

JTL COMPRESSOR PACK ITEM NUMBERS					CPLT	
ITEM	DESCRIPTION	CODE	CODE MEANING	BIT	RANGE	ITEM 9 VALUE
				4321		
0	Unit type	CPLt	Unit type			
1	Unit number				0.1 - 899.9	
CLOCK CALENDAR						
Note, from version 0.00.4 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	up to v0.00.3	0 = Sunday 1 = Monday etc			
		0 - 6				
		v0.00.4 on				
		Sun - Sat				
4	Date				01:01 - 31:12	
5	Year				up to v0.00.1	
					00 - 99	
					v0.00.2 on	
					1992 - 2022	
MISCELLANEOUS DATA						
6	Communications speed	4.8 38.4	Kilo baud rate Kilo baud rate			
8	Bitswitch setting					
9	Set default values	1234	Load default settings Write to NVRAM immediately			
		1066				
PROCESSOR ALARMS						
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			
18	Daylight saving enable (from v0.00.4)	Stnd dAY.S	Standard time Daylight saving time		0 - 1	Stnd

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MISCELLANEOUS DATA						
19	Software Version number					
PRESSURES						
21	LT suction pressure					
22	HT suction pressure					
23	Discharge pressure					
24	Satellite suction pressure					
TEMPERATURES						
31	LT suction gas temperature					
32	HT suction gas temperature					
33	Discharge temperature					
34	Satellite suction gas temperature					
35	Subcooled liquid temperature					
36	Saturated gas temperature					
37	Plant room temperature					
LT SUCTION PRESSURE CONTROL						
40	LT suction pressure setpoint				- 5 to + 20	4
41	No of LT suction steps loaded					
42	High LT suction pressure alarm level				10 - 50	20
43	LT suction pressure deadband				0 - 5	2
44	LT suction pressure increase time constant				1 - 60	30
45	LT suction pressure decrease time constant				1 - 60	15
48	LT suction 1st stage hold on				- 8 to +20	0
49	LT suction total capacity loaded (in kW)					
HT SUCTION PRESSURE CONTROL						
50	HT suction pressure setpoint				5 - 60	25
51	No of HT suction steps loaded					
52	High HT suction pressure alarm level				15 - 80	60
53	HT suction pressure deadband				0 - 10	5
54	HT suction pressure increase time constant				1 - 60	30
55	HT suction pressure decrease time constant				1 - 60	15
58	HT suction 1st stage hold on				2 - 60	10
59	HT suction total capacity loaded (in kW)					

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DISCHARGE PRESSURE CONTROL						
60	Discharge pressure setpoint				100 - 250	150
61	Number of fans required					
62	High discharge pressure alarm level				140 - 300	250
63	Discharge pressure deadband				0 - 20	5
64	Condenser control time constant				1 - 250	30
65	Discharge pressure to reduce capacity				140 - 320	300
SATELLITE SUCTION PRESSURE CONTROL						
70	Satellite suction pressure setpoint				-5 to + 50	2
71	No of Satellite suction steps loaded					
72	High Satellite suction pressure alarm level				20 - 80	50
73	Satellite suction pressure deadband				0 - 10	5
74	Satellite suction pressure increase time constant				1 - 60	30
75	Satellite suction pressure decrease time constant				1 - 60	30
78	Satellite suction 1st stage hold on				- 5 to + 50	0
79	Satellite suction total capacity loaded (in kW)					
SYSTEM ALARMS						
80	Group alarm 81 - 88	0 1 - 255	No alarms Check 81 - 88			
81	High LT suction pressure	Clr Hi.Lt	No fault Fault			
82	High HT suction pressure	Clr Hi.Ht	No fault Fault			
83	High discharge pressure	Clr Hi.dP	No fault Fault			
84	High Satellite suction pressure	Clr Hi.St	No fault Fault			
85	Low liquid level	Clr Lo.Li	No fault Fault			
88	Condenser fault	Clr Fn.Ft	No fault Fault			
MISCELLANEOUS DATA						
89	Thermistor excitation value (Factory test)		Not used			

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SYSTEM ALARMS						
90	Group alarm 91 - 98	0 1 - 255	No alarms Check 91 - 98			
91	Pressure transducer fault	Clr Pt.Ft	No fault Fault			
92	Thermistor fault	Clr th.Ft	No fault Fault			
93	Thermistor excitation voltage	Clr PS.Ft	No fault Fault			
94	Low suction superheat (v0.00.2 on)	Clr Lo.Sh	No fault Fault			
96	Compressor interface card fault	Clr CP.F	No fault Fault			
97	Compressor fault OR Auto input not present	Clr CPr.F	No fault Fault			
UTILITY						
99	Test digital displays	Clr SEt	Not active Test active		0 - 1	
MAXIMUM NUMBER OF COMPRESSORS ALLOWED TO RUN (v0.00.7 on)						
101	Maximum number of LT compressors allowed				1 - 10	10
102	Number of LT compressors running					
103	Maximum number of HT compressors allowed				1 - 10	10
104	Number of HT compressors running					
105	Maximum number of satellite compressors allowed				1 - 10	10
106	Number of satellite compressors running					
PRESSURE TRANSDUCER SELECTIONS						
121	LT pressure transducer selection	OFF Lt.En	Disabled Enabled		0 - 1	Lt.En
122	HT pressure transducer selection	OFF Ht.En	Disabled Enabled		0 - 1	Ht.En
123	Discharge pressure transducer selection	OFF DS.En	Disabled Enabled		0 - 1	DS.En
124	Satellite pressure transducer selection	OFF St.En	Disabled Enabled		0 - 1	St.En
126	Absolute LT suction pressure transducer selection	Lt.GA Lt.Ab	Gauge pressure Absolute pressure		0 - 1	Lt.GA
129	Absolute Satellite suction pressure transducer selection	St.GA St.Ab	Gauge pressure Absolute pressure		0 - 1	St.GA

