CONTENTS

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
1. Jnet NETWORK IDENTIFICATION						
0	Unit type	LAPI	Unit type			
19	Software Version number					
1	Unit number				0.1 - 899.8	
501	Unit number (HGD section) (v0.01.1 on)				0.1 - 899.8	
2. TEMPERATURES Note: The temperatures can be displayed on the maintenance unit in degrees Celsius or Fahrenheit. The choice is made on item 122. Al setpoint ranges in this document are shown in celsius.						
20	Estimated cabinet temperature (calculated from Air on and Air off temperatures)					
33	Cabinet temperature ratio (Item 20 calculated as value between Air off and Air on using this ratio)			0 (CC) 1 (CO) 2 (OC) 3 (OO)	0 - 80 0 - 80 0 - 80 0 - 80	50.0 50.0 40.0 60.0
21	Air on temperature					
36	Air on sensor selection	OFF AO.En	Disabled Enabled		0 - 1	AO.En
22 (522)	Air off temperature					
37 (537)	Air off sensor selection	OFF AF.En	Disabled Enabled		0 - 1	AF.En
23 (523)	Evaporator temperature					
38	Evaporator sensor selection	OFF EP.En	Disabled Enabled		0 - 1	EP.En
24 (524)	Suction line temperature					
39 (539)	Suction line sensor selection	OFF SP.En	Disabled Enabled		0 - 1	SP.En
25 (525)	Superheat (Evaporator temp - suction line temp)					
141	Termination sensor temperature					
147	Termination sensor selection	OFF tS.En			0 - 1	OFF
131	Energy saving sensor temperature (up to v0.01.3)					
130	Energy saving sensor enabled (up to v0.01.3)	OFF E.S.En	OFF Enabled		0 - 1	OFF
247	Site temperature (from broadcast)					
248	Site relative humidity (from broadcast)					
246	Site absolute humidity (from broadcast)					
122	Temperature display unit choice	CELS FAhr	Celsius Fahrenheit		0 - 1	CELS

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
2.1 HGD SECTION (v0.01.1 on)						
500	Enable HGD case monitoring (v0.01.1 on)	oFF H.G.d	Disabled Enabled		0 - 1	oFF
520	Estimated cabinet temperature (calculated from Air on and Air off temperatures)					
533	Cabinet temperature ratio (Item 20 calculated as value between Air off and Air on using this ratio)			0 (CC) 1 (CO) 2 (OC) 3 (OO)	0 - 80 0 - 80 0 - 80 0 - 80	50.0 50.0 40.0 60.0
521	Air on temperature					
536	Air on sensor selection	OFF AO.En	Disabled Enabled		0 - 1	AO.En
3. TEMPERATURE ALARMS						
26	Average cabinet temperature error					
526	Average HGD cabinet temperature (v0.01.1 on)					
32 (532)	Cabinet overtemperature alarm tolerance	0.0	Disable Ht alarm	0 (CC) 1 (CO) 2 (OC) 3 (OO)	0 - 20 0 - 20 0 - 20 0 - 20	10.0 10.0 5.0 10.0
27 (527)	Average Air off temperature error					
34 (534)	Air off over temperature tolerance	0.0	Disable Ht alarm	0-1 (CX) 2-3 (OX)	0 - 30 0 - 30	15.0 10.0
47	Period over which averages are taken			0-1 (CX) 2-3 (OX)	00:30 - 03:00	01:30 01:00

JTL CABINET CONTROLLER ITEM NUMBERS						LAPI
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
4. TEMPERATURE CONTROL						
275	Control temperature (from v0.00.5 on) Note: up to v0.00.4 control is on air off	1 A.oFF 2 CAb.t	Air off Cabinet		0 - 1	Cab.t
30 (530)	Current Cabinet temperature Setpoint (see items 123 to 127)					
123	Enable 2nd setpoint	oFF E.2SP	Disabled Enabled		0 - 1	oFF
124	Cabinet temperature setpoint - primary (target for item 20)			0-1 (CX)	-30 to -15	to v0.01.2 -20.0 v0.01.3 on -22.0
				2 (OC) 3 (OO)	-5 to +10 -5 to +10	+1.0 +4.0
125	Alternative cabinet temperature setpoint - secondary			0-1 (CX) 2 (OC) 3 (OO)	-30 to -15 0 to 10 0 to 10	-20.0 5.0 10.0
126	Selected setpoint in operation	Lo Hi	Main setpoint (item 124) Alternative setpoint (item 125)		0 - 1	Lo
31 (531)	Air off setpoint (starting point and lower limit for item 28)			0-1 (CX)	-39 to -20	to v0.01.2 -27.0 v0.01.3 on -30.0
				2 (OC) 3 (OO)	10 to +5 -10 to +5	-6.0 -4.0
28 (528)	Current Air off temperature setpoint (calculated by controller)					
29 (529)	Current Evaporator temperature setpoint (calculated by controller)					
240	Liquid line valve open percentage for last sample period					
241	Average liquid line valve open percentage over data logging interval period					

