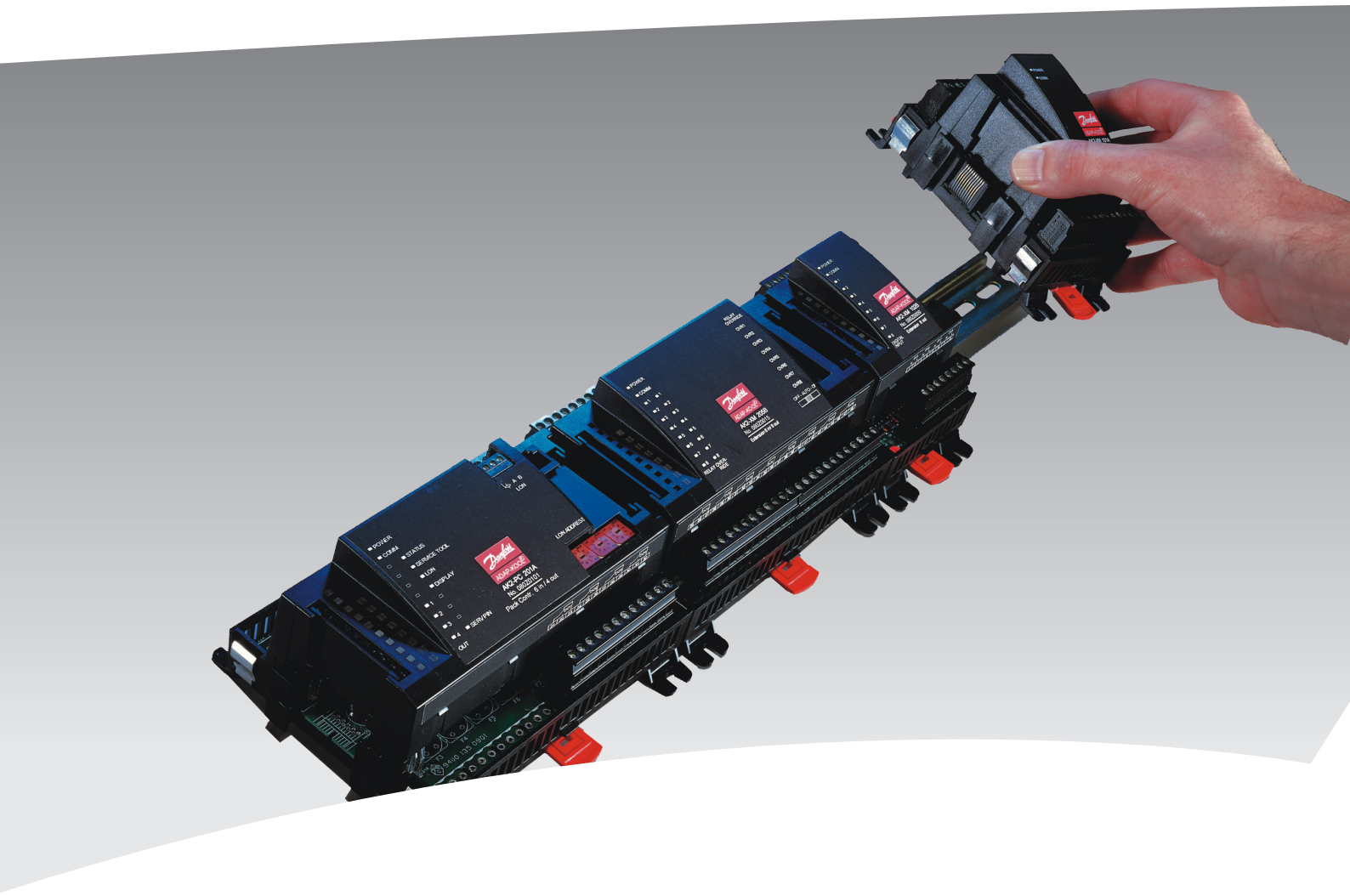


Compressor pack controller
AK-PC 730 / AK-PC 840

Menu operation via AKM

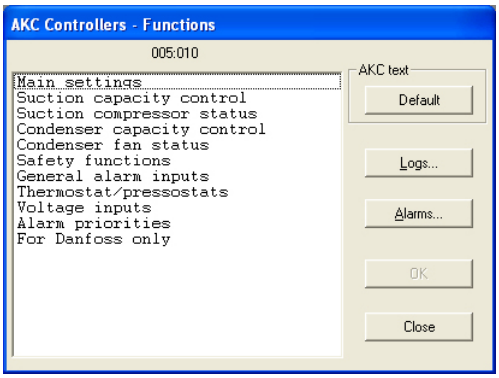
Menu list

This menu function can be used together with system software type AKM. The description is divided up into function groups that can be displayed on the PC screen. Within each group it is now possible to show the measured values, or settings. Regarding the use of AKM, reference is made to the AKM Manual.

