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JTL VARIABLE SPEED CONDENSER FAN CONTROLLER ITEM NUMBERS

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
1. Jnet NETWORK IDENTIFICATION						
0	Unit type	hP14	Unit type			
19	Software version number					
1	Unit number				0.1 - 899.9	
2. PRESSURES						
Note: Pressures can be displayed on the maintenance unit in psi, bar or kPa. The choice is made on item 179. All setpoint ranges are shown in psi. Average pressures are averaged over last hour and are updated every 4 minutes.						
179	Pressure display unit choice	1 2 3	PSI bAr PASC	p.s.i. bar kPa		PSI
2.1 DISCHARGE PRESSURE						
22	Discharge pressure					
148	Average discharge pressure over 1 hour					
52	High discharge pressure alarm level			0, 1	140 - 390	250
				2	650 - 800	720
51	Low discharge pressure alarm level			0, 1	100 - 200	120
				2	up to v0.00.2	
					500 - 600	550
					from v0.00.3	
350 - 600	400					
362	Low discharge pressure alarm delay (mins) (from v0.00.3)				0 - 20	0
122	Discharge pressure transducer selection	OFF d.t.En	Disabled Enabled		0 - 1	Dt.En
422	Full scale transducer value (at 20mA)			0, 1	300 - 500	300.0
				2	450 - 900	870
427	Zero scale transducer value (at 4mA)				-15 - 0	0.0
2.2 LIQUID PRESSURE (non CO2 use)						
23	Liquid pressure					
149	Average liquid pressure over 1 hour					
383	Liquid pressure differential					
384	Minimum liquid pressure differential				0 - 15.0	10.0
123	Liquid pressure transducer selection	OFF L.t.En	Disabled Enabled		0 - 1	OFF
423	Full scale transducer value (at 20mA)				0, 1	300 - 500
428	Zero scale transducer value (at 4mA)				0, 1	-15 - 0

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
3. TEMPERATURES						
Note temperatures can be displayed on the Maintenance Unit in Celsius or Fahrenheit. The choice is made on item 178.						
178	Temperature display choice	CELS FAhr	Celsius Fahrenheit		0 - 1	CELS
31	Primary discharge temperature					
131	Primary discharge temperature Sensor enable	OFF t1.En	Not selected Selected	0, 1 2	0 - 1	OFF t1.En
141	Primary discharge superheat					
32	Auxilliary discharge temperature					
132	Auxilliary discharge temperature sensor cable	oFF t2.En	Not selected Selected		0 - 1	oFF
4. PRIMARY DISCHARGE PRESSURE CONTROL						
There are three discharge pressure control strategies.						
<ol style="list-style-type: none"> 1. Simple. To set level item 50 2. Floating. Enabled by item 363 3. Discharge superheat. Enabled by item 386 						
The discharge pressure setpoint can float if item 363 is set to a non zero value. The discharge pressure is item controlled to the appropriate temperature depending on the outside ambient temperature.						
386	Control variable selection	0 1 2	diS.P Li.P d.Sh	Discharge pressure Liquid pressure Discharge superheat	0, 1 2	0 - 1 0 - 2 d.S.P d.Sh
50	Discharge pressure set point				0, 1 2	100 - 250 150 upto v0.00.1 600 - 750 650 from v0.00.2 550 625
350	Maximum discharge pressure set point				0, 1 2	175 - 380 200 600 - 750 700
351	Discharge pressure cut out (from v0.00.3) (depends on item 352 being >0)				0, 1 2	100 - 200 140 0 - 500 0
352	Minimum fan speed (%) (from v0.00.3)					0 - 25 0
145	Maximum discharge superheat				2	0 - 15 10.0
899	Outside temperature					
363	Floating discharge temperature differential	0.0	Function disabled			0 - 15 0.0
364	Floating discharge temperature setpoint					
365	Condenser operating temperature					
370	Optimised discharge pressure set point					
394	Control selection	1	A.LOG	Analogue control		1 A.LOG