ITEM	DESCRIPTION	CODE		CODE MEANING	FACTORY DEFAULT	RANGE	ITEM 9 VALUE
5. ELECTRONIC EXPANSION VALVE CONTROL							
Note: Pressures can be displayed on the maintenance unit in psi, bar or kPa. The choice is made on item 179. All setpoint ranges in this document are shown in psi.							
5.1 OPERATIONAL SUPERHEAT							
161	Superheat measurement method	1 2	2t Pt1	2 temperature Pressure transducer		1 - 2	Pt1
156	Operational Superheat (determined by method set on item 161)						
152	Suction line temperature						
151	Evaporator temperature						
155	Suction pressure (gauge)						
158	Pressure transducer zero offset					-10 to +10	0.0
159	Auto zero pressure transducer offset						
175	Pressure transducer type (v0.00.2 on)	3 4	07 34	PTXV07 PTXV34	0 (CC) 1 (Co) 2-3 (Ox)	3 - 4 3 - 4 3 only	34 07 07
177	Pressure transducer calibration method Note: Auto zero adjustment is shown on item 159. Network zero adjustment is shown on item 206.	0 1 2	nonE A.Pt.0 nEt.A	None Auto zero Network adjustment		0 - 2	nonE
178	Rate of fall of superheat to trigger auto zero sequence (°C/min)					1 - 10	3.0
179	Pressure display unit choice	0 1 2 3	nonE PSI bAr PASC	Not selectable (kPa) p.s.i. bar kPa		0 - 3	PSI
157	Refrigerant type	1 2 3 4 5 6 7 8 9	422d 422A 404A 407A 407b 507A 408A 744	R422D R422A R404A R407A R407B R507A R408A not used R744 (CO2)	to v0.01.1		
					0 (CC)	3-9	744
					1 (CO)	3-9	407A
					2-3 (Ox)	3-7	407A
					v0.01.2 on		
					0 (CC)	1-9	744
					1 (CO)	1-9	407A
					2-3 (Ox)	1-7	407A

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
5.2 Jnet NETWORK AUTOMATIC PRESSURE TRANSDUCER CALIBRATION						
204	Unadjusted suction pressure					
205	Jnet network zero adjustment status	FroZ LivE	Adjustment frozen Adjustment live			
206	Jnet network zero adjustment					
207	Average suction pressure over last hour at evaporator (defrosts are discounted)					
208	Average suction pressure from plant via network					
209	Suction line pressure drop			0-1 (Cx) 2-3 (Ox)	0.0 - 10.0	4.0 6.0
154	Force average pressure to current pressure	CLr F.Av.P	Off Force pressure			
5.3 ELECTRONIC EXPANSION VALVE CONTROL DATA						
188	Superheat control strategy	up to v0.00.4				
		0 1 OFF En.SL	SUCCEEDS (Floating) Enable upper limit		0 - 1	En.SL
		from v0.00.5				
		0 Succ 1 Suc.L 2 F-SH	SUCCEEDS (Floating) Enable upper limit Fixed superheat	0-1 (Cx) 2-3 (Ox)	0 - 2 0 - 2	Succ F-SH
189	Superheat setpoint (for fixed and upper limit depending on item 188)				to v0.00.4	
					6 - 12	8.0
					v0.00.5 on	
					4 - 12	6.0
140	Temperature deadband (v0.00.5 on) Note: for use with fixed and limited superheat strategies				0.4 - 3.0	to v0.00.7 0.4 v0.00.8 on 2.0
168	Current opening % ((PI x modifier) OR override)					
172	PI output (before modification)					
277	Proportional output (v0.00.7 on)					
276	Integral output (v0.00.6 on)					
278	Valve control error (v0.01.1 on)					
170	Valve control gain (proportional term)			to v0.00.7		
					1 - 100	20
				v0.00.8 on		
				0-1 (Cx) 2-3 (Ox)	1 - 100 1 - 100	20 5

