



AK-SC255 Fact Sheet & Recommended Accessories List

'E' software version 02_101

Updated Dec 09

What is the E version and how does it differ from the R version?

The E version is intended for use on applications that use generic case & pack controllers (EKC, AK) and does not contain any compressor control algorithms as found in the R version AK-SC255. The AK-SC255 has a single RS485 Lonworks communication bus to comply with EKC & AK controllers, running on RS485. Remote Input/Output modules can also be connected on the RS485 bus via a RS485 communication module (080Z0063)

What's included?

- 1x AK-SC255 (either Box (screen version) or DIN rail screen-less version)
- AK-SC255 On-Site Installation Guide
- AK-SC255 Field Installation Guide(s)
- 1x CD (AK-SC255 Reference Manual PDF, Supplement manual PDF)



AK-SC255 On-Site Installation Guide
AK-SC255 AK-SC255 Field Installation Guide(s)



CD-ROM containing the above documents plus:

- AK-SC255 Supplement Manual
- AK-I/O Manual

What are the different part numbers?

- 080Z2520 AK-SC255 'E' BOX RS485 Refrigeration (including store lighting function)
- 080Z2521 AK-SC255 'E' BOX RS485 FULL (Refrigeration, Lighting, HVAC)
- 'E' software supports Danfoss controllers and contains no built in rack control software (as seen in 'R' version)*

Is there a limit to the amount of controller 'types' a single AK-SC255 can support?

Currently the AK-SC255 can support up to 10 different controller model types on any one AK-SC255. Each generic model type (084B8002, 084B8010..... takes up one of the supported slots - up to 10. AK I/O is not included in this restriction.

Recommended Individual Controller capacity(s) - per AK-SC255

Type	Capacity	Configuration
Type AK (Multi Evap per controller) or Type EKC (SNMP, Lonworks, Modbus)	60 120	Max configured evap sections 150 1 controller per evap section max 12 Pack controllers (99 per

Pack)

Recommended Remote AK2 I/O capacity (in addition to controllers)

AK2 I/O AND	64 points (max 8 AK2 CM)	Analog (General I/O, HVAC, Light-
AK2 I/O	64 points (max 8 AK2 CM)	Digital (General I/O, HVAC, Light-

Available Network Protocols

- Ethernet Port (used for EKC SNMP controllers, 255 host network , remote AKA65 software tool & web browser)
- Modbus (used for Modbus EKC, SLV OR Carlo Gavazzi EM24 energy meters)
- RS232 Port (used for serial AKA 65 software tool)
- Modem Port (used for serial modem)
- LonWorks RS485 - EKC, AK controller & I/O network

Power KWh Meter Pulse input capacity

AK-XM107A Pulse Module, Max 80 inputs per AK-SC255 (one XM107A per AK communication module)

Additional AK-SC255 units interconnected (Host Network)

Max of 10 AK-SC255 units (1 Master & 9 Slave) using ethernet or RS485 communications

Functionality Overview (Dependent on Part number)

HVAC, AHU & Roof Top Unit control

45 Central control or via RTC (roof top controllers)

Distech digital thermostat (generic controller)

Lighting control (available in all models)

30 lighting zones

6 relays per zone

Standard or relative schedules

8 schedules per zone

Auto override for burglar or fire alarm

Switch override with override box

Photocell support & integration

Miscellaneous Points (theoretical capacity without any generic controllers - per AK-SC255)

-Calculations-

96 Misc Boolean Logic statements

-Outputs-

64 Misc relay digital outputs

48 Misc analog outputs

-Inputs-

64 Misc digital inputs

64 Misc analog inputs

-Conversion factors-

10 Misc Conversion factors

-System total-

255 analog & 255 On/Off points

Alarm routing

Modem

TCP/IP (text string)

e-mail

XML

Relay (built in relay on DIN model or remote I/O required for screen version)

Security

8 Auth levels

66 account codes

History Data points

600 (per AK-SC255)

History Capacity

10 minute samples on 120 points = 1 year

Built in Language Support

English, Spanish, Portuguese, Dutch, German, French, Chinese, Japanese

Woodley Electronics MDM support via PI-100

Using a Danfoss PI-100 unit the AK-SC255 can support the Woodley MDM monitoring network. The inputs used in the support of MDM are of 'generic' type and each MDM input will take a generic slot. Use router to connect to AK-SC255. A max of 120 MDM units per AK-SC255 (assuming no monitoring points)

Danfoss AKC support via PI-200

Using a Danfoss PI-200 Danfoss AKC controllers can be supported*. Use router to connect to AK-SC255. A max of 60 AKC controllers per PI-200 is allowed. A max of x4 PI-200 devices per AK-SC255

**Not all AKC controllers are currently supported, check the latest released EDF controller list*

Monitoring points

Each AK-SC255 can support monitoring points (under evap configuration) which can have a max 3 digital and 1 analog inputs. Each time a monitoring point is created and analog or digital inputs are used, these (inputs) effectively are taken from the system 'pool' of 255 inputs, per AK-SC255

Generic Import function

A useful feature seen in the AK-SC255 is the ability to 'import' parameters from a generic controller. 32 parameters in total (16 analog, 16 digital) per generic controller.

