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# JTL COMPRESSOR & HEAT EXCHANGER CONTROLLER ITEM NUMBERS

## LP170/ LP175

ITEM	DESCRIPTION	CODE	CODE MEANING	FACTORY DEFAULTS	RANGE	ITEM 9 VALUE
<b>1. Jnet NETWORK IDENTIFICATION</b>						
0	Unit type	LP17	Unit type			
19	Software version number					
1	Unit number				0.1 - 899.9	
<b>2. PRESSURE</b>						
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		1 - 3  PSI
21	Suction pressure					
146	Average suction pressure over 1 hour					
42	High suction pressure alarm level			0 1	10 to 50 25 to 80	20 60
41	Low suction pressure alarm level			0 1	-5 to +15 5 to +40	0 20
121	Pressure transducer selection	OFF S.t.En	Disabled Enabled		0 - 1	St.En
421	Full scale transducer value (at 20mA)				50 - 200	100.0
426	Zero scale transducer value (at 4mA)				-15 - 0	0.0
<b>3. TEMPERATURE &amp; HUMIDITY</b>						
Note: Temperatures can be displayed on the maintenance unit in degrees Celsius or Fahrenheit. The choice is made on item 178. All setpoint ranges are shown in Celsius.						
178	Temperature display choice	CELS FAhr	Celsius Fahrenheit		0 - 1	CELS
31	Suction gas temperature					
131	Suction temperature	OFF t1.En	Not selected Selected		0 - 1	t1-En
144	Minimum superheat alarm level	0.0	Alarm disabled		0.0 -20.0	0.0
141	Suction superheat					
157	Refrigerant type	3 4 5 6 7 9 11 12 13 14 15	404 407A 407B 507 408 744 407F 290 407C 448A 449A	R404A R407A R407B R507 R408A R744 (CO2) R407F R290 (Propane) R407C R448A R449A		3 - 15  R407A
897	Site temperature (from broadcast)					
898	Site relative humidity (from broadcast)					

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ITEM	DESCRIPTION	CODE	CODE MEANING	FACTORY DEFAULTS	RANGE	ITEM 9 VALUE
896	Site absolute humidity (from broadcast)					
899	Outside temperature (from broadcast)					
<b>4. SUCTION PRESSURE CONTROL</b>						
40	Suction pressure setpoint			0 1	0 to +20 5 to 60	8 35
49	Suction pressure healthy tolerance				0 - 10	5
48	Suction pressure healthy delay (secs) (from v0.00.1)				10 - 60	15
60	Low ambient temperature level				5 to 15	10
61	Enable low ambient temperature level	oFF LA.En			0 - 1	OFF
62	Broadcast timer selection to disable split suction operation	0 1 - 8	Disabled Timer Number		0 - 8	0
63	Compressor control status	0 A.Cpr P.htY	None Allowed to run Pressure healthy			
<b>5. COMPRESSOR ALARMS</b>						
206	Compressor fault alarm delay (mins)				0 - 10	1
158	Compressor fault repeat alarm delay time	00:00	feature disabled		00:00 -24:00	00:00
<b>6. VARIABLE CAPACITY DATA</b>						
347	Suction pressure error					
344	Capacity loaded in effective kW					
341	Minimum cut out pressure (psi)			0 1	- 8 to +20 0 to 40	0 10
64	Restart pressure			0 1	4 to +20 10 to 60	8 35
340	Time constant				1 - 240	30
339	Speed gain				1 - 250	100
345	Current proportional term					
346	Current Integral term					
331	Number of steps on load	0 127	oFF Maximum			
204	Capacity Loaded (%)					
332	Compressor run hours (in 10's of hours)				0 - 9999	
333	Compressor status	rdy  0	ready to run (compressor & inverted healthy) not ready to run			
343	Minimum steps allowed				1 - 63	1

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ITEM	DESCRIPTION	CODE	CODE MEANING	FACTORY DEFAULTS	RANGE	ITEM 9 VALUE
342	Maximum steps allowed				64 - 127	127
208	Minimum compressor off time (secs)				0 - 240	30
335	Inverter capacity at minimum speed in effective kW				1 - 100	5
336	Inverter capacity at minimum speed in effective kW				1 - 100	10
337	Forced load (%)				0 - 100	
338	Force compressor off	CP.En C.OFF	Enabled to run compressor forced off		0 - 1	
<b>7. HEAT EXCHANGER CONTROL DATA</b> Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.						
140	Superheat control strategy	2 3 4	ShLG F-Sh nonE	Superheat monitoring Superheat control OFF		2 - 4 F-Sh
141	Suction superheat					
142	Superheat setpoint				4 - 12	6.0
145	Superheat control in manual	0 1	oFF On	In auto only Always	0 - 1	oFF
50	Valve control gain (proportional term)				v0.00.01 0 - 100 v0.00.01 on 0 - 250	20
51	Valve control time constant (integral term)	0 1 - 250		Integral disabled Time constant	0 - 250	25
52	Rate of charge of output (%/sec)				1 - 20	10
143	Minimum Superheat				0 - 5.0	0
55	Maximum Valve opening % (PI)				10 - 100	100
56	Minimum Valve opening % (PI)				0 - 50	0
57	Current valve opening %					
147	Valve output smoothing	0		Disabled	0 - 5	3
53	Proportional output (P term)					
54	Integral output (I term)					
58	Forced valve opening %				0 - 100	
59	Force valve shut	OFF F.Sht	Off Forced shut		0 - 1	
164	Current valve status	OFF En.H.E	Output off Output on			

