


Programming Mode Entering Screen Press SET button for accessing to the

password entering screen.

Press SET/OK button for entering the password.

Note-2: If programming mode accessing password is 0 parameter values can be seen.But parameter values can not be changed.





Hysteresis Parameter

next parameter, press decrement button for accessing to the previous parameter

Standard, indoor at an altitude of less than 2000 meters

: II, office or workplace, none conductive pollution

: 24V~ (±%15) 50/60Hz - 1.5VA, 10-30V=== 1.5W

: NTC (10 kΩ @25 °C) or PTC (1000 Ω @25 °C)

: S (Green), P (Green), °C (Yellow), °F(Yellow),

: 16(8) A@250 V ~ at resistive load(Compressor Output)

Alarm(Red), Defrost Output (Red), Fan Output (Red)

convert it to the ordering codes.

 $5\,\mathrm{A}@250\,\mathrm{V}$ at resistive load(Defrost and Fan Output)

All order information of ESM-3712-CN Cooling

Controller are given on the table at left. User may

form appropriate device configuration from

information and codes that at the table and

specifications must be determined. Please fill the

Please contact us, if your needs are out of the

Note-1:If input type is selected PTC or NTC

(BC= 12, 18), Temperature sensor is given

with the device. For this reason, if input type is

selected as PTC, sensor type (V = 0,1 or 2) or if

input type is selected as NTC, sensor type (V

=0,3 or 4) must be declared in ordering

 \sim \Box Vac,

order code blanks according to your needs.

Firstly, supply voltage then other

If no operation is performed in programming mode for 20 seconds, device turns to main

7. Failure Messages in ESM-3712-CN Cooling Controller

no sensor connection. While this message shown on this display, if buzzer function selection parameter $| \bigcup_{i \in \mathcal{F}} |$ is 3 or 4, internal buzzer starts to operate.

Approximately 0.2 Kg

Fixed installation

: Continuous

: NTC or PTC

: 3 samples per second

: 14 mm Red 4 digit LED Display

standards

information.

Compressor Ouput (Red),

: Upscale

: ON / OFF

A BC D E / FG HI / U V W Z

0 / / 1 0 0

-50°C/-58°F;150°C/302°F -50°C/-58°F;100°C/212°F

with none condensing humidity

: -40 °C to +85 °C / 0 °C to +50 °C

: 90 % max. (None condensing)

: 230V~ (±%15) 50/60Hz - 1.5VA

: 115V~ (±%15) 50/60Hz - 1.5VA

: ±1 % of full scale for thermoresistance

C€ EHI

Digital, ON / OFF Cooling Controller

- Configurable digital input

- Separately adjustable 2 offset value for cabinet and evaporator

- Set value boundaries

operates periodically in case of cabinet probe defect

- Manual defrost from front panel

- Alarm parameters

- Fan can be operated depending on evaporator temperature or (cabinet - evaporator) temperature

- Adjustable internal buzzer according to the defrost, cabinet prob

- Installing parameters using Prokey

Having CE mark according to European Norms

A visual inspection of this product for possible damage occurred during shipment is recommended

If there is danger of serious accident resulting from a failure or defect in this unit, power off the system and separate the electrical connection of the device from the system.

The unit is normally supplied without a power supply switch or a fuse. Use power switch and fuse as

Be sure to use the rated power supply voltage to protect the unit against damage and to prevent failure Keep the power off until all of the wiring is completed so that electric shock and trouble with the unit can

Never attempt to disassemble, modify or repair this unit. Tampering with the unit may results in malfunction, electric shock or fire.

Do not use the unit in combustible or explosive gaseous atmospheres.

During putting equipment in hole on the metal panel while mechanical installation some metal burrs can cause injury on hands, you must be careful.

device with inappropriate fixing clamp. Be sure that device will not fall while doing the montage.

It is your responsibility if this equipment is used in a manner not specified in this instruction manual.

workmanship. This warranty is provided for a period of two years. The warranty period starts from the delivery date. This warranty is in force if duty and responsibilities which are determined in warranty document and instruction manual performs by the customer completely.