Example 1 recommended limits	
64 monitoring points	using x3 digital x1 analog
120 generics	AK CC, EKC, AKC, SLV or mix of
0 MDM	0 PI-100

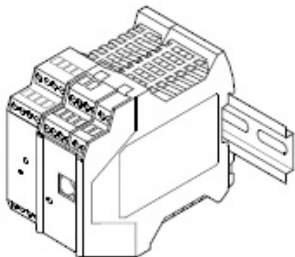
Example 2 recommended limits	
64 monitoring points	using x3 digital x1 analog
90 generics	AK CC, EKC, AKC, SLV or mix of
30 MDM	x1 PI-100

Remote connection service / commissioning software

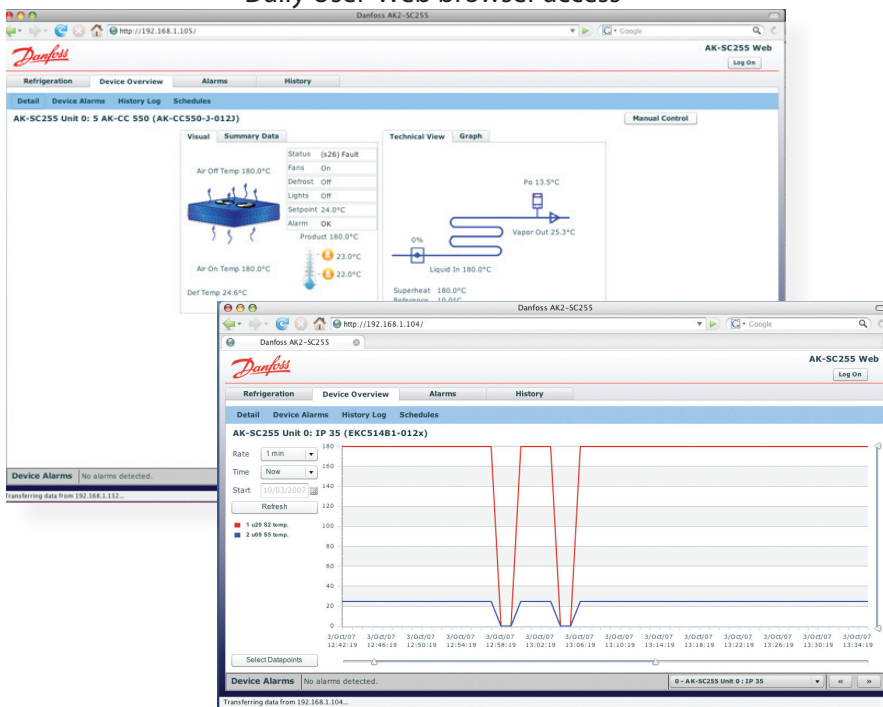
AKA65 v5.6 (connect via Modem, Ethernet, Serial)

Recommended Modem Support

AKA 231 'Phoenix' modem



'Daily User' Web browser access



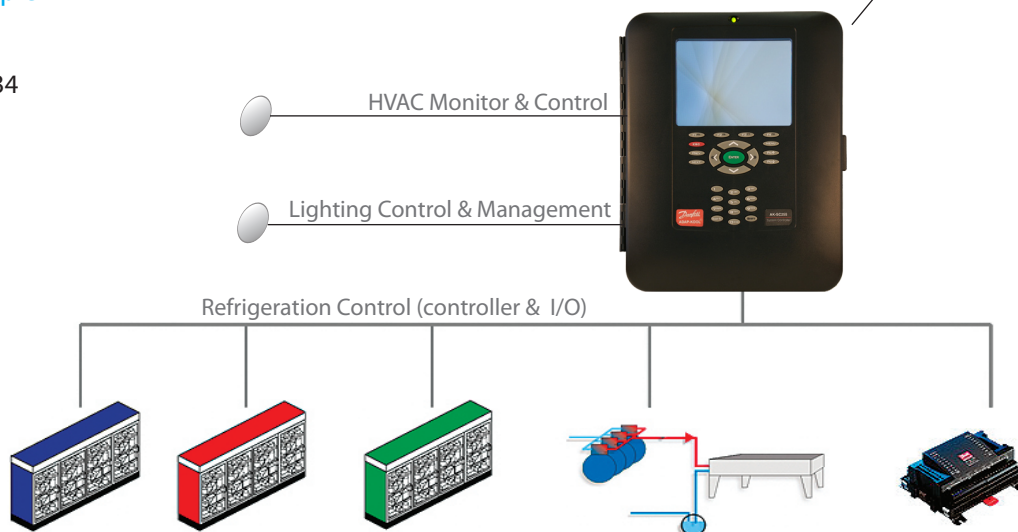
Environmental Data

Operating temperature
 Screen: 32 to 104°F (0 to +40°C)
 DIN: 32 to 122 °F (0 to +50°C)
 @ 90% RH (non condensing)

