

CONTENTS

1. Jnet NETWORK IDENTIFICATION	2
2. PRESSURES	2
3. SUCTION PRESSURE CONTROL	3
4. COMPRESSOR CONTROL	4
4.1 COMMON DATA	4
4.2 COMPRESSOR DATA	4
4.3 COMPRESSOR INPUT AND OUTPUT STATUS	5
5. INVERTER DATA (COMPRESSOR 1)	5
6. INPUTS AND OUTPUTS	6
7. DISPLAY FUNCTIONS	7
8. CLOCK CALENDAR	7
9. RESTORE FACTORY DEFAULTS	7
10. RESTORE PARAMETERS FROM NETWORK	7
11. SYSTEM ALARMS	8
12. DIAGNOSTIC & TEST FUNCTIONS	9
DISPLAY DATA	10

JTL COMPRESSOR PACK ITEM NUMBERS						LP110
ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
1. Jnet NETWORK IDENTIFICATION						
0	Unit type	LP11	Unit type			
19	Software version number					
1	Unit number				0.1 - 899.8	
2. PRESSURE						
<p>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.</p> <p>Average pressures are averaged over last hour and are updated every 4 minutes.</p>						
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 2	10 - 50 25 - 80 200 - 300	20 60 250
41	Low suction pressure alarm level			0 1 2	-5 to +15 5 to +40 100 - 150	0 20 125
121	Pressure transducer selection	OFF S.t.En	Disabled Enabled		0 - 1	St.En
421	Full scale transducer value (at 20mA)			0, 1 2	50 - 200 300- 500	101.5 493.0
426	Zero scale transducer value (at 4mA)				-15 - 0	0.0

JTL COMPRESSOR PACK ITEM NUMBERS

LP110

ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
3. SUCTION PRESSURE CONTROL If suction pressure optimisation is selected then the suction pressure setpoints as set in item 40 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
40	Suction pressure setpoint			0 1 2	0 to +20 5 to +60 100 to 200	8 35 175
151	Optimised suction setpoint					
153	Optimised suction setpoint (HT optimisers)					
152	Optimised suction setpoint upper limit			0 1 2	5 - 20 15 - 60 175 - 225	15 55 200
43	Suction pressure deadband			0 1 2	0 - 5 0 - 10 0 - 20	2 4 10
44	Suction pressure increase time constant				1 - 60	30
45	Suction pressure decrease time constant				1 - 60	15
48	Suction 1st stage hold on and fast unload setpoint			0 1 2	- 8 to +20 0 to +60 100 to 150	0 10 125
195	Enable low suction pressure safety	oFF LP.En	Disabled Enabled		0 - 1	oFF
196	Low suction pressure safety shutdown level			0 1 2	-5 to 10 10 to 40 50 to 150	0 20 100
197	Enable instant high discharge pressure shutdown	oFF HP.En	Disabled Enabled		0 - 1	oFF
191	Integrated pressure error					
181	Suction increase next step (kW)					
182	Suction decrease next step (kW)					

JTL COMPRESSOR PACK ITEM NUMBERS

LP110

ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
4. COMPRESSOR CONTROL						
Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged.						
4.1 COMMON DATA						
200	Number of compressors				0 - 4	4
205	Maximum number of compressors allowed				1 - 4	4
201	Number of steps on load					
202	Number of compressors running					
203	Total capacity loaded (in kW)					
204	Forced number of suction stages				0 - 4	
208	Minimum compressor stop time (seconds)				0 - 240	30
206	Compressor fault alarm delay (mins)				0 - 10	0
158	Compressor fault repeat alarm delay time	00:00	feature disabled		00:00 - 24:00	00:00
4.2 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 210-249 for compressors 1 - 4.						
2x5	Compressor isolation	0 1	ISOL OPER	Not in use In use		0 - 1 OPER
2x3	Compressor status	rdy 0		Ready to run (no faults) Off or compressor interface fault		
2x6	Compressor capacity in <u>effective</u> kW				1 - 100	10
2x0	Compressor 1 can be set to run as the inverter controlled m/c and automatically revert to a 1 stage m/c on inverter failure.	Compressor 1				
		0 1 2	none 1.StP 1.con	not step controlled 1 step Inverter controlled		0 - 2 1.StP
		Compressors 2 - 4				
		0 1	none 1.StP	not controlled 1 step		0 - 1 1.StP
2x1	Number of steps on load					
2x8	Force compressor off	CP.En C.OFF		Compressor enabled to run Forced off		0 - 1
2x7	Forced number of compressor steps				0 - 4	
2x2	Total running hours (in 10s of hours)				0 - 9999	
37x	Compressor run time last 24 hours (371 for compressor 1 etc)					
2x4	Compressor restart inhibit timer (Seconds)					
2x9	Compressor number of starts per hour				4 - 20	10

JTL COMPRESSOR PACK ITEM NUMBERS

LP110

ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
35x	Average number of starts per hour last 24 hours (351 for compressor 1 etc)					
4.3 COMPRESSOR INPUT AND OUTPUT STATUS Note 1. If combinations of input or output are present then the value displayed is added up from the individual input/output values as follows: 1 Input/Output 1 2 Input/Output 2 4 Input/Output 4 8 Input/Output 5 16 Input/Output 6 32 Input/Output 6 64 Input/Output 7 128 Input 8						
111	Compressor input status					
113	Compressor output status					
115	Compressor run status					
5. INVERTER DATA When compressor 1 is <u>not</u> set for inverter control all compressors can be used for stage control.						
330	Select inverter control	OFF In.1S	Not selected Inverter selected		0 - 1	0
151	Optimised suction setpoint (operational)					
153	Optimised HT suction setpoint					
347	Suction pressure error					
344	Inverter capacity loaded in effective kW					
341	Minimum cut out pressure			0 1 2	- 8 to +20 10 to 40 100 - 150	0 10 125
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			
332	Inverter run hours (in 10's of hours)				0 - 9999	
333	Inverter status	rdy c.hty i.hty 0	ready to run (Inverter & compressor healthy) Inverter compressor healthy Inverter healthy not ready to run			
343	Minimum steps allowed				1 - 63	1
342	Maximum steps allowed				64 - 127	127
335	Inverter capacity at minimum speed in effective kW				1 - 100	5
336	Inverter capacity at maximum speed in effective kW				1 - 100	10

