

Installation Guide

**AK-CC55**  
Single Coil

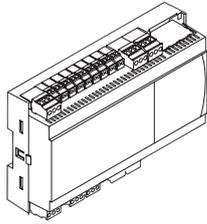


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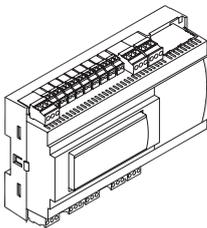


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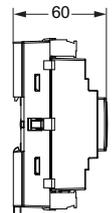
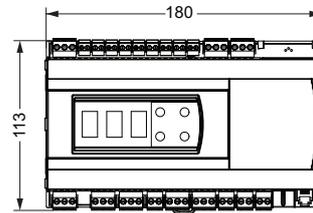
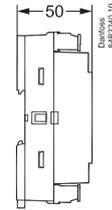
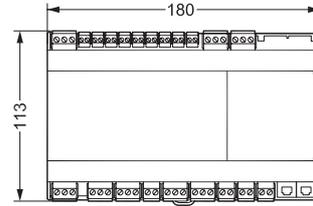


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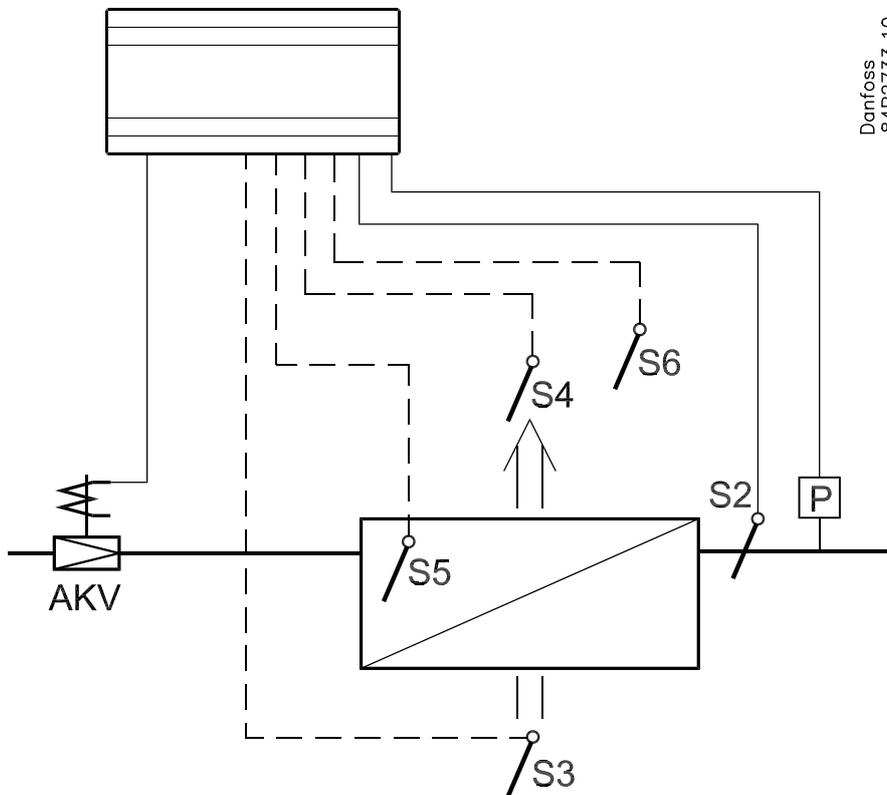


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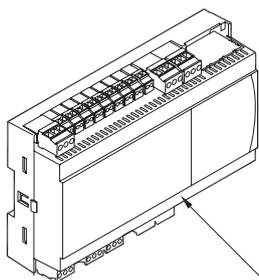
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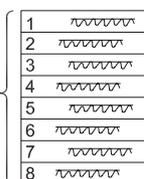
Principle



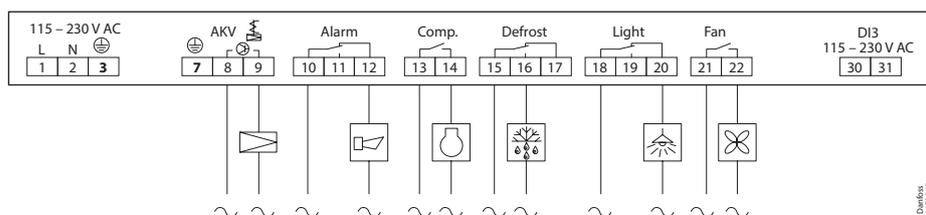
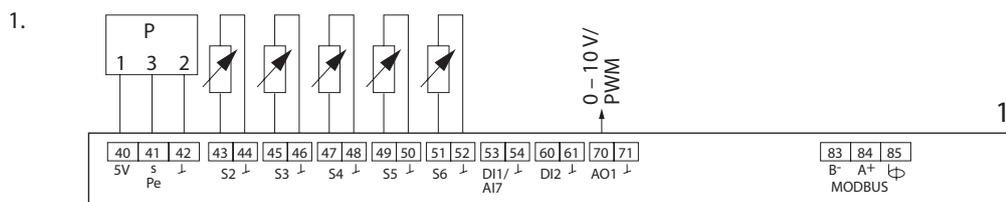
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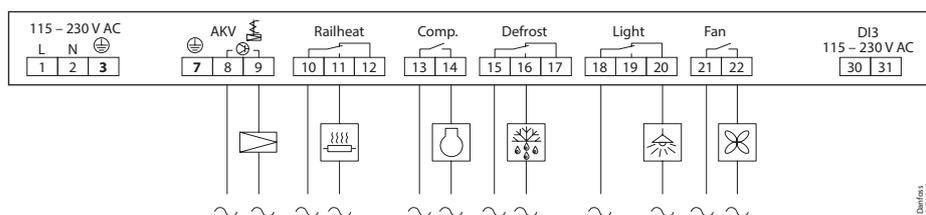
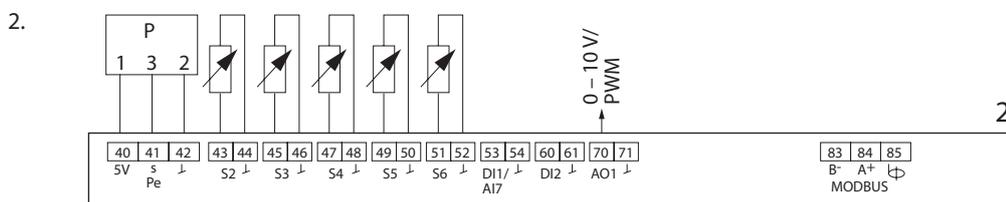
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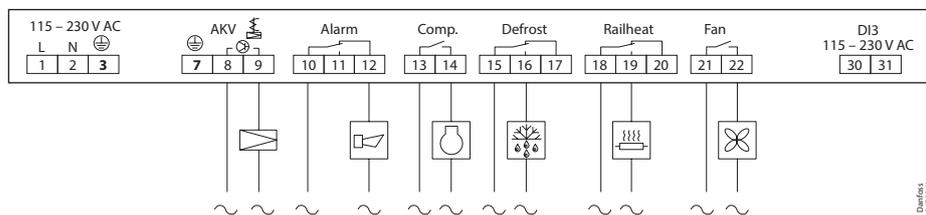
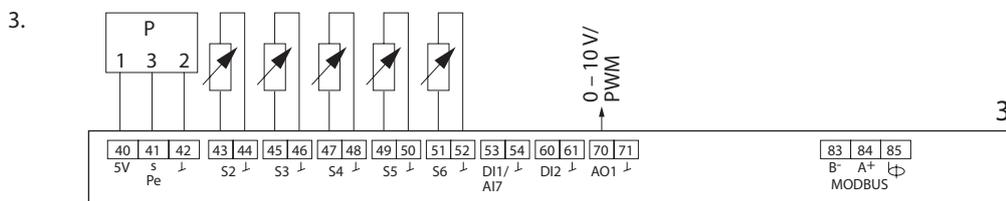
The controller is provided with labels from the factory indicating a generic application. When selecting the required application, specific labels are provided so that you can mount the relevant one.