Do not clean the case with hydrocarbon-based solvents (Petrol, Trichlorethylene etc.). Use of these solvents can reduce the mechanical reliability of the device. Use a cloth dampened in ethyl alcohol or

Manufacturer Information

Emko Elektronik Sanayi ve Ticaret A.Ş.

Demirtaş Organize Sanayi Bölgesi Karanfil Sk. No:6 16369 BURSA/TURKEY

Phone: +90 224 261 1900

Demirtaş Organize Sanayi Bölgesi Karanfil Sk. No:6 16369 BURSA/TURKEY

sensor

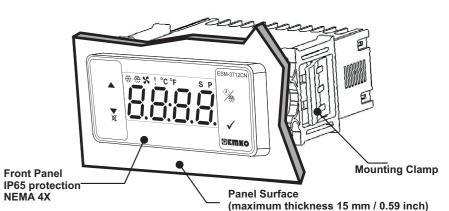
- Compressor protection delays

- Adjustable defrost time from front panel

- Fan can be operated depending on compressor and defrost

Instruction Manual. ENG ESM-3712-CN 01 V06 11/15

1.Preface



ESM-3712-CN series cooling controllers are designed for controlling cooling process. They can be

Applications

Refrigerators

Storages

Freezers

etc..

: 90% Rh (non-condensing)

Air Conditioning

Cooling Function ON/OFF Operation

Defrost Function

ON/OFF Operation

used in many applications with their easy-use, On / Off control form and defrost properties. Some

: 0 to 50 °C

Home applications (The unit is only for industrial applications)

ESM-3712-CN

abinet ensor Input

Digital Input

Compressor Input

Defrost Output

Fan Output

: Up to 2000 m.

application and application fields which they are used are below

Application Fields

etc...

Machine production industries

Operating Temperature

Max. Operating Humidity

Forbidden Conditions:

Corrosive atmosphere **Explosive atmosphere**

1.2 General Specifications

onal Supply Vo

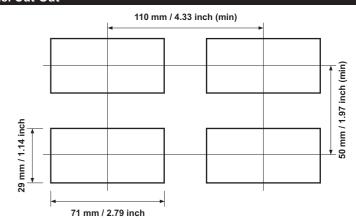
115 V~(±%15) 50/

24 V~(±%15) 50 10 - 30 V ===

NTC,PTC

NTC,PTC

⊞EMKO 65 mm / 2.56 inch 76 mm / 3 inch 6 mm / 0.24 inch



2.2 Panel Cut-Out

ESM-3712-CN 77 x 35 DIN Size

- 4 Digits Display
- NTC Input or PTC Input (Must be determined in order.)

- 3 output for compressor, defrost and fan controls - 2 sensor input for cabinet and evaporator

- ON / OFF Control

- Operation selection of compressor operate continuously, stops or

- Selectable defrost function (hot gas or electric)

- Defrost parameters

defect and alarm status - Defrost time and/or manual defrost and/or temperature set value

- Password protection for programming mode

- Remote access, data collecting and controlling with Modbus RTU

Montage of the product on a system must be done with it's fixing clamps. Do not do the montage of the

ektronik warrants that the equipment delivered is free from defects in ma

water to clean the external plastic case

: +90 224 261 1912

Emko Elektronik Sanayi ve Ticaret A.Ş.

BEMKO

Controlle

Cooling

Size

77x35

N O

ESM-3712-

It is your responsibility to ensure that qualified mechanical and electrical technicians install this product.

1.4 Warranty

Repairs should only be performed by trained and specialized personnel. Cut power to the device before accessing internal parts.