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE	
395	Analogue fan speed gain			0,1	upto v0.00.2		
					5 - 50	10	
					from v0.00.3		
					0 - 100	10	
				2	upto v0.00.1		
					1 - 250	10	
					from v0.00.2		
					1 - 250	25	
from v0.00.3							
0 - 250	25						
54	Condenser control time constant			0, 1	upto v0.00.1		
					1 - 250	30	
					from v0.00.3		
					0 - 250	30	
				2	upto v0.00.1		
					1 - 250	30	
					v0.00.2		
					1 - 250	5	
from v0.00.2							
0 - 250	5						
55	Discharge pressure to reduce capacity			0, 1	140 - 400	300	
				2	600 - 800	750	
59	Discharge pressure to run heat exchanger valves (EVD) (from v0.00.3)	0	disabled	0, 1	0	0	
				2	300 - 500	400	
192	Integrated discharge pressure error						
157	Refrigerant type	3	404A	R404A	0, 1	upto v0.00.1	R407F
		4	407A	R407A			
		5	407b	R407B			
		6	507	R507			
		7	408	R408A			
		9	744	CO2 (R744)			
		11	407F	R407F			
		12	290	Propane (R290)			
		13	407c	R407C			
		14	448A	R448A			
15	449A	R449A					
2				9	744		

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
5. 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.						
368	Maximum speed at night (%)				50 - 100	100
369	Select network timer for nighttime operation	0 1 - 8	Disabled Timer number		0 - 8	0
391	Number of condenser steps running (up to v0.00.2)				0 - 127	
	Fan Speed (%) (from v0.00.3)				0.0 - 100.0	
397	Number of condenser steps in backup analogue mode (%) (up to v0.00.2)				0 - 127	127
	Fan speed in backup analogue mode (%) (from v0.00.3)				0.0 - 100	100
366	Full circuit enable level (%)				0 - 100	80
367	Full circuit disable level (%)				0 - 100	0
392	Forced number of condenser steps (up to v0.00.2)				0 - 127	
	Forced fan speed (%) (from v0.00.3)				0.0 - 100.0	
393	Input status (up to v0.00.3)	In - - - - Fn plus any combination of above	Inverter ok Fan ok			
	Input status (from v0.00.4)	oFF C1.hY	Off Cooler 1 Healthy			
6. AUXILIARY COOLER TEMPERATURE CONTROL (From v0.00.4) Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.						
480	Cooler discharge temperature setpoint				40 - 60	55.0
483	Cooler temperature deadband				1 - 10	1.0
481	Cooler temperature error					
482	Cooler stop level				30 - 50	40
490	Control selection	0 1 2	nonE diG ALOG	Not used On/Off Analogue	0 - 2	nonE
495	Analogue fan speed gain				1 - 250	25
494	Fan speed time constant				0 - 250	5
467	Minimum fan speed (%)				0 - 25	0
468	Maximum speed at night (%)				50 - 100	100
469	Select network timer for nighttime operation	0 1 - 8	Disabled Timer number		0 - 8	0
491	Cooler fan speed (%)					
497	Cooler fan speed backup analogue mode (%)					100

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE	
492	Forced cooler fan speed (%)				0 - 100		
493	Input status	oFF C2.hY	Off Cooler 2 healthy				
7. INPUTS AND OUTPUTS							
20	Operating mode	oFF Auto	Manual Automatic				
171	Inverter fault (IP-1) (up to v0.00.3)	Hty In.Ft	Inverter ok Inverter fault				
	Cooler 1 fault (IP-1) (from v0.00.4)	Hty F1.Ft	Cooler 1 healthy Cooler 1 fault				
172	Fan fault (IP-2) (up to v0.00.3)	Hty Fn.Ft	Fans ok Fan fault				
	Cooler 2 fault (IP-2) (from v0.00.4)	Hty F2.Ft	Cooler 2 healthy Cooler 2 fault				
173	Plant fault (IP-3)	Hty PL.Ft	Plant Plant fault				
174	Auto/manual (IP-4)	OFF Auto	Manual controller dormant Auto mode				
166	Relay 2 function	0 1 2	SP.ct G.A.En Ed.En	Split circuit General Alarm Heat exchanger control valve (EVD) enable	0, 1	0 - 1	SP.ct
					2	0 - 2	Ed.En
161	Run inverter (LN/LD-1) (up to v0.00.3)	I.off I.run	Inverter off Run inverter				
	Run cooler 1 (LN/LD-1) (from v0.00.4)	oFF C1.rn	Off Run cooler 1				
162	Condenser split circuit (LN/LD-2)	PART FULL	Part circuit Full circuit				
165	Alarms healthy output (LN/LD-2)	oFF no.AL	Alarm condition No alarms				
167	Heat exchanger control valve (EVD) enable output (LN/LD-2)	OFF Ed.On	Output on Output off				
163	Watchdog output (LN/LD-3) (up to v0.00.3)	oFF on	Watchdog fail Watchdog healthy				
	Run cooler 2 (LN/LD-3) (from v0.00.4)	oFF C2.rn	Off Run cooler 2				
164	High discharge pressure (LN/LD-4)	clr HidP	Discharge ok High pressure				