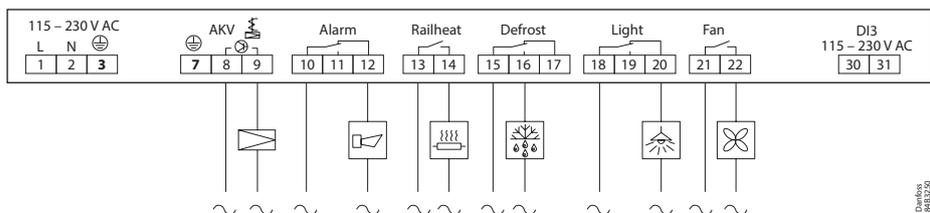
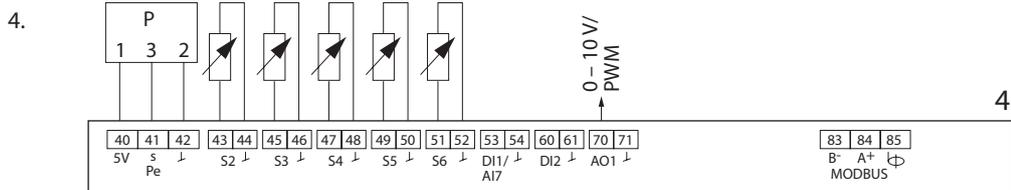
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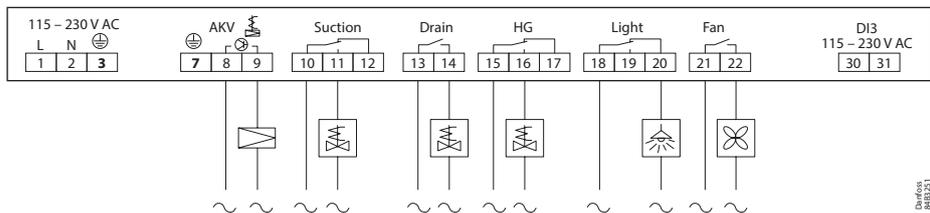
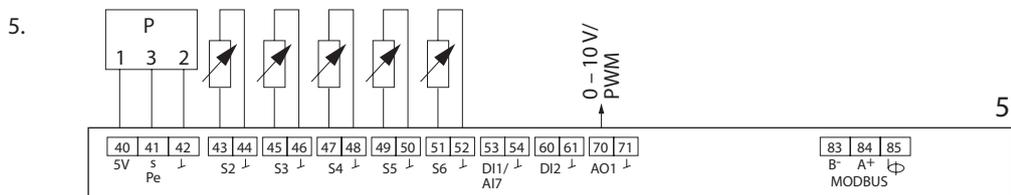
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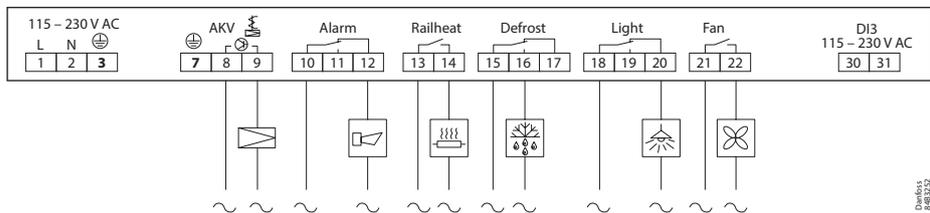
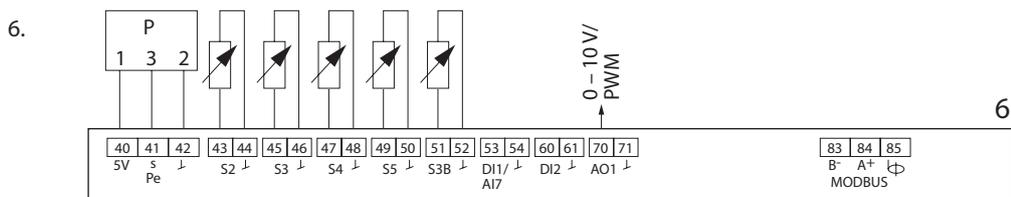
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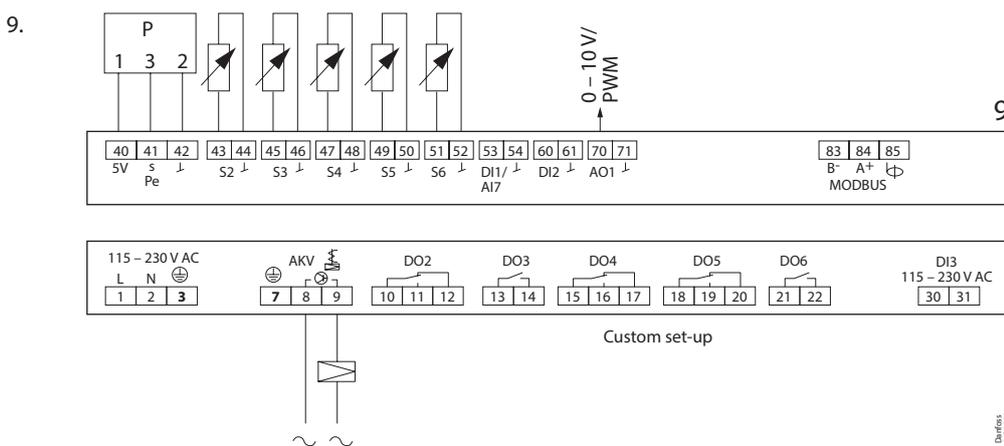
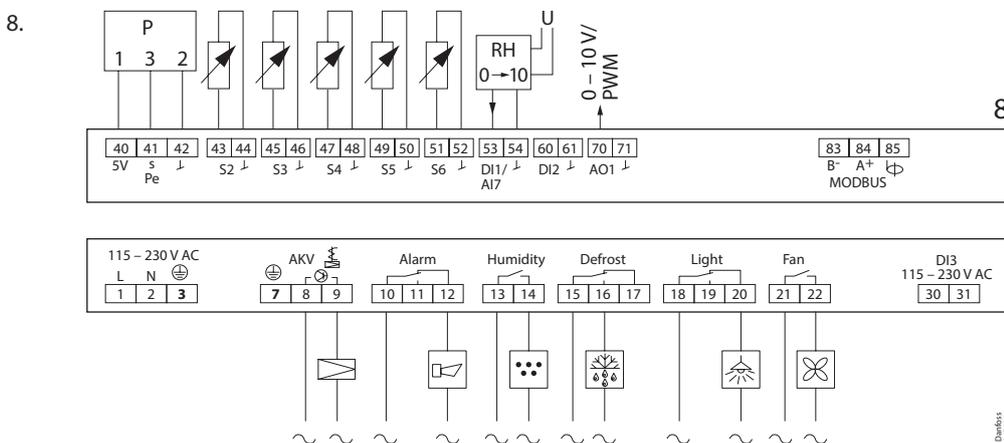
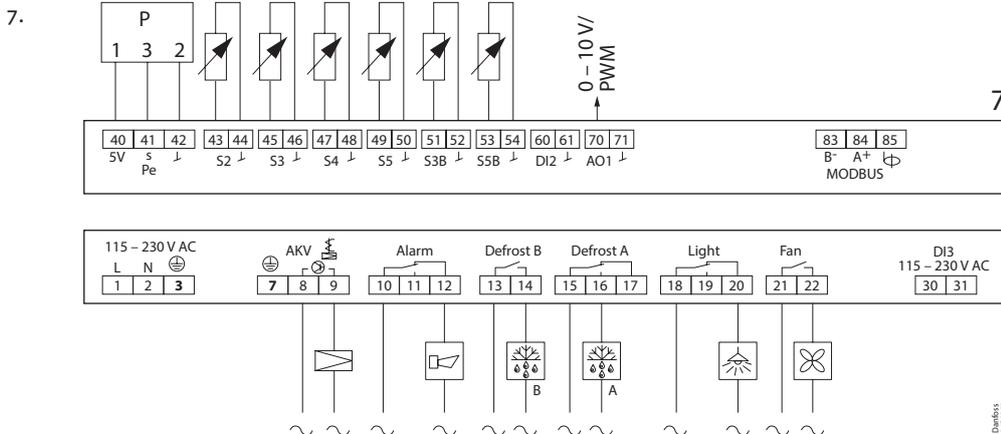
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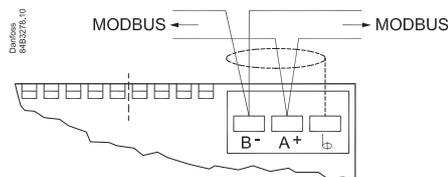


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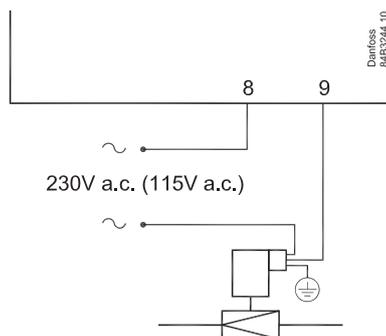
### Data communication

### Important



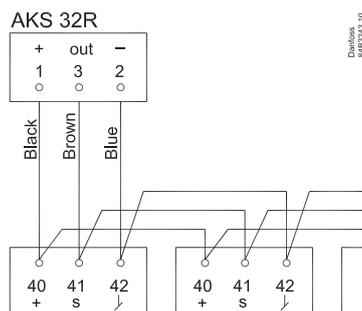
It is **important** that the installation of the data communication cable is performed correctly with sufficient distance to high voltage cables.

### AKV info



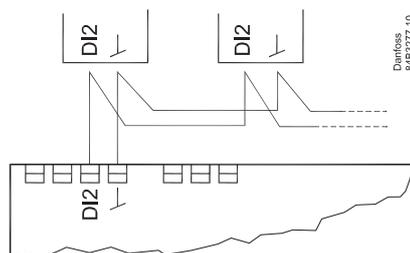
230 V or 115 V  
AC coil  
Max. 0.5 A

### AKS 32R info



The signal from one pressure transmitter can be received by up to 10 controllers. There must not be a significant pressure drop from the pressure transmitter's position in the suction line to the individual evaporators.