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
171	Valve control time constant (integral term)	0 1 - 250	Integral disabled Time constant	to v0.00.7		
					0 - 250	25
				v0.00.8 on		
				0-1 (Cx) 2-3 (Ox)	0 - 250 0 - 250	25 100
162	Minimum Superheat for pressure control strategy			to v0.00.7		
					0 - 10.0	6.0
				v0.00.8 on		
				0-1 (Cx) 2-3 (Ox)	0 - 10 0 - 10	6.0 3.0
186	Minimum superheat for 2 temperature control strategy			0-1 (Cx) 2-3 (Ox)	0 - 5.0 0 - 5.0	4.0 3.0
163	Maximum Valve opening % (PI)				10 - 100	100
164	Minimum Valve opening % (PI) for pressure control strategy				0 - 50	0
187	Minimum valve opening % for 2 temperature control strategy			0-1 (Cx) 2-3 (Ox)	5 - 50 5 - 50	5 10
166	Forced Valve opening %				0 - 100	
167	Force valve shut	OFF F.Sht	Off Forced shut		0 - 1	
169	Current Valve status	OFF PE.on	Off On			
173	Maximum time at minimum output	00:00	Not used		00:00 - 00:10	00:05
174	High suction pressure shutdown selection	OFF Hp.on	Disabled Enabled		0 - 1	HP.on
5.4 ELECTRONIC EXPANSION LOW SUPERHEAT STATE DETECTION DATA						
180	Low superheat status	OFF Or.on	Off Low superheat			
181	Time since last low superheat state (in hr:mn)					
182	Duration of last low superheat state (in secs)					
183	Duration of current low superheat state (in secs)					
184	Accumulated low superheat state time (in secs)					
243	PREDICT low superheat state current average					

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
5.5 ELECTRONIC EXPANSION VALVE AUTOMATIC CONTROL MODIFICATION DATA						
185	Time since output last modified by low superheat state (in hr:mn)					
194	Average temperature error over past 5 mins					
190	Modifier value (%)					
191	Modifier error gain			0-1 (Cx) 2-3 (Ox)	1 - 100 1 - 100	10 20
192	Modifier error adjustment upper limit (%)				1 - 25	10
193	Time temperature above setpoint before modifier increased				00:01 - 00:20	00:02
195	Modifier increase time constant				1 - 100	10
196	Modifier integral term output					
6. INPUTS & OUTPUTS						
70	Operating mode	rEFr dEFr dF.rc dr.dn Li.Ho Pu.dn Sh.dn	Refrigeration Defrost Defrost recovery Drain down Liquid hold off Pump down Shutdown			
71	Inputs	IP- - IP1 - IP- 2 IP12	No inputs Shutdown Lighting override Both inputs on			
273	Enable input IP1 to override PEV control	OFF En.PO	Off Enable PEV override		0 - 1	En.PO
274	PEV override input state	OFF P.O.On	Off PEV override on			
72	Defrost relay	oFF dc.on	Relay deenergised Defrost control on			
74	Fans/Heater relays	oFF Fn.on Hr.on	Off Fans on Heater on			
395	Trim heater relay	oFF th.on	Off Trim heater on			
106	Auxiliary output selection	0 nonE 1 FAn.S 2 Htr.S	Not used Fan control Heater		0 - 2	FAn.S

