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| PREDICT DEFROST CONTROLLER ITEM NUMBERS                                                                                                                                                      |                                                                             |                                |                                                          |                 | PD110       |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------|-----------------|-------------|--------------|
| ITEM                                                                                                                                                                                         | DESCRIPTION                                                                 | CODE                           | CODE MEANING                                             | FACTORY DEFAULT | RANGE       | ITEM 9 VALUE |
| <b>1. Jnet NETWORK IDENTIFICATION</b>                                                                                                                                                        |                                                                             |                                |                                                          |                 |             |              |
| 0                                                                                                                                                                                            | Unit type                                                                   | pd11                           | Unit type                                                |                 |             |              |
| 19                                                                                                                                                                                           | Software Version number                                                     |                                |                                                          |                 |             |              |
| 1                                                                                                                                                                                            | Unit number                                                                 |                                |                                                          |                 | 0.1 - 899.7 |              |
| <b>2. TEMPERATURES</b>                                                                                                                                                                       |                                                                             |                                |                                                          |                 |             |              |
| Note: The temperatures can be displayed on the maintenance unit in degrees Celsius or Fahrenheit. The choice is made on item 122. All setpoint ranges in this document are shown in celsius. |                                                                             |                                |                                                          |                 |             |              |
| 23                                                                                                                                                                                           | Evaporator temperature                                                      |                                |                                                          |                 |             |              |
| 38                                                                                                                                                                                           | Evaporator sensor selection                                                 | OFF<br>EP.En                   | Disabled<br>Enabled                                      |                 | 0 - 1       | EP.En        |
| 24                                                                                                                                                                                           | Suction line temperature                                                    |                                |                                                          |                 |             |              |
| 39                                                                                                                                                                                           | Suction line sensor selection                                               | OFF<br>SP.En                   | Disabled<br>Enabled                                      |                 | 0 - 1       | SP.En        |
| 25                                                                                                                                                                                           | Superheat (Evaporator temp - suction line temp)                             |                                |                                                          |                 |             |              |
| 247                                                                                                                                                                                          | Site temperature (from broadcast)                                           |                                |                                                          |                 |             |              |
| 248                                                                                                                                                                                          | Site humidity (from broadcast)                                              |                                |                                                          |                 |             |              |
| 122                                                                                                                                                                                          | Temperature display unit choice                                             | CELS<br>FAhr                   | Celsius<br>Fahrenheit                                    |                 | 0 - 1       | CELS         |
| <b>3. INPUTS &amp; OUTPUTS</b>                                                                                                                                                               |                                                                             |                                |                                                          |                 |             |              |
| 70                                                                                                                                                                                           | Operating mode                                                              | rEFr<br>dEFr<br>dF.rc<br>Sh.dn | Refrigeration<br>Defrost<br>Defrost recovery<br>Shutdown |                 |             |              |
| 71                                                                                                                                                                                           | Defrost input state (input 1)                                               | OFF<br>dEFr                    | Off<br>On defrsot                                        |                 |             |              |
| 72                                                                                                                                                                                           | Liquid valve (input 2)                                                      | OFF<br>Li.IP                   | Off<br>Valve energised                                   |                 |             |              |
| 73                                                                                                                                                                                           | Defrost relay (OP2)                                                         | oFF<br>dc.on                   | Relay deenergised<br>Defrost control on                  |                 |             |              |
| 74                                                                                                                                                                                           | Watchdog relay (OP1)                                                        | OFF<br>hty                     | Off<br>Watchdog healthy                                  |                 |             |              |
| 240                                                                                                                                                                                          | Liquid line valve open percentage for last sample period                    |                                |                                                          |                 |             |              |
| 241                                                                                                                                                                                          | Average liquid line valve open percentage over data logging interval period |                                |                                                          |                 |             |              |
| 249                                                                                                                                                                                          | Enable liquid valve monitoring                                              | OFF<br>Li.IP                   | Disabled<br>Enabled                                      |                 | 0 - 1       | Li.IP        |

| PREDICT DEFROST CONTROLLER ITEM NUMBERS                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                      |                                                |                                                             |                                                                                                                                                                                                                  |                 | PD110         |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------|--------------|
| ITEM                                                                                                                                                                                                                                                                                            | DESCRIPTION                                                                                                                                                                                                          | CODE                                           |                                                             | CODE MEANING                                                                                                                                                                                                     | FACTORY DEFAULT | RANGE         | ITEM 9 VALUE |