### Coordinated defrost via cable connections

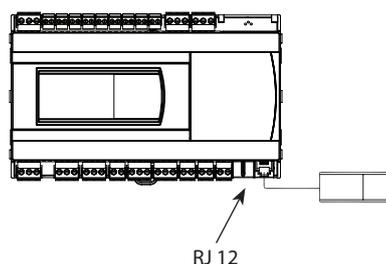


Max. 10

The following controllers can be connected in this way:  
EKC 204A, AK-CC 210, AK-CC 250, AK-CC 450, AK-CC 550 and AK-CC55.

Refrigeration is resumed at the same time when all controllers have terminated defrost.

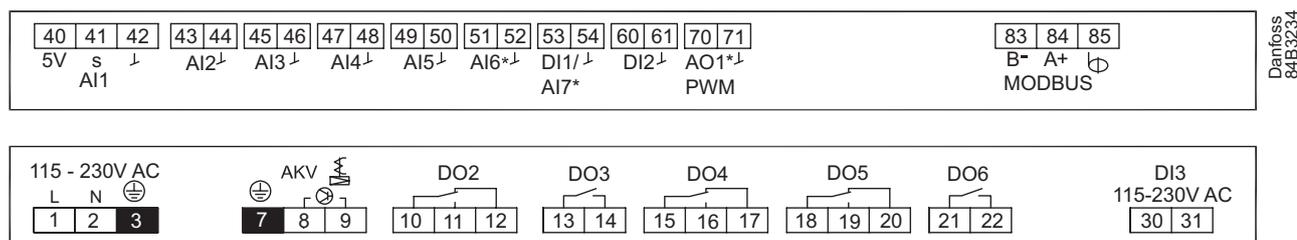
### External display AK-UI55



Display  
084B4075 / 084B4076 / 084B4077

Cable 3 m: 084B4078  
Cable 6 m: 084B4079  
(L: Max. 100 m)

## Connections



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84B3234

\*See table below

## Overview of outputs and applications

Application	DO1	DO2	DO3	DO4	DO5	DO6		AO1/ PWM	AI1	AI2	AI3	AI4	AI5	AI6	DI1/ AI7	DI2	DI3
1								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S6	● <sup>3)</sup>	●	●
2								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S6	● <sup>3)</sup>	●	●
3								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S6	● <sup>3)</sup>	●	●
4								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S6	● <sup>3)</sup>	●	●
5								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S6	● <sup>3)</sup>	●	●
6								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S3B	● <sup>3)</sup>	●	●
7								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S3B	S5B	●	●
8								● <sup>2)</sup>	Pe	S2	S3	S4	S5	S6	RH%	●	●
9		● <sup>1)</sup>		● <sup>2)</sup>	Pe	S2	S3	S4	S5	S6	● <sup>3)</sup>	●	●				

See also wiring diagrams earlier in the Installation Guide.

● = Optional

●<sup>1)</sup> Custom set-up of relays

●<sup>2)</sup> AO1 can be configured for fast pulsing of rail heat or external stepper driver

●<sup>3)</sup> DI1 can be configured as S5B sensor in d10

### AI1

#### Pressure transmitter

AKS 32R

Connect to terminal 40, 41 and 42.

(Use cable 060G1034: Black=40, Brown=41, Blue=42)

The signal from one pressure transmitter can be received by up to 10 controllers. But only if there are no significant pressure drops between the evaporators to be controlled. See drawing on page 5.

**Note:** when replacing AK-CC 550A with AK-CC55, S and ground must be switched.

### AI2 - AI7

#### Primarily for temperature inputs

S2

Pt 1000 ohm sensor AKS11, placed at the evaporator outlet  
S3, S4, S5

Pt 1000 AKS11, PTC 1000 EKS111, NTC5K EKS211 or NTC10K EKS221 sensor. All have to be of the same type.

S3, return air sensor, placed in the warm air before the evaporator

S4, discharge air sensor, placed in the cold air after the evaporator

(the need for either S3 or S4 can be selected in the configuration)

S5, defrost sensor, placed in the evaporator

S6, Pt 1000 ohm sensor, food temperature sensor placed in-between the food products

(If the DI1 input is used for a temperature measurement, it will appear as AI7.)

### DI1

Digital input signal.

The defined function is active when the input is short-circuited or opened, depending on the function defined in o02.

### DI2

Digital input signal.

The defined function is active when the input is short-circuited or opened, depending on the function defined in o37.

### AO1

#### Analogue output signal

Analogue 0 – 10 V

Can be used to drive an external stepper driver.

Pulse width modulated signal

Can be used for fast control of rail heat via an external power solid state relay.

### MODBUS

For data communication.

Terminal 83 = B-

Terminal 84 = A+

Terminal 85 = screen

### Supply voltage

230 V AC or 115 V AC

## DO1

### AKV valve

Connection of expansion valve type AKV, AKVA, AKVH or AKVP.  
The coil must be a **230 V or 115 V AC coil**.

### Liquid line solenoid valve

Connection of normally closed valve in connection with stepper valve.

## DO2

### Alarm

There is a connection between terminal 10 and 12 in alarm situations and when the controller is without power.

### Light, Rail heat, Compressor, Night blind

There is connection between terminal 10 and 11 (10 and 12 at light) when the function is on.

### Suction line valve

There is connection between terminal 10 and 11 when the suction line must be open.

## DO3

### Compressor, Rail heat, Defrost, Drain valve, Humidity

There is connection between terminal 13 and 14 when the function must be active.

## DO4

### Defrost

There is connection between terminal 15 and 16 when defrosting takes place.

### Hot gas

There is connection between terminal 15 and 16 when the hot gas valves must open.

**Note:** When replacing AK-CC550A with AK-CC55, wires must be switched.

## DO5

### Light

There is connection between terminal 18 and 20 when the function must be active.

### Rail heat

There is connection between terminal 18 and 19 when the rail heat must be on.

## DO6

### Fan

There is connection between terminal 21 and 22 when the fan is on.

## DO2-DO6 + A01 and Application 9

Here, the different outputs can be custom defined in q02-q09

## DI3

Digital input signal.

The signal must have a voltage of 0 / 230 V AC (115 V AC)

The function is defined in o84.

## Display (RJ12 plug)

If external readings/operation of the controller is required, a display can be connected. If there is no display on the front, two external displays can be connected.

For one display the max. cable length is 100 m.

For two displays the sum of the two cable lengths must not exceed 100 m.

**Note:** When replacing AK-CC 550A with AK-CC55, AKA 16X remote displays and cables have to be replaced with new AK-UI55 displays.

## Electric noise

Cables for sensors, low voltage DI inputs and data communication **must** be kept separate from other electric cables:

- Use separate cable trays
- Keep a distance between cables of at least 10 cm
- Long cables at the low voltage DI input should be avoided

## Installation considerations

Accidental damage, poor installation, or site conditions, can give rise to malfunctions of the control system, and ultimately lead to a plant breakdown.

Every possible safeguard is incorporated into our products to prevent this. However, a wrong installation could still present problems. Electronic controls are no substitute for normal, good engineering practice.

Danfoss will not be responsible for any goods, or plant components, damaged as a result of the above defects. It is the installer's responsibility to check the installation thoroughly, and to fit the necessary safety devices.

Special reference is made to the necessity of signals to the controller when the compressor is stopped and to the need of liquid receivers before the compressors.

Your local Danfoss agent will be pleased to assist with further advice, etc.

## Replacing AK-CC 550A with AK-CC55

Be aware when exchanging an AK-CC 550A controller with a new AK-CC55 controller - new wiring principles!