Validity

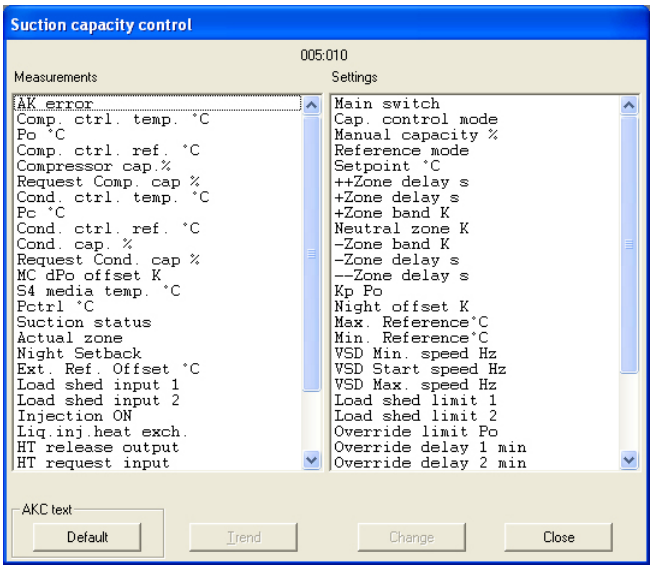
This menu operation (from January 2010) applies to controller type AK-PC 730, code number 080Z0116 / 080Z0117 / 080Z0118 / 080Z0119 / 080Z01208 with programme version 2.3x and controller type AK-PC 840, code number 080Z0111 / 080Z0112 / 080Z0113 / 080Z0114 / 080Z0115 with programme version 2.3x.

Function groups



The operation is divided up into several function groups. When a selection has been made, push "OK", and you may continue to the next display. By way of example, "Suction capacity control" has been selected here.

From the measure line the different values can be read. The values are constantly updated.
In the list of settings the set values can be seen. If a setting has to be changed, select the parameter and proceed via "OK".



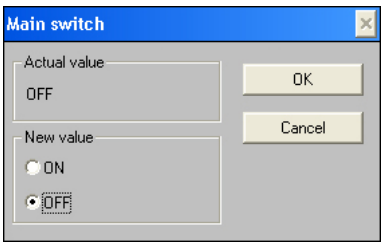
Measurements

The various measurements can be read directly. If a graphic display of the measurements is required, up to eight of them can be shown. Select the required measurements and push "Trend".

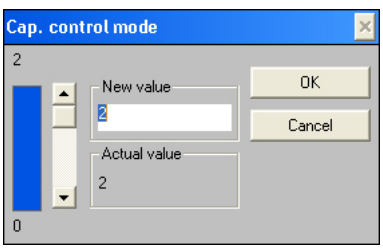
Settings

Settings can only be made for the daily operation. Configuration settings cannot be seen, changed or written out. They can only be made from the Service Tool programme.

There are four kinds of settings, ON/OFF settings, settings with a variable value, time settings and "reset alarms".



Set the required value and push "OK"



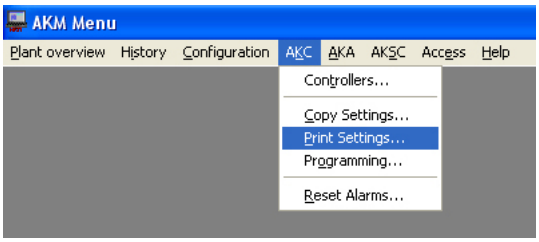
Enter the new value or move the sliding scale up or down. The new value will apply, when "OK" is pushed.

