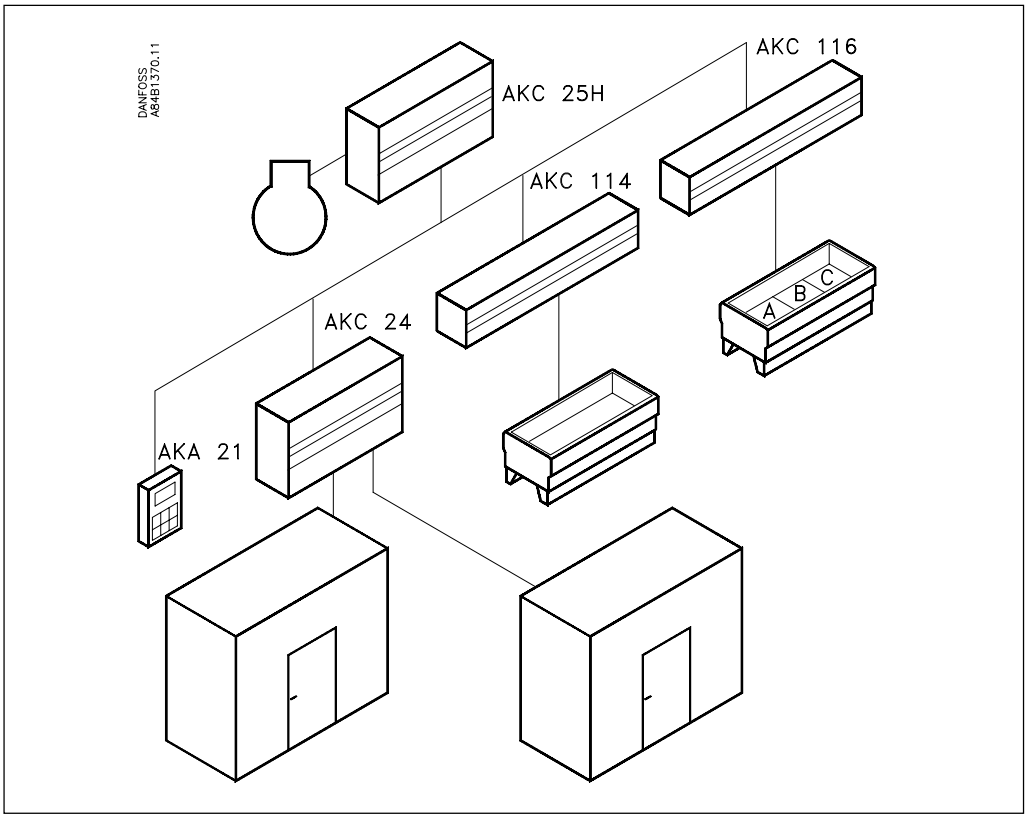
Menu operation via AKA 21

ADAP-KOOL®

Compressor Pack Controller
AKC 25H1

Software version 1.3x

System survey



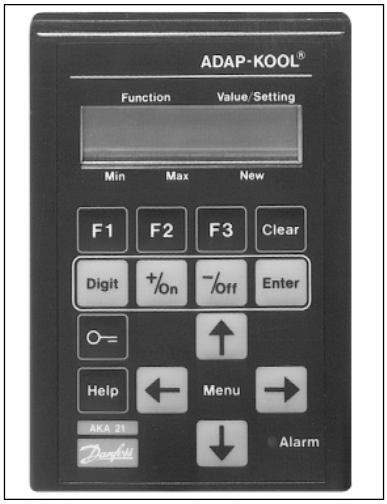
A refrigerating plant fitted with ADAP-KOOL® refrigeration controls will mostly consist of several controllers where each controller will regulate its own refrigeration appliance/cold room.

The system has been designed in such a way that contact can be made to each and every controller via a data communication system. One specific controller is selected, and it will now be possible to make settings and readouts for this unit.

Operation

The individual controllers can be operated in two ways:

1. With control panel type AKA 21.
   Use this document when operation takes place in this way.
2. With PC and system software type AKM. Use another document with literature number RC.1J.V.



Validity

This menu operation (dated September 1999), applies to AKC 25H1 with the following code numbers:
084B2017 and 084B2018 that are fitted with software version 1.3x.

Select a controller

All controllers that are connected to the same network can be operated with the control panel. There may be as many as 125 controllers, and they are shown in groups of 16 on the display.

```
1   <    1    > 16
AEAAAAAAAAEEgg A
```

A system is shown here which consists of more than 16 controllers. The meaning of the letters is, as follows:

A: AKC controller
E: Controller with active ERROR (on addresses 2, 11 and 12 in this example)
g: Gateway (to addresses 13 and 14 in this example)
G: Gateway with connected printer
: A blank field indicates that there is no unit with this address.

```
1   <    4    > 16
AEAAAAAAAAEEgg A
```

Select the unit that is to be operated by using the “+/On” or “-/Off” key, and push “Enter”. In this example you select the controller with address 4.

```
17  <    17   > 32
AAA
```

If the system comprises more than 16 units or units with an address code higher than 16, you may change to the next group by pushing "→".

Settings of a controller

When a controller has been selected, you can make settings in it. This setting is performed, as follows:

```
                  5
   -50 to +50     5
```

```
                 ON
   OFF / ON      ON
```

Shown in the upper right corner of the display is the setting with which the controller is operating. Below that value a new setting may be made. Use the three keys “+/ON”, “-/OFF” and “Digit” for setting the new value. This new value will not govern the regulation until you push the key “Enter”.

Access to a controller

The functions in the controller can be protected by means of an access code. Depending on the settings to be made, you may gain access in one of the following ways:

User input:		**Gives access to:**
1.	Push F1	Display of alarms
2.	Push F2	Read selected pressures and capacities, stop and start the regulation
3.	Code 1 and then F1	Acknowledgement of alarms
	Code 1 and then F3	Setting of selected parameters
4.	Code 2	Operation of all settings of the entire menu system (with system software type AKM there is access to additional functions).

Pages 6 and 7 contain a description of how you gain access to the system via a code.

Supporting text

A supporting text is attached to the individual functions. When such a function is shown in the control panel's display, the supporting text can be obtained by pushing the key "Help". The supporting text is intended as a help to users who no longer use these operating instructions.

How to localise an error

When an error appears in a system, it can be seen on the control panel's display which will show an "E". If the control panel shows a text from a selected controller, the LED at the word "Alarm" will furthermore flash.

1 < 2 > 16
A**E**AAAAAAAAAAgg A

AKC 25H1 Adr: 2
E Mon-11:27

High air temp

When an error has occurred, first select the controller on which the error is registered. When the controller has been found, push "F1", and the error message will appear.
At the end of the document there is a list of all the error messages and a description of how to acknowledge an alarm.

Functions of a controller

When one controller has been selected from the total system, the following display will appear (the display is the first one shown when you have selected an address from the total system):

e.g.

AKC 25H1 Adr: 2
E Mon-11:27

From this position you can freely choose between several forms of operating levels:
1. Display of alarms - push "F1"
2. Display and setting of a few selected functions - push "F2"
3. Display and setting of several selected functions - push "F3"
   The function may be protected with a code (code 1)
4. Display and setting of all allowed functions in the controller. The function may be protected with a code (code 2).

Operation of the individual levels is shown below:

1. F1

When you push "F1" the alarm messages from the controller in question appear. Only active alarms are shown. With a push on "↓" you can see whether there are more alarm messages, and if so, their texts.
When an alarm has been localised and corrected, the alarm is acknowledged (removed from the system, so that it no longer appears). In large systems where a gateway is also connected this acknowledgement will take place automatically. In other systems it has to be done manually, cf. end of the document.
Prior to the acknowledgement of the alarm, the keying of a code is required, see page 6.

Leave the F1 function by pushing "←".

2. F2 When you push “F2” a number of functions will appear where it is possible to read or set values.
You can move to and from the individual functions by pushing "↑" or "↓". On page 3 you can see how a setting is changed.

Main Switch -1 / 0 / 1 2:02:01	Function switch: 1: Regulation 0: Controller stopped -1: Service function
P0 °C 3:02:01	Suction pressure in °C (measured with the pressure transmitter on the PO input)
Comp.Cap.% 3:02:03	Cut-in compressor capacity in % (of total capacity)
Night s.b. 3:02:08	Status of night setback function ON: an increase of the evaporating pressure is permitted (see also 3:03:09) OFF: Normal situation
Pc °C 5:02:01	Discharge pressure in °C (measured with the pressure transmitter on the Pc output)
Cond.Cap.% 5:02:03	Cut in condenser capacity in %

Leave the F2 function by pushing "←".

3. F3 When you push “F3”, a number of functions will appear which are used when the system is serviced.

- If access code is used (code 1), key it as follows:
  - Push the “key”
  - Enter the code by using the three keys “+”, “-” and “Digit” (the code is mentioned later as code 1, and the factory setting is 40. If code 2 has been set at 0, access code 1 cannot be used).
  - Push “Enter”
  - Push “F3”

Move to and from the individual functions by pushing "↑" or "↓".
On page 3 you can see how a setting is changed.