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TEMPERATURE PROBE SELECTION						
131	LT suction temperature	OFF t1.En	Not selected Selected		0 - 1	t1.En
132	HT suction temperature	OFF t2.En	Not selected Selected		0 - 1	t2.En
133	Discharge temperature	OFF t3.En	Not selected Selected		0 - 1	t3.En
134	Satellite suction temperature	OFF t4.En	Not selected Selected		0 - 1	t4.En
135	Subcooled liquid temperature	OFF t5.En	Not selected Selected		0 - 1	t5.En
136	Temperature sensor 6	OFF t6.En	Not selected Selected		0 - 1	Off
137	Plant room temperature	OFF t7.En	Not selected Selected		0 - 1	t7.En
SUCTION SUPERHEATS V0.00.2 ON						
141	LT suction superheat					
142	HT suction superheat					
143	Satellite suction superheat					
144	Minimum superheat	0.0	Alarm disabled		0.0 - 20.0	0.0
AVERAGE PRESSURES v0.00.4 on						
Pressures are averaged over last hour (the average is updated every 4 minutes)						
146	Average LT suction pressure					
147	Average HT suction pressure					
148	Average discharge pressure					
149	Average satellite suction pressure					

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SUCTION PRESSURE OPTIMISATION						
If suction pressure optimisation is selected then the suction pressure setpoints as set in item 40, 50 and 70 can be adjusted upwards to the maximum by a JTL optimisation unit connected to the network.						
If there is no JTL optimisation unit on the network then the setpoint remains at the original set value. In the event of network failure the setpoints revert to the original set value after a time delay of 15 minutes.						
150	Select network optimised suction pressure control	Off Opt.E	Not added Selected		0 - 1	Off
151	Optimised LT suction setpoint					
152	Optimised LT suction setpoint upper limit				5 - 20	10
153	Optimised HT suction setpoint					
154	Optimised HT suction setpoint upper limit				15 - 60	40
155	Optimised Satellite suction setpoint					
156	Optimised Satellite suction setpoint upper limit				5 - 50	10
157	Refrigerant type (v0.00.2)	0 22 502 404 407A 407B 507	None R22 R502 R404 R407A R407B R507		0 - 6	R404A
OUTPUT STATES						
Note: Output 1 is unused.						
160	Watchdog status (LN/LD-2)	OFF On	Watchdog fail Watchdog healthy			
INPUT STATES						
171	Auto/manual (IP-1)	OFF Auto	Manual (pack controller dormant) Auto mode			
172	Liquid level (IP-2)	Clr Lo.Li	Liquid o.k. Low liquid level			
175	Low level liquid alarm delay (minutes) (v0.00.7 on)				15 - 240	30
176	Defrost scheduling operation in manual (v0.00.5 on)	Auto MAn	Enabled in auto only Enabled always		0 - 1	Auto
177	JTL numbering on systems on defrost display (v0.00.5 on) Note: Depends on unit no setting on item 1.	oFF J.no	System no. range 1- 28 System no. range x01 - x28		0 - 1	oFF
178	Temperature display unit choice (v0.00.5 on)	CELS FAhr	Celsius Fahrenheit		0 - 1	CELS
179	Pressure display unit choice (v0.00.4 on)	PSI bAr PASC	p.s.i. bar kPa		1 - 3	PSI

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CAPACITIES OF THE NEXT AVAILABLE STEPS IN KW						
181	LT suction increase					
182	LT suction decrease					
183	HT suction increase					
184	HT suction decrease					
187	Satellite suction increase					
188	Satellite suction decrease					
INTEGRATED PRESSURE ERRORS V0.00.2 ON						
191	LT suction					
192	HT suction					
193	Discharge					
194	Satellite suction					
COMMON COMPRESSOR DATA						
Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.						
200	Number of compressors				0 - 10	10
201	Number of steps on load					
203	Total capacity loaded (in kW)					
204	Forced number of LT suction stages				0 - 30	
205	Forced number of HT suction stages				0 - 30	
206	Compressor fault alarm delay (mins) (v0.00.2 on)				0 - 10	0
207	Forced number of satellite suction stages				0 - 30	
208	Minimum compressor stop time (seconds)				0 - 240	30