Electrical range
 ~ 100 - 240 V a.c. (+ / - 10%)
 50/60 Hz

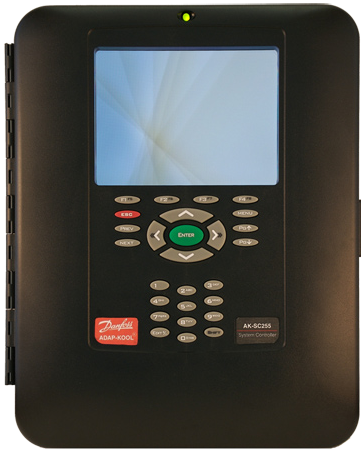
Built in alarm relay
 30 V d.c. 1 Amp Class 2
 * Available in DIN model only

Typical Application Example



Model	Part #	Software Revision	Notes
EKC 201	084B7068	V1.2x	
EKC 201	084B7505	V2.0x	
EKC 201	084B7508	V2.0x	
EKC 201	084B7510	V2.0x	
EKC 201	084B7512	V2.0x	
EKC 202A	084B8521	V1.2x	
EKC 202A	084B8531	V1.2x	
EKC 202A2	084B8524	V2.0x	
EKC 202A2	084B8535	V2.0x	
EKC 202B	084B8522	V1.2x	
EKC 202B	084B8532	V1.2x	
EKC 202C	084B8523	V1.1x, 1.2x	
EKC 202C	084B8533	V1.2x	
EKC 202D	084B8536	V2.0x, V2.1	
EKC 202D	084B8537	V2.0x, V2.1x	
EKC 202D1	084B8554	V1.3, 1.4	Epta controller
EKC 204A	084B8520	V1.9x, V2.0x, V2.1x	1.9x has 9 application selections, 2.0x has 10 application selections
EKC 204A1	084B8534	V2.0x	10 application .edf files (A-J)
EKC 204A2	084B8535	V2.0x	10 application .edf files (A-J)
EKC 204A2	084B8524	V2.0x	10 application .edf files (A-J)
EKC 301	084B7514	V2.0x	
EKC 301	084B7515	V2.0x	
EKC 301	084B7516	V2.0x	
EKC 301	084B7518	V2.0x	
EKC 312	084B7250	V1.2x	
EKC 315A	084B7085	V1.3x	
EKC 315A	084B7086	V1.3x	
EKC 316A	084B7088	V1.2x	
EKC 326	084B7082	V1.6x	
EKC 326A	084B7252	V1.0x	
EKC 347	084B7067	V1.0x	
EKC 361	084B7060	V1.5x	
EKC 367	084B7083	V1.2x	
EKC 368	084B7079	V1.6x	
EKC 414A	084B8002	V1.1x	
EKC 414A1	084B8011	V1.0x	
EKC 414C1	084B8010	V1.2x, V1.3x	
EKC 514B1	084B8009	V1.1x, V1.2x	
AK-CC 450	084B8022	V1.3x	7 application selections to support multi app functions- A-G (i.e 84B8022.edf (app o61=1), 84B8022.edf (app o61 = 2).....
AK-CC 450	084B8023	V1.3x	7 application selections to support multi app function s- A-G (i.e 84B8022.edf (app o61=1), 84B8022.edf (app o61 = 2).....
AK-CC 550	084B8020	V1.2x	10 application selections to support multi app function s- A-J (i.e 84B8020.edf (app o61=1), 84B8020.edf (app o61 = 2).....
AK-CC 550	084B8021	V1.2x	10 application selections to support multi app function s- A-J (i.e 84B8020.edf (app o61=1), 84B8020.edf (app o61 = 2).....