P0 SP °C -99.9 30.0 3:03:01	Setting of required suction pressure in °C
NZ K 0.1 20.0 3:03:02	Neutral zone for suction pressure
P0 Ref °C 3:02:02	Suction pressure reference (incl. external reference signal, if any)
Req. Cap % 3:02:04	Reference for compressor capacity (deviations from "3:02:03" may be due to time delays)
Night Ref K -25 +25 3:03:09	Displacement value for suction pressure in connection with an active night setback signal (set in Kelvin)
Step Mode 1 2 3:03:10	Cut in and cut out sequence for compressors 1: Sequential (first in, first out) 2: Cyclic (equalisation of run time)
Pc SP °C -25.0 75.0 5:03:01	Setting of required discharge pressure in °C
NZ K 0.1 10 5:03:02	Neutral zone for discharge pressure in K
Pc Ref °C 5:02:02	Discharge pressure reference in °C
Req. Cap. % 5:02:04	Reference for condenser capacity (deviations from "5:02:03" may be due to time delays)
Sd Max °C 0 150 6:02:01	Max. value of discharge gas temperature (If the value is exceeded, the entire compressor capacity will be cut out)
Pc Max °C -30 70 6:02:02	Max. value of discharge pressure in °C (If the value is exceeded, the entire compressor capacity will be cut out) (At 3 K under Pc max. the intire condenser capacity will be cut in)
P0 Min °C -100 30 6:02:03	Min. value of suction pressure in °C (If the value becomes less, the entire compressor capacity will be cut out)
Restart m 0 30 6:02:04	Time delay before restart (Applies to the three earlier functions: "Sd Max", "Pc Max" and "P0 Min")

Leave the function by pushing "←".

4. Access to all functions

The access to the functions may be protected with a code (code 2).

- If access code is used, key it as follows:
  - Push the “key”
  - Enter the code by using the three keys “+”, “-” and “Digit”
  - Push “Enter”
  - Push "←"

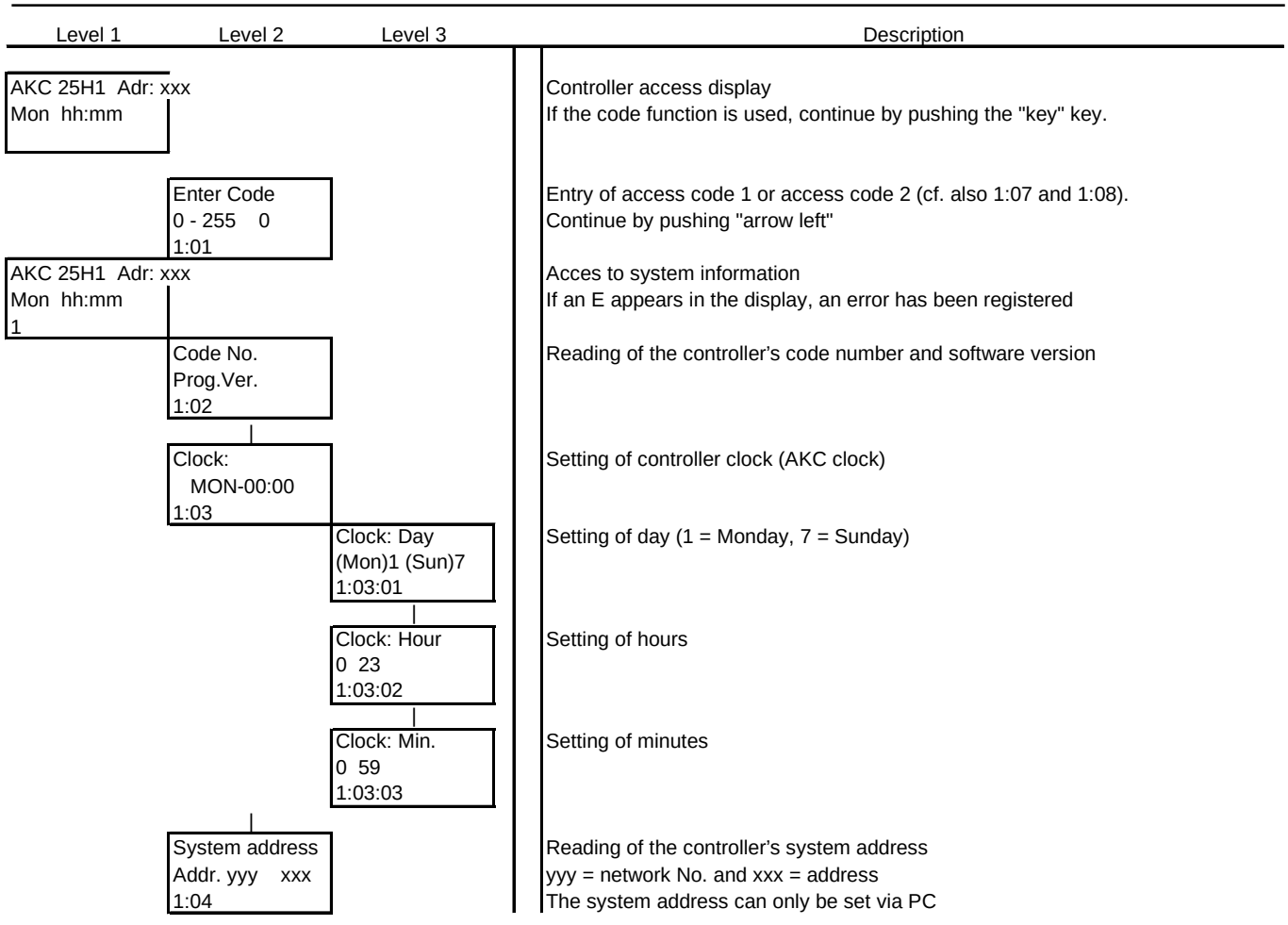
Move to and from the individual functions by pushing the four arrow keys.
On page 3 you can see how a setting is changed.

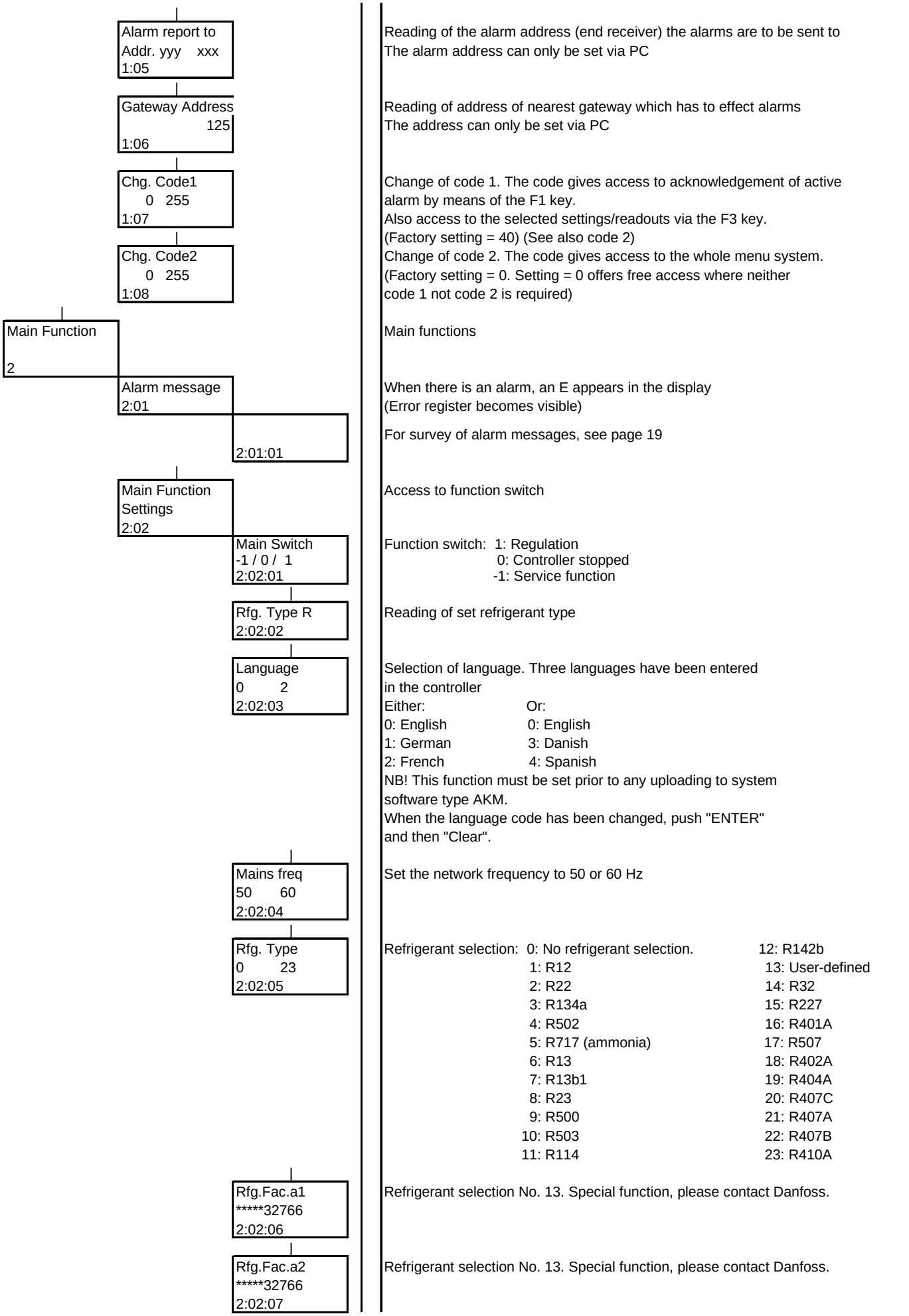
When you wish to leave the “Access to all functions” function, push “Clear” and then "←".

