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JTL COMPRESSOR PACK ITEM NUMBERS

LP130

| ITEM | DESCRIPTION | CODE | CODE MEANING | FACTORY DEFAULTS | RANGE | ITEM 9 VALUE |
|--|--|---------------|-----------------------|----------------------|------------------------------------|----------------|
| 1. Jnet NETWORK IDENTIFICATION | | | | | | |
| 0 | Unit type | LP13 | Unit type | | | |
| 19 | Software version number | | | | | |
| 1 | Unit number | | | | 0.1 - 899.9 | |
| 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 | 10 to 50 25 to 80 | 20 80 |
| 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 |
| 3. SUCTION PRESSURE CONTROL | | | | | | |
| <p>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.</p> <p>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.</p> | | | | | | |
| 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 -10 to 20 | 8 35 -10 |
| 151 | Optimised suction setpoint | | | | | |
| 153 | Optimised suction setpoint (HT Optimiser) | | | | | |
| 152 | Optimised suction setpoint upper limit | | | 0 1 | 5 to 20 15 to 60 | 15 55 |
| 3.1 STEP CONTROL | | | | | | |
| 43 | Suction pressure deadband | | | | 0 - 10 | 2 |
| 44 | Suction pressure increase time constant | | | 0, 1 2 | 1 - 60 1 - 10 | 30 1 |
| 45 | Suction pressure decrease time constant | | | 0, 1 2 | 1 - 60 1 - 10 | 15 1 |
| 48 | Suction 1st stage hold on and fast unload setpoint | | | 0 1 2 | - 8 to +20 0 to 60 -12 to 20 | 0 10 -12 |

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| ITEM | DESCRIPTION | CODE | CODE MEANING | FACTORY DEFAULTS | RANGE | ITEM 9 VALUE |
| 195 | Enable low suction pressure safety | OFF LP.En | Disabled Enabled | | 0 - 1 | OFF |
| 196 | Low suction pressure safety shutdown | | | 0 1 2 | -5 to 10 10 to 40 -12 to 10 | 0 20 -12 |
| 191 | Integrated pressure error | | | | | |
| 181 | Suction increase next step (kW) | | | | | |
| 182 | Suction decrease next step (kW) | | | | | |
| 3.2 SPEED CONTROL | | | | | | |
| 347 | Suction pressure error | | | | | |
| 341 | Minimum cut out pressure | | | 0 1 2 | - 8 to 20 0 to 40 -14 to 20 | 0 10 -12 |
| 340 | Time constant | | | | 1 - 240 | 30 |
| 339 | Speed gain | | | | 1 - 250 | 100 |
| 345 | Current proportional term | | | | | |
| 346 | Current Integral term | | | | | |
| 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, 1 2 | 0 - 2 0 - 1 | 2 1 |
| 201 | Number of steps on load | | | | | |
| 202 | Number of compressors running | | | | | |
| 203 | Total capacity loaded (in kW) | | | | | |
| 204 | Forced number of suction stages | | | | 0 - 2 | |
| 208 | Minimum compressor stop time (seconds) | | | 0, 1 2 | 0 - 240 0 - 60 | 30 0 |
| 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 STEP CONTROLLED COMPRESSOR DATA | | | | | | |
| This controller controls up to 2 compressors. Compressor 1 can be a single step compressor or can be inverter controlled. Replace the x in the item numbers below with 1 for compressor 1 & 2 for compressor 2. | | | | | | |
| 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 |

