JTL CABINET CONTROLLER ITEM NUMBERS	ECDH

CONTENTS

	JTL CABINET CONTROLLER ITEM NUMBERS					ECDH	
ITEM	DESCRIPTION	CODE	CODE MEANING	BIT 4321	RANGE	ITEM 9 VALUE	
1. Jnet NETWORK IDENTIFICATION							
0	Unit type	Ecdh	Unit type				
19	Software Version number						
1	Unit number				0.1 - 899.9		
2. TEMPERATURES							
The ECDH controller is designed for use with 2 evaporators. Evaporator 1 controls the "inner" cabinet temperature while evaporator 2 controls the "outer" air curtain temperature.							
102	Temperature sensor type	5000 2000	JTL ELM		0-1	2000	
2.1 CABINET (EVAPORATOR 1)							
20	Estimated cabinet temperature (calculated from Air on and Air off temperatures using the cabinet temperature ratio Item 33)						
33	Cabinet temperature ratio				20-80	50	
21	Air on temperature						
61	Air on sensor selection	OFF AO.En	Disabled Enabled		0 - 1	AO.En	
22	Air off temperature						
62	Air off sensor selection	OFF A.1.En	Disabled Enabled		0 - 1	A.1.En	
23	Evaporator temperature						
64	Evaporator sensor selection	OFF E.1.En	Disabled Enabled		0 - 1	E.1.En	
24	Suction line temperature						
66	Suction line sensor selection	OFF S.1.En	Disabled Enabled		0 - 1	S.1.En	
25	Superheat Evaporator temp - suction line temp						
2.2 AIR CURTAIN (EVAPORATOR 2)							
35	Estimated air curtain temperature (calculated from Air on and Air off temperatures using air curtain temperature ratio Item 34)						
34	Air curtain temperature ratio				0-100	50	
26	Air off temperature					26	
63	Air off sensor selection	OFF A.2.En	Disabled Enabled		0 - 1	63	
27	Evaporator sensor temperature					27	
65	Evaporator sensor selection	OFF E.2.En	Disabled Enabled		0 - 1	E.2.En	
28	Suction line sensor temperature						

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67	Suction line sensor enabled	OFF S.2.En	OFF Enabled		0 - 1	S.2.En
29	Superheat (Evaporator temp - suction line temp)					
3. TEMPERATURE ALARMS There are 2 overtemperature alarms on the ECDH controller a) Air off temperature (cabinet temperature evaporator) b) Air off temperature (air curtain evaporator) Both alarms use a common overtemperature tolerance averaging period.					
32	Overtemperature alarm tolerance			xxCC xxCO xxOC xxOO	0 - 20 0 - 20 0 - 20 0 - 20	10 10 5 10
47	Period over which averages are taken				00:30 - 03:00	01:00
3.1 CABINET (EVAPORATOR 1)					
38	Average Air off temperature error					
30	Air off temperature setpoint (target for item 22) (for alarm purposes only)			xxCC xxCO xxOC xxOO	-39 to -20 -39 to -20 -10 to +5 -10 to +5	-20 -30 -1 +1
3.2 AIR CURTAIN (EVAPORATOR 2)					
39	Average Air off temperature error					
36	Calculated air off temperature setpoint					
4. AIR CURTAIN TEMPERATURE CONTROL The temperature control strategy for the ECDH controller is for cabinets which have an air curtain to minimise the cabinet temperature variations. The cabinet temperature is not controlled by the ECDH controller. The air curtain temperature is controlled by setting a temperature setpoint on item 31 which is the target for the air curtain temperature displayed on item 35.					
35	Estimated air curtain temperature (calculated from Air on and Air off temperatures and air curtain temperature ratio Item 34)					
31	Air curtain temperature setpoint			xxCC xxCO xxOC xxOO	-39 to +20 -39 to +20 -10 to +5 -10 to +5	-20 -36 -4 -2

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5. INPUTS & OUTPUTS						
70	Operating mode	rEFr dEFr dF.rc	Refrigeration Defrost Defrost recovery			
71	Defrost input	OFF dF.IP	No input Defrost input on			
72	Defrost relay	oFF dt.on	Contacts open Contacts closed			
73	Liquid solenoid relay (controlled by air curtain)	OFF LS.on	Off Demanding refrig.			

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6. DEFROST CONTROL

6.1 DATA & STRATEGIES

ITEM	DESCRIPTION	CODE		CODE MEANING	BIT 4321	RANGE	ITEM 9 VALUE
40	Duration of last defrost						
41	Time since end of last defrost						
42	Duration of current defrost						
45	Defrost strategy	0 1	CU.In SL.in	Network initiated Suction initiated		0 - 1	SL.In
69	No of defrosts expected per day	0 1 - 6		Function disabled No of defrosts		0 - 6	3

6.2 SUCTION INITIATED DEFROST

58	Defrost initiation temperature (air curtain suction line sensor)				xxCC xxCO xxOC xxOO	-5 - +20 -5 - +20 0 - 20 0 - 20	0 0 +15 +10