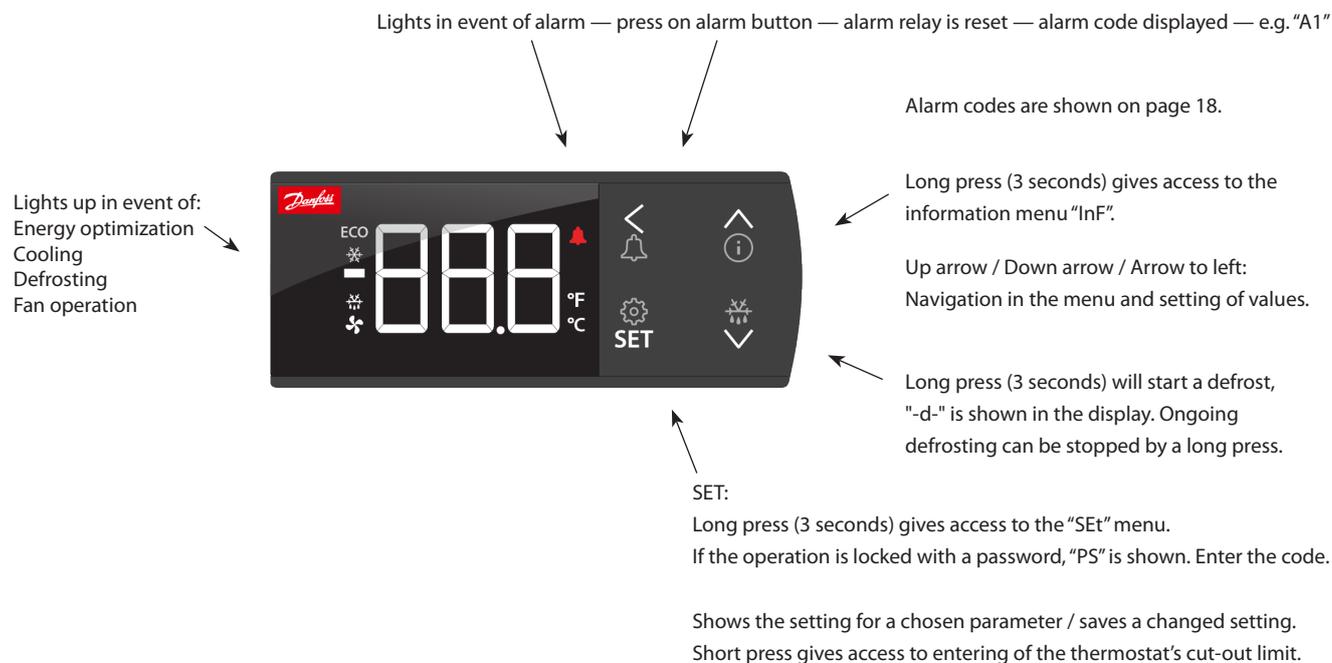
- |  | AK-CC 550A | AK-CC55 |
|--|------------|---------|
| <ul style="list-style-type: none"> <li>• Pressure sensor has new connection – signal and ground are switched</li> </ul>  |            |         |
| <ul style="list-style-type: none"> <li>• SPDT relays have a new wiring scheme – NO and NC terminals are switched (e.g. defrost heater on when it should be off)</li> </ul> |            |         |
| <ul style="list-style-type: none"> <li>• Modbus has new connection scheme (A,B and screen)</li> </ul>  |            |         |
| <ul style="list-style-type: none"> <li>• New AK-UI55 displays and cables with 6 wires vs. 4 wires for EKA 16x</li> </ul>   |            |         |

AK-CC55 does not support two EEC coils connected to one AKV output.  
 Pressure transmitter can be shared between AK-CC 550 and AK-CC55.  
 DI2 defrost coordination can be wired between AK-CC 550 and AK-CC55.

## Operation with setting display

### Display AK-UI55 Set

The values will be shown with three digits, and with a setting you can determine whether the temperature is to be shown in °C or in °F.



The display can give the following messages:

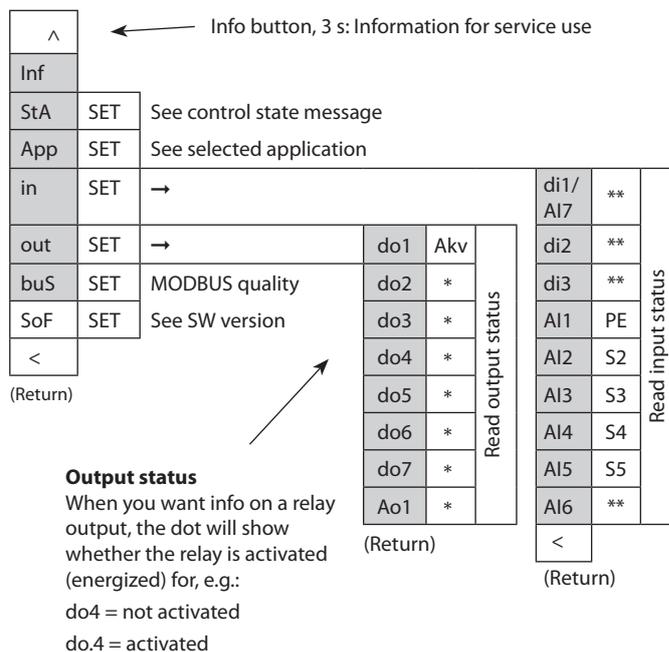
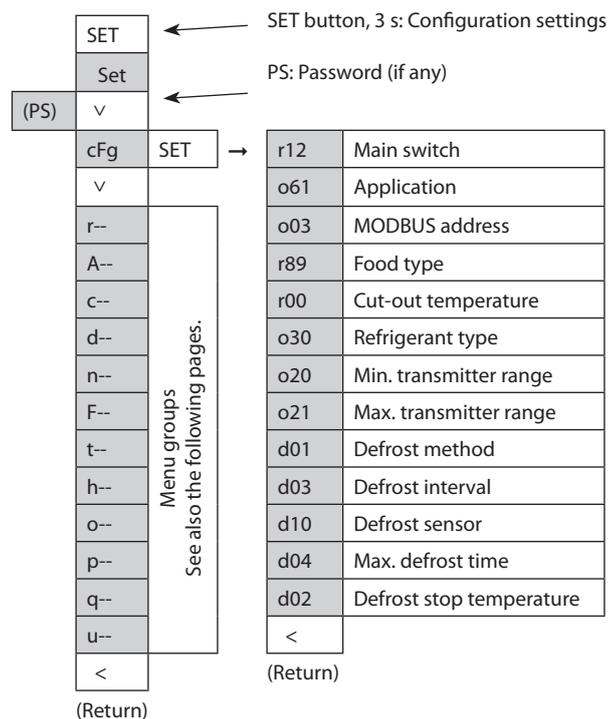
-d-	Defrost is in progress
Err	The temperature cannot be displayed due to a sensor error
Err1	The display cannot load data from the controller. Disconnect and then reconnect the display
Err2	Lost display communication
ALA	The alarm button is activated. The first alarm code is then shown
---	At top position of the menu or when max. value has been reached, the three dashes are shown in the top of the display
---	At bottom position of menu or when min. value has been reached, the three dashes are shown in the bottom of the display
Loc	The configuration is locked. Unlock by pressing (for 3 seconds) on the 'up arrow' and 'down arrow' simultaneously
UnL	The configuration is unlocked
---	The parameter has reached min. or max. limit
PS	A password is required for access to the menu
Fan	Appliance cleaning has been initiated. The fans are running
OFF	Appliance cleaning is activated and the appliance can now be cleaned
OFF	The main switch is set to Off
SEr	The main switch is set to service / manual operation
CO <sub>2</sub>	Flashes: Will display in event of a refrigerant leakage alarm, but only if the refrigerant is set up for CO <sub>2</sub>

### Factory setting

If you need to return to the factory-set values, do the following:

- Cut off the supply voltage to the controller
- Keep up "∧" and down "∨" arrow buttons depressed at the same time as you reconnect the supply voltage
- When FAc is shown in the display, select "yes".

## Parameter grouping at display operation



\*)  
The output's function.  
(Determined at configuration).  
The DOs and AOs can also be forced controlled from this menu, when r12 Main switch has been set in position "service".  
Forced control of a function can also be performed in codes q11 to q27.

\*\*)  
The input's function.  
(Determined at configuration).

### Get a good start

With the following procedure you can start regulation very quickly:

- Open parameter r12 and stop the regulation (in a new and not previously set unit, r12 will already be set to 0 which means stopped regulation)
- Select application based on the wiring diagrams on pages 2-4
- Open parameter o61 and set the application number
- For network. Set the address in o03
- Then select a set of presets from the "Food type" help table
- Open parameter r89 and set the number for the array of presets. The few selected settings will now be transferred to the menu
- Set the desired cut-out temperature r00
- Select refrigerant via parameter o30
- Set the pressure transmitter min. and max. range via parameter o20 and o21
- Set the desired defrost method in d01
- Set the interval time between defrost starts in d03
- Set the desired defrost sensor in d10
- Set the maximum defrost time in d04
- Set the defrost stop temperature in d02
- Open parameter r12 and start the regulation
- Go through the parameter list and change the factory values where needed.
- Get the controller up and running on network:
  - MODBUS: Activate scan function in system unit
  - If another data communication card is used in the controller:
    - Lon RS485: Activate the function o04
    - Ethernet: Use the MAC address

### Food type

Setting of presets (r89). After setting 1-5, setting is returned to 0.	1	2	3	4	5
Food type =	Vegetables	Milk	Meat/fish	Frozen food	Ice cream
Temperature (r00)	8 °C	0 °C	-2 °C	-20 °C	-24 °C
Max. temp. setting (r02)	10 °C	4 °C	2 °C	-16 °C	-20 °C
Min. temp. setting (r03)	4 °C	-4 °C	-6 °C	-24 °C	-28 °C
Upper alarm limit (A13)	14 °C	8 °C	8 °C	-15 °C	-15 °C
Lower alarm limit (A14)	0 °C	-5 °C	-5 °C	-30 °C	-30 °C
Upper alarm limit for S6 (A22)	14 °C	8 °C	8 °C	-15 °C	-15 °C
Lower alarm limit for S6 (A23)	0 °C	-5 °C	-5 °C	-30 °C	-30 °C

Can only be set when r12=0.