JTL COMPRESSOR PACK ITEM NUMBERS

LP110

ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
337	Forced no. of steps				0 - 127	
338	Force inverter off	CP.En C.OFF	Enabled to run Inverter forced off		0 - 1	
6. INPUTS AND OUTPUTS						
20	Operating mode	oFF Auto	Manual Automatic			
171	Auto/manual (IP-1)	OFF Auto	Manual (pack controller dormant) Auto mode			
172	High discharge pressure (IP-2)	CLr Hi.dp	Normal High pressure			
213	Compressor 1 input	oFF rdy	Fault Ready to run			
223	Compressor 2 input	oFF rdy	Fault Ready to run			
233	Compressor 3 input	oFF rdy	Fault Ready to run			
243	Compressor 4 input	oFF rdy	Fault Ready to run			
173	Inverter input	oFF i.hty	Off or fault Healthy			
174	Low refrigerant (IP-8)	CLr Lo.Li	Normal Low Level			
175	Low level refrigerant alarm delay minutes				15 - 240	30
161	Compressor 1 output	Off run.1	Off Run compressor 1			
162	Compressor 2 output	Off run.2	Off Run compressor 2			
163	Compressor 3 output	Off run.3	Off Run compressor 3			
164	Compressor 4 output	Off run.4	Off Run compressor 4			
165	Inverter output	Off run.l	Off Run inverter			
166	Watchdog output (LN/LD-1)	OFF On	Watchdog fail Watchdog healthy			
167	High suction pressure (LN/LD-2)	CLr Hi.SP	Normal High pressure			

JTL COMPRESSOR PACK ITEM NUMBERS					LP110	
ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
7. DISPLAY FUNCTIONS						
179	Pressure display unit choice	1 2 3	PSI bAr PASC	p.s.i. bar kPa		1 - 3 PSI
8. 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				2013 - 2034	
18	Daylight saving enable	Stnd dAY.S	Standard time Daylight saving time		0 - 1	Stnd
9. RESTORE FACTORY DEFAULTS						
To set the factory defaults into the memory of the controller, first set the virtual bitswitch 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	0 1 2	LT (HFC) HT (HFC) LT (CO2)			
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			
10. RESTORE PARAMETERS FROM NETWORK						
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 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	

JTL COMPRESSOR PACK ITEM NUMBERS

LP110

ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
11. SYSTEM ALARMS						
80	Group alarm 81 - 88	0 1 - 255	No alarms Check 81 - 88			
81	Low suction pressure	CLr Lo.SP	No fault Fault			
82	High suction pressure	CLr Hi.SP	No fault Fault			
84	High discharge pressure	CLr Hi.dP	No fault Fault			
85	Low refrigerant level	CLr Lo.Li	No fault fault			
90	Group alarm 91 - 98	0 1 - 255	No alarms Check 91 - 98			
91	Pressure transducer fault	CLr Pt.Ft	No fault Fault			
97	Compressor fault	CLr CPr.F	No fault Fault			
98	Compressor inverter fault	CLr InL.F	No fault Fault			
900	Group alarm 901 - 908	0 1 - 255	No alarms Check 901 - 908			
901	Compressor 1 fault	CLr C1.F	No fault Fault			
902	Compressor 2 fault	CLr C2.F	No fault Fault			
903	Compressor 3 fault	CLr C3.F	No fault Fault			
904	Compressor 4 fault	CLr C4.F	No fault Fault			
910	Group alarm 910 - 918	0 1 - 255	No alarms Check 910 - 918			
915	Auto input not present (PLANT FAULT)	CLr P.Flt	No fault Fault			

JTL COMPRESSOR PACK ITEM NUMBERS

LP110

ITEM	DESCRIPTION	CODE	CODE MEANING	DEFAULT SET	RANGE	ITEM 9 VALUE
12. DIAGNOSTIC & TEST FUNCTIONS						
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			
89	ADC test value (factory test)		Not used			
99	Test digital display	CLr SEt	Not active Test active		0 - 1	
100	Test inputs (1 - 4)	- - - - 1 - - - - 2 - - - - 3 - - - - 4	No inputs Input 1 on Input 2 on Input 3 on Input 4 on			
101	Test inputs (5 - 8) (LP220 only)	- - - - 5 - - - - 6 - - - - 7 - - - - 8 -	No inputs Input 5 on Input 6 on Input 7 on Input 8 on			
199	Test relay outputs	clr SEt	Not active Active		0 - 1	
411	Pressure 1 reading					
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			

JTL COMPRESSOR PACK ITEM NUMBERS					LP110	
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		LP110
NORMAL DISPLAY		
999.9	Pressure in psi	
--	Not selected	
ALARM TEXT (in descending priority order)		
P.Fld	Plant failed	
Hi.dP	High discharge pressure	
CPr	Compressor fault	
Hi.SP	High suction pressure	
OTHER TEXT		
JTL	Start-up text	