1.6 Manufacturer Company

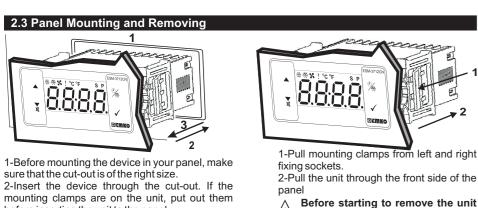
Repair and maintenance service information:

Phone : +90 224 261 1900

Fax : +90 224 261 1912

2.1 Front View and Dimensions of ESM-3712-CN Cooling Controller

Thank you very much for your preference to use Emko Elektronik products, please visit ou your Technology Partner Web page to download detailed user manual. www.emkoelektronik.com.ti



before inserting the unit to the panel.

\ from panel, power off the unit and 3- Insert the mounting clamps to the fixing sockets the related system. that located left and right sides of device and make the unit completely immobile within the

3.Optinal Accessories

1.RS-485 Module



RS-485 Communication Interface

2.PROKEY Programming Module



The device is programmed (Upload or Download) by using the parameters.

3.1 Using Prokey

TO USE PROKEY, VALUE OF THE PrC PARAMETER MUST BE '0'. IF PrC=1 AND ▼ BUTTON IS PRESSED [Fr] MESSAGE WILL BE SHOWN. 10s. LATER DEVICE TURNS BACK TO THE MAIN OPERATION SCREEN OR YOU CAN PRESS SET **BUTTON TO TURN BACK TO MAIN OPERATION SCREEN**

DOWNLOADING FROM DEVICE TO PROKEY

1. The device is programmed by using parameters.

2.Energize the device then put in PROKEY and press ▼ button. PL Message is shown on the display. When the loading has finished, Fnd message is shown.

3. Press any button to turn back to main operation screen. **4.**Remove the PROKEY.

NOTE: Err message is shown when an error occurs while programming. If you want to reload, put in PROKEY and press ▼ button. If you want to quit, remove PROKEY and press ▼ button. The device will turn back to main operation screen.

DOWNLOADING FROM PROKEY TO DEVICE

1.Switch off the device.

2.Put in PROKEY then energize the device.

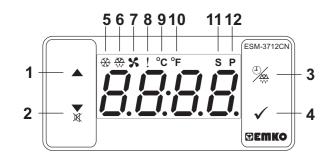
3. When the device is energized, the parameter values in PROKEY, start downloading to the device automatically. At first, do to message is shown on the display, when loading has finished, End message is shown.

4. After 10 second device starts to operate with new parameter values.

5.Remove the PROKEY.

NOTE: [F, r] message is shown when an error occurs while programming. If you want to reload, switch off the device and put in PROKEY then energize the device. If you want to quit remove PROKEY and press ▼ button. The device will turn back to main operation screen.

5.Front Panel Definition and Accessing to the Menus



BUTTON DEFINITIONS

1. Increment Button:

* In main operation screen, press this button to display evaporator sensor temperature.

** It is used to increase the value in the Set screen, Defrost screen and Programming mode.

2. Decrement, Silencing Buzzer and Downloading to Prokey Button ** It is used to decrease the value in the Set screen, Defrost screen and Programming mode.

** It is used to silence the buzzer.

** If Prc =0, it is used to download from device to prokey.

3. Defrost Button

** In the main operation screen; if this button pressed, defrost time value will be displayed. **In the main operation screen; if this button pressed for 3 seconds, manual defrost starts.

** In the main operation screen; if this button pressed, set value will be displayed. Value can be changed using increment and decrement buttons. When Set button pressed again, value is saved and returns

ack to main operating screen. ** To access the programming screen; in the main operation screen, press this button for 5 seconds. ** It is used to saving value in the Set screen, Defrost screen and programming screen.

LED DEFINITIONS 5. Compressor output led:

** This led indicates that compressor output is active. If any of compressor protection time active, this led blinks

6.Defrost output led:

** This led indicates that defrost output is active.

** Blinks once in a second while Defrost delay time. ** Blinks (5 Hz) while entering Defrost time value.

7.Fan output led:

** This led indicates that fan output is active. ** Blinks once in a second while Fan delay time.

8.Alarm led: ** It is active when low alarm and high alarm statuses.