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
7. SUCTION PRESSURE OPTIMISATION						
200	Disable suction pressure optimisation for this unit	En.SO di.SO	Enable Disable		0 - 1	En.SO
201	Exclude evaporator from suction pressure optimisation (Data to network)	OFF in.SO	Off Inhibit optimisation			
203	Related suction line from plant controls (Data from network)	nonE Lt Ht SAt	Not selected Low temperature High temperature Satellite			
202	Raw network data for optimiser from plant (Data interpreted on item 203)					
211	Evaporator suction group - Required by Mark 2 optimisers (Data to network)	0 nonE 1 Lt 2 Ht 3 SAt	Not selected Low temperature High temperature Satellite		0 - 3	nonE
212	Operating mode	rEFr dEFr dF.rc dr.dn Li.Ho Pu.dn Sh.dn	Refrigeration Defrost Defrost recovery Drain down Liquid hold off Pump down Shutdown			
217	Plant data to network (binary value interpreted on item 211)					
8. DEFROST CONTROL						
8.1 DATA & STRATEGIES						
40	Duration of last defrost					
41	Time since end of last defrost					
42	Duration of current defrost					
411 (107)	Defrost strategy	0 nonE 1 2 n.i.L.b 3 rt.in 4 5 Prdt 6 - 7 n.i.F.b 8 c.d.L.b 9 c.d.F.b	None Not used Network initiated (learned backup) Internal clock initiated Not used Predict operation Not used Network initiated (fixed schedule backup) Coordinated defrost (learned backup) Coordinated defrost (fixed schedule backup)		0 - 9	0.0
412	Current defrost initiation strategy in operation	nonE JnEt rt.in	None Jnet network initiated Internal clock initiated			

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
219	Jnet network defrost arrangement	nonE cord dEF.S PrEd	None Defrost co-ordinator present on network Timed defrost scheduler present on network Predict co-ordinator present on network			
69	No of defrosts required per day (Note, when the defrost strategy is set to PREDICT operation, this item is not used. When coordinated defrost is in operation this item sets the number of defrosts a day that are required.)	0 1 - 12	Function disabled No of defrosts		0 - 12	3.0
61	Pump down time				00:00 - 00:10	00:00
8.2 REAL TIME INITIATED DEFROST TIMES When a 12 hour schedule is selected (item 60) the defrosts repeat on a 12 hour cycle ie., if 08:00 is selected then a 2nd defrost occurs at 20:00 (and vice versa) Time and defrost schedule can be automatically displayed as standard time or daylight saving (summer) time if desired. When daylight saving is operational the displayed schedule is automatically adjusted so that defrost still occur at the same "standard time". Note, if daylight saving is set on this unit then in summer time the "defrost disabled" time of 00:00 will be displayed as 00:00 offset by the daylight saving adjustment (normally 60 mins) eg 23:00.						
51	Defrost time 1	00:00 00:01 - 23:59	Defrost disabled Defrost enabled	0 (CC) 1 (CO) 2 (OC) 3 (OO)	00:00 - 23:59 00:00 - 23:59 00:00 - 23:59 00:00 - 23:59	01:00 02:00 03:00 04:00
52	Defrost time 2	00:00 00:01 - 23:59	Defrost disabled Defrost enabled	0 (CC) 1 (CO) 2 (OC) 3 (OO)	00:00 - 23:59 00:00 - 23:59 00:00 - 23:59 00:00 - 23:59	07:00 08:00 09:00 10:00
53	Defrost time 3	00:00 00:01 - 23:59	Defrost disabled Defrost enabled	0 (CC) 1 (CO) 2 (OC) 3 (OO)	00:00 - 23:59 00:00 - 23:59 00:00 - 23:59 00:00 - 23:59	13:00 14:00 15:00 16:00
54	Defrost time 4	00:00 00:01 - 23:59	Defrost disabled Defrost enabled	0 (CC) 1 (CO) 2 (OC) 3 (OO)	00:00 - 23:59 00:00 - 23:59 00:00 - 23:59 00:00 - 23:59	19:00 20:00 21:00 22:00
55	Defrost time 5	00:00 00:01 - 23:59	Defrost disabled Defrost enabled		00:00 - 23:59	00:00
56	Defrost time 6	00:00 00:01 - 23:59	Defrost disabled Defrost enabled		00:00 - 23:59	00:00
60	Defrost schedule selection	24 hr 12 hr	24 hour schedule 12 hour schedule		0 - 1	24 hr
43	Time next defrost is due					
8.3 Jnet NETWORK INITIATED DEFROST						
46 (215)	Jnet Network initiated defrost command status	P.dEF F.dEF nonE	Defrost Forced defrost No command			
261 to 272	Defrost schedule (12 times starting at item 261 through to 272)					

