

| JTL FIRMWARE VARIATIONS |   | <b>OP312</b><br><b>OP324</b><br><b>OP348</b><br><b>OP372</b> |
|-------------------------|---|--|
| VERSION                 | DESCRIPTION   | DATE   |
| v0.00.0                 | Original issue  | March 2007   |
| v0.00.1                 | Worst unit logging added.<br>Operation error when units on defrost corrected.   | May 2008   |
| v0.00.2                 | Error in worst alarm log days 5, 6 & 7 corrected.<br>Error in number of evaporators fixed, was limited to 39 evaporators in OP348 & OP372.<br>Pressure range extended to include Co2 LT pack optimisation.<br>Low optimising alarm cancelled when optimiser disabled.   | Nov 2009   |
| v0.00.3                 | Data from the 5th to 20th worst evaporators available on Maintenance unit and communications.<br>Mk2 hardware supported.  | July 2010  |
| v0.00.4                 | Restore parameter data from the network facility added.<br>Error in parameter updated event reporting corrected.  | July 2011  |
| v0.00.5                 | Password of the day uses daylight time.<br>Transcritical CO2 refrigerant added.<br>Parameter updated only set when there is a definite change of data.<br>Comms protocol level raised to 5<br>Standard log data items 930 to 946 added.<br>R407F refrigerant added.<br>Global plant data broadcast added.<br>Zone number broadcast added.<br>Flag bit display graphic type added.<br>Display symbol memory initialized on power up.<br>Display back light control added.<br>Start address for PROM check sum redefined.<br>End address for PROM checksum corrected.<br>Phoenix emulation added at Phoenix 3 level.<br>Signed binary word data type with application subroutine call added.<br>Latest polling time uses this new data type.<br>Special cases added for initial power up (1 <sup>st</sup> minute) in both Phoenix and non Phoenix modes.<br>Call to write to NVRAM added on default write of unit nos and factory settings.<br>Unsafe data timer initial value extended to 120 sec.<br>Temperature difference items such as superheat, deadband, etc display on MU in Fahrenheit corrected.<br>Start of time moved to Jan 1 <sup>st</sup> 2012<br>Load shedding control added using global plant input and broadcast timer methods.<br>R448A & R449A refrigerant added. | Oct 2015   |
| v6.4.1214               | Pressure ranges extended to allow operation with CO2.<br>Phoenix 4 operation.   | Apr 2018   |
| v6.4.1305               | Phoenix 4 upgraded.   | Dec 2018   |
| v7.4.1305               | Dependencies removed to allow parameters to be adjusted when optimising disabled.   | June 2020  |

