ENGINEERING
TOMORROW

Fact Sheet

Detailed overview of ADAP-KOOL™ Case Controllers



www.danfoss.com

Product type	Expan. device		Power supply			Control principle						Hardware output							
													UL/CE						
	TXV	AKV	S/M pack, 115 V AC	S/M pack, 230 V AC	Housing (P)anel or (DIN)rail	ON - OFF thermostat	MTR - Modulating thermostat	Adaptive Superheat - DX (MSS)	Adaptive liquid control - ALC	Quick setup with application macros/ settings	Nr. of Digital outputs (relays)	DO1	DO2	DO3	DO4	DO5	DO6	DO7
EKC 223	✓		084B4053	084B4054	P	✓				✓	3	16 (16) A, 10 FLA / 60 LRA at 230 V, 16 FLA / 72 LRA at 115 V	8 A, 2 FLA / 12 LRA	3 A, 2 FLA / 12 LRA				
EKC 224	✓		084B4055	084B4056	P	✓				✓	4	16 (16) A, 10 FLA / 60 LRA at 230 V, 16 FLA / 72 LRA at 115 V	8 A, 2 FLA / 12 LRA	3 A, 2 FLA / 12 LRA	2A			
EKC 202A	✓		084B8531	084B8521	P	✓				✓	2	8 (6) A, 5 FLA, 30 LRA	8 (6) A, 5 FLA, 30 LRA					
EKC 202B	✓		084B8532	084B8522	P	✓				✓	3	8 (6) A, 5 FLA, 30 LRA	8 (6) A, 5 FLA, 30 LRA	6 (3) A, 3 FLA, 18 LRA				
EKC 202C	✓		084B8533	084B8523	P	✓				✓	4	8 (6) A, 5 FLA, 30 LRA	8 (6) A, 5 FLA, 30 LRA	6 (3) A, 3 FLA, 18 LRA	4 (1) A			
EKC 202C-MS	✓		x	084B8543	P	✓				✓	4	10 (6) A, 5 FLA, 30 LRA	8 (6) A, 10 A Resistive 5FLA, 30LRA	6 (3) A, 6 A Resistiv, 3FLA, 18LRA, 131 VA Pilot duty	4 (1) A, 4 A Resistive, 131 VA Pilot duty			
EKC 202D	✓		084B8537	084B8536	P	✓				✓	4	8 (6) A, 5 FLA, 30 LRA	8 (6) A, 5 FLA, 30 LRA	6 (3) A, 3 FLA, 18 LRA	4 (1) A Min. 100mA			
EKC 302D	✓		x	084B4164	DIN	✓				✓	4	16 (8) A, 10 FLA, 60 LRA	10 (6) A, 5 FLA, 30 LRA	10 (6) A, 5 FLA, 30 LRA	4 (1) A Min. 100mA			
AK-CC 210	✓		084B8534	084B8520	P	✓				✓	4	8 (6) A, 10 A Resistive, 5FLA, 30LRA	8 (6) A, 10 A Resistive, 5FLA, 30LRA	6 (3) A, 6 A Resistive 3FLA, 18LRA 131 VA Pilot duty	4 (1) A Min. 100mA, 4 A Resistive, 131 VA Pilot duty			
AK-CC 250A	✓		x	084B8528	P	✓				✓	4	8 (6) A, 10 A Resistive 5FLA, 30LRA	8 (6) A, 10 A Resistive, 5FLA, 30LRA	6 (3) A, 6 A Resistive 3FLA, 18LRA 131 VA Pilot duty	4 (1) A Min. 100mA, 4 A Resistive, 131 VA Pilot duty			
AK-CC 350	✓		x	084B4165	DIN	✓				✓	4	10 (6) A, 5FLA, 30 LRA[2]	6 (3) A, 3 FLA, 18 LRA[2]	6 (3) A, 3 FLA, 18 LRA[2]	4 (1) A Min. 100mA			
AK-CC55 Water loop	✓		084B4058		DIN	✓	✓			✓	5	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA		
AK-CC55 Compact	✓	✓	084B4081		DIN	✓	✓	✓	✓	✓	3	Max 0.5 A, Max. 1 x 20 W AKV for 115 V AC, 2 x 20 W AKV for 230 V AC	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA			
AK-CC55 Single coil		✓[1]	084B4082		DIN	✓	✓	✓	✓	✓	5	Max 0.5 A, Max. 1 x 20 W AKV for 115 V AC, 2 x 20 W AKV for 230 V AC	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	
AK-CC55 Single Coil (UI)		✓[1]	084B4083		DIN	✓	✓	✓	✓	✓	5	Max 0.5 A, Max. 1 x 20 W AKV for 115 V AC, 2 x 20 W AKV for 230 V AC	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	
AK-CC55 Single Coil UI - Locked SW		✓	084B4057		DIN	✓	✓	✓	✓	✓	5	Max 0.5 A, Max. 1 x 20 W AKV for 115 V AC, 2 x 20 W AKV for 230 V AC	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	
AK-CC55 Multi Coil		✓	084B4084		DIN	✓	✓	✓	✓	✓	4	Max 0.5 A, Max. 1 x 20 W AKV for 115 V AC, 2 x 20 W AKV for 230 V AC	8 res. 3FLA 18LRA, Load min.: 1VA	Max 0.5 A (No overload protection!), Max. 1 x 20 W AKV for 115 V AC, 2 x 20 W AKV for 230 V AC	8 res. 3FLA 18LRA, Load min.: 1VA	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	8 res. 3FLA 18LRA, Load min.: 1VA, Inrush TV-5 80A	Max 0.5 A (No overload protection!), Max. 1 x 20 W AKV for 115 V AC, 2 x 20 W AKV for 230 V AC