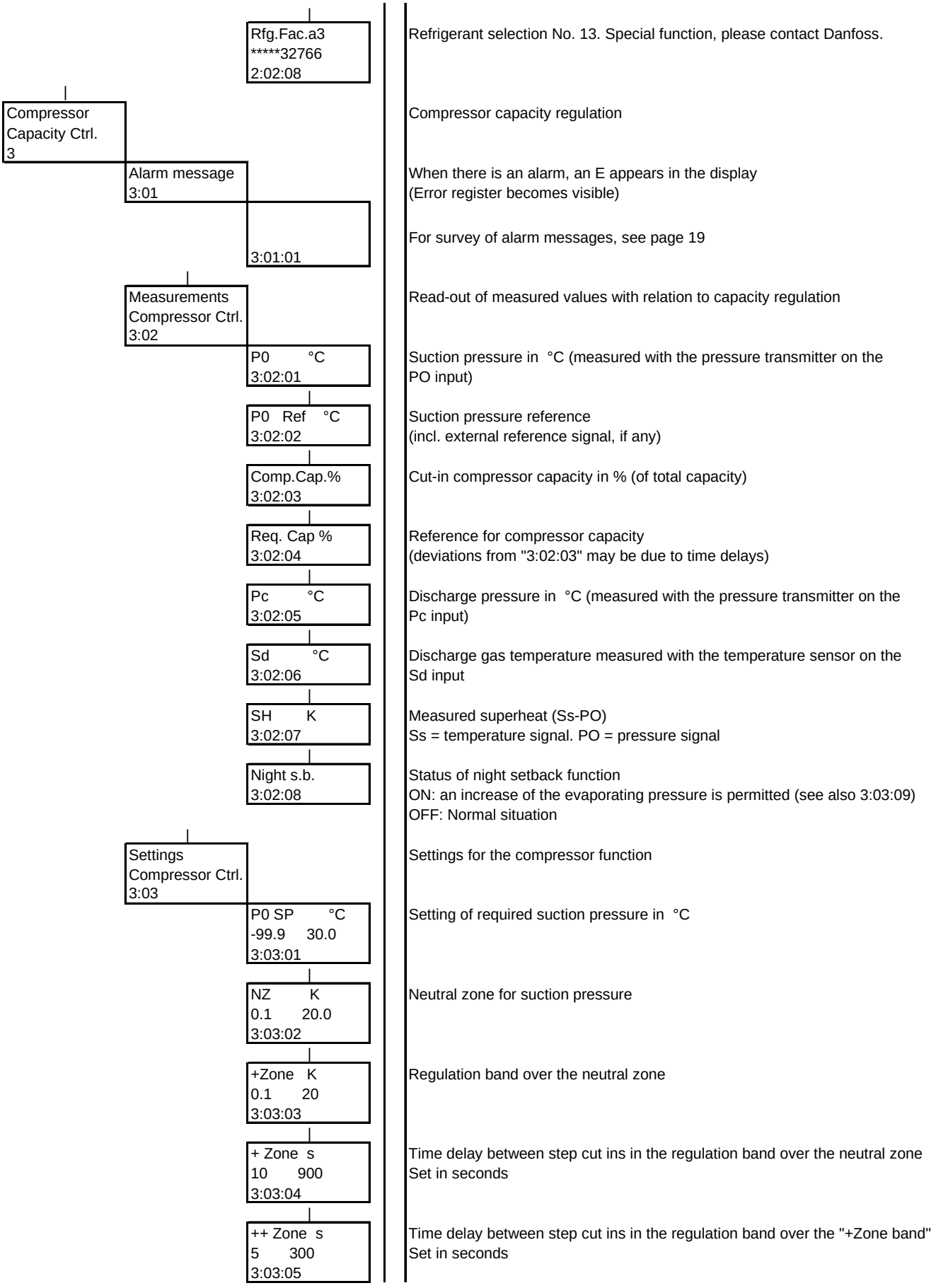
List of functions on level 1:

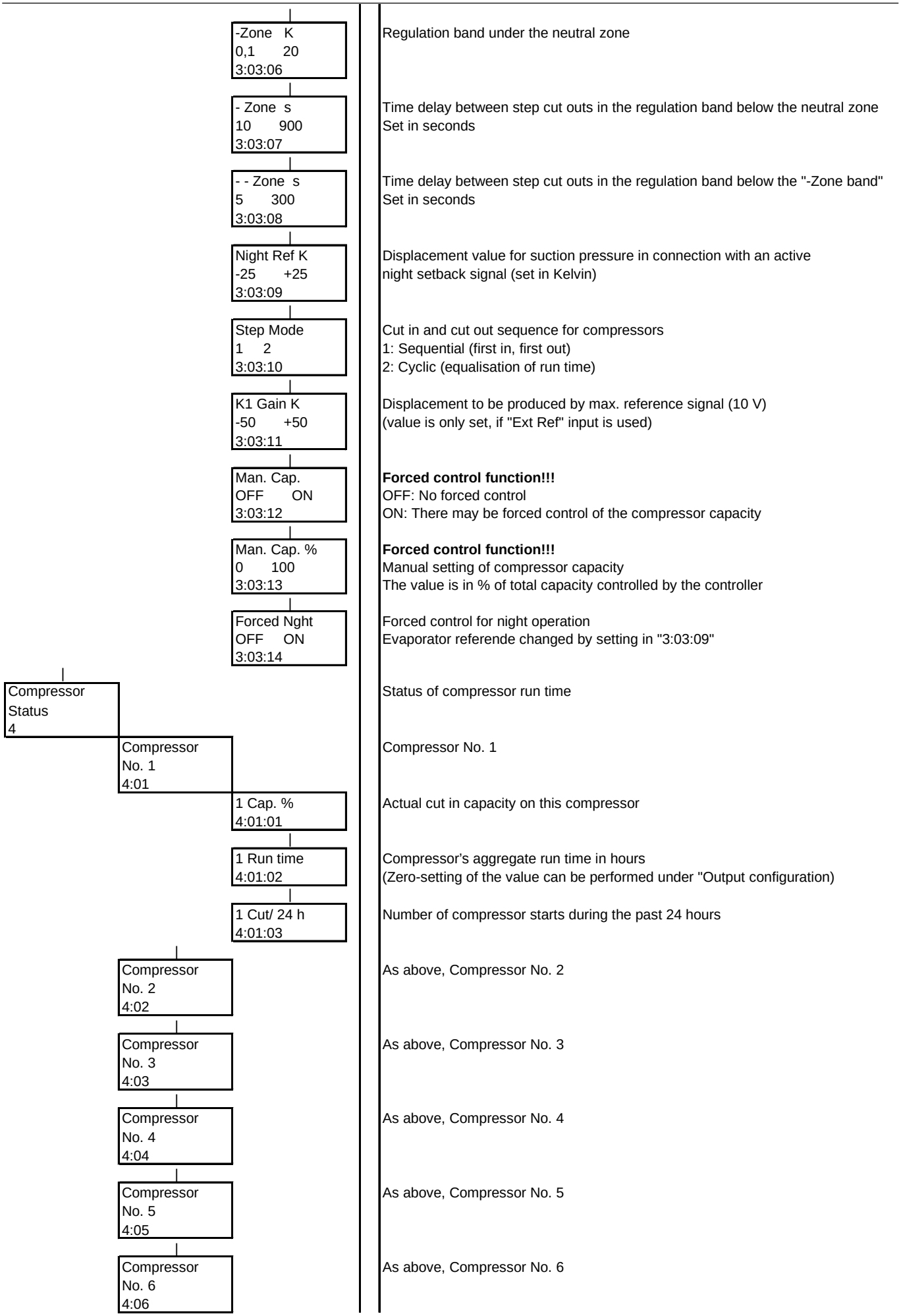
1. Controller’s access picture and access to system information
2. Controller switch and language selection
3. Compressor capacity regulation
4. Compressor working data
5. Condenser capacity regulation
6. Safety limits
7. Configuration of inputs
8. Configuration of outputs
9. Forced-control functions for service and initial setting