Go through the individual functions one by one and make the required settings. When settings have been made for one controller, the set values may be used as basis in the other controllers of the same type and with the same software version. Copy the settings by using the copy settings function in the AKM programme, and adjust subsequently any settings where there are deviations.

NB! If a list is required for noting down the individual settings, a printout can be made of it with a function in the AKM programme. Read the next section, "Documentation".

Documentation

Documentation of the settings of the individual controllers can be made with the print function in the AKM programme. Select the controller for which documentation of the settings is required and select the "Print Settings" function (cf. also the AKM Manual).



Functions

Shown below are function groups with corresponding measurements and settings. A printout of the given settings can be made using the AKM function "Print Settings" (see above).

Note

It has been necessary to make selections among the many measurements and settings coming from the controller.
The operation from the AKM programme cannot contain them all.
If there is a need for access to all measurements and settings, you should make use of Service Tool type AK-ST 500.

Main settings

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	External Main Switch	Status of input "Extern Main Switch". In pos. "OFF" the regulation is stopped by force
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Configuration lock	Lock of configuration. In order to select quick setup or select refrigerant type, the configuration lock must be "open". Note: "Main switch" must be OFF in order to set configuration lock in "open" position 0: Open 1: Locked
	Select quick setup	Select a pre defined application. All in- and outputs will be pre-defined. All setpoint will be adapted to the selected application. Please notice that the control ler will make a restart when a selection has been made. See the manual for further details about the predefined applications.
	Refrigerant type Po	Select refrigerant type 0= not selected, 1=R12. 2=R22. 3=R134a. 4=R502. 5=R717. 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. 24=R170. 25=R290. 26=R600. 27=R600a. 28=R744. 29=R1270. 30=R417A

Suction capacity control

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	MC dP0 offset K	Actual displacement value for the suction pressure in connection with a "P0 Optimiser" function (Master control function in AKA gateway)
	S4 media temp. °C	Actual media temperature measured at S4 sensor (Only used if S4 is selected as control sensor)
	Pctrl	Actual regulation pressure measured with Pctrl pressure transmitter (cascade pressure)
	Suction status	0: Power up Controller has been powered up (power supply re-connected) 1: Stopped Capacity control has been stopped ("Main switch" = OFF or "Control mode" = OFF) 2: Manual Capacity is controlled manually ("Control mode" = MAN) 3: Alarm Capacity control is in alarm condition (fx. alarm on Po Min or Pc Max) 4: Restart Capacity control is waiting for elapse of "Restart time" 5: Standby Capacity control is ready to start 10: Full loaded All capacity cutin 11: Running Capacity control is running

	Actual Zone	Actual zone for capacity regulation: 0: P0-error 1: - - Zone 2: - Zone 3: NZ 4: + Zone 5: + + Zone
	Night setback	Status of night setback function ON: Night (An increase of the evaporating pressure is permitted) OFF: Normal situation
	Ext. Ref. Offset °C	Contribution from external reference displacement
	Load shed input 1	Actual status on Load shed input 1
	Load shed input 2	Actual status on Load shed input 2
	Injection ON	Status of the "Injection ON" function (earlier mentioned "AKC ON") 0: Forced closing of all AKV valves 1: Normal operation of AKC controllers
	Liq. inj. heat exch.	Actual status on liquid injection in heat exchanger
	HT release output	Actual status on "Comp. release" output signal from HT controller
	HT request input	Actual status on "Comp. request" input signal on HT controller
	LT request output	Actual status on "Comp. request" output signal from LT controller
	LT release input	Actual status on "Comp. release" input signal on LT controller
	No. of compressors	Defined number of compressors
	Comp. application	Select the compressor application required (see the manual for further details) 0: Single step only 1: 1xComp. w. unloaders + Single step 2: 2xComp. w. unloaders + Single step 3: Comp. w. unloaders only 4: 1xVariable speed + Single step 5: 1xVariable speed + Comp. w. unloaders 6: 2xVariable speed + Single step
	Step control mode	Selected coupling pattern for compressors Sequential: Compressors are cut in/out in strict accordance with compressor number Cyclic: Runtime equalisation between compressors Best fit: Compressors are cut in/out in order to make the best possible fit to actual load 0: Sequential 2: Cyclic 3: Best fit
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Cap. control mode	0: MAN (The compressor capacity will be controlled manually) 1: OFF (The capacity control will be stopped) 2: AUTO (The capacity is controlled by the PI controller)
	Manual capacity %	Manual setting of compressor capacity The value is in % of total capacity controlled by the controller
	Reference mode	Displacement of suction pressure as a function of external signals 0: Reference = set reference + night offset + offset from external 0-10 V signal 1: Reference = set reference + offset from P0 optimization
	Setpoint °C	Setting of required suction pressure in °C
	++Zone delay s	Time delay between step cut-ins in the regulation band over the "+Zone band" Set in seconds
	+Zone delay s	Time delay between step cut-ins in the regulation band over the neutral zone Set in seconds
	+Zone band K	Regulation band over the neutral zone
	Neutral zone K	Neutral zone for suction pressure
	-Zone band K	Regulation band under the neutral zone
	-Zone delay s	Time delay between step cut-outs in the regulation band under the neutral zone Set in seconds
	--Zone delay s	Time delay between step cut-outs in the regulation band under the "-Zone band" Set in seconds.
	Kp P0	Ampliflication factor for P0 regulation
	Night offset K	Displacement value for suction pressure in connection with an active night setback signal (set in Kelvin)
	Max.Reference °C	Max. permissible suction pressure reference