ITEM	DESCRIPTION	CODE		CODE MEANING	FACTORY DEFAULT	RANGE	ITEM 9 VALUE
	8.4 COORDINATED DEFROST INITIATION This information is for use by defrost schedulers and for PREDICT defrost (8.5)						
69	No of defrosts required per day (Note, when the defrost strategy is set to PREDICT operation, this item is not used. When coordinated defrost is in operation this item sets the number of defrosts a day that are required.)	0 1 - 12		Function disabled No of defrosts		0 - 12	3.0
224	Time since the start of last defrost						
216	Defrost requirement to defrost coordinator						
223	Defrost requirement priority					1 - 8	1.0
211	Evaporator suction group	0 1 2 3	nonE Lt Ht SAt	Not selected Low temperature High temperature Satellite		0 - 3	nonE
214 (414)	Defrost heater choice	0 1 2 3 4 5 6	brn or rEd blac or YELL GrEY or bluE 3 - Ph oFF.C	Electric brown phase Electric black phase Electric Grey phase Electric 3 phase Not used Not used Off cycle		0 - 6	brn
213	Electric circuit choice (depends on item 214)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	cct1 cct2 cct3 cct4 cct5 cct6 cct7 cct8 cct9 cc10 cc11 cc12 cc13 cc14 cc15 cc16 cc17 cc18 cc19 cc20 cc21 cc22 cc23 cc24 cc25 cc26 cc27 cc28 cc29 cc30 cc31	Circuit 1 Circuit 2 Circuit 3 Circuit 4 Circuit 5 Circuit 6 Circuit 7 Circuit 8 Circuit 9 Circuit 10 Circuit 11 Circuit 12 Circuit 13 Circuit 14 Circuit 15 Circuit 16 Circuit 17 Circuit 18 Circuit 19 Circuit 20 Circuit 21 Circuit 22 Circuit 23 Circuit 24 Circuit 25 Circuit 26 Circuit 27 Circuit 28 Circuit 29 Circuit 30 Circuit 31		to v0.01.2 1 - 7 v0.01.3 on 1 - 15 v0.01.7 on 1 - 31	cct1
210	Electrical distribution Panel No. (from v0.01.3)					0 - 7	0.0

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
215 (46)	Jnet network initiated defrost command status (repeats item 46)	P.dEF F.dEF nonE	Defrost Forced defrost No command			
217	Evaporator data to plant					
220	Defrost coordinator status	oFF cord	No defrost coordinator Defrost coordinator present on network			
8.5 JTL PREDICT DEFROST INITIATION See also information in 8.4						
225	Minimum time between defrosts (hours)				up to v0.01.7 2 - 6 from v0.01.8 2 - 12	6
226	Maximum time between defrosts (hours)				6 - 72	24.0
8.5.1 PREDICT 1 OPERATION PREDICT 1 operation is associated with SUCCEEDS superheat control as set on Item 188						
242	PREDICT low superheat state initiation level (%)				0 - 100	25.0
243	PREDICT low superheat state current average (%)					
8.5.2 PREDICT 3 OPERATION (From v0.01.8) PREDICT 3 operation is associated with fixed superheat control as set on Item 188						
227	Number of samples to discard from top & bottom of sorted list				0 - 3	1
228	PREDICT 3 volatility integral setpoint				2.0 - 12.0	6.0
229	PREDICT 3 volatility integral					
230	Current PREDICT 3 volatility					
231	Long run PREDICT 3 volatility					
232	Ratio of current PREDICT 3 volatility/long run volatility					
233	Mean value from PREDICT 3 sampling array					
234	Minimum value from PREDICT 3 sampling array					
235	Maximum value from PREDICT 3 sampling array					
236	Average reading in last complete PREDICT 3 sample (frame)					
237	Latest reading					

JTL CABINET CONTROLLER ITEM NUMBERS						LAPI
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
281 to 296	Array of superheat readings in current samples (frame)					
301 to 316	Array of average reading samples (frames)					
321 to 336	Sorted array of average reading samples (frames)					
8.6 DEFROST TERMINATION						
144	Termination method selection	1 EuAP 2 A.OFF 3 tEr 4 tot	Evaporator sensor Air off sensor Termination sensor Time only	0-1 (CX) 2 (OC) 3 (OO)	1 - 4 1 - 4	EuAP tot
141	Termination sensor temperature					
147	Termination sensor selection	OFF tS.En	Disabled Enabled		0 - 1	OFF
50	Defrost termination temperature (the sensor used is available on item 144)			0 (CC) 1 (CO) 2 (OC) 3 (OO)	0 - 20 0 - 20 0 - 20 0 - 20	15.0 15.0 12.0 20.0
145	Minimum defrost duration (Defrost heater cycles on termination temperature (item 50) as required during this time)				00:00 - 00:30	00:10
57	Maximum defrost duration			0 (CC) 1 (CO) 2 (OC) 3 (OO)	00:05 - 00:40 00:05 - 00:40 00:05 - 00:59 00:05 - 00:59	00:20 00:20 00:20 00:40
59	Drain down duration				00:00 - 00:10	00:05
49	Liquid hold off duration (starts when drain down completed)				00:00 - 00:10	00:00
8.7 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 (Note, when item 412 is indicating Jnet network initiated defrost. Forced defrost sends the command to the plant for action. It is NOT actioned locally)	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	
222	Enable forced defrost requirement to defrost coordinator	oFF F.r.En	Disabled Enabled		0 - 1	0
221	Forced defrost requirement to defrost coordinator (requires item 222 set to 1)	0 - 63	Forced value			