6.3 Jnet NETWORK INITIATED DEFROST

46	Jnet Network initiated defrost command status	P.dEF F.dEF 0		Defrost Forced defrost No command			

6.4 DEFROST TERMINATION

50	Defrost termination temperature (air curtain air off sensor)				xxCC xxCO xxOC xxOO	0 - 20 0 - 20 0 - 20 0 - 20	15 15 12 20
57	Maximum defrost duration				xxCC xxCO xxOC xxOO	00:05 - 00:40 00:05 - 00:40 00:05 - 01:00 00:05 - 01:00	00:20 00:20 00:20 00:40
49	Liquid hold off duration (for defrost initiated by voltage free contact - Item 71 or network initiation)					00:00 - 00:10	00:00

6.5 DEFROST FORCING FUNCTIONS
Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.

77	Forced defrost	OFF Fd.on		Off Forced defrost on		0 - 1	
78	Inhibit defrost	OFF no.dF		Off No defrosts		0 - 1	
79	Forced refrigeration	OFF Fr.on		Off Forced refrigeration		0 - 1	

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colspan 7: **7. RESTORE FACTORY DEFAULTS** To set the factory defaults into the memory of the controller, first set the bitswitches as shown, then set item 9 to 1. This should be done on initial commissioning of the unit or when the unit is being installed as a replacement part.						
9	Set default values selected by Bitswitch Note: Setting the bitswitches alone has no effect.	1	Set default values	xxCC xxCO xxOC xxOO	Frozen food Ice cream Chiller Produce (off cycle) where C = CLOSED or ON O = OPEN or OFF x = Don't care For unmarked switches C = dot visible O = dot not visible	
**8. SYSTEM ALARMS**						
80	Group alarm 81 - 88	0 1 - 255	No alarms Check 81 - 88			
81	Cabinet air off overtemperature	CLr A.1.Ht	No fault Fault			
82	Air curtain air off overtemperature	CLr A.2.Ht	No fault Fault			
83	Air on sensor fault	CLr AO.Pr	No fault Fault			
84	Cabinet air off sensor fault	CLr A.1.Pr	No fault Fault			
85	Air curtain air off sensor fault	CLr A.2.Pr	No fault Fault			
86	Sensor power supply fault	CLr PS.Ft	No fault Fault			
87	Unit number corrupted/not set	CLr Un.CF	No fault Fault			
88	All sensors faulty, deselected or disconnected	CLr t.SEn	No fault Fault			
90	Group alarm 91 - 98	0 1 - 255	No alarms Check 91 - 98			
91	Cabinet evaporator sensor fault	CLr E.1.Pr	No fault Fault			
92	Air curtain evaporator sensor fault	CLr E.2.Pr	No fault Fault			
93	Cabinet suction line sensor fault	CLr S.1.Pr	No fault Fault			
94	Air curtain suction line sensor fault	CLr S.2.Pr	No fault Fault			
95	Expected defrosts have not been detected	CLr dEF.F	No fault Fault			

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ITEM	DESCRIPTION	CODE	CODE MEANING	BIT 4321	RANGE	ITEM 9 VALUE
9. DIAGNOSTIC & TEST FUNCTIONS						
6	Communications speed (in kilo baud)	600 4800	Baud rate Baud rate			
8	Bitswitch setting	0 1 2 3	Frozen food Ice cream Chiller Produce (off cycle)	xxCC xxC0 xx0C xx00		
89	Sensor excitation value (Factory test)		Not used			
99	Test digital display	CLr SEt	Not active Test active		0 - 1	
101			Not used			
10	Processor alarms (11 - 17)	0 1 - 255	No alarms Check 11 - 17			
11	Static RAM fault	CLr rA.Ft	No fault Fault			
12	Program/counter fault	CLr PC.Ft	No fault Fault			
13	Stack pointer fault	CLr SP.Ft	No fault Fault			
14	Background loop fault	CLr bL.Ft	No fault Fault			
15	PROM checksum fault	CLr Pr.Ft	No fault Fault			
16	NVRAM fault	CLr n.Ft	No fault Fault			
17	Instruction TRAP fault	CLr tP.Ft	No fault Fault			

DISPLAY DATA	ECDH

NORMAL DISPLAY	
-99^c	Cabinet temperature (item 20 rounded)
dEF	Defrost
dEFr	Defrost recovery
--	Display data error
ALARM TEXT (in descending priority order)	
t.SEn	All probes faulty, deselected or disconnected
Ht	High air off 1 or air off 2 temperature
OTHER TEXT	
JTL	Start-up text
SEtP	Air off 1 setpoint data follows this text
A.On	Air on temperature follows this text
1.oFF	Air off 1 temperature follows this text
2.oFF	Air off 2 temperature follows this text
1.EVP	Evaporator 1 temperature follows this text
2.EVP	Evaporator 2 temperature follows this text
1.Suc	Suction line 1 temperature follows this text
2.Suc	Suction line 2 temperature follows this text
1.tdF	Temperature difference 1 (Superheat 1) follows this text
2.tdF	Temperature difference 2 (Superheat 2) follows this text
L.dEF	Time since end of last defrost follows this text