

Danfoss EKC514B1 Tesco Case & Coldroom Controller

Basic Controller Set-up v.9 Controller Part No. 084B8009, Software v1.20

For Defaults: - Power-up the controller whilst pressing both Buttons

All Default Parameters NOT Requiring Adjustment						
Set according to Requirements						
Set ONLY AS STATED						
Function	Parameter	Setting			Default	
Case Control Setpoint (Cut-out)	2 Buttons	As Required			+2.0	
Differential (Cut-in)	r01	1 (Condensing Units Set as Default = 2)			2	
Define Thermostat Function	r14	0 = Off	1 = Thermostat	2 = Modulating Control when on Central Plant	1	
Control % of S4 Air Off	r15	Cases Set @100% for Air Off. Coldrooms Set @ 0% for Air On. Blighline Meat Serve-over 25%			50	
Time Between Melt Periods Hours	r16	Set to 0, = Melt Function OFF			1	
Duration Of Melt Periods Mins	r17	Set to 0, = Melt Period OFF			5	
Selection of Thermostat	r22	0 = Ambient Mode, No thermostat regulation stopped 1 = Regulation as Setpoint 1 2 = Regulation as Setpoint 2			1	
Alarm Time Delay	A03	All Cases = 10 Mins,		All Coldrooms = 30 Mins	30	
Alarm Delay After Defrost	A12	Set to 90, = Tesco Spec			60	
High Alarm Thermostat 1	A13	Frozen Food = -18	Meat & Dairy = +3	Produce = +5 Butter & Fats C/rm +6	5	
Alarm Delay for D11 input (Coldroom Door Alarm)	A27	5 Mins			30	
Alarm Action High/Low Definition	A33	Set to 3 = Alarm on S4 Probe, Air Off			1	
Defrost Termination Temperature	d02	As Required			12	
Interval Between Defrosts in Hours	d03	As Required			6	
Maximum Defrost Duration	d04	As Required			45	
Defrost Start after Power-up in Mins	d05	0 to 240 Mins, Cascade in Sequence as Required			0	
Drain Down Period	d06	As Required			0	
Fan Delay Period	d07	As Required			0	
Fan Start Temperature	d08	As Required			-5	
Fans ON During Defrost	d09	As Required			Off	
Defrost Termination Sensor	d10	0 = S4 Probe Air Off.	1 = S5 Probe.	2 = Time Only	1	
Expansion Valve Type	n03	1 = AKV		2 = TEV	1	
Maximum Superheat	n09	Proxima Cases 5°C		Normally 8°C	12	
Minimum Superheat	n10	As Default			3	
Adaptive Regulation	n14	As Default, Normally ON			ON	
AKV Start-up time in seconds	n15	If Coil-in probe sensing is poor on start-up, Increase to 360			180	
AKV Average opening %	n16	This value is automatically adjusted by the controller, Increase to 60% after adjusting n15				
AKV Start-up opening %	n17	This value is automatically adjusted by the controller, Increase to 60% after adjusting n15				
Delay of Output on Start-up	o01	Set to 0			5	
Define Digital Input Signal (DI1)	o02	Normally as Default, Set to 0 = Not in Use, SET to 1 = Alarm, on Short Circuit (Coldroom Door) after A27 Time Expired 6 = OFF, For Blighline Deli/Meat Serve-over with Key Switch All Outputs are OFF when Input is Open Circuit			0	
Network Address for use by M1	o03	Set to the System ID (0 to 240). o03 is ONLY Present if EKC Comms Chip is Fitted			0	
Sensor Type (pt1000)	o06	Must be set to 0 for pt1000 Probes, if probes read incorrectly check this setting			0	
Display % of S4 Air Off	o17	Produce & RIM 60%	F/Food & Meat/Dairy 50%	Coldrooms 0% for Air On.	50	
Manual Control of Outputs SET to OFF after Testing.	o18	1 = Light 10 = All OFF AKV 0%,	2 = TEV 11 = All ON AKV 100%,	3 = Defrost 12 = All ON AKV 30%,	4 = Fan 5 = Trim Htr 13 = All ON AKV 60%,	OFF
Injection ON Definition	o29	MUST BE SET TO 5, EXCEPT as below 4 = FANS ONLY, Blighline Deli/Meat Serve-over with Key Switch			1	
Light Function Definition	o38	1 = Local Control (All FF Cases)		2 = Remote Control (All non FF Cases)	1	
External Control of Light	o39	ONLY When in Remote Control in o38. Set to ON = Lighting ON			OFF	
Definition of Relay 5	o40	As Default 1 = Trim Heater. 2 = Compressor 2. 3 = Compressor Stage			1	
Status of Case Clean	o46	0 = Normal Operation, 1 = FANS Only, 2 = OFF			0	
Display Only						
Defrost Probe S5	u09	Status On DO1 Input	u15	Superheat	u21	
Status On DI1 Input	u10	Discharge Air Probe S4	u16	Superheat Reference	u22	
Defrost Duration	u11	Thermostat Temperature	u17	AKV Actual Opening %	u23	
Return Air Probe S3	u12	Thermostat Time On or Duration of Last Cycle	u18	Status of Relay 5 (Trim Heater)	u41	
Status Inject On Input	u13	Coil-In Probe S1	u19	Number of Accomplished Defrosts	u42	
Status On DO Output	u14	Coil-Out Probe S2	u20	Number of Skipped Defrosts	u43	
Temperature Setpoint	Press Both Buttons, Setting Flashes, Press Both Buttons to Set.					
Defrost Sensor Temperature	Press & Release Bottom Button					
Manual Defrost	Press Bottom Button for 5 Seconds					