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COMPRESSOR DATA A general form of item numbers for compressors is shown below. The "x" shown in each item number should be replaced by the compressor number. This sequence covers item numbers 210-299 for compressors 1 - 9 and 300 - 309 for compressor 10. Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.						
2x0	Number of steps				0 - 1	1
2x1	Number of steps on load					
2x2	Running hours (in 10s of hours)				0 - 9999	
2x3	Compressor status	rdy 0	Ready to run (no fault). Off or compressor interface fault.			
2x4	Compressor restart inhibit timer (Seconds)					
2x5	Compressor function	0 Lt.C Ht.C SAt.C	Not in use LT HT Satellite		0 - 3	Lt.C
2x6	Compressor capacity in <u>effective</u> kW				1 - 100	10
2x7	Forced number of compressor steps				0 - 1	
2x8	Force compressor off	CP.En C.OFF	Compressor enabled to run Compressor forced off		0 - 1	
2x9	Compressor number of starts per hour				4 - 20	10
ADDITIONAL COMPRESSOR DATA (v0.00.7 on) 351, 371 for compressor 1. 352, 372 for compressor 2 etc						
351-360	Average number of starts per hour last 24 hours					
371-380	Compressor run time last 24 hours					

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CONDENSER CONTROL						
Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.						
390	Number of condenser steps				up to v0.00.2	
					0 - 7	7
					v0.00.3 on	
					0 - 13	7
391	Number of condenser steps running					
392	Forced number of condenser steps		Step Analog		0 - no. of steps (item 390)	
394	Analog/stepped condenser control selection	StEP A.LOG	Step control Analog control		0 - 1	StEP
395	Analog fan speed gain				1 - 25	10
396	<u>Note:-</u> If more than one input is present, the numbers shown in brackets are added together and displayed instead.	1 2 4 8 16 32 64	Step 1 input Step 2 input Step 3 input Step 4 input Step 5 input Step 6 input Step 7 input			
COMMON DEFROST CONTROL DATA						
400	Number of stubs				0 - 28	28
401	Maximum electric defrost duration Note: Off cycle defrosts are assumed to be longer than this setting.				15 - 40	25
404	Maximum number of electric defrosts allowed at any time				1 - 28	3

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DEFROST DATA						
Daylight saving operation added from v0.00.4. 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".						
410	Start time for first daily defrost	SYSTEM			00:00 - 23:59	TIME
420		1				08:00
430		2				08:30
440		3				09:00
450		4				09:30
460		5				10:00
470		6				10:30
480		7				11:00
490		8				11:30
500		9				12:00
510		10				12:30
520		11				13:00
530		12				13:30
540		13				08:15
550		14				08:45
560		15				09:15
570		16				09:45
580		17				10:15
590		18				10:45
600		19				11:15
610		20				11:45
620		21				12:15
630		22				12:45
640		23				13:15
650		24				13:45
660		25				08:00
670		26				09:00
680		27				10:00
	28			11:00		

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				4321		
<p>A general form of item numbers for defrost systems is shown below. The "x" shown in each item number should be replaced by the system number up to system 9. Systems 10-19 use items 500-599 and systems 20-28 use items 600-689. Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.</p>						
4x1	Duration of defrost (mins)				5 - 60	20
4x2	Defrost pattern	0 1 - 6 7 8	No defrosts. Number of equally spaced daily defrosts. 3 defrosts per day, but the 3rd is missing. 4 defrosts per day, but the 4th is missing.		0 - 8	4
4x3	Forced defrost	OFF Fd.on	No forced defrost Forced defrost on		0 - 1	
4x4	Forced refrigeration	OFF Fr.on	No forced refig. Forced refig. on		0 - 1	
4x5	Defrost mode	0 deF dr.dn F.dEF F.rEF FAIL d.inh	Refrig. Defrost Drain down Forced defrost Forced refig. Defrost interface fail Defrost inhibited			
4x6	Drain down time				0 - 15	5
4x7	Compressor group associated with this defrost system	0 Lt.C Ht.C Sat.C	No association Lt compressor group Ht compressor group Satellite compressor group		0 - 3	0
4x8	No of evaporators on this defrost system	0 1 - 10	Defrost terminated on time only. JTL units terminate defrost on temp. and inform pack.		0 - 10	0
4x9	No of JTL-controlled evaporators terminated					

BITSWITCH SETTINGS

Bitswitches not used

Note: Use **ITEM 9** to set the default values.

DISPLAY DATA		CPLT
NORMAL DISPLAY		
999.9	Pressure in psi	
--	Not selected	
ALARM TEXT (in descending priority order)		
P.Fld	Plant failed	
Hi.dP	High discharge pressure	
Hi.Lt	High LT suction pressure	
Hi.Ht	High HT suction pressure	
Hi.St	High satellite suction pressure	
rEF.L	Low level liquid	
Lo.Sh	Low suction superheat	
CPr	Compressor fault	
FAn	Condenser fan problem	
OTHER TEXT		
JTL	Start-up text	
Lt	LT suction pressure follows this text	
Ht	HT suction pressure follows this text	
SAt	Satellite suction pressure follows this text	