## AK-UI55 display menu

SW = 1.50x

Function	Values	R-W	Code	1	2	3	4	5	6	7	8	9	Min. value	Max. value	Fact. value
<b>Thermostat</b>															
Cut-out 1		0-0	r00	*	*	*	*	*	*	*	*	*	r03	r02	2.0 °C
Differential		1-2	r01	*	*	*	*	*	*	*	*	*	0.1 °C	20.0 °C	2.0 °C
Max cut-out limit		0-2	r02	*	*	*	*	*	*	*	*	*	r03	50.0 °C	50.0 °C
Min cut-out limit		0-2	r03	*	*	*	*	*	*	*	*	*	-50.0 °C	r02	-50.0 °C
Display readout adjustment		1-2	r04	*	*	*	*	*	*	*	*	*	-10.0 °C	10.0 °C	0.0 °C
Temperature unit	0=Celsius, 1=Fahrenheit	1-2	r05	*	*	*	*	*	*	*	*	*	0	1	0
S4 Air OFF evap. A - Adjustment		1-2	r09	*	*	*	*	*	*	*	*	*	-10.0 °C	10.0 °C	0.0 °C
S3 Air ON evap. A - Adjustment		1-2	r10	*	*	*	*	*	*	*	*	*	-10.0 °C	10.0 °C	0.0 °C
Main switch	-1=Manual, 0=Stop, 1=Start	0-2	r12	*	*	*	*	*	*	*	*	*	-1	1	0
Night offset		1-2	r13	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	0.0 °C
Thermostat mode	1=ON/OFF, 2=Modulating	1-2	r14	*	*	*	*	*	*	*	*	*	1	2	1
Thermostat sensor S4 %		1-2	r15	*	*	*	*	*	*	*	*	*	0 %	100 %	100%
Melt interval		1-2	r16	*	*	*	*	*	*	*	*	*	0 h	10 h	1h
Melt period		1-2	r17	*	*	*	*	*	*	*	*	*	0 min	30 min	5 min
Cut-out 2		0-2	r21	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	2.0 °C
S3 Air ON evap. B - Adjustment		1-2	r53						*	*			-10.0 °C	10.0 °C	0.0 °C
S6 product temp. - Adjustment		1-2	r59	*	*	*	*	*			*	*	-10.0 °C	10.0 °C	0.0 °C
Thermostat sensor S4 % night		1-2	r61	*	*	*	*	*	*	*	*	*	0 %	100 %	100%
Air heater neutral zone		1-2	r62									*	0.0 °C	50.0 °C	5.0 °C
Air heater start delay		1-2	r63									*	0 min	240 min	240 min
Food type	0=None, 1=Vegetables, 2=Dairy, 3=Meat and fish, 4=Frozen food, 5=Ice cream	1-2 <sup>1)</sup>	r89	*	*	*	*	*	*	*	*	*	0	5	0
S4 frost protection		1-2	r98	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	-50.0 °C
<b>Alarm settings</b>															
Alarm delay A		1-2	A03	*	*	*	*	*	*	*	*	*	0 min	240 min	30 min
Door open alarm delay		1-2	A04	*	*	*	*	*	*	*	*	*	0 min	240 min	60 min
Alarm delay pull down A		1-2	A12	*	*	*	*	*	*	*	*	*	0 min	240 min	90 min
High alarm limit 1		1-2	A13	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	8.0 °C
Low alarm limit 1		1-2	A14	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	-30.0 °C
High alarm limit 2		1-2	A20	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	8.0 °C
Low alarm limit 2		1-2	A21	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	-30.0 °C
S6 High alarm limit 1		1-2	A22	*	*	*	*	*			*	*	-50.0 °C	50.0 °C	8.0 °C
S6 Low alarm limit 1		1-2	A23	*	*	*	*	*			*	*	-50.0 °C	50.0 °C	-30.0 °C
S6 High alarm limit 2		1-2	A24	*	*	*	*	*			*	*	-50.0 °C	50.0 °C	8.0 °C
S6 Low alarm limit 2		1-2	A25	*	*	*	*	*			*	*	-50.0 °C	50.0 °C	-30.0 °C
S6 alarm delay		1-2	A26	*	*	*	*	*			*	*	0 min	240 min	60 min
Alarm delay DI 1		1-2	A27	*	*	*	*	*	*			*	0 min	240 min	30 min
Alarm delay DI 2		1-2	A28	*	*	*	*	*	*	*		*	0 min	240 min	30 min
Alarm sensor S4% A		1-2	A36	*	*	*	*	*	*	*	*	*	0 %	100 %	100%
S6 alarm pull down delay		1-2	A52	*	*	*	*	*			*	*	0 min	240 min	90 min
Alarm delay B		1-2	A53						*	*			0 min	240 min	30 min
Use product sensor S6	0=No, 1=Yes	1-2 <sup>1)</sup>	a01	*	*	*	*	*			*	*	0	1	0

R-W: If the operation is protected by one or more passwords, reading and setting the parameter will be limited to:

R: This setting can be seen with password no. \_ or higher (3 is the highest level).

W: This setting can be performed with password no. \_ or higher (3 is the highest level).

<sup>1)</sup> In order to change this parameter the regulation must be stopped via the parameter r12 Main switch = OFF.

<sup>2)</sup> In order to change this parameter the parameter r12 Main switch must be set in position "SEr" allowing manual control of outputs.

Function	Values	R-W	Code	1	2	3	4	5	6	7	8	9	Min. value	Max. value	Fact. value
<b>Compressor</b>															
Min ON time		1-2	c01	*	*	*						*	0 min	30 min	0 min
Min OFF time		1-2	c02	*	*	*						*	0 min	30 min	0 min
Delay between comp.		1-2	c05									*	0 s	999 s	5 s
Step control mode	1=Sequential, 2=Cyclic	1-2	c08									*	1	2	2
<b>Defrost</b>															
Defrost method	0=None, 1=Electrical, 2=Hot gas, 4=Air/Offcycle	1-3	d01	*	*	*	*	*	*	*	*	*	0	4	1
Defrost stop limit A		1-2	d02	*	*	*	*	*	*	*	*	*	0.0 °C	50.0 °C	6.0 °C
Defrost start interval		1-2	d03	*	*	*	*	*	*	*	*	*	0 h	240 h	8 h
Max. defrost time		1-2	d04	*	*	*	*	*	*	*	*	*	0 min	360 min	45 min
Time staggering power-up		1-2	d05	*	*	*	*	*	*	*	*	*	0 min	240 min	0 min
Drip off time		1-2	d06	*	*	*	*	*	*	*	*	*	0 min	60 min	0 min
Fan start delay		1-2	d07	*	*	*	*	*	*	*	*	*	0 min	60 min	0 min
Fan start temperature		1-2	d08	*	*	*	*	*	*	*	*	*	-50.0 °C	10.0 °C	-5.0 °C
Fan control during defrost	0=OFF, 1=ON, 2=OFF at drip, 3=OFF at high temp	1-2	d09	*	*	*	*	*	*	*	*	*	0	3	1
Defrost stop method	0=Time, 1=S5 sensor, 2=S4 sensor, 3=S5A and S5B	1-2	d10	*	*	*	*	*	*	*	*	*	0	3	0
Pump down delay		1-2	d16	*	*	*	*	*	*	*	*	*	0 min	60 min	0 min
Drain delay		1-2	d17					*					0 min	60 min	0 min
Max. thermostat run time		1-2	d18	*	*	*	*	*	*	*	*	*	0 h	240 h	0 h
Adaptive defrost mode	0=OFF, 1=Monitoring, 2=Skip day, 3=Skip day/night, 4=Full adaptive	1-2 <sup>1)</sup>	d21	*	*	*	*	*	*	*	*	*	0	4	0
Hot gas injection delay		1-2	d23					*					0 min	60 min	0 min
Rail heat during defrost	0=OFF, 1=ON, 2=Normal control	1-2	d27	*	*	*	*	*	*	*	*	*	0	2	1
Display delay after defrost		1-2	d40	*	*	*	*	*	*	*	*	*	5 min	240 min	30 min
Fan stop temperature		1-2	d41	*	*	*	*	*	*	*	*	*	-20.0 °C	20.0 °C	0.0 °C
<b>Injection control</b>															
Max. superheat limit		1-2	n09	*	*	*	*	*	*	*	*	*	n10	20.0 °C	12.0 °C
Min. superheat limit		1-2	n10	*	*	*	*	*	*	*	*	*	2.0 °C	n09	3.0 °C
MOP temperature		1-2	n11	*	*	*	*	*	*	*	*	*	-50.0 °C	15.0 °C	15.0 °C
AKV Period time		1-2 <sup>1)</sup>	n13	*	*	*	*	*	*	*	*	*	3 s	6 s	6s
<b>Fan control</b>															
Fan stop high S5 temp.		1-2	F04	*	*	*	*	*	*	*	*	*	-50.0 °C	50.0 °C	50.0 °C
Fan pulsing mode	0=No pulsing, 1=Pulsing cut-out, 2=Pulsing cut-out night	1-2	F05	*	*	*	*	*	*	*	*	*	0	2	0
Fan period time		1-2	F06	*	*	*	*	*	*	*	*	*	1 min	30 min	5 min
Fan ON cycle		1-2	F07	*	*	*	*	*	*	*	*	*	0 %	100 %	100%
<b>Defrost schedule</b>															
Defrost schedule	0=No, 1=Yes	1-2	t00	*	*	*	*	*	*	*	*	*	0	1	0
Def. start 1 - Hours		1-2	t01	*	*	*	*	*	*	*	*	*	0 h	23 h	0 h
Def. start 1 - Minutes		1-2	t11	*	*	*	*	*	*	*	*	*	0 min	59 min	0 min
Def. start 2 - Hours		1-2	t02	*	*	*	*	*	*	*	*	*	0 h	23 h	0 h
Def. start 2 - Minutes		1-2	t12	*	*	*	*	*	*	*	*	*	0 min	59 min	0 min
Def. start 3 - Hours		1-2	t03	*	*	*	*	*	*	*	*	*	0 h	23 h	0 h
Def. start 3 - Minutes		1-2	t13	*	*	*	*	*	*	*	*	*	0 min	59 min	0 min
Def. start 4 - Hours		1-2	t04	*	*	*	*	*	*	*	*	*	0 h	23 h	0 h
Def. start 4 - Minutes		1-2	t14	*	*	*	*	*	*	*	*	*	0 min	59 min	0 min
Def. start 5 - Hours		1-2	t05	*	*	*	*	*	*	*	*	*	0 h	23 h	0 h
Def. start 5 - Minutes		1-2	t15	*	*	*	*	*	*	*	*	*	0 min	59 min	0 min
Def. start 6 - Hours		1-2	t06	*	*	*	*	*	*	*	*	*	0 h	23 h	0 h
Def. start 6 - Minutes		1-2	t16	*	*	*	*	*	*	*	*	*	0 min	59 min	0 min
Time hours		0-1	t07	*	*	*	*	*	*	*	*	*	0 h	23 h	0 h
Time minutes		0-1	t08	*	*	*	*	*	*	*	*	*	0 min	59 min	0 min
Time date		0-1	t45	*	*	*	*	*	*	*	*	*	1	31	1
Time month		0-1	t46	*	*	*	*	*	*	*	*	*	1	12	1
Time year		0-1	t47	*	*	*	*	*	*	*	*	*	0	100	0
Monday - Follow schedule	0=No, 1=Yes	1-2	t51	*	*	*	*	*	*	*	*	*	0	1	1
Tuesday - Follow schedule	0=No, 1=Yes	1-2	t52	*	*	*	*	*	*	*	*	*	0	1	1