Model	Part #	Software Revision	Notes
AK-CC 550	084B8030	V1.1x	
AK-CC 550	084B8029	V1.1x	
AK-CC 550	084B8030	V1.1x	
AK-CC 550	084B8024	V1.2x	0 application selections to support multi app function s- A-J) (i.e 84B8024.edf (app o61=1), 84B8024.edf (app o61 = 2)..... Anytek screw connections
AK-CC 303A	080Z0121	V1.2x, V1.3x	
AK-CC 303AR	080Z0122	V1.2x, V1.3x	
AK-CC 303US	080Z0124	V1.2x, V1.3x, V1.4	
AK-CC 750	080Z0122a	V5.0x, V5.1x	
AK-CC 750	080Z0121a	V5.0x, V5.1x	
AKC CONTROLLERS			
AKC-114A	084B6171	V1.2x, V1.5x	
AKC-114B	084B6033	V1.0x, V1.1x, V1.2x, V1.3x	
AKC-115A	084B6173	V1.2x, V1.5x	
AKC-116A	084B6175	V1.5x	
AKC-111A	084B6039	V2.0x	
PACK CONTROLLERS			
EKC331	084B7104	V1.1x	
EKC331T	084B7105	V1.1x	
AKPC-730	080Z0116	V2.0x, V2.1x	
AKPC-730	080Z0117	V2.0x, V2.1x, V2.2x	
AKPC-840	080Z0111	V1.3x, V2.0x, V2.1x	
AKPC-840	080Z0112	V2.0x, V2.1x, V2.2x	
AKC25H5	084B2020	V1.3x	
EKC 531B	084B8004	V1.2x	
AK-CH 650	080Z0132	V1.0x, V1.1x, V1.2x	
AK CC 530 (EKC 531D1)	084B8007	V1.2x, V1.3x	Split into 4 EDF files to support multi app function (i.e 84B80071.edf (app o61=1), 84B80072.edf (app o61 = 2).....
2nd PARTY CONTROLLERS			
Distech - Stat - RTX-12	DT0012x	V003x	HVAC EC Stat RTX-12
Carlo Gavazzi	EM24-AV0, EM24-AV5, EM24-AV6, EM24-AV9	edf	Modbus Power meter
S5+9000	199Z9000		Woodley
MDM	199Z9200	x1.0	Woodley MDM modules
3rd PARTY CONTROLLERS			
Lennox	Lennox	V1.0x	
Guard-636	199Z9099	V6.0x	
TX-CC02	199Z9008	V4.50x	
Carrier	Carrier	V1.0x	
Munters	Mun-168-F12	V1.0x	
SLV Compressor			
SLV230-4321	105N4321	V1.2x	Modbus SLV compressor
SLV230-4325	105N4325	V1.2x	Modbus SLV compressor
SLV230-4327	105N4327	V1.2x	Modbus SLV compressor



AK-SC255 RS485 BOX

080Z2520 AK-SC255 'E' BOX RS485
Refrigeration (including store lighting function)

080Z2521 AK-SC255 'E' BOX RS485
FULL (Refrigeration, Lighting, HVAC)



Modem power Adaptor

080Z2100

Used to connect & toggle power to the modem



AK-PS250 24 V d.c. Power Supply

080Z0055

Input
100-240v
50-60Hz

Output
24 V d.c.
2.5 A
60 VA









































AK-XM 103A

080Z0032

x4 Analog Inputs
x4 Analog Outputs

Support available from E02_101 onwards

	<p>EMHS3-1 Inside Humidistat (combined temperature & humidity) 080Z2171</p> <p>1K PT Thermistor sensor 0-5 VDC Humidity</p> <p>Used in conjunction with AK I/O modules for rail heat control and HVAC</p>
	<p>AK2-XM 107A Pulse Module 080Z0020</p> <p>8 Pulse Inputs (from power meter source)</p>
	<p>AK-CM 101A (RS485) Communication Module 080Z0063</p> <p>Required for AK I/O module communications</p>
	<p>Photo OD-1 (outdoor photocell with AKS21 sensor for outside temperature) 080Z2172</p>

	<p>AKA65 SW (Support software- Windows)</p> <p>Off Line Programming Full Read -Write access Detailed History View / Export to spreadsheet</p> <p>080Z2174</p> <p>When ordering please describe the Licence required (i.e. Company & User)</p>												
 <table border="1" data-bbox="411 725 727 965"><tr><td> Directory</td><td> VIP</td><td> Alarms</td><td> History</td></tr><tr><td> Local</td><td> Simulate</td><td> Options</td><td> Exit</td></tr><tr><td> Local</td><td> Simulate</td><td> Options</td><td> Exit</td></tr></table>	 Directory	 VIP	 Alarms	 History	 Local	 Simulate	 Options	 Exit	 Local	 Simulate	 Options	 Exit	<p>AKA65 SW (Support software + VIP-1 Windows)</p> <p>Visual Interface Program (Mimic / Legend screens) Off Line Programming Full Read -Write access Detailed History View / Export to spreadsheet</p> <p>080Z2173</p> <p>When ordering please describe the Licence required (i.e. Company & User)</p>
 Directory	 VIP	 Alarms	 History										
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