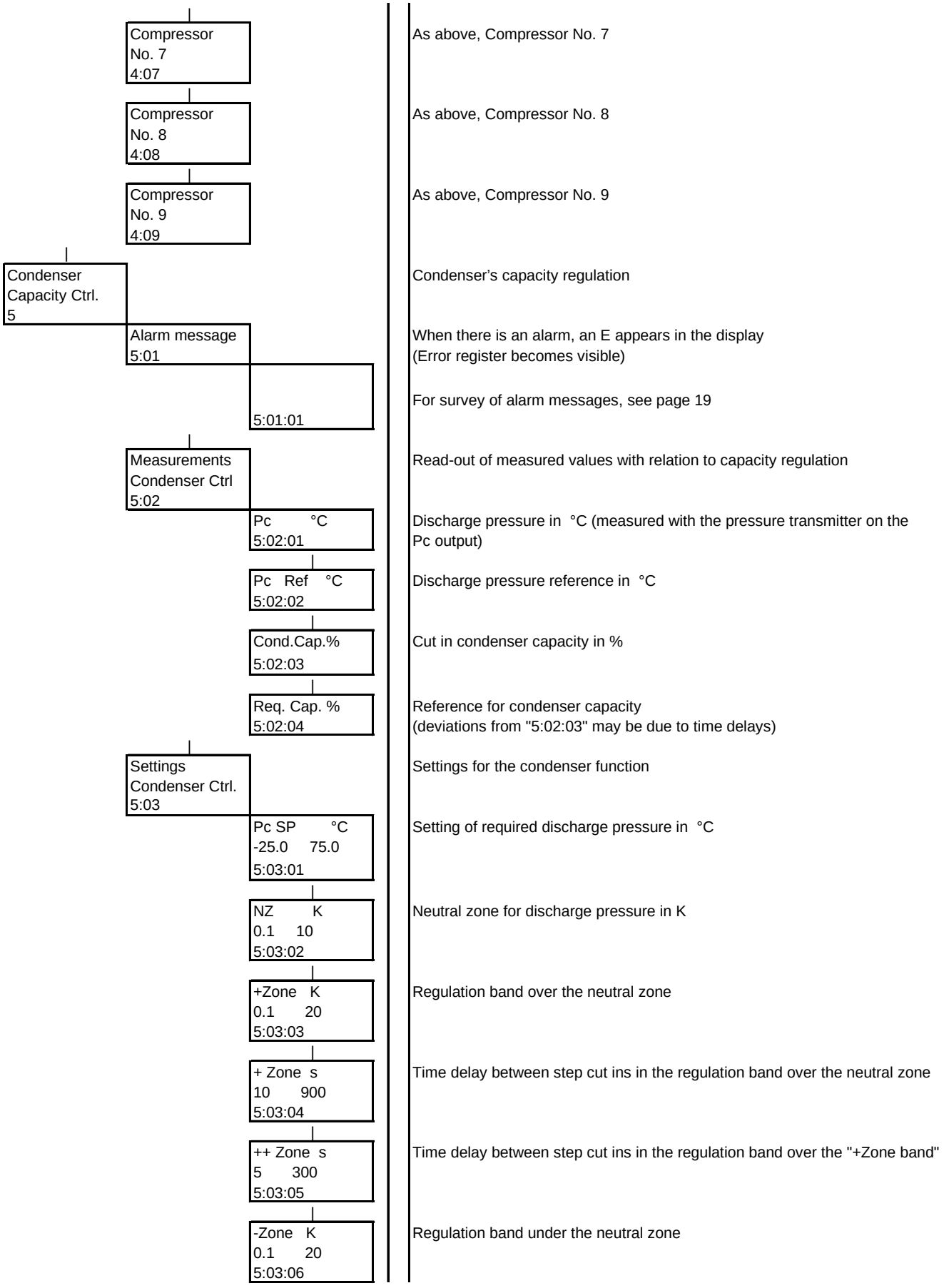
Below and on the following pages the individual functions are shown together with a brief description:

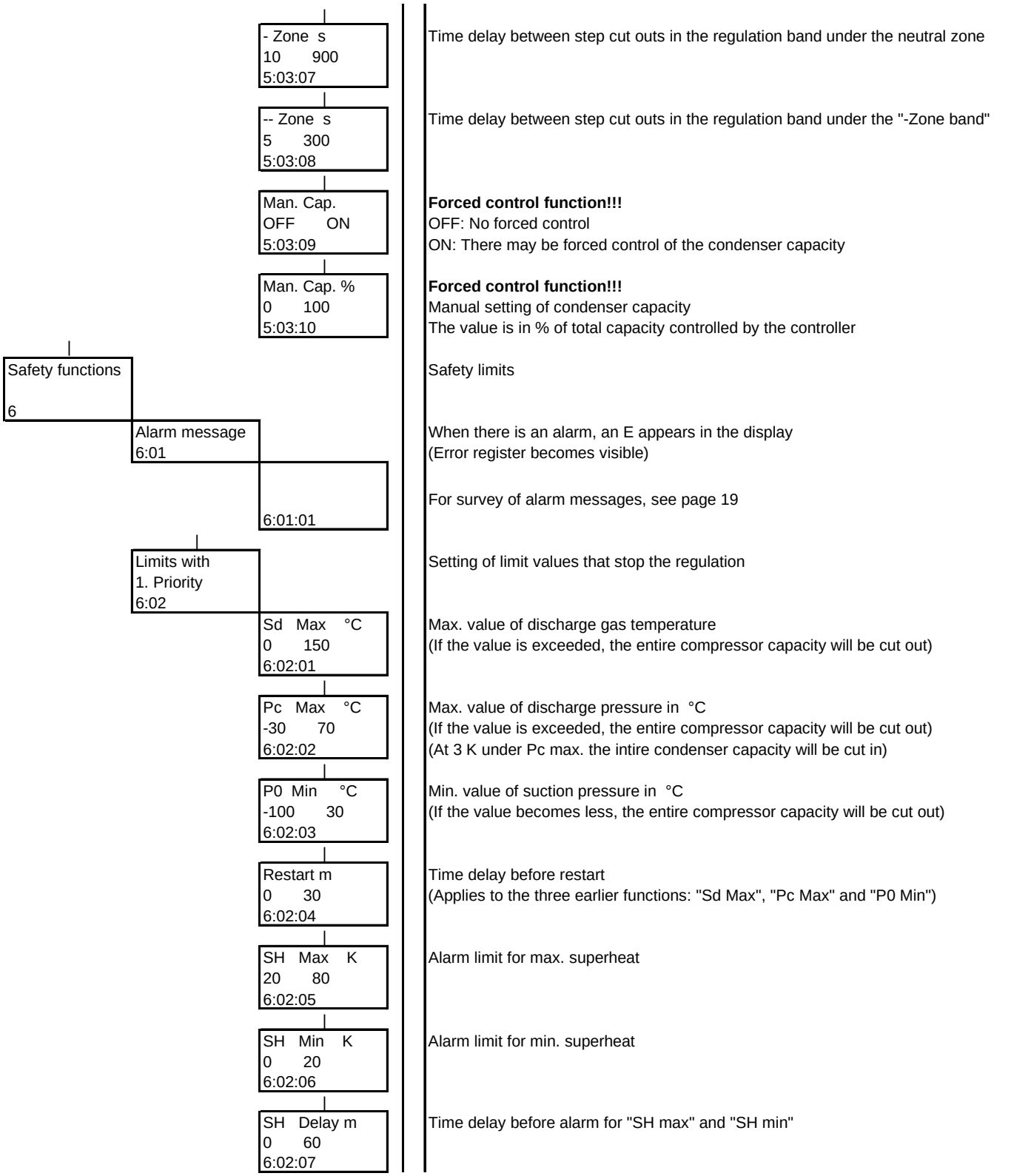


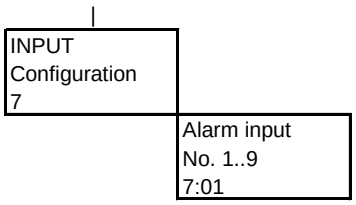

Alarm report to
Addr. yyy xxx
1:05
Reading of the alarm address (end receiver) the alarms are to be sent to
The alarm address can only be set via PC
Gateway Address
125
1:06
Reading of address of nearest gateway which has to effect alarms
The address can only be set via PC
Chg. Code1
0 255
1:07
Change of code 1. The code gives access to acknowledgement of active alarm by means of the F1 key.
Also access to the selected settings/readouts via the F3 key.
(Factory setting = 40) (See also code 2)
Chg. Code2
0 255
1:08
Change of code 2. The code gives access to the whole menu system.
(Factory setting = 0. Setting = 0 offers free access where neither code 1 not code 2 is required)
Main Function
2
Main functions
Alarm message
2:01
When there is an alarm, an E appears in the display
(Error register becomes visible)
2:01:01
For survey of alarm messages, see page 19
Main Function
Settings
2:02
Access to function switch
Main Switch
-1 / 0 / 1
2:02:01
Function switch: 1: Regulation
0: Controller stopped
-1: Service function
Rfg. Type R
2:02:02
Reading of set refrigerant type
Language
0 2
2:02:03
Selection of language. Three languages have been entered in the controller
Either: Or:
0: English 0: English
1: German 3: Danish
2: French 4: Spanish
NB! This function must be set prior to any uploading to system software type AKM.
When the language code has been changed, push "ENTER" and then "Clear".
Mains freq
50 60
2:02:04
Set the network frequency to 50 or 60 Hz
Rfg. Type
0 23
2:02:05
Refrigerant selection: 0: No refrigerant selection.
1: R12
2: R22
3: R134a
4: R502
5: R717 (ammonia)
6: R13
7: R13b1
8: R23
9: R500
10: R503
11: R114
12: R142b
13: User-defined
14: R32
15: R227
16: R401A
17: R507
18: R402A
19: R404A
20: R407C
21: R407A
22: R407B
23: R410A
Rfg.Fac.a1
*****32766
2:02:06
Refrigerant selection No. 13. Special function, please contact Danfoss.
Rfg.Fac.a2
*****32766
2:02:07
Refrigerant selection No. 13. Special function, please contact Danfoss.