	Min.Reference °C	Min. permissible suction pressure reference
	VSD Min. speed Hz	Minimum allowed speed before stop of Variable Speed drive (Low load condition)
	VSD Start speed Hz	Minimum speed for start of Variable speed drive (Must be set higher than "VSD Min. Speed Hz")
	VSD Max. speed Hz	Highest permissible speed for the cormpressor motor
	Load shed limit 1	Set max capacity limit for load shed input 1
	Load shed limit 2	Set max capacity limit for load shed input 2
	Override limit Po	Set max load shedding override limit for suction pressure Po
	Override delay 1 min	Override delay for load shed limit 1. If the suction pressure exceeds "Override limit Po" during load shedding and the set delay has expired, the load shed limit 1 will be cancelled
	Override delay 2 min	Override delay for load shed limit 2. If the suction pressure exceeds "Override limit Po" during load shedding and the set delay has expired, the load shed limit 2 will be cancelled
	HT release delay s	Time delay on output signal "Comp. release" on HT controller
	HT request delay s	Time delay on input signal for "Comp. request" on HT controller
	LT request delay s	Time delay on output signal "Comp. request" on LT controller
	LT release delay s	Time delay on input signal for "Comp. release" on LT
	Po pump down	Select if a pump down function on the last compressor is requested
	Po pump down limit °C	Set the actual pump down limit for the last compressor
	Initial start time	The time after start-up where the cut-in capacity is limited to the first compressor step.

Suction compressor status

Measurements	AK error	When "ON", the controller is in alarm condition.	
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)	
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)	
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)	
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)	
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)	
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)	
	Pc °C	Condensing pressure in °C (measured with the pressure transmitter)	
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity	
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)	
	Request Cond. cap %	Reference for condenser capacity	
	VSD 1 safety	Status on safety input for variable speed controller on compressor 1 ON: Alarm OFF: No alarm	
	VSD 2 safety	Status on safety input for variable speed controller on compressor 2 ON: Alarm OFF: No alarm	
	VSD Speed %	The present speed of the compressor motor controlled by the frequency converter	
	Comp. 1 Status	0: Power up	Controller has been powered up/Compressor is not used
		1: Stopped	Compressor hat been stopped
		2: Manual	Compressor capacity is controlled manually
		3: Alarm	Compressor is in alarm condition (cut out on safety)
		4: Restart	Compressor is waiting for elapse of "Recycle time"
		5: Standby	Compressor is ready to start
		10: Full loaded	All capacity cutin
		11: Running	Capacity control is running
	Comp 2 … Status	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)	
	Comp 1 capacity %	Actual cut-in capacity on this compressor	
	Comp 2 …capacity %	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)	
	Comp 1 Runtime % 24	Running time for compressor 1 in percent within the past 24 hours	
	Comp 2 …Runtime % 24	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)	
	Comp 1 Cycles / 24 h	Number of compressor starts during the past 24 hours	
	Comp 2 …Cycles / 24 h	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)	

Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	1 Min. ON-time m	Minimum duration of ON period
	2 …Min. ON-time m	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)
	1 Min. OFF-time m	Minimum duration of OFF period
	2 …Min. OFF-time m	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)
	1 recycle time m	Minimum period of time between two successive starts.
	2 …recycle time m	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)
	1 runtime h	Compressor's total run time in hours
	2 …runtime h	As above for compressor no. 2 to 4, (for AK-PC 840, compr. 2 to 8)

Condenser capacity control

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	S7 media temp °C	Actual media temperature measured at S7 sensor (Only used if S7 is selected as control sensor)
	Condenser status	0: Power up Controller has been powered up (power supply re-connected) 1: Stopped Capacity control has been stopped ("Main switch" = OFF or "Control mode" = OFF) 2: Manual Capacity is controlled manually ("Control mode" = MAN) 3: Alarm Capacity control is in alarm condition (f.ex. Pc Max or Sd Max) 4: Restart Capacity control is waiting for elapse of "Restart time" 5: Standby Capacity control is ready to start 10: Full loaded All capacity cutin 11: Running Capacity control is running
	Air flow status	0: No RFG. select No refrigerant has been selected (monitoring of air flow can not start) 1: Tuning Monitoring function adapts to the condenser in question 2: OFF Monitoring function is switched OFF 3: OK Air flow is OK 4: Little dirt The amount of dirt decreases the performance of the condenser, clean when possible 5: Dirty The amount of dirt leads to considerable air flow problems, clean as soon as possible 6: Blocking The amount of dirt might lead to high pressure problems, clean now
	Sc3 Air on °C	Outdoor temperature in °C measured with Sc3 temperature sensor
	VSD Speed %	Status of analogue output signal "AO" for variable speed drive (in percent of full scale f.ex. 0 -10 V d.c.)
	VSD safety	Status of safety monitoring input for Variable Speed Drive ON: Alarm on VSD A safety monitoring input OFF: No alarm on VSD A safety monitoring input
	Heat rec. temp. °C	Temperature at the sensor for the heatrecovery function
	Heat recovery	Status on function "Heat recovery"
	No. of fans	Defined number of fans

Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Cap. control mode	0: MAN (The condenser capacity will be controlled manually) 1: OFF (The capacity control will be stopped) 2: AUTO (The capacity is controlled by the PI controller)
	Manual capacity %	Manual setting of condenser capacity The value is in % of total capacity controlled by the controller
	Reference mode	0: Set point Reference = "PcA setpoint °C" 1: Floating Reference is changed as a function of the outdoor temperature measured by the "Sc3 air on" sensor, the set "Dimensioning tm K" and the actual compressor load.
	Setpoint °C	Setting of required discharge pressure in °C
	Dimensioning tm K	Dimensioning mean temperature differential between air- and condensing temperature at full load for the condenser in question (Typical 8 – 15K).
	Min. tm k	tm value at minimum load.
	Min. Reference °C	Min. permissible condensing pressure reference
	Max. Reference °C	Max. permissible condensing pressure reference
	Heat rec. SP °C	Condensing pressure reference when the thermostat for heat recovery is cut in.
	Heat rec. Cut In °C	Temperature value when the thermostat changes over to heat recovery.
	Heat rec. CutOut °C	Temperature value when the thermostat cuts out the heat recovery again
	Xp P-band K	Proportional band for PI controller
	Tn Integr. time s	Integration time for PI controller
	Control type	Selection of regulation type: 0: P regulation 1: PI regulation
	VSD Min. speed %	Minimum allowed speed before stop of Variable Speed drive (Low load condition)
	VSD Start speed %	Minimum speed for start of Variable speed drive (Must be set higher than "VSD Min. Speed %")
	Cap. limit night %	Capacity limitation in the night

Condenser fan status

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	Fan1/VSD status	Status of the Fan 1 ON: Fan is running OFF: Fan is not running
	Fan2.... status	As above for fan 2 to 6, (for AK-PC 840, fan 2 to 12)
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Fan 1 runtime	Accumulated fan run time in hours
	Fan 2 .... runtime	As above for fan 2 to 6, (for AK-PC 840, fan 2 to 12)