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| ITEM | DESCRIPTION | CODE | | CODE MEANING | FACTORY DEFAULTS | RANGE | ITEM 9 VALUE |
| 2X0 | Compressor loading method | 0 1 2 | none 1.StP i.con | not controlled 1 step Inverter controlled | | 0 - 2 | 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 | | | | | | |
| 2X4 | Compressor restart inhibit timer (Seconds) | | | | | | |
| 2X9 | Compressor number of starts per hour Setting this to 0 disables starts per hour function. | | | | 0, 1 2 | 4 - 20 0 - 20 | 10 0 |
| 35X | Average number of starts per hour last 24 hours | | | | | | |
| 4.3 SPEED CONTROLLED COMPRESSOR DATA Compressor 1 can be speed controlled using an inverter. This requires item 210 to be set to inverter control. | | | | | | | |
| 330 | Select inverter control | In.1S | | Inverter selected | | | |
| 344 | Inverter capacity loaded in effective kW | | | | | | |
| 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 |
| 337 | Forced no. of steps | | | | | 0 - 127 | |
| 338 | Force inverter off | CP.En C.OFF | | Enabled to run Inverter forced off | | 0 - 1 | |

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| 5. INPUTS AND OUTPUTS | | | | | | | |
| 20 | Operating mode | oFF Auto | Manual Automatic | | | | |
| 171 | compressor 1 ok (IP-1) | 1.Hty Cl.FT | Healthy Fault | | | | |
| 172 | Compressor 2 ok (IP-2) | 2.Hty C2.Ft | Healthy Fault | | | | |
| 173 | Plant ok (IP-3) | P.Hty PL.ft | Healthy Fault | | | | |
| 174 | Auto/manual (IP-4) | OFF Auto | Manual (pack controller dormant) Auto mode | | | | |
| 175 | Inverter ok (IP-1) | I.Hty InFt | Healthy Fault | | | | |
| 161 | Run compressor 1 (LN/LD-1) | OFF run.1 | off Run compressor 1 | | | | |
| 162 | Run compressor 2 (LN/LD-2) | OFF run.2 | off Run compressor 2 | | | | |
| 163 | Watchdog output (LN/LD-3) | OFF On | Watchdog fail Watchdog healthy | | | | |
| 164 | High suction pressure (LN/LD-4) | clr Hi.SP | Off High pressure | | | | |
| 165 | Run inverter (LN/LD-1) | OFF run | off Run inverter | | | | |
| 6. DISPLAY FUNCTIONS | | | | | | | |
| 179 | Pressure display unit choice | 1 2 3 | PSI bAr PASC | p.s.i. bar kPa | 1 - 3 | PSI | |
| 7. 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 | |

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| 8. 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 0.00.1) | 0 1 2 | Lt compressor Ht compressor Extra low pressure range | | | |
| 9 | Set default values selected by Bitswitch | 1234 | Set default values | | | |
| | Note: Setting the bitswitches alone has no effect. Note prior to v0.00.1 defaults were to LT settings only. | 1066 | Write to NVRAM without delay | | | |
| 9. RESTORE PARAMETERS FROM NETWORK (from v0.00.1) | | | | | | |
| 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 | |
| 10. 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 | | | |
| 90 | Group alarm 91 - 98 | 0 1 - 255 | No alarms Check 91 - 98 | | | |
| 91 | Pressure transducer fault | CLr Pt.Ft | No fault Fault | | | |
| 92 | Temperature sensor | CLr tS.Ft | No fault Fault | | | |
| 97 | Compressor fault | CLr CPr.F | No fault Fault | | | |
| 98 | Compressor inverter fault | CLr InL.F | No fault Fault | | | |

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| 11. 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 | | | |
| 8 | Bitswitch settings (from v0.00.1) | Lt Ht E.Lo.P | LT Compressor HT Compressor Extra low pressure | | | |
| 99 | Test digital displays | CLr SEt | Not active Test active | | 0 - 1 | |
| 100 | Test inputs | - - - - 1 - - - - 2 - - | No inputs Input 1 on Input 2 on | | | |
| 199 | Test relay outputs | clr SEt | Not active Active | | 0 - 1 | |
| 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 | | LP130 |
|--|-----------------------|--------------|
| NORMAL DISPLAY | | |
| 999.9 | Pressure in psi | |
| -- | Not selected | |
| ALARM TEXT (in descending priority order) | | |
| P.Fld | Plant failed | |
| CPr | Compressor fault | |
| Hi.SP | High suction pressure | |
| OTHER TEXT | | |
| JTL | Start-up text | |