Rfg.Fac.a3
*****32766
2:02:08
Refrigerant selection No. 13. Special function, please contact Danfoss.
Compressor
Capacity Ctrl.
3
Compressor capacity regulation
Alarm message
3:01
When there is an alarm, an E appears in the display
(Error register becomes visible)
3:01:01
For survey of alarm messages, see page 19
Measurements
Compressor Ctrl.
3:02
Read-out of measured values with relation to capacity regulation
P0 °C
3:02:01
Suction pressure in °C (measured with the pressure transmitter on the PO input)
P0 Ref °C
3:02:02
Suction pressure reference
(incl. external reference signal, if any)
Comp.Cap.%
3:02:03
Cut-in compressor capacity in % (of total capacity)
Req. Cap %
3:02:04
Reference for compressor capacity
(deviations from "3:02:03" may be due to time delays)
Pc °C
3:02:05
Discharge pressure in °C (measured with the pressure transmitter on the Pc input)
Sd °C
3:02:06
Discharge gas temperature measured with the temperature sensor on the Sd input
SH K
3:02:07
Measured superheat (Ss-PO)
Ss = temperature signal. PO = pressure signal
Night s.b.
3:02:08
Status of night setback function
ON: an increase of the evaporating pressure is permitted (see also 3:03:09)
OFF: Normal situation
Settings
Compressor Ctrl.
3:03
Settings for the compressor function
P0 SP °C
-99.9 30.0
3:03:01
Setting of required suction pressure in °C
NZ K
0.1 20.0
3:03:02
Neutral zone for suction pressure
+Zone K
0.1 20
3:03:03
Regulation band over the neutral zone
+ Zone s
10 900
3:03:04
Time delay between step cut ins in the regulation band over the neutral zone
Set in seconds
++ Zone s
5 300
3:03:05
Time delay between step cut ins in the regulation band over the "+Zone band"
Set in seconds


-Zone K
0,1 20
3:03:06
Regulation band under the neutral zone
- Zone s
10 900
3:03:07
Time delay between step cut outs in the regulation band below the neutral zone
Set in seconds
- - Zone s
5 300
3:03:08
Time delay between step cut outs in the regulation band below the "-Zone band"
Set in seconds
Night Ref K
-25 +25
3:03:09
Displacement value for suction pressure in connection with an active
night setback signal (set in Kelvin)
Step Mode
1 2
3:03:10
Cut in and cut out sequence for compressors
1: Sequential (first in, first out)
2: Cyclic (equalisation of run time)
K1 Gain K
-50 +50
3:03:11
Displacement to be produced by max. reference signal (10 V)
(value is only set, if "Ext Ref" input is used)
Man. Cap.
OFF ON
3:03:12
Forced control function!!!
OFF: No forced control
ON: There may be forced control of the compressor capacity
Man. Cap. %
0 100
3:03:13
Forced control function!!!
Manual setting of compressor capacity
The value is in % of total capacity controlled by the controller
Forced Nght
OFF ON
3:03:14
Forced control for night operation
Evaporator referende changed by setting in "3:03:09"
Compressor
Status
4
Status of compressor run time
Compressor
No. 1
4:01
Compressor No. 1
1 Cap. %
4:01:01
Actual cut in capacity on this compressor
1 Run time
4:01:02
Compressor's aggregate run time in hours
(Zero-setting of the value can be performed under "Output configuration)
1 Cut/ 24 h
4:01:03
Number of compressor starts during the past 24 hours
Compressor
No. 2
4:02
As above, Compressor No. 2
Compressor
No. 3
4:03
As above, Compressor No. 3
Compressor
No. 4
4:04
As above, Compressor No. 4
Compressor
No. 5
4:05
As above, Compressor No. 5
Compressor
No. 6
4:06
As above, Compressor No. 6


Compressor No. 7 4:07
As above, Compressor No. 7
Compressor No. 8 4:08
As above, Compressor No. 8
Compressor No. 9 4:09
As above, Compressor No. 9
Condenser Capacity Ctrl. 5
Condenser's capacity regulation
Alarm message 5:01
When there is an alarm, an E appears in the display
(Error register becomes visible)
5:01:01
For survey of alarm messages, see page 19
Measurements Condenser Ctrl 5:02
Read-out of measured values with relation to capacity regulation
Pc °C 5:02:01
Discharge pressure in °C (measured with the pressure transmitter on the Pc output)
Pc Ref °C 5:02:02
Discharge pressure reference in °C
Cond.Cap.% 5:02:03
Cut in condenser capacity in %
Req. Cap. % 5:02:04
Reference for condenser capacity
(deviations from "5:02:03" may be due to time delays)
Settings Condenser Ctrl. 5:03
Settings for the condenser function
Pc SP °C -25.0 75.0 5:03:01
Setting of required discharge pressure in °C
NZ K 0.1 10 5:03:02
Neutral zone for discharge pressure in K
+Zone K 0.1 20 5:03:03
Regulation band over the neutral zone
+ Zone s 10 900 5:03:04
Time delay between step cut ins in the regulation band over the neutral zone
++ Zone s 5 300 5:03:05
Time delay between step cut ins in the regulation band over the "+Zone band"
-Zone K 0.1 20 5:03:06
Regulation band under the neutral zone


- Zone s
10 900
5:03:07
Time delay between step cut outs in the regulation band under the neutral zone
-- Zone s
5 300
5:03:08
Time delay between step cut outs in the regulation band under the "-Zone band"
Man. Cap.
OFF ON
5:03:09
Forced control function!!!
OFF: No forced control
ON: There may be forced control of the condenser capacity
Man. Cap. %
0 100
5:03:10
Forced control function!!!
Manual setting of condenser capacity
The value is in % of total capacity controlled by the controller
Safety functions
6
Safety limits
Alarm message
6:01
When there is an alarm, an E appears in the display
(Error register becomes visible)
6:01:01
For survey of alarm messages, see page 19
Limits with
1. Priority
6:02
Setting of limit values that stop the regulation
Sd Max °C
0 150
6:02:01
Max. value of discharge gas temperature
(If the value is exceeded, the entire compressor capacity will be cut out)
Pc Max °C
-30 70
6:02:02
Max. value of discharge pressure in °C
(If the value is exceeded, the entire compressor capacity will be cut out)
(At 3 K under Pc max. the intire condenser capacity will be cut in)
P0 Min °C
-100 30
6:02:03
Min. value of suction pressure in °C
(If the value becomes less, the entire compressor capacity will be cut out)
Restart m
0 30
6:02:04
Time delay before restart
(Applies to the three earlier functions: "Sd Max", "Pc Max" and "P0 Min")
SH Max K
20 80
6:02:05
Alarm limit for max. superheat
SH Min K
0 20
6:02:06
Alarm limit for min. superheat
SH Delay m
0 60
6:02:07
Time delay before alarm for "SH max" and "SH min"

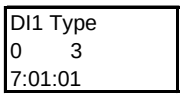


Configuration of inputs

The following menus can only be set when the MAIN SWITCH input is cut out

Setting of alarm inputs

There are three settings for each input. Define first what the input is to register. Next, the information that is to belong to the input. And finally, a time delay



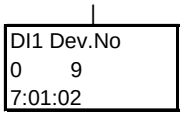
Alarm input DI 1

0: Input not used

1: Input registers the compressors' safety circuit
Compressors no. is selected in the next menu

2: Input registers the condensers' safety circuit
Condensors no. is selected in the next menu

3: Other alarm monitoring. (Alarm text is selected in next menu)

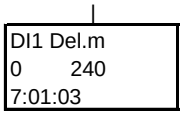


Type = 1 (see above): Select the compressor no.

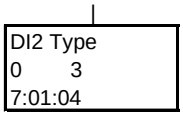
Type = 2 (see above): Select the condenser no.