Safety Functions

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	Ss suction gas °C	Suction gas temperature in °C
	Suction superheat K	Superheat in suction line
	Sd discharge gas °C	Discharge gas temperature in °C
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Pc max. limit °C	Max. value of discharge pressure in °C (If the value is exceeded, the entire compressor capacity will be cut out) (At 3 K under PcA max. the entire condenser capacity will be cut in and the compressor capacity will be reduced)
	Pc max alarm delay m	Time delay on sending out of PC Max. alarm
	Sd max. limit °C	Max. value of discharge pressure in °C (If the value is exceeded, the entire compressor capacity will be cut out and the entire condenser capacity will be cut in)
	P0 min. limit °C	Min. value of suction pressure in °C (If the value becomes less, the entire compressor capacity will be cut out)
	P0 max. Alarm °C	Alarm limit for P0 max.
	P0 max delay m	Time delay before alarm for P0 max.
	SH min. Alarm K	Alarm limit for min. superheat
	SH max. Alarm K	Alarm limit for max. superheat
	SH Alarm delay m	Time delay before alarm for "SH min limit" and "SH min limit"
	Restart time m	Time delay before restart of compressors (Applies to the functions: "Sd max limit", "Pc max limit" and "P0 min limit")
	Liq.inj. SH CutIn K	Liquid injection in the suction line. Set superheat value where liquid injection is to start.
	Liq.inj. Sd CutIn °C	Liquid injection in suction line. Set Sd temperature where liquid injection is to start.

General alarm inputs

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	DI 1 Alarm	Alarmstatus on the function defined as a DI1 alarm ON: Alarm is active OFF: No alarm, normal situation
	DI 2.... Alarm	As above, but for the alarm functions 2 to 8
	...	
	DI 9.... Alarm	As above, but for the alarm function 9 (AK-PC 730)
	DI 10... Alarm	As above, but for the alarm function 10 (AK-PC 730)
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	DI 1 Alarm delay m	Time delay for the alarm "DI 1 Alarm"
	DI 2.... Alarm delay m	As above, but for the alarm functions 2 to 8
	...	
	DI 9.... Alarm delay m	As above, but for the alarm function 9 (AK-PC 730)
	DI 10.... Alarm delay m	As above, but for the alarm function 10 (AK-PC 730)

Thermostat/pressostats

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	Thermostat 1 °C	Temperature measurement of function defined in Thermostat 1.
	Thermostat 2 °C	Temperature measurement of function defined in Thermostat 2.
	Thermostat 3 °C	Temperature measurement of function defined in Thermostat 3.
	Thermostat 4 °C	Temperature measurement of function defined in Thermostat 4
	Thermostat 5 °C	Temperature measurement of function defined in Thermostat 5
	Pressostat 1 Bar	Pressure measurement of function defined in Pressure Control 1
	Pressostat 2 Bar	Pressure measurement of function defined in Pressure Control 2
	Pressostat 3 Bar	Pressure measurement of function defined in Pressure Control 3 (AK-PC 730)
	Pressostat 4 Bar	Pressure measurement of function defined in Pressure Control 4 (AK-PC 730)
	Pressostat 5 Bar	Pressure measurement of function defined in Pressure Control 5 (AK-PC 730)
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
	Ther. 1 Cutin °C	Cutin value for function defined in "Thermostat 1".
	Ther. 1 Cutout °C	Cutout value for function defined in "Thermostat 1".
	Ther. 1 High Alarm °C	High alarm limit "Thermostat 1"
	Ther. 1 Low Alarm °C	Low alarm limit "Thermostat 1"
	Ther. 1 High ALDly m	Time delay for high alarm "Thermostat 1"
	Ther. 1 Low ALDly m	Time delay for low alarm "Thermostat 1"
	Ther. 2.....	As above, but for thermostat 2

	Ther. 3.....	As above, but for thermostat 3
	Ther. 4.....	As above, but for thermostat 4 (AK-PC 730)
	Ther. 5.....	As above, but for thermostat 5 (AK-PC 730)
	Pres. 1 Cutin bar	Cutin value for function defined in "Pressure Control 1".
	Pres. 1 Cutout bar	Cutout value for function defined in "Pressure Control 1".
	Pres. 1 High alarm bar	High alarm limit "Pressostat 1"
	Pres. 1 Low alarm bar	Low alarm limit "Pressostat 1"
	Pres. 1 High ALDly m	Time delay for high alarm "Pressostat 1"
	Pres. 1 Low ALDly m	Time delay for low alarm "Pressostat 1"
	Pres. 2.....	As above, but for pressostat 2
	Pres. 3.....	As above, but for pressostat 3 (AK-PC 730)

(Use Service Tool if data concerning thermostats 4 and 5 or from pressure controls 3, 4 and 5 have to be downloaded).