Function	Values	R-W	Code	1	2	3	4	5	6	7	8	9	Min. value	Max. value	Fact. value
Wednesday - Follow schedule	0=No, 1=Yes	1-2	t53	*	*	*	*	*	*	*	*	*	0	1	1
Thursday - Follow schedule	0=No, 1=Yes	1-2	t54	*	*	*	*	*	*	*	*	*	0	1	1
Friday - Follow schedule	0=No, 1=Yes	1-2	t55	*	*	*	*	*	*	*	*	*	0	1	1
Saturday - Follow schedule	0=No, 1=Yes	1-2	t56	*	*	*	*	*	*	*	*	*	0	1	1
Sunday - Follow schedule	0=No, 1=Yes	1-2	t57	*	*	*	*	*	*	*	*	*	0	1	1
<b>Humidity control</b>															
Humidity cut-in		0-2	h23								*		0 RH%	100 RH%	70 RH%
Humidity differential		1-2	h24								*		1 RH%	30 RH%	5 RH%
Humidity high alarm limit		1-2	h25								*		0 RH%	100 RH%	100 RH%
Humidity low alarm limit		1-2	h26								*		0 RH%	100 RH%	0 RH%
Humidity alarm delay		1-2	h27								*		0 min	240 min	60 min
Humidity ctrl. at defrost	0=No, 1=Yes	1-2	h28								*		0	1	0
Humidity sensor - Min signal		1-2 <sup>1)</sup>	h29								*		0 RH%	h30	0 RH%
Humidity sensor - Max signal		1-2 <sup>1)</sup>	h30								*		h29	100 RH%	100 RH%
Humidity control	0=None, 1=Humidifier, 2=Dehumidifier	1-3 <sup>1)</sup>	h31								*		0	2	0
Humidity max. temp.		1-2	h32								*		h33	70.0 °C	70.0 °C
Humidity min. temp.		1-2	h33								*		-5.0 °C	h32	2.0 °C
<b>Miscellaneous</b>															
Delay of outputs at power-up		1-2	o01	*	*	*	*	*	*	*	*	*	0 s	600 s	5 s
DI1 Configuration	0=None, 1=DI status, 2=Door function, 3=Door alarm, 4=Defrost start, 5=Main switch, 6=Night setback, 7=Thermostat band, 8=Alarm at closed, 9=Alarm at open, 10=Case cleaning, 11=Forced cooling, 12=Open blinds, 13=Coordinated defrost, 14=Forced closing, 15=Shutdown, 16=Light control, 20=Leak detection, 21=Adaptive liquid control, 22=Valve driver, 23=Fan alarm	1-2 <sup>1)</sup>	o02	*	*	*	*	*	*	*	*	*	0	23	0
Network address		1-3 <sup>1)</sup>	o03	*	*	*	*	*	*	*	*	*	0	240	0
Service pin	0=OFF, 1=ON	1-2	o04	*	*	*	*	*	*	*	*	*	0	1	0
Access code 3		3-3	o05	*	*	*	*	*	*	*	*	*	0	999	0
Temperature sensor type	0=Pt 1000, 1=PTC 1000, 2=NTC 5k, 3=NTC 10k	1-3 <sup>1)</sup>	o06	*	*	*	*	*	*	*	*	*	0	3	0
Max. hold time		1-2	o16	*	*	*	*	*	*	*	*	*	0 min	360 min	20 min
Display air S4%		1-2	o17	*	*	*	*	*	*	*	*	*	0 %	100 %	100%
Pe Min range		1-3 <sup>1)</sup>	o20	*	*	*	*	*	*	*	*	*	-1.0 Bar	5.0 Bar	-1.0 Bar
Pe Max range		1-3 <sup>1)</sup>	o21	*	*	*	*	*	*	*	*	*	6.0 Bar	200.0 Bar	12.0 Bar
AO1 Min. voltage		1-3 <sup>1)</sup>	o27	*	*	*	*	*	*	*	*	*	0.0 V	o28	0.0 V
AO1 Max. voltage		1-3 <sup>1)</sup>	o28	*	*	*	*	*	*	*	*	*	o27	10.0 V	10.0 V
Refrigerant	0=Not seleted, 6=R13, 7=R13b1, 2=R22, 8=R23, 14=R32, 11=R114, 3=R134a, 12=R142b, 24=R170, 15=R227, 25=R290, 16=R401A, 18=R402A, 19=R404A, 21=R407A, 22=R407B, 20=R407C, 37=R407F, 49=R407H, 23=R410A, 32=R413A, 30=R417A, 31=R422A, 33=R422D, 34=R427A, 35=R438A, 40=R448A, 41=R449A, 48=R449B, 43=R450A, 44=R452B, 45=R454B, 9=R500, 4=R502, 10=R503, 17=R507, 36=R513A, 26=R600, 27=R600a, 5=R717, 28=R744, 46=R1233zdE, 38=R1234ze, 39=R1234yf, 47=R1234zeZ, 29=R1270, 42=R452A, 1=User defined display, 13=User defined	1-3 <sup>1)</sup>	o30	*	*	*	*	*	*	*	*	*	0	49	0