FOR ALL OTHER SETTINGS CONSULT THE MAIN MANUAL

Fault message		Alarm text
<p>In an error situation the LED's on the display unit will flash. If you push the top button in this situation you can see the alarm report in the display. There are two kinds of error reports - it can either be an alarm occurring during the daily operation, or there may be a defect in the installation. A-alarms will not become visible until the set time delay has expired. E-alarms, on the other hand, will become visible the moment the error occurs. (An A alarm will not be visible as long as there is an active E alarm).</p>		<p>The importance of the individual alarms can be defined with a setting (0, 1, 2 or 3) in the menu Alarm destinations. See AKM literature.</p>
High temperature alarm	A1	HighTemp air
Low temperature alarm	A2	Low temp air
The "o16" function is activated during a coordinated defrost	A5	Max HoldTime
Control problem	A10	Inject. prob.
Alarm from input DI1	A15	DI1 alarm
Regulation stopped (ambient mode)	A42	Amb. mode
Defrost stopped based on time instead of, as wanted, on temperatur	-	Max Def. Time
Fault in controller	E1	Contr. fault
Sensor fault S1	E23	S1 error
Sensor fault S2	E24	S2 error
Sensor fault S3	E25	S3 error
Sensor fault S4	E26	S4 error
Sensor fault S5	E27	S5 error
Operating status		(Measurement)
<p>The controller goes through some regulating situations where it is just waiting for the next point of the regulation. To make these "why is nothing happening" situations visible, you can see an operating status on the display. (The operating status cannot be seen, however, if there is an active A or E alarm). The status number means the following:</p>		<p>EKC State In AKM the operating status can be seen regardless of the alarm situation</p>
Waiting for end of the coordinated defrost	S1	1
When the compressor is operating it must run for at least x minutes.	S2	2
When the compressor is stopped, it must remain stopped for at least x minutes.	S3	3
The evaporator drips off and waits for the time to run out	S4	4
Refrigeration stopped by the internal or external start/ stop	S10	10
Thermostat is cut-out	S11	11
Defrost sequence. Defrost in progress	S14	14
Defrost sequence. The fan waits for the time to run out	S15	15
Refrigeration stopped due to stopped injection function or stopped regulation	S16	16
Melt function in progress. Refrigeration is interrupted	S18	18
Modulating thermostat control	S19	19
Emergency cooling due to sensor error	S20	20
Regulation problem in the injections function	S21	21
Start-up phase 2. Evaporator being charged	S22	22
Adaptive control	S23	23
Start-up phase 1. Signal reliability from sensors is controlled	S24	24
Manual control of outputs	S25	25
Stopped regulation (ambient mode)	S28	28
Stopped regulation (cleaning of appliance)	S29	29
Delay on outputs during start-up	non	0