Voltage inputs

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
	Volt 1 readout	Voltage measurement on the function defined in Volt 1.
	Volt 2 readout	Voltage measurement on the function defined in Volt 2. (AK-PC 730)
	Volt 3 readout	Voltage measurement on the function defined in Volt 3. (AK-PC 730)
	Volt 4 readout	Voltage measurement on the function defined in Volt 4. (AK-PC 730)
	Volt 5 readout	Voltage measurement on the function defined in Volt 5. (AK-PC 730)

Settings	Main switch	Main switch:	ON:	Regulation
			OFF:	Controller stopped

	Volt 1 Cutin	The value where the relay is to cut in
	Volt 1 Cutout	The value where the relay is to cut out
	Volt 1 Cutin del. m	Time delay for cutin of relay
	Volt 1 Cutout del. m	Time delay for cutout of relay
	Volt 1 High Al.Limit	The value for the high alarm limit
	Volt 1 Low Al.Limit	The value for the low alarm limit
	Volt 1 High Al.Dly m	Time delay for high alarm
	Volt 1 Low Al.Dly m	Time delay for low alarm

(Use Service Tool if data concerning Volt 2, 3, 4 and 5 are to be downloaded).

Alarm priorities

Measurements	AK error	When "ON", the controller is in alarm condition.
	Comp. ctrl. temp °C	Actual temperature for control sensor (Po or S4)
	P0 °C	Suction pressure in °C. (Measured with the pressure transmitter)
	Comp. ctrl. ref. °C	Actual reference temp. for compressor capacity (incl. external reference signal, if any)
	Compressor cap. %	Cut-in compressor capacity in % (of total capacity)
	Request Comp. Cap %	Reference for compressor capacity (deviations may be due to time delays)
	Cond. ctrl. temp °C	Actual temperature for control sensor (Pc or S7)
	Pc °C	Condensing pressure in °C. (measured with the pressure transmitter)
	Cond. ctrl. ref. °C	Actual reference temp. for condenser capacity
	Cond. cap. %	Cut-in condenser capacity in % (of total capacity)
	Request Cond. cap %	Reference for condenser capacity
Settings	Main switch	Main switch: ON: Regulation OFF: Controller stopped
		The alarm priority of the following alarms can be changed: High priority is defined with setting = 1 Medium priority is defined with setting = 2 Low priority is defined with setting = 3 Overriding the alarms is defined with setting = 0
	Standby mode	Regulation has stopped
	Low P0	Minimum safety limit for suction pressure P0 has been violated
	High P0	High alarm limit for P0 has been exceeded
	High Pc/Sd	Safety limit for condensing pressure Pc /discharge gas temperature is exceeded
	Superheat min/max	Superheat i suction line to low / high
	Load Shedding	Load shedding has been activated
	P0/S4/Pctrl error	Sensor signal for P_0 / S4/Pctrl is defective
	Misc. sensor error	Sensor signal for Ss, Sd,A, Sc3, Saux is defective
	Compr. common safety	All compressors have been cut out on common safety input
	Compr VSD safety	Variable speed drive for compressor has been cut out on safety
	Comp. 1 safety	Compressor has been cut out on safety
	Comp. 2 safety	Compressor has been cut out on safety
	Comp. 3 safety	Compressor has been cut out on safety
	Comp. 4 safety	Compressor has been cut out on safety
	Comp. 5 safety	Compressor has been cut out on safety
	Comp. 6 safety	Compressor has been cut out on safety
	Comp. 7 safety	Compressor has been cut out on safety
	Comp. 8 safety	Compressor has been cut out on safety
	Pc/S7 sensor error	Signal from pressure transmitter /temperature sensor is defective
	Blocked air flow	The intelligent air flow monitoring of the condenser reports that a cleaning is due
	Fan safety	Variable speed drive for condenser fans has been cut out on safety

AKM menu: "For DANFOSS only"

This menu contains data and setting values for special internal controller functions.
Do not chage the stated values.