Function	Values	R-W	Code	1	2	3	4	5	6	7	8	9	Min. value	Max. value	Fact. value
DI2 Configuration	0=None, 1=DI status, 2=Door function, 3=Door alarm, 4=Defrost start, 5=Main switch, 6=Night setback, 7=Thermostat band, 8=Alarm at closed, 9=Alarm at open, 10=Case cleaning, 11=Forced cooling, 12=Open blinds, 13=Coordinated defrost, 14=Forced closing, 15=Shutdown, 16=Light control, 20=Leak detection, 21=Adaptive liquid control, 22=Valve driver, 23=Fan alarm	1-2 <sup>1)</sup>	o37	*	*	*	*	*	*	*	*	*	0	23	0
Light control mode	1=Day and night, 2=Network, 3=Door switch, 4=Network (Fallback), 5=Digital input	1-2	o38	*	*		*	*	*	*	*	*	1	5	1
MC Light signal	0=OFF, 1=ON	1-2	o39	*	*		*	*	*	*	*	*	0	1	0
Rail heat ON cycle day		1-2	o41	*	*	*	*	*	*	*	*	*	0 %	100 %	100%
Rail heat ON cycle night		1-2	o42	*	*	*	*	*	*	*	*	*	0 %	100 %	100%
Rail heat period time		1-2	o43		*	*	*		*			*	6 min	60 min	6 min
Case cleaning mode	0=OFF, 1=Fans run, 2=Cleaning	0-1	o46	*	*	*	*	*	*	*	*	*	0	2	0
Application mode	1=1. Comp/Alarm/Light, 2=2. Comp/Rail/Light, 3=3. Comp/Alarm/Rail, 4=4. Alarm/Rail/Light, 5=5. Hot gas remote, 6=6. Dual with 1 evap., 7=7. Dual with 2 evap., 8=8. Cold room, 9=9. Custom	1-3 <sup>1)</sup>	o61	*	*	*	*	*	*	*	*	*	1	9	1
Access code 2		2-2	o64	*	*	*	*	*	*	*	*	*	0	999	0
Make new factory	0=OFF, 1=ON	3-3 <sup>1)</sup>	o67	*	*	*	*	*	*	*	*	*	0	1	0
DI3 Configuration	0=None, 1=DI status, 2=Door function, 3=Door alarm, 4=Defrost start, 5=Main switch, 6=Night setback, 7=Thermostat band, 8=Alarm at closed, 9=Alarm at open, 10=Case cleaning, 11=Forced cooling, 12=Open blinds, 13=Coordinated defrost, 14=Forced closing, 15=Shutdown, 16=Light control, 20=Leak detection, 21=Adaptive liquid control, 22=Valve driver, 23=Fan alarm	1-2 <sup>1)</sup>	o84	*	*	*	*	*	*	*	*	*	0	23	0
Rail heat control mode	0=ON, 1=Day/Night timer, 2=Dewpoint ctrl.	1-2	o85	*	*	*	*	*	*	*	*	*	0	2	0
Dewpoint min. limit		1-2	o86	*	*	*	*	*	*	*	*	*	-10.0 °C	o87	8.0 °C
Dewpoint max. limit		1-2	o87	*	*	*	*	*	*	*	*	*	o86	50.0 °C	17.0 °C
Rail heat min. ON cycle		1-2	o88	*	*	*	*	*	*	*	*	*	0 %	100 %	30%
Door restart inj. delay		1-2	o89	*	*	*	*	*	*	*	*	*	0 min	240 min	30 min
Fan at forced closing	0=OFF, 1=ON, 2=OFF and suppress defrost, 3=ON and suppress defrost	1-2	o90	*	*	*	*	*	*	*	*	*	0	3	1
Display readout	1=Display air, 2=S6 Product temp.	1-2	o97	*	*	*	*	*			*	*	1	2	1
Light at Main switch OFF	0=OFF, 1=Normal ctrl.	1-2	o98	*	*		*	*	*	*	*	*	0	1	0
<b>Control</b>															
Alarm relay priority	0=Not used, 1=High Priority, 2=Medium priority, 3=All	1-2	P41	*		*	*		*	*	*	*	0	3	2
Blinds max. open time		1-2	P60									*	0 min	60 min	5 min
Fan stop at blinds closing		1-2	P65	*	*		*	*	*	*	*	*	0 s	300 s	0 s
Rail heat PWM - Period time		1-2	P82	*	*	*	*	*	*	*	*	*	4 s	60 s	10 s
Refrigerant factor K1		1-3 <sup>1)</sup>	P83	*	*	*	*	*	*	*	*	*	-999	999	300
Refrigerant factor K2		1-3 <sup>1)</sup>	P84	*	*	*	*	*	*	*	*	*	-999	999	300
Refrigerant factor K3		1-3 <sup>1)</sup>	P85	*	*	*	*	*	*	*	*	*	-999	999	300
Max. superheat liquid ctrl. A		1-2	P86	*	*	*	*	*	*	*	*	*	P87	20.0 °C	3.0 °C
Min. superheat liquid ctrl A		1-2	P87	*	*	*	*	*	*	*	*	*	0.0 °C	P86	1.0 °C
Access code 1		1-1	P88	*	*	*	*	*	*	*	*	*	0	999	0

Function	Values	R-W	Code	1	2	3	4	5	6	7	8	9	Min. value	Max. value	Fact. value
Display lock	0=OFF, 1=ON	1-2	P89	*	*	*	*	*	*	*	*	*	0	1	0
LLSV closing delay		1-2	P92	*	*	*	*	*	*	*	*	*	0 s	300 s	5s
<b>DO config and manual</b>															
DO2 Configuration	0=None, 1=Fans, 2=Fan ECO, 3=Defrost, 4=Rail heat, 5=Alarm, 6=Light, 7=Blinds, 8=Compressor/LLSV, 9=Compressor 2, 10=Air heater	1-3 <sup>1)</sup>	q02									*	0	10	5
DO3 Configuration	0=None, 1=Fans, 2=Fan ECO, 3=Defrost, 4=Rail heat, 5=Alarm, 6=Light, 7=Blinds, 8=Compressor/LLSV, 9=Compressor 2, 10=Air heater	1-3 <sup>1)</sup>	q03									*	0	10	8
DO4 Configuration	0=None, 1=Fans, 2=Fan ECO, 3=Defrost, 4=Rail heat, 5=Alarm, 6=Light, 7=Blinds, 8=Compressor/LLSV, 9=Compressor 2, 10=Air heater	1-3 <sup>1)</sup>	q04									*	0	10	9
DO5 Configuration	0=None, 1=Fans, 2=Fan ECO, 3=Defrost, 4=Rail heat, 5=Alarm, 6=Light, 7=Blinds, 8=Compressor/LLSV, 9=Compressor 2, 10=Air heater	1-3 <sup>1)</sup>	q05									*	0	10	3
DO6 Configuration	0=None, 1=Fans, 2=Fan ECO, 3=Defrost, 4=Rail heat, 5=Alarm, 6=Light, 7=Blinds, 8=Compressor/LLSV, 9=Compressor 2, 10=Air heater	1-3 <sup>1)</sup>	q06									*	0	10	1
AO1 Configuration	0=None, 1=Rail heat PWM, 2=Valve driver	1-3 <sup>1)</sup>	q09	*	*	*	*	*	*	*	*	*	0	2	0
EEV override A		1-2 <sup>2)</sup>	q11	*	*	*	*	*	*	*	*	*	0 %	100 %	0 %
Compressor 1 - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q12	*	*	*						*	0	1	0
Fan - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q13	*	*	*	*	*	*	*	*	*	0	1	0
Defrost A - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q14	*	*	*	*		*	*	*	*	0	1	0
Rail heat - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q15		*	*	*		*			*	0	1	0
Alarm relay - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q16	*		*	*		*	*	*	*	0	1	0
Light - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q17	*	*		*	*	*	*	*	*	0	1	0
Suction valve - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q18					*					0	1	0
Compressor 2 - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q19									*	0	1	0
Hot gas valve - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q20					*					0	1	0
Blinds - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q21									*	0	1	0
Defrost B - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q22							*			0	1	0
Air heater - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q23									*	0	1	0
Fan ECO - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q24									*	0	1	0
Drain valve - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q25					*					0	1	0
Humidifier - override	0=MAN OFF, 1=MAN ON	1-2 <sup>2)</sup>	q26								*		0	1	0
Rail heat PWM - override		1-2 <sup>2)</sup>	q27	*	*	*	*	*	*	*	*	*	0 %	100 %	0 %
High temperature - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q28	*	*	*	*	*	*	*	*	*	0	3	1
Low temperature - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q29	*	*	*	*	*	*	*	*	*	0	3	1
Sensor errors - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q30	*	*	*	*	*	*	*	*	*	0	3	1
DI alarms - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q31	*	*	*	*	*	*	*	*	*	0	3	2
Defrost - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q32	*	*	*	*	*	*	*	*	*	0	3	3
Miscellaneous - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q33	*	*	*	*	*	*	*	*	*	0	3	2
Injection - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q34	*	*	*	*	*	*	*	*	*	0	3	2
Control stopped - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q35	*	*	*	*	*	*	*	*	*	0	3	3