Type = 3 (see above): Select the alarm text

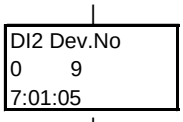
0: Factory setting. Correct setting to one of the following values:
1: Low liquid level
2: Refrigerant leak
3: Current fault
4: Phase fault
5: Liquid flow switch
6: Air flow switch
7: Speed controller fault
8: Condensate pump fault
9: High condensate level

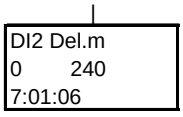


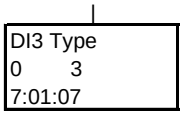
Time delay from the alarm is registered until executed



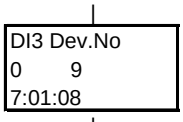
Alarm input DI 2

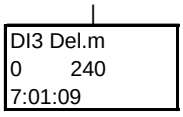


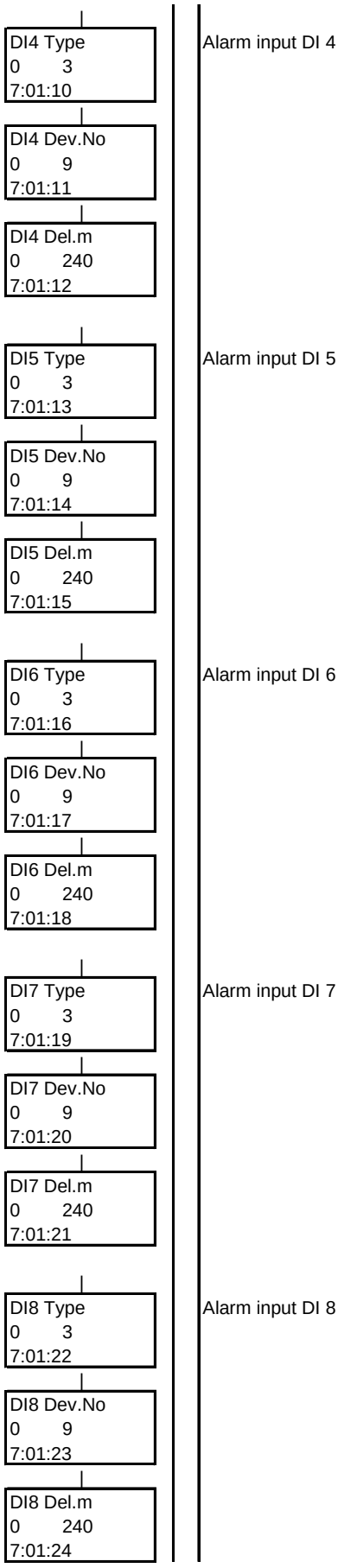