9.Celcius led:

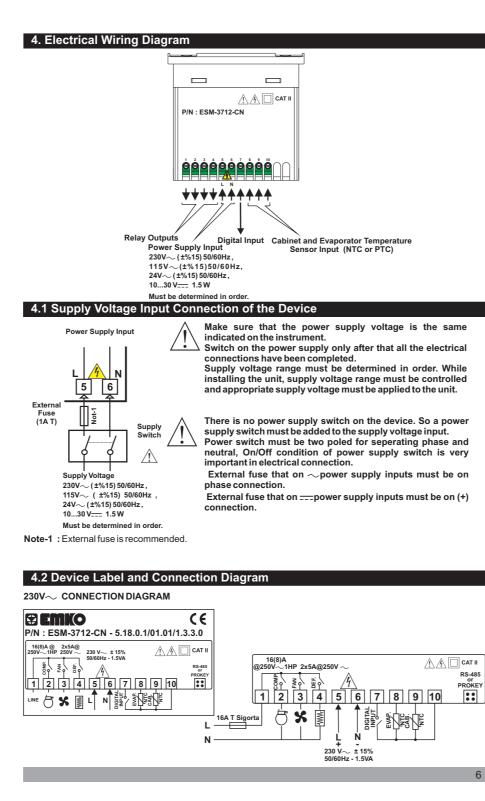
** Indicates that device is in °C mode. 10.Fahrenheit led:

** Indicates that device is in °F mode.

11.Set led: ** Indicates that device is in Set value changing mode.

12.Program led:

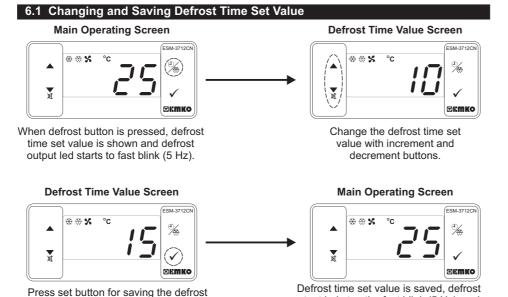
**Blinks once in a second in programming mode



6. Changing and Saving Temperature Set Value SET Value Screen Main Operating Screen

When SET button pressed "S" led will Temperature set value can be active and temperature set value will be changed with increment be displayed. and decrement buttons. **SET Value Screen** Main Operating Screen When SET button pressed "S" will be inactive and goes back to temperature set value can be saved

Temperature set value parameter (Default=10) MODBUS ADDRESS:40001 Temperature set value, can be programmed between minimum temperature set value 5 ut and maximum temperature set value 5 ... H



operation screen is shown. If no operation is performed in defrost time set value changing mode and temperature set value changing mode for 20 seconds, device turns to main operation screen automatically.