Function	Values	R-W	Code	1	2	3	4	5	6	7	8	9	Min. value	Max. value	Fact. value
Leak detection - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q36	*	*	*	*	*	*	*	*	*	0	3	2
Humidity ctrl. - Priority	0=Disabled, 3=Low, 2=Medium, 1=High	1-2	q37								*		0	3	2
Food temp. sensor	1=Thermostat air, 2=Alarm air, 3=S3 Air ON evap., 4=S6 Product temp.	1-2 <sup>1)</sup>	q39	*	*	*	*	*	*	*	*	*	1	4	2
LLSV - override	0=MAN OFF, 1=MAN ON	1-2	q45	*	*	*	*	*	*		*	*	0	1	0
Dehumidifier - override	0=MAN OFF, 1=MAN ON	1-2	q46								*		0	1	0
<b>Service</b>															
Control state A	0=Normal ctrl., 1=Hold after defrost, 2=Min ON timer, 3=Min OFF timer, 4=Drip off, 5=Restart timer, 6=Ctrl_Sout, 7=Ctrl_Sin, 8=Cut-in delay, 9=Cut-out delay, 10=Main switch OFF, 11=Thermostat cut-out, 12=Frost protection S4, 13=Not_used, 14=Defrost, 15=Fan delay, 17=Door open, 18=Melt period, 19=Modulating temp. control, 20=Emergency control, 21=Injection error, 22=Charging evaporator, 23=Adaptive superheat control, 24=Start injection, 25=Manual control, 26=No refrigerant selected, 16=Forced closing, 27=Forced_cooling1, 28=AmbientMode, 29=Case cleaning, 30=Forced cooling, 31=Door open, 32=Power-up delay, 33=Air heating, 35=Cooling_ON_B, 36=Cooling_OFF_B, 37=Cooling_ON_C, 38=Cooling_OFF_C, 39=Cooling_ON_D, 40=Cooling_OFF_D, 41=High_Sc, 42=Heat Recovery, 43=S43, 44=Sensor_error_recovery, 45=Shut down controller, 46=Power_Module, 47=Load_shed, 48=Adaptive liquid control	0-X	u00	*	*	*	*	*	*	*	*	*	0	48	0
S5 Evaporator A		0-X	u09	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
DI1 Status	0=OFF, 1=ON	0-X	u10	*	*	*	*	*	*			*	0	1	0
Defrost time A		0-X	u11	*	*	*	*	*	*	*	*	*	0 min	900 min	0 min
S3 Air ON evap. A		0-X	u12	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Night condition	0=OFF, 1=ON	0-X	u13	*	*	*	*	*	*	*	*	*	0	1	0
S4 Air OFF evap. A		0-X	u16	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Thermostat air temp. A		0-X	u17	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Thermostat run time A		0-X	u18	*	*	*	*	*	*	*	*	*	0 min	999 min	0 min
S2 Gas outlet A		0-X	u20	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Superheat A		0-X	u21	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Superheat reference A		0-X	u22	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
EEV opening A		0-X	u23	*	*	*	*	*	*	*	*	*	0 %	100 %	0 %
Pe Evap. pressure		0-X	u25	*	*	*	*	*	*	*	*	*	-1.0 Bar	200.0 Bar	0.0 Bar
Te Evap. temp.		0-X	u26	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
S6 product temp.		0-X	u36	*	*	*	*	*			*	*	-200.0 °C	200.0 °C	0.0 °C
DI2 Status	0=OFF, 1=ON	0-X	u37	*	*	*	*	*	*	*	*	*	0	1	0
Display readout 1		0-X	u56	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Alarm air temp. A		0-X	u57	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Compressor 1	0=OFF, 1=ON	0-X	u58	*	*	*						*	0	1	0
Fan	0=OFF, 1=ON	0-X	u59	*	*	*	*	*	*	*	*	*	0	1	0
Defrost A	0=OFF, 1=ON	0-X	u60	*	*	*	*		*	*	*	*	0	1	0
Rail heat	0=OFF, 1=ON	0-X	u61		*	*	*		*			*	0	1	0
Alarm relay	0=OFF, 1=ON	0-X	u62	*		*	*		*	*	*	*	0	1	0
Light	0=OFF, 1=ON	0-X	u63	*	*		*	*	*	*	*	*	0	1	0

Function	Values	R-W	Code	1	2	3	4	5	6	7	8	9	Min. value	Max. value	Fact. value
Suction valve	0=OFF, 1=ON	0-X	u64					*					0	1	0
Compressor 2	0=OFF, 1=ON	0-X	u67									*	0	1	0
S5 Evaporator B		0-X	u75	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
S3 Air ON evap. B		0-X	u76						*	*			-200.0 °C	200.0 °C	0.0 °C
Hot gas valve	0=OFF, 1=ON	0-X	u80					*					0	1	0
Blinds	0=OFF, 1=ON	0-X	u82									*	0	1	0
Defrost B	0=OFF, 1=ON	0-X	u83							*			0	1	0
Air heater	0=OFF, 1=ON	0-X	u84									*	0	1	0
Rail heat power		0-X	u85	*	*	*	*	*	*	*	*	*	0 %	100 %	0%
Thermostat band	1=Band 1, 2=Band 2	0-X	u86	*	*	*	*	*	*	*	*	*	1	2	1
DI3 Status	0=OFF, 1=ON	0-X	u87	*	*	*	*	*	*	*	*	*	0	1	0
Thermostat cut-in temp.		0-X	u90	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	4.0 °C
Thermostat cut-out temp.		0-X	u91	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	2.0 °C
Adaptive defrost state	0=OFF, 1=Error, 2=Tuning, 3=OK, 4=Little ice, 5=Medium ice, 6=Heavy ice	0-X	U01	*	*	*	*	*	*	*	*	*	0	6	0
Accumulated defrosts		0-X	U10	*	*	*	*	*	*	*	*	*	0	32767	0
Accumulated skipped defrosts		0-X	U11	*	*	*	*	*	*	*	*	*	0	32767	0
Alarm air temp. B		0-X	U34						*	*			-200.0 °C	200.0 °C	0.0 °C
Display readout 2		0-X	U35	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Fan ECO	0=OFF, 1=ON	0-X	U37									*	0	1	0
Network status		0-X	U45	*	*	*	*	*	*	*	*	*	0 %	100 %	0%
Drain valve	0=OFF, 1=ON	0-X	U55					*					0	1	0
Humidity sensor		0-X	U57								*		0 %	100 %	0%
Humidifier	0=OFF, 1=ON	0-X	U58								*		0	1	0
Rail heat PWM		0-X	U59	*	*	*	*	*	*	*	*	*	0 %	100 %	0%
Food temperature A		0-X	U72	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Defrost sensor temperature A		0-X	U73	*	*	*	*	*	*	*	*	*	-200.0 °C	200.0 °C	0.0 °C
Liquid line solenoid	0=OFF, 1=ON	0-X	U95	*	*	*	*	*	*	*	*	*	0	1	0
Dehumidifier	0=OFF, 1=ON	0-X	U96								*		0	1	0

<b>Fault message</b>		
<p>In an error situation the alarm LED on the front will be on and the alarm relay will be activated (depending on priority).            If you push the alarm button for 3 seconds you can see the alarm report in the display.            (Alarm priorities can be changed. See the User Guide.)            Here are the messages that may appear:</p>		
<b>Code</b>	<b>Alarm text</b>	<b>Description</b>
E01	Hardware failure	The controller has a hardware failure
E06	Clock lost time	Clock has lost valid time
E20	Pe Evap. pressure A - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E24	S2 Gas outlet A - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E25	S3 Air ON evap. A - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E26	S4 Air OFF evap. A - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E27	S5 Evaporator A - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E28	S6 product temp. A - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E34	S3 Air ON evap. B - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E37	S5 Evaporator B - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
E59	Humidity sensor - Sensor error	Sensor signal is out of range. Please check the sensor for correct operation
A01	High temperature alarm A	The alarm temperature has been above the max alarm limit for a longer time period than the set alarm delay.
A02	Low temperature alarm A	The alarm temperature has been below the min alarm limit for a longer time period than the set alarm delay.
A04	Door open alarm	The door has been open for a too long time
A05	Max defrost hold time exceeded	The controller has been waiting longer time than permitted after a co-ordinated defrost.
A11	Refrigerant not selected	The refrigerant has not been selected hence control can not be initiated
A13	S6 high product temperature A	The S6 Product temperature has been above the max alarm limit for a longer time period than the set alarm delay.
A14	S6 low product temperature A	The S6 Product temperature has been below the min alarm limit for a longer time period than the set alarm delay.
A15	DI alarm 1	Alarm signal from digital input signal
A16	DI alarm 2	Alarm signal from digital input signal
A45	Main switch set OFF	The controller main switch has been set to either Stop or Manual control. Alternatively a digital input set up for "main switch" function, has stopped control
A59	Case in cleaning mode	A case cleaning operation has been started on a case
A70	High temperature alarm B	The alarm temperature has been above the max alarm limit for a longer time period than the set alarm delay.
A71	Low temperature alarm B	The alarm temperature has been below the min alarm limit for a longer time period than the set alarm delay.
AA2	CO2 leak detected	CO2 is leaking from the refrigeration system
AA3	Refrigerant leak detected	Refrigerant is leaking from the refrigeration system
a02	High humidity alarm	The humidity level is too high
a03	Low humidity alarm	The humidity level is too low
a04	Wrong IO configuration	Inputs and outputs have not been configured correctly
X02	Evaporator is icing up	The adaptive defrost function has detected heavy ice formation on evaporator.
X03	Flash gas detected	The adaptive defrost function has detected heavy flash gas in front of injection valve
Z01	Max defrost time exceeded A	The last defrost cycle has stopped on time instead of set temperature
A34	Fan alarm	Alarm from digital input monitoring function
A43	Valve driver alarm	Alarm from digital input monitoring function
<b>Data communication</b>		
The importance of individual alarms can be defined with a setting. The setting must be carried out in the group "Alarm destinations"		

For additional information, please see the respective User Guide.