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
8. DISPLAY FUNCTIONS						
178	Temperature display choice	CELS FAhr	Celsius Fahrenheit		0 - 1	CELS
179	Pressure display unit choice	1 2 3	PSI bAr PASC	p.s.i. bar kPa	1 - 3	PSI
189	Backlight control (from v0.00.3)	0 1 2 3	B.oFF BL.on BL.F.F BL.n.F	Backlight off Backlight on Backlight off, flashes alarm Backlight on, flashes alarm		B.oFF
9. 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				2017 - 2048	
18	Daylight saving enable	Stnd dAY.S	Standard time Daylight saving time		0 - 1	Stnd
10. RESTORE FACTORY DEFAULTS						
966	Virtual bitswitch setting	0 1 2	Conventional Refrigerants Hydrocarbon Refrigerants Carbon dioxide			
9	Set default values To set the factory defaults into the memory of the controller, 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.	1234 1066	Load default settings Write to NVRAM immediately			

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
11. RESTORE PARAMETERS FROM NETWORK						
<p>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.</p>						
965	Master database port	0 1 - 4	Not in use NC port no			
964	Set restore parameters from network	1234	Request restore			
963	Parameter restore progress	rdy dnl.r din.p dnl.c FAIL	Restore function possible Restore requested Restore in progress Restore complete Restore fault			
959	Requested template	0 1-9999	As commissioned Template number		0 - 9999	
12. SYSTEM ALARMS						
80	Group alarm 81 - 88 (see display data)	0 1 - 255	No alarms Check 81 - 88			
83	Low discharge pressure	Clr Lo.dP	No fault Fault			
84	High discharge pressure	Clr Hi.dP	No fault Fault			
88	Condenser fault	Clr Fn.Ft	No fault Fault			
90	Group alarm 91 - 98 (see display data)	0 1 - 255	No alarms Check 91 - 98			
91	Pressure transducer fault	Clr Pt.Ft	No fault Fault			
92	Temperature sensor fault	Clr th.Ft	No fault Fault			
910	Group alarms 911-918	0 1 - 255	No alarms check 911 - 918			
915	Plant fault	Clr P.F.Lt	No fault Fault			
916	Low liquid pressure	Clr Lo.L.P	No fault Fault			

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
13. DIAGNOSTIC & TEST FUNCTIONS						
6	JTL Network communications speed	4.8	Kilo Baud			
7	Communications method	HALF	2 wire			
8	Bitswitch setting	HFC.r HC.r CO2.r	Conventional refrigerants Hydrocarbon Carbon dioxide			
954	Current zone no (from v0.00.1)					
967	Latest unit no polled on zone					
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			
99	Test digital displays	CLr SEt	Not active Test active		0 - 1	
100	Test inputs	- - - - 1 - - - - 2 - - - - 3 - - - - 4	No inputs Input 1 on Input 2 on Input 3 on Input 4 on			
199	Test relay outputs	clr SEt	Not active Active		0 - 1	
411	Transducer 1 reading					
412	Transducer 2 reading					
431	Sensor 1 reading					
10	Processor alarms (11 - 17) (see display data)	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			

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ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
16	NVRAM fault	CLr n.Ft	No fault Fault			
17	Instruction TRAP fault	CLr tP.Ft	No fault Fault			

DISPLAY DATA		HP140
NORMAL DISPLAY		
999.9	Pressure in psi	
--	Not selected	
ALARM TEXT (in descending priority order)		
Hi.dP	High discharge pressure	
FAn	Condenser fan problem	
OTHER TEXT		
JTL	Start-up text	

GRAPHICAL DISPLAY OF BIT DATA (FROM V0.00.3)				
Graphical display of bit data used on items where the data was shown previously as a decimal value	bit	Graphic	Value	<u>Note:</u> Where the data is shown as a decimal value the meaning is the sum of the associated value e.g. bits 2 and 5 set would be displayed as 18 (16+2)
	None		0	
	1		1	
	2		2	
	3		4	
	4		8	
	5		16	
	6		32	
	7		34	
8		128		