JTL CABINET CONTROLLER ITEM NUMBERS						LAPI	
ITEM	**DESCRIPTION**	**CODE**		**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
9. FAN CONTROL							
108	Fan control (106 must be set to FAn.S)	1 2 3	F.on F.oFF F.c.d.d	Fan runs always Fan off during defrost Fan controlled during defrost	to v0.00.7		
						1 - 3	F.on
					v0.00.8 on		
					0-1 (Cx) 2-3 (Ox)	1 - 3 1 - 3	F.oFF F.on
146	Temperature to turn fan off during defrost. Depends on item 108				0-1 (Cx) 2-3 (Ox)	-12 to -2 0 to 20	-7.0 10.0
109	Fan delay after defrost	00:00		Fans cycle on evap temperature		00:00 - 00:10	00:00
150	Temperature to bring fan on after defrost. Depends on item 108				0-1 (Cx) 2-3 (Ox)	-20 to -10 -5 to 5	-15.0 0.0
130	Fan control sensor enabled (up to v0.01.3)	OFF E.S.En		OFF enabled		0 - 1	OFF
131	Fan control sensor temperature (up to v0.01.3)						
132	Fan control setpoint (up to v0.01.3)				0 (CC) 1 (CO) 2 (OC) 3 (OO)	-30 to -15 -30 to -15 -5 to +8 -5 to +8	-25.0 -30.0 0.0 2.0
10. TRIM HEATER CONTROL							
390	Control strategy	1 2 3 4 5	nonE oFF 24hr trad Jnet	No control Off when isolated Fixed adjustment Not operational Not operational		1 - 5	oFF
391	Actual output (% of full power)						
392	Fixed output. Used for strategy 3 and as a base for strategies 4 & 5.					0 - 100%	50%
393	Non-trading hours adjustment					0 - 100%	75%
394	Network delivered adjustment						
395	Trim heater relay	oFF th.on		Off Trim heater on			

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
11. Jnet NETWORK LIGHTING CONTROL Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.						
110	Select Jnet network lighting control	OFF LC.on	off Lighting control function selected		0 - 1	LC.on
113	Lights and blinds	on L.OFF	Lights on and blinds up Lights off and blinds down			
111	Jnet network lighting unit network command	LU.Co nonE	Lighting off command No command			
112	Over ride input	OFF L.O.IP	No input Over ride input on			
118	Lighting contactor type selection (shown for lights-on state)	n.o n.c	normally open normally closed		0 - 1	n.c
119	Lights off during shutdown selection	OFF En.L.S	Off Lights off during shutdown		0 - 1	Off
120	Lighting override timer (time delay before lighting off/blinds close on network control)				upto v0.01.2 00:30 - 03:00	02:00
116	Manual lights on	OFF P.on	OFF Lights on			
117	Manual lights off	OFF P.off	OFF Lights off			
114	Force lights on	OFF L.on	Off Lights on		0 - 1	
115	Force lights off	OFF L.OFF	Off Lights off		0 - 1	
12. Jnet COMMAND FUNCTIONS						
62	Jnet network controlled Shutdown selection	oFF Sh.dn	Disabled Enabled		0 - 1	oFF
63	Jnet network command for shutdown	nonE Sh.dn FAn.S	No command Shutdown Fans only shutdown			
133	Enable plant to override temperature control and run refrigeration regardless of the temperature setpoint	Off nrc.E	Disabled Enabled		0 - 1	Off
134	Operation in event of a plant fault command from the Jnet network	0 oFF 1 In.d.r or PC.En 2 In.rF 3 In.df	nonE Inhibit defrost & refrigeration Inhibit refrigeration Inhibit defrost		to v0.01.8 0 - 1 from v0.01.9 0 - 3	Off
135	Jnet network commands	nonE O.S.df PL.Ft P.C.Ft	No command Other associated systems on defrost Plant fault Plant comms fault			