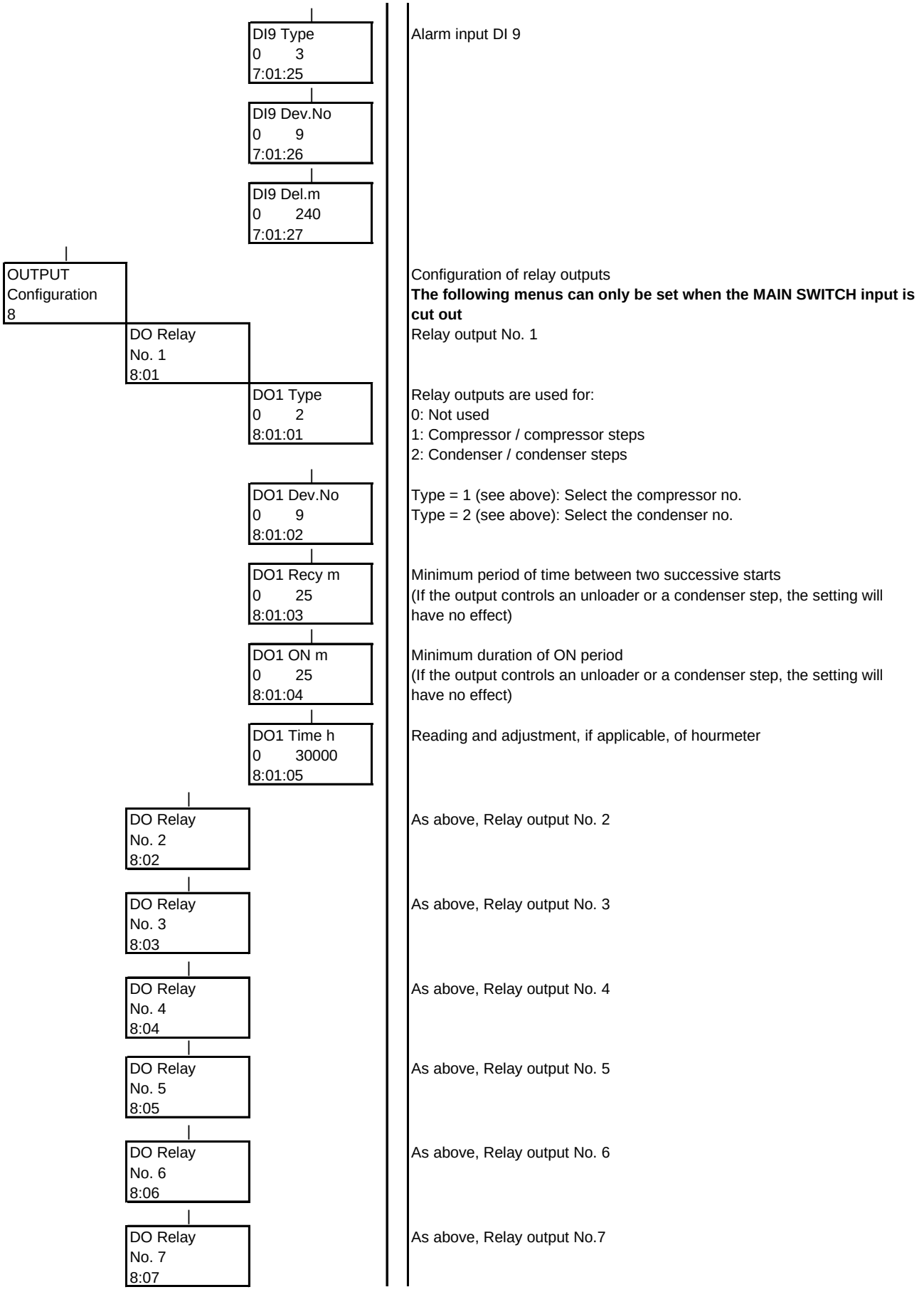


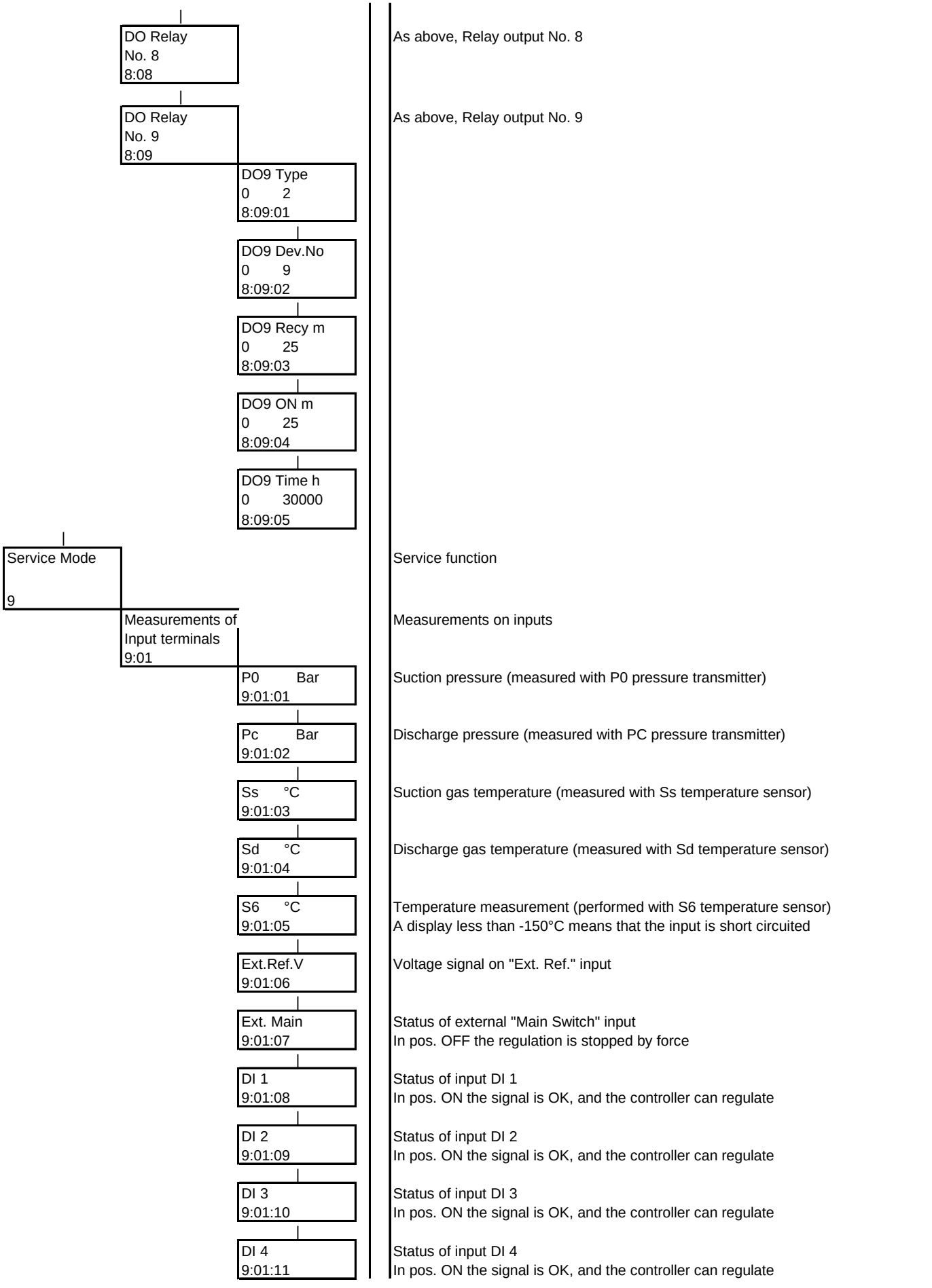
Alarm input DI 3

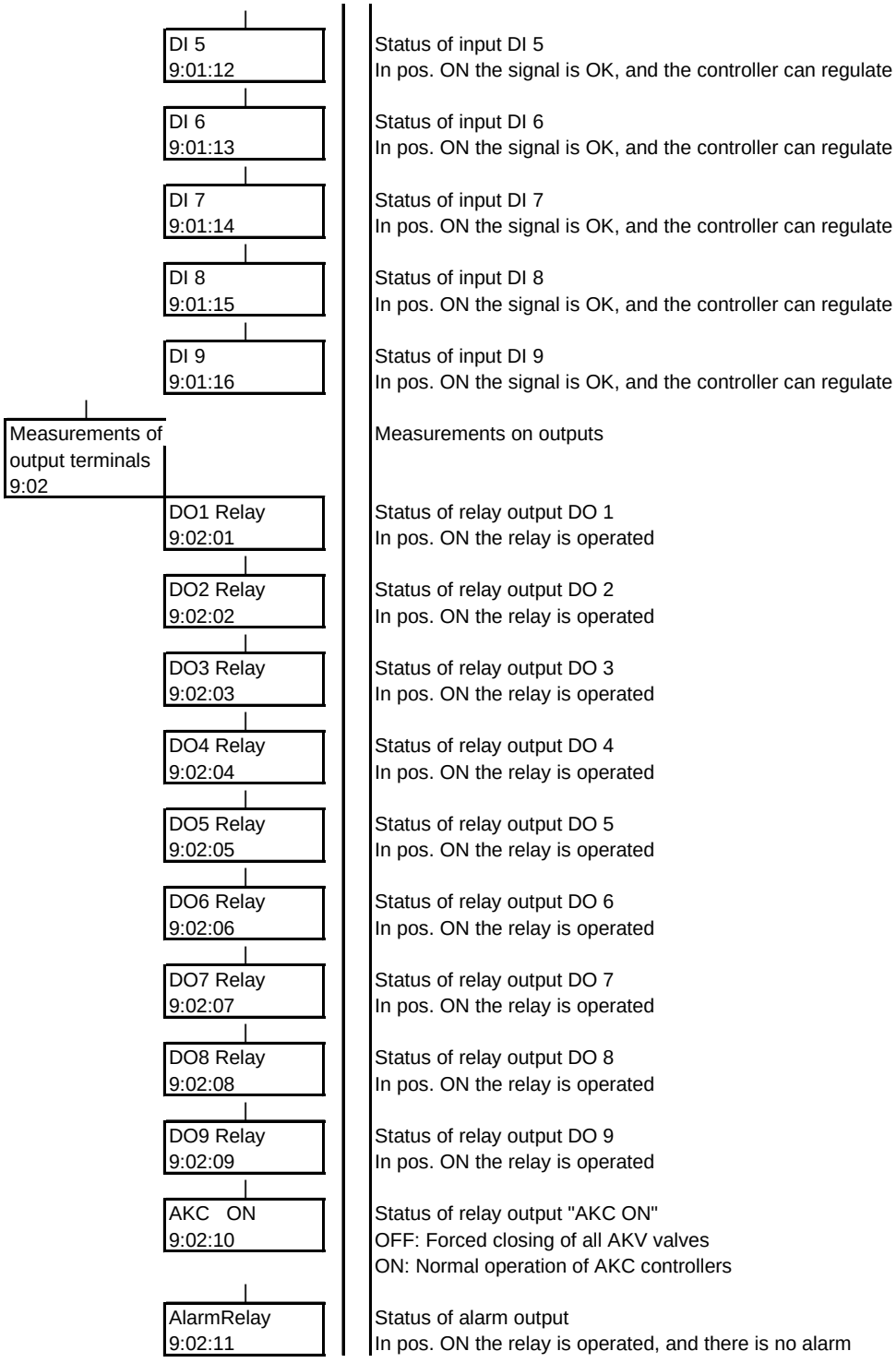


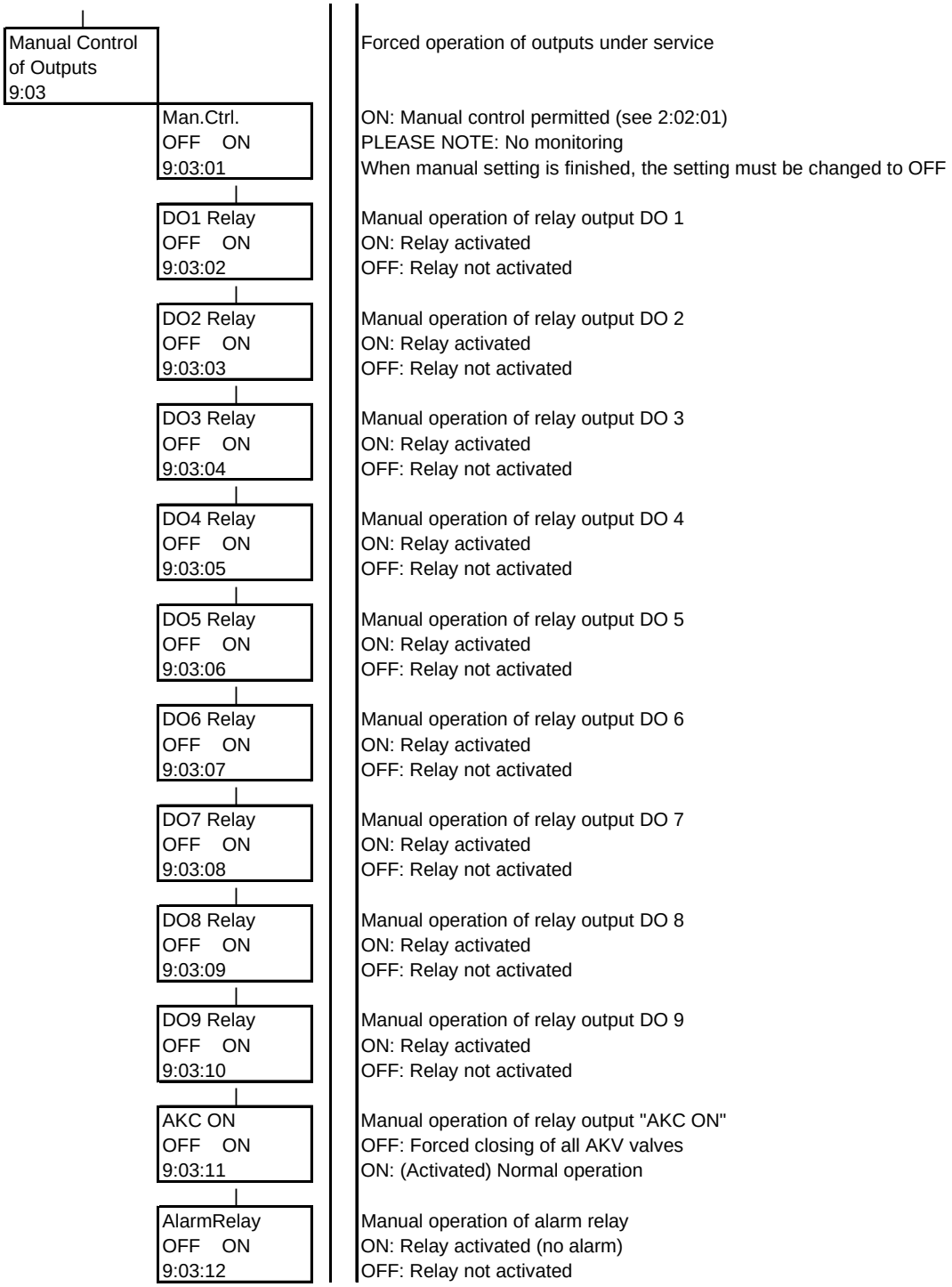



DI4 Type
0 3
7:01:10
DI4 Dev.No
0 9
7:01:11
DI4 Del.m
0 240
7:01:12
Alarm input DI 4
DI5 Type
0 3
7:01:13
DI5 Dev.No
0 9
7:01:14
DI5 Del.m
0 240
7:01:15
Alarm input DI 5
DI6 Type
0 3
7:01:16
DI6 Dev.No
0 9
7:01:17
DI6 Del.m
0 240
7:01:18
Alarm input DI 6
DI7 Type
0 3
7:01:19
DI7 Dev.No
0 9
7:01:20
DI7 Del.m
0 240
7:01:21
Alarm input DI 7
DI8 Type
0 3
7:01:22
DI8 Dev.No
0 9
7:01:23
DI8 Del.m
0 240
7:01:24
Alarm input DI 8