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ITEM	DESCRIPTION	CODE	CODE MEANING	FACTORY DEFAULTS	RANGE	ITEM 9 VALUE
<b>8. INPUTS AND OUTPUTS</b>						
20	Operating mode	oFF Auto	Manual Automatic			
170	Inputs	Graphical	See display data bit1 =Input 1			
171	Auto/manual (IP-1)	C.Hty C.FlT	Healthy Fault			
172	Plant ok (IP-2)	Ld.H.E Un.H.E	Load Heat exchanger Unload Heat exchanger			
173	Unload Heat exchanger (IP-3)	P.Hty PL.ft	Healthy Fault			
174	Compressor ok (IP-4)	OFF Auto	Manual (pack controller dormant) Auto mode			
160	Outputs	graphical	See display data bit1 = output1			
161	Run compressor (LN/LD-1)	OFF run.c	off Run compressor			
162	Suction pressure healthy (LN/LD-2)	OFF S.P.Hy	off Suction pressure healthy			
164	Enable Heat exchanger (LN/LD-4)	clr En.H.E	Off Heat exchanger enable			
<b>9. DISPLAY FUNCTIONS</b>						
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	0 1 2 3	B.oFF BL.on BL.F.F BL.n.F	Backlight off Backlight on Backlight off, flashes for alarm Backlight on, Flashes for alarm	0 - 3	

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ITEM	DESCRIPTION	CODE	CODE MEANING	FACTORY DEFAULTS	RANGE	ITEM 9 VALUE
<b>10. CLOCK CALENDAR</b>						
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				2018 - 2048	
18	Daylight saving enable	Stnd dAY.S	Standard time Daylight saving time		0 - 1	Stnd
<b>11. RESTORE FACTORY DEFAULTS</b>						
966	Virtual bitswitch setting	0 1	LT HT	0 1		
9	Set default values selected by Bitswitches  Note: setting the bitswitches alone has no effect.	1234	Set default values	0 1	LT HT	
		1066	Write to NVRAM without delay			
<b>12. RESTORE PARAMETERS FROM NETWORK</b>						
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	Parameter restore progress	rdy nl.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	
<b>13. SYSTEM ALARMS</b>						
80	Group alarm 81 - 88	graphical	See display data			
81	Low suction pressure	Clr Lo.SP	No fault Fault			
82	High suction pressure	Clr Hi.SP	No fault Fault			
90	Group alarm 91 - 98	graphical	See display data			
91	Pressure transducer fault	Clr Pt.Ft	No fault Fault			

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ITEM	DESCRIPTION	CODE	CODE MEANING	FACTORY DEFAULTS	RANGE	ITEM 9 VALUE
92	Temperature sensor fault	Clr tS.Ft	No fault Fault			
94	Low superheat	Clr Lo.Sh	No fault Fault			
97	Compressor fault	Clr CPr.F	No fault Fault			
910	Group alarms 910 - 918	graphical	See display data			
915	Plant fault	Clr Pt.Ft	No fault Plant fault			
<b>14. DIAGNOSTIC &amp; TEST FUNCTIONS</b>						
6	JTL Network communications speed	4.8	Kilo Baud			
7	Communications method	HALF	2 wire			
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			
8	Bitswitch settings	Lt Ht	LT Compressor HT Compressor			
99	Test digital displays	Clr SEt	Not active Test active		0 - 1	
100	Test inputs	graphical	See display data bit 1 = input 1			
199	Test relay outputs	clr SEt	Not active Active		0 - 1	
411	Transducer 1 reading					
431	Sensor 1 reading					
10	Processor alarms (11 - 17)	graphical	See display data			
11	Static RAM fault	Clr rA.Ft	No fault Fault			









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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			

<b>DISPLAY DATA</b>		<b>LP170/LP175</b>
<b>NORMAL DISPLAY</b>		
999.9	Pressure in psi	
--	Not selected	
<b>ALARM TEXT (in descending priority order)</b>		
P.FLd	Plant failed	
Hi.SP	High suction pressure	
<b>OTHER TEXT</b>		
JTL	Start-up text	



### Graphical Display of Bit Data

Graphical display of bit data used on items where the data was shown previously as a decimal value.

Bit	Graphic
None	
1	
2	
3	
4	
5	
6	
7	
8	