time set value

output led stop the fast blink (5 Hz), main

	ramming Mode Parameter List Temperature Unit Selection Parameter (Default = 0) MODBUS ADDRESS:40002	d5E	Defrost Stopping Temperature Parameter (Default = 2°C) MODBUS ADDRESS:40013 For evaporator sensor selection parameter 5 2 5 is 1 (evaporator sensor is active),
[- F	© C selected. "F selected.		while defrost operation, if evaporator temperature reaches to temperature that defined at this parameter in a shorter time than \(\frac{1}{2} \) parameter, then defrost operation stops.
PnE	Decimal Seperator Enabling Parameter (Default = 0) MODBUS ADDRESS:40003	Pdd	Defrost at Power On Selection and Defrost Delay Parameter (Default =) MODBUS ADDRESS:40014
	Disable. Enable.		It can be adjust from 0 to 99 minutes. When tihs parameter is 0, if decrement button is pressed, $\boxed{}$ is observed. In this condition system goes through a defrost cycle at the
H5E	Hysteresis Parameter for Compressor Output (Default = 1) MODBUS ADDRESS:40004		end of the defrost repeat cycle time dr [] after power on. If this parameter value is between 0 and 99, then system goes through a defrost cycle at the end of the this parameter time
	from 1 to 20°C for NTC (-50°C, 100°C) or PTC (-50°C, 150°C) from 1 to 36°F for NTC (-58°F, 212°F) or PTC (-58°F, 302°F)		after power on.
	from 0.1to 10.0°C for NTC (-50.0°C,100.0°C) or PTC (-50.0°C,150.0°C) from 0.1 to 18.0°F for NTC (-58.0°F,212.0°F) or PTC(-58.0°F,302.0°F)	9 9 B	Display Status During Defrost Parameter (Default = 3) MODDBUS ADRESS:40015
	In ON/OFF control algorithm, Temperature		The cabinet temperature value is displayed during defrost.
	temperature value is tried to keep equal to set value by opening or closing the last		Cabinet temperature value at the start of the defrost is displayed during defrost. Temperature set value is displayed during defrost.
	system, temperature value oscillates		3 JEF is displayed to indicate the defrost is in progress.
	continuously. Temperature value's Time oscillation period or amplitude around set Control	252	Displaying Current Temperature Delay After Defrost Parameter (Default = 0) MODDBUS ADRESS:40016
	value changes according to controlled Output system. For reducing oscillation period of ON		This parameter defines the delay for displaying current temperature being active after defrost. It can be adjusted from 0 to 255 minutes.
	temperature value, a threshold zone is formed below or around set value and	997	Dripping Time Parameter (Default = 2) MODBUS ADDRESS:40017 This parameter defines for dripping time after defrost.
SuL	this zone is named hysteresis. Minimum Temperature Set Value Parameter(Default =Minimum Value of Device		It can be adjusted from 0 to 15 minutes. Temperature Alarm Delay After Dripping Parameter (Default = 0) MODBUS
	Scale) MODBUS ADDRESS:40005 Temperature set value can not be lower than this value. This parameter value can be	2 R Z	ADDRESS:40018
	adjusted from minimum value of device scale to maximum temperature set value parameter 5 u H		This parameter defines the delay for temperature alarm being active after dripping time completion. It can be adjusted from 0 to 15 minutes.
5 u X	Maximum Temperature Set Value Parameter (Default = Maximum Value of Device Scale) MODBUS ADDRESS:40006	P o S	Compressor Start Delay at Power On Parameter (Default = 0) MODBUS ADDRESS:40019
	Temperature set value can not be greater than this value. This parameter value can be adjusted from minimum temperature set value parameter		When power is first applied to the device, This time delay must be expired for activation of compressor. It can be adjusted from 0 to 20 minutes.
	Sull to maximum value of the device scale. Cabinet Sensor Offset Parameter (Default = 0) MODBUS ADDRESS:40007	5 Ł d	Compressor Start-Start Delay Parameter (Default = 0) MODBUS ADDRESS:40020
oF I	From -20 to 20 °C for NTC(-50°C, 100°C) or PTC(-50°C, 150°C),		This time delay must be expired between two activation of the compressor. It can be adjusted from 0 to 20 minutes.
	From -36 to 36 °F for NTC(-58°F, 212°F) or PTC(-58°F, 302°F), From -10.0 to 10.0°C for NTC(-50.0°C, 100.0°C) or PTC(-50.0°C, 150.0°C),	$E \circ F$	Minimum Compressor OFF Time Parameter (Default = 0)MODBUS ADDREDS:40021