[1] With EKE 1P you can use a stepper valve

[2] With external relay (c70=ON) (zero-crossing control disabled)

For more detailed information, please see the respective User Guide.

© Danfoss | Climate Solutions | 2024.03

Product type	Hardware inputs																			Software/Application																Display		
	Digital inputs	Analogue inputs	NTC 2000	NTC 2500	NTC 3000	EKS 211 - NTC 5000	EKS 221 - NTC 10000	NTC-M2020	EKS 111 - PTC 1000/PTC 990	AKS11/12/21 - Pt1000 sensor	User-defined	Product seonsor S6	Programming Key (USB)	Modbus option module / external adapter	Modbus built-in	LON RS-485 option module	Real time clock	Clock update via network	HACCP compliance via system	HACCP function (Peak log), log of temp. at power on/off	Suction pressure optimisation, Po	Application selection switchs	Adaptive defrost	Coordinated defrost- local (wire connection)	Coordinated defrost via system (system manager)	Hot gas defrost	Second compressor	Heating thermostat	Humidifier on/off control	Remote displays - AK-UI55 (Bluetooth, Set or Info)	Bluetooth connection to AK-CC55 Connect App (via AK-UI55 BLE)	Remote displays - EKA163/164A
EKC 223	2	2				✓	✓		✓	✓			✓[3]	EKA 206								4			✓			✓							
EKC 224	2	2				✓	✓		✓	✓			✓[3]	EKA 206								4			✓										
EKC 202A	1	2						✓	✓	✓			✓	EKA 178A		EKA 179A	✓	✓	✓			5			✓										
EKC 202B	1	2						✓	✓	✓			✓	EKA 178A		EKA 179A	✓	✓	✓			5			✓										
EKC 202C	1	2						✓	✓	✓			✓	EKA 178A		EKA 179A	✓	✓	✓			5			✓										
EKC 202C-MS	1	2		✓	✓	✓	✓						✓	EKA 178A		EKA 179A	✓	✓	✓			5			✓										
EKC 202D	2	3						✓	✓	✓			✓	EKA 178A		EKA 179A	✓	✓	✓			3		✓											
EKC 302D	2	3						✓	✓	✓			✓	EKA 178B		EKA 175	✓	✓	✓			3		✓											
AK-CC 210	2	3						✓	✓	✓			✓	EKA 178A		EKA 179A	✓	✓	✓	✓		10		✓	✓	✓	✓								
AK-CC 250A	2	3						✓	✓	✓			✓		✓		✓	✓	✓	✓		10		✓	✓	✓	✓								
AK-CC 350	2	3						✓	✓	✓					✓	EKA 175	✓	✓	✓	✓		10		✓	✓	✓	✓								
AK-CC55 Water loop	1	5								✓					✓		✓	✓	✓	✓	✓	8		✓	✓	✓	✓			✓	✓				
AK-CC55 Compact	1	5				✓	✓			✓					✓		✓	✓	✓	✓	✓	8		✓	✓	✓				✓	✓				
AK-CC55 Single coil	3	6				✓	✓			✓		✓			✓	AK-OB55 Lon	✓	✓	✓	✓	✓	9	✓	✓	✓	✓	✓			✓	✓	✓				
AK-CC55 Single Coil (UI)	3	6				✓	✓			✓		✓			✓	AK-OB55 Lon	✓	✓	✓	✓	✓	9	✓	✓	✓	✓	✓			✓	✓	✓				
AK-CC55 Single Coil UI - Locked SW	3	6								✓		✓			✓	AK-OB55 Lon	✓	✓	✓	✓	✓	9	✓	✓	✓	✓	✓			✓	✓	✓				
AK-CC55 Multi Coil	3	6				✓	✓			✓		✓			✓	AK-OB55 Lon	✓	✓	✓	✓	✓	5	✓	✓	✓	✓				✓	✓	✓				

[3] KoolKey and MPK

For more detailed information, please see the respective User Guide.

Danfoss A/S
Climate Solutions • danfoss.com • +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues descriptions, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material.
Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the product.
All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.