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
13. DISPLAY FUNCTIONS						
122	Temperature display unit choice	CELS FAhr	Celsius Fahrenheit		0 - 1	CELS
136	Enable fans only operation from display switch	Off E.d.Fo	Disable Enable		0 - 1	E.d.Fo
137	Controller state	run FAn.O	Operational Fans only			
138	Enable Shutdown from display switch	OFF E.d.Sd	disable Enable		0 - 1	Off
139	Controller State	run OFF	Operational Shutdown			
121	Display switch status	Si - - Si1 - Si- 2 Si12	OFF Position 1 Position 2 Both			
502	Enable 2nd display (v0.01.1 on)	oFF 2.dPY	Disabled Enabled		0 - 1	oFF
14. CLOCK CALENDAR Note, the time and date can be displayed as standard or daylight saving (summer) time. This choice is made on item 18. When daylight saving is chosen and the controller is connected to a JTL Network Controller supporting daylight saving operation, the change is made automatically to the current EU directive.						
2	Time of day				00:00 - 23:59	
3	Day of week	Sun - Sat	0 = Sunday 1 = Monday etc			
4	Date				01:01 - 31:12	
5	Year				2004-2034	
18	Daylight saving enable	Stnd dAY.S	Standard time Daylight saving time		0 - 1	Stnd

ITEM	DESCRIPTION	CODE	CODE MEANING	FACTORY DEFAULT	RANGE	ITEM 9 VALUE
15. 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 the set default value of "1234". This should be done on initial commissioning of the unit or when the unit is being installed as a replacement part.						
966	Virtual bitswitch setting From version 0.01.3 the physical bitswitches have been replaced by virtual bitswitches. Set this item in place of using the bitswitches which are redundant.	0 1 2 3	Frozen food (C02) Frozen food Chiller Produce (off cycle)			
9	Set default values selected by Bitswitch Note: Setting the bitswitches alone has no effect.	1234	Set default values	0 (CC) 1 (CO) 2 (OC) 3 (OO)	Frozen food (CO2) Frozen Food (HFC) Chiller (HFC) Produce (HFC) where C = CLOSED or ON O = OPEN or OFF x = Don't care	
		1066	Write to NVRAM without delay			
16. RESTORE PARAMETERS FROM NETWORK (from v0.01.3) To restore the data from the network first set the virtual bitswitch on item 966 and the appropriate unit number on item 1. Then check item 965 to see if this facility is available on the network. The information on item 965 is received from a network broadcast every few minutes. If the restore parameter facility is available and operational then item 965 will be set to a non zero number e.g. 2. To request restore parameters set item 964 to 1234. Item 963 displays parameters restore progress. When all parameters are downloaded item 964 is cleared to 0.						
965	Master database port	0 1 - 4	Not in use NC port no			
964	Set restore parameters from network	1234	Request restore			
963	Parameters restore progress	rdy dnl.r din.P dnl.c FA.IL	Restore function possible Restore requested Restore in progress Restore complete Restore fault			
959	Requested template	0 1-9999	As commissioned Template number		0 - 9999	

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
17. SYSTEM ALARMS						
80	Group alarm 81 - 88	0 1 - 255	No alarms Check 81 - 88			
81	Cabinet overtemperature	CLr C.Ht	No fault Fault			
82	Air off overtemperature	CLr A.Ht	No fault Fault			
83	Air on sensor fault	CLr AO.Pr	No fault Fault			
84	Air off sensor fault	CLr AF.Pr	No fault Fault			
85	Sensor power supply fault	CLr PS.Ft	No fault Fault			
86	Plant alarm (v0.00.8 on)	CLr AL.iP	No fault Plant alarm			
87	Shutdown alarm	CLr Sh.dn	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	Termination sensor fault	CLr dt.Pr	No fault Fault			
92	Evaporator sensor fault	CLr EP.Pr	No fault Fault			
93	Suction line sensor fault	CLr SL.Pr	No fault Fault			
94	Expected defrosts have not been detected (Note, This alarm normally depends on the setting in item 69. When the defrost initiation strategy is set to PREDICT the alarm occurs 3 hours after the defrost requirement has been set when no defrost has occurred).	CLr dEF.F	No fault Fault			
96	Energy saving sensor fault	CLr E.S.Pr	No fault Fault			
97	Excessive Superheat fault	CLr Hi.Sh	No fault Fault			
98	Pressure transducer fault	CLr Pt.FL	No fault Fault			
250	Group alarms 251 - 258	0 1 - 255	No alarms Check 251 - 258			
251	Forced defrost activated	CLr F.dEF	No fault Forced defrost			
252	Network communications failure	CLr FAIL	No fault Comms failure			
258	Backup defrost strategy in operation	CLr d.bAc	No fault Backup defrost			