525	From -18.0 to 18.0°F for NTC(-58.0°F,212.0°F) or PTC(-58.0°F,302.0°F). Evaporator Sensor Selection Parameter (Default =1) MODBUS ADDRESS:40008		When compressor is inactive, this time delay must be expired for activation of the compressor. It can be adjusted from 0 to 20 minutes.
	Evaporator sensor is inactive. Evaporator sensor is active.	[on	Minimum Compressor ON Time Parameter (Default = 0)MODBUS ADRES:40022 When compressor is active, this time delay must be expired for deactivation of the
o F 2	Evaporator Sensor Offset Parameter (Default = 0) MODBUS ADDRESS:40009 If evaporator sensor selection parameter 525 is 1, then this parameter is observed.		compressor. It can be adjusted from 0 to 20 minutes. Cabinet Probe Defect Parameter (Default = 0) MODBUS ADDRESS:40023
0. 0	From -20 to 20°C for NTC(-50°C, 100°C) or PTC(-50°C, 150°C),	P. 4 F	Compressor is OFF in case of cabinet probe defect.
	From -36 to 36°F for NTC(-58°F, 212°F) or PTC(-58°F, 302°F), From -10.0 to 10.0°C for NTC(-50.0°C, 100.0°C) or PTC(-50.0°C, 150.0°C),		Compressor is ON in case of cabinet probe defect. Compressor operates periodically according to Para and Para time periods
9 F A	From -18.0 to 18.0 °F for NTC(-58.0°F,212.0°F) or PTC(-58.0°F,302.0°F). Defrost Type Selection Parameter (Default =0) MODBUS ADDRESS:40010		in case of cabinet probe defect. Compressor Active Time in Case of Cabinet Probe Defect Parameter (Default = 0)
0 - 0	Electric defrost.	P. o n	MODBUS ADDRESS:40024
	Hot gas defrost. Defrost Time Parameter (Default = 10) MODBUS ADDRESS: 40011		If cabinet probe defect parameter P.J.F. is 2, then this parameter is observed. It canbe adjusted from <u>on</u> to 99 minutes.
96 1	It can be adjusted from 0 to 999 minutes. If it is selected 0 automatic or manual defrost is not performed.	P.oF	Compressor İnactive Time in Case of Cabinet Probe Defect Parameter (Default = 0) MODBUS ADDRESS:40025
d - [Defrost Repeat Cycle Parameter (Default = 1) MODBUS ADDRESS:40012 It can be adjusted from 1 to 99 hours.		If cabinet probe defect parameter [P. J.F.] is 2, then this parameter is observed. It canbe adjusted from [_ J.F.] to 99 minutes.
	9		10
RL5	Temperature Alarm Function Selection Parameter (Default = 0) MODBUS ADRES: 40026	9 [F	Digital Input Contact Selection Parameter (Default = 1) MODBUS ADDRESS:40036
	Temperature alarm function is inactive.		Digital input is inactive. NO "normally open" digital input is active when the contact is closed.
	Absolute alarm is selected. If temperature lower than Rull and higher than Rull, then alarm is on.		NC "normally close" digital input is active when the contact is opened.
	Relative alarm is selected. Alarm operates according to the set value. If cabinet temperature value is below (Set - [A _ L]) or above (Set + [A _ L]), alarm ocurs.	d F n	Digital Input Function Selection Parameter (Default = 0) MODBUS ADDRESS:40037 If digital input contact selection parameter value $\boxed{\underline{L} \ \underline{L}} = 0$, this parameter is not observed.
RuL	Temperature Alarm Minimum Parameter (Default = Minimum Value of Device Scale) MODBUS ADRES:40027		When the digital input is active, fan is stopped.
	For $\boxed{RL5}$ = 1, this parameter value can be adjusted from minimum value of device scale to temperature alarm maximum parameter $\boxed{RL5}$ = 2, this		When the digital input is active, compressor is stopped. If in screen will be displayed and defrost operation will be disabled. If Buzzer function selection
	parameter value can be adjusted 0 to %50 of the device scale.		parameter b u F = 2 or 4 buzzer is active. When the digital input is active, first fan stops, 10 seconds later compressor
$R \cup K$	Temperature Alarm Maximum Parameter (Default = Maximum Value of Device Scale) MODBUS ADRES:40028		stops. [7] will be displayed at main operation screen. When the digital input is active, defrost starts.
	For $\boxed{R \ S} = 1$, this parameter value can be adjusted from temperature alarm minimum parameter $\boxed{R \ L}$ value to maximum value of device scale. For $\boxed{R \ L} \ S = 2$, this parameter		When the digital input is active, alarm will be active.