DI9 Type
0 3
7:01:25
Alarm input DI 9
DI9 Dev.No
0 9
7:01:26
DI9 Del.m
0 240
7:01:27
OUTPUT
Configuration
8
Configuration of relay outputs
The following menus can only be set when the MAIN SWITCH input is cut out
DO Relay
No. 1
8:01
Relay output No. 1
DO1 Type
0 2
8:01:01
Relay outputs are used for:
0: Not used
1: Compressor / compressor steps
2: Condenser / condenser steps
DO1 Dev.No
0 9
8:01:02
Type = 1 (see above): Select the compressor no.
Type = 2 (see above): Select the condenser no.
DO1 Recy m
0 25
8:01:03
Minimum period of time between two successive starts
(If the output controls an unloader or a condenser step, the setting will have no effect)
DO1 ON m
0 25
8:01:04
Minimum duration of ON period
(If the output controls an unloader or a condenser step, the setting will have no effect)
DO1 Time h
0 30000
8:01:05
Reading and adjustment, if applicable, of hourmeter
DO Relay
No. 2
8:02
As above, Relay output No. 2
DO Relay
No. 3
8:03
As above, Relay output No. 3
DO Relay
No. 4
8:04
As above, Relay output No. 4
DO Relay
No. 5
8:05
As above, Relay output No. 5
DO Relay
No. 6
8:06
As above, Relay output No. 6
DO Relay
No. 7
8:07
As above, Relay output No.7


DO Relay
No. 8
8:08
As above, Relay output No. 8
DO Relay
No. 9
8:09
As above, Relay output No. 9
DO9 Type
0 2
8:09:01
DO9 Dev.No
0 9
8:09:02
DO9 Recy m
0 25
8:09:03
DO9 ON m
0 25
8:09:04
DO9 Time h
0 30000
8:09:05
Service Mode
9
Service function
Measurements of
Input terminals
9:01
Measurements on inputs
P0 Bar
9:01:01
Suction pressure (measured with P0 pressure transmitter)
Pc Bar
9:01:02
Discharge pressure (measured with PC pressure transmitter)
Ss °C
9:01:03
Suction gas temperature (measured with Ss temperature sensor)
Sd °C
9:01:04
Discharge gas temperature (measured with Sd temperature sensor)
S6 °C
9:01:05
Temperature measurement (performed with S6 temperature sensor)
A display less than -150°C means that the input is short circuited
Ext.Ref.V
9:01:06
Voltage signal on "Ext. Ref." input
Ext. Main
9:01:07
Status of external "Main Switch" input
In pos. OFF the regulation is stopped by force
DI 1
9:01:08
Status of input DI 1
In pos. ON the signal is OK, and the controller can regulate
DI 2
9:01:09
Status of input DI 2
In pos. ON the signal is OK, and the controller can regulate
DI 3
9:01:10
Status of input DI 3
In pos. ON the signal is OK, and the controller can regulate
DI 4
9:01:11
Status of input DI 4
In pos. ON the signal is OK, and the controller can regulate


DI 5
9:01:12
Status of input DI 5
In pos. ON the signal is OK, and the controller can regulate
DI 6
9:01:13
Status of input DI 6
In pos. ON the signal is OK, and the controller can regulate
DI 7
9:01:14
Status of input DI 7
In pos. ON the signal is OK, and the controller can regulate
DI 8
9:01:15
Status of input DI 8
In pos. ON the signal is OK, and the controller can regulate
DI 9
9:01:16
Status of input DI 9
In pos. ON the signal is OK, and the controller can regulate
Measurements of output terminals
9:02
Measurements on outputs
DO1 Relay
9:02:01
Status of relay output DO 1
In pos. ON the relay is operated
DO2 Relay
9:02:02
Status of relay output DO 2
In pos. ON the relay is operated
DO3 Relay
9:02:03
Status of relay output DO 3
In pos. ON the relay is operated
DO4 Relay
9:02:04
Status of relay output DO 4
In pos. ON the relay is operated
DO5 Relay
9:02:05
Status of relay output DO 5
In pos. ON the relay is operated
DO6 Relay
9:02:06
Status of relay output DO 6
In pos. ON the relay is operated
DO7 Relay
9:02:07
Status of relay output DO 7
In pos. ON the relay is operated
DO8 Relay
9:02:08
Status of relay output DO 8
In pos. ON the relay is operated
DO9 Relay
9:02:09
Status of relay output DO 9
In pos. ON the relay is operated
AKC ON
9:02:10
Status of relay output "AKC ON"
OFF: Forced closing of all AKV valves
ON: Normal operation of AKC controllers
AlarmRelay
9:02:11
Status of alarm output
In pos. ON the relay is operated, and there is no alarm


Manual Control of Outputs 9:03
Forced operation of outputs under service
Man.Ctrl. OFF ON 9:03:01
ON: Manual control permitted (see 2:02:01)
PLEASE NOTE: No monitoring
When manual setting is finished, the setting must be changed to OFF
DO1 Relay OFF ON 9:03:02
Manual operation of relay output DO 1
ON: Relay activated
OFF: Relay not activated
DO2 Relay OFF ON 9:03:03
Manual operation of relay output DO 2
ON: Relay activated
OFF: Relay not activated
DO3 Relay OFF ON 9:03:04
Manual operation of relay output DO 3
ON: Relay activated
OFF: Relay not activated
DO4 Relay OFF ON 9:03:05
Manual operation of relay output DO 4
ON: Relay activated
OFF: Relay not activated
DO5 Relay OFF ON 9:03:06
Manual operation of relay output DO 5
ON: Relay activated
OFF: Relay not activated
DO6 Relay OFF ON 9:03:07
Manual operation of relay output DO 6
ON: Relay activated
OFF: Relay not activated
DO7 Relay OFF ON 9:03:08
Manual operation of relay output DO 7
ON: Relay activated
OFF: Relay not activated
DO8 Relay OFF ON 9:03:09
Manual operation of relay output DO 8
ON: Relay activated
OFF: Relay not activated
DO9 Relay OFF ON 9:03:10
Manual operation of relay output DO 9
ON: Relay activated
OFF: Relay not activated
AKC ON OFF ON 9:03:11
Manual operation of relay output "AKC ON"
OFF: Forced closing of all AKV valves
ON: (Activated) Normal operation
AlarmRelay OFF ON 9:03:12
Manual operation of alarm relay
ON: Relay activated (no alarm)
OFF: Relay not activated

Alarm message

The following display read-outs are only visible if there is an active error.

When the error is corrected, the Alarm message can be removed by pressing ENTER.

Alarm message	Cause	Remedy
Po Error	Faulty PO pressure transmitter	Check connection
Pc Error	Faulty Pc pressure transmitter	Check connection
Ss Error	Faulty Ss sensor	Check sensor connection/sensor resistance
Sd Error	Faulty Sd sensor	Check sensor connection/sensor resistance
S6 Error	Faulty S6 sensor	Check sensor connection/sensor resistance
RFG.Type change after after power up	Changed refrigerant	Check the selected refrigerant. Regulation with changed refrigerant may not be done until the controller has been de-energised
Discharge temp. too high	Too high pressure gas temperature	Sd higher than max. Sd setting. Wait for temperature to drop
Condensing temp. too high	Too high condensing temperature	Pc higher than max. Pc setting. Wait for temperature to drop
Suction temp. too low	Too low suction pressure temperature	PO lower than min. PO setting
Suction gas SH too high	Too high superheat (Ss-PO)	SH higher than max. SH setting
Suction gas SH too low	Too low superheat SH (Ss-PO)	SH lower than min. SH setting
Compr. no ( ) safety cut-out	Signal on terminal DI () interrupted	Check compressor safety circuit
Compr. no ( ) not in auto	Wrong setting of switch on AKC 22H	Put switch in pos. "AUT."
Compr. no ( ) disch temp. cut-out	Alarm from AKC 22H	Check compressor safety circuit
Compr. no ( ) motor prot. cut-out	Alarm from AKC 22H	Check compressor safety circuit
Compr. no ( ) current cut-out	Alarm from AKC 22H	Check compressor safety circuit
Compr.no ( ) oil press. cut-out	Alarm from AKC 22H	Check compressor safety circuit
Compr. no ( ) disch press. cut-out	Alarm from AKC 22H	Check compressor safety circuit
Cond. no ( ) safety cut-out	Signal on terminal DI () interrupted	Check condenser's safety circuit

Low liquid level	Low level of refrigerant	Check refrigerant quantity
Refrigerant leak	Refrigerant leaking	Check the unit that monitors refrigerant leaks
Current fault	Wrong supply voltage	Check earth leakage circuit breaker
Phase fault	Wrong supply voltage	Check supply voltage
Liquid flow switch	Error message from liquid flow switch	Check the flow switch
Air flow switch	Error message from air flow switch	Check the flow switch
Speed controller fault	Speed controller has stopped	Check speed controller/frequency converter
Condensate pump fault	Faulty driptray pump	Check the pump
High condensate level	High drip tray level	Check the drip tray
RFG. Type Not selected	No selection of refrigerant	Select refrigerant (2:02:05)
Stand by mode	Regulation has stopped	The function switch (Main switch) is either set in the position "Controller stopped" or "Service function" (see 2:02:01)
Man. compr. cap. ctrl set ON	Regulation is overridden	The forced control function for the compressor capacity or the condenser capacity is active
No DI defined for compressor	A "DI-input" for a compressor is not defined	Define the input under "Configuration of inputs" or set alarm destination at "0".

AC-RDT