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
510	Group alarms 511 - 518 (v0.01.1 on)					
511	HGD cabinet over temperature (v0.01.1 on)	CLr C.Ht	No fault Fault			
512	Air off overtemperature (v0.01.1 on)	CLr A.Ht	No fault Fault			
513	HGD air on sensor fault (v0.01.1 on)	CLr AO.Pr	No fault Fault			
514	Air off sensor fault (v0.01.1 on)	CLr AF.Pr	No fault Fault			
515	Sensor power supply fault (v0.01.1 on)	CLr PS.Ft	No fault Fault			
516	Plant alarm (v0.01.1 on)	CLr AL.iP	No fault Plant alarm			
517	Shutdown alarm (v0.01.1 on)	CLr Sh.dn	No fault Fault			
518	All sensors faulty, deselected or disconnected (v0.01.1 on)	CLr t.SEn	No fault Fault			
18. DIAGNOSTIC & TEST FUNCTIONS						
44	Power off duration					
6	Communications speed (in kilo baud)	4.8	Baud rate			
7	Communications (Half duplex)	HALF	2 wire			
967	Latest unit no polled on zone (from v0.01.2)					
973	Latest polling interval This time shows the polling interval between the last two successful network awake messages to this unit.	min:sec				
974	Time since last awake message	min:sec				
975	Network receive timer Each time a message is read correctly the timer is set to 10 it counts down. If the timer reaches 0 then the communications module is reset.	seconds	(counts down to 0)			
976	Network receive bad character counter. The counter counts down from a preset number. When the counter reaches 0 the communications module is reset.		(counts down to 0)			
977	Transmit control line status for the operation of the Jnet network communications.	Hi Lo	Transmit Receive			
8	Bitswitch setting	F.C02 or (0) F.hFc (1) Chil (2) OFF.C (3)	Frozen food (CO2) Frozen food (HFC) Chiller Produce (off cycle)			
89	Sensor excitation value (Factory test)		Not used			
99	Test digital display	CLr SEt	Not active Test active		0 - 1	

JTL CABINET CONTROLLER ITEM NUMBERS					LAPI	
ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**FACTORY DEFAULT**	**RANGE**	**ITEM 9 VALUE**
100	Test inputs	iP - - iP1 - iP - 2 iP12	No inputs Input 1 on Input 2 on Both inputs on			
101	Test output relays	Clr SEt	Not active Test active		0 - 1	
121	Display switch status	Si - - Si1 - Si- 2 Si12	OFF Position 1 Position 2 Both			
421	Temperature sensor 1 reading					
422	Temperature sensor 2 reading					
423	Temperature sensor 3 reading					
424	Temperature sensor 4 reading					
425	Temperature sensor 5 reading					
426	Temperature sensor 6 reading (v0.01.1 on)					
428	Temperature sensor open circuit indication (from v0.01.9	0 1 2 4 8 16 96 128	No fault Excitation Sensor 3 Sensor 4 Sensor 2 Sensor 1 Sensor 5 Sensor 6			
429	Temperature sensor short circuit indication (from v0.01.9					
204	Unadjusted suction pressure					
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	LAPI
	Fans running
	Defrost recovery
	Defrost
	Fault condition
- 99^{c}	Cabinet temperature (item 20 rounded)
dEF	Defrost & defrost recovery
Off	Unit Shutdown or fans only mode (indicated by fan symbol)
--	Display data error
ALARM TEXT (in descending priority order)	
SEn	All sensors faulty, deselected or disconnected
Ht	High cabinet temperature
AL.IP	Plant alarm
OTHER TEXT	
JtL	Start-up text
Lo	Switched to primary setpoint
Hi	Switched to secondary setpoint