RdL	value is can be adjusted 0 to %50 of the device scale. Temperature Alarm On Delay Time Parameter(Default = 0)		main operation screen. If Buzzer function selection parameter buzzer is active.
,,,,,	MODBUS ADDRESS:40029 Temperature Alarm On Delay Time can be defined with this parameter. It can be	9 E F	Digital Input Effect Time Parameter (Default = []) MODBUS ADDRESS:40038 If digital input contact selection parameter value [] [] = 0, this parameter is not observed.
RPd	adjusted from 0 to 99 minutes. Temperature Alarm Delay After Power On Parameter(Default = 0)		For digital input function selection parameter $[\underline{J}\overline{F}\underline{n}] = 0$ or 2, maximum effect time of digital input is determined with this parameter. It can be adjust from 0 to 120 minutes. When this
пго	MODBUS ADDRESS:40030 When power is first applied to the device, this time delay must be expired for activation of		parameter is 0, if decrement button is pressed, [] is observed. In this condition the effect will be ended when digital input is deactive.
	temperature alarm. It can be adjusted from 0 to 99 minutes. Fan Operation Selection Parameter (Default = 1) MODBUS ADDRESS:40031	ЬыҒ	Buzzer Function Selection Parameter (Default = 0) MODBUS ADDRESS:40039 Buzzer is inactive.
FFR	Fan is OFF.		Buzzer is active during defrost operation.
	Fan is ON. Fan operates according to the evaporator sensor temperature value.		Buzzer is active if an alarm occurs. Buzzer is active during cabinet sensor failures.
	Fan operates according to the (cabinet - evaporator) temperature value.		U Buzzer is active during defrost, alarm or cabinet sensor failures.
FSE	Fan Stopping Temperature Parameter (Default = 2°C) MODBUS ADDRESS:40032 Fan stopping temperature can be defined with this parameter. It can be adjusted from	bon	Buzzer Active Time (Default =) MODBUS ADDRESS:40040 If buzzer function selection parameter value buF = 0, this parameter is not observed.
	minimum value to maximum value of device scale. Hsyteresis Parameter for Fan Output (Default = 1) MODBUS ADDRESS:40033		Buzzer active time can be define with this parameter. It can be adjusted from 1 to 99 minutes. When this parameter is 1, if decrement button is pressed, is observed. In
FHY	From 1 to 20°C for NTC (-50°C, 100°C) , from 1 to 36°F for NTC (-58°F, 212°F), from 0.1 to 10.0°C for NTC (-50.0°C, 100.0°C), from 0.1 to 18.0°F for NTC (-58.0°F,212.0°F)		this condition buzzer is active till buzzer silence button is pressed. Button Protection Parameter (Default = 0) MODBUS ADDRESS:40041
FEd	Fan Activity Selection According to the Compressor and Defrost	PrE	There is no protection.
	(Default = 0) MODBUS ADDRESS: 40034 ☐ Fan operates according to the F L Y parameter.		Defrost time set value can not be changed and manual defrost is not available. Temperature set value can not be changed.
	Fan operates according to the FLY parameter, but fan is stopped if commpressor is stops.		Defrost time set value and temperature set value can not be changed and

Fan operates according to the Fty parameter, but fan is stopped during

Fan Delay Time After Completion of Dripping Time Parameter (Default = 2)

Fan Delay Time After Completion of Dripping Time is defined with this parameter.

Fan operates according to the F & Y parameter. If compressor stops, during

defrost and dripping time.

MODBUS ADDRESS:40035

It can be adjusted from 0 to 15 minutes

defrost and dripping operations fan stops.

طك ، , ط د [can be accesible.

manual defrost is not available.

PROKEY communication selected.

Slave ID Parameter (Default = 1) MODBUS ADDRESS=40043

RS485 communication selected.

Device communication address parameter (1 to 247).

Defrost time can not be changed, Defrost ON/OFF operation is available.

Communication Mode Selection Parameter (Default = 0) MODBUS ADRESS:40042

Programming Mode Accessing Password (Default = 0) MODBUS ADDRESS:40044

password is not entered for accessing to the parameters. If password is '12' only [H5],

It is used for accessing to programming mode. It can be adjusted from 0 to 999. If it is 0,