| 4. DEFROST CONTROL                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                      |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| 4.1 DATA & STRATEGIES                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                      |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| 40                                                                                                                                                                                                                                                                                              | Duration of last defrost                                                                                                                                                                                             |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| 41                                                                                                                                                                                                                                                                                              | Time since end of last defrost                                                                                                                                                                                       |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| 42                                                                                                                                                                                                                                                                                              | Duration of current defrost                                                                                                                                                                                          |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| 57                                                                                                                                                                                                                                                                                              | Maximum defrost duration                                                                                                                                                                                             |                                                |                                                             | Minutes                                                                                                                                                                                                          |                 | 5 - 59        | 20           |
| 145                                                                                                                                                                                                                                                                                             | Minimum defrost duration                                                                                                                                                                                             |                                                |                                                             | Minutes                                                                                                                                                                                                          |                 | 0 - 30        | 10           |
| 107<br>(411)                                                                                                                                                                                                                                                                                    | Defrost strategy                                                                                                                                                                                                     | 0<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9 | nonE<br><br><br>rt.in<br><br>Prdt<br><br>c.d.L.b<br>c.d.F.b | No defrost<br>Not used<br>Not used<br>Internal clock initiated<br>Not used<br>PREDICT initiated<br>Not used<br>Not used<br>Co-ordinated defrost (learned backup)<br>Co-ordinated defrost (fixed schedule backup) |                 | 0 - 9         | 3            |
| 412                                                                                                                                                                                                                                                                                             | Current defrost initiation strategy in operation                                                                                                                                                                     | nonE<br>JnEt<br>rt.in                          |                                                             | None<br>Jnet network initiated<br>Internal clock initiated                                                                                                                                                       |                 |               |              |
| 219                                                                                                                                                                                                                                                                                             | Jnet network defrost arrangement                                                                                                                                                                                     | nonE<br>cord<br><br>dEF.S<br><br>PrEd          |                                                             | None<br>Defrost co-ordinator present on network<br>Timed defrost scheduler present on network<br>Predict co-ordinator present on network                                                                         |                 |               |              |
| 69                                                                                                                                                                                                                                                                                              | No of defrosts per day (Note, when the defrost strategy is set to PREDICT operation, this item is not used. When coordinated defrost is in operation this item sets the number of defrosts a day that are required). | 0<br>1 - 6                                     |                                                             | Function disabled<br>No of defrosts                                                                                                                                                                              |                 | 0 - 6         | 3            |
| 245                                                                                                                                                                                                                                                                                             | Defrost trigger operation (from v0.00.5)                                                                                                                                                                             | 0<br>1                                         | oFF<br>dF.tr                                                | disabled<br>enabled                                                                                                                                                                                              |                 | 0 - 1         | oFF          |
| 4.2 REAL TIME INITIATED DEFROST TIMES                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                      |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| When a 12 hour schedule is selected (item 60) the defrosts repeat on a 12 hour cycle ie., if 08:00 is selected then a 2nd defrost occurs at 20:00 (and vice versa)                                                                                                                              |                                                                                                                                                                                                                      |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| Daylight saving operation. Time and defrost schedule can be automatically displayed as standard time or daylight saving (summer) time if desired. When daylight saving is operational the displayed schedule is automatically adjusted so that defrost still occur at the same "standard time". |                                                                                                                                                                                                                      |                                                |                                                             |                                                                                                                                                                                                                  |                 |               |              |
| 51                                                                                                                                                                                                                                                                                              | Defrost time 1                                                                                                                                                                                                       | 00:00<br>00:01 - 23:59                         |                                                             | Defrost disabled<br>Defrost enabled                                                                                                                                                                              |                 | 00:00 - 23:59 | 01:00        |
| 52                                                                                                                                                                                                                                                                                              | Defrost time 2                                                                                                                                                                                                       | 00:00<br>00:01 - 23:59                         |                                                             | Defrost disabled<br>Defrost enabled                                                                                                                                                                              |                 | 00:00 - 23:59 | 07:00        |
| 53                                                                                                                                                                                                                                                                                              | Defrost time 3                                                                                                                                                                                                       | 00:00<br>00:01 - 23:59                         |                                                             | Defrost disabled<br>Defrost enabled                                                                                                                                                                              |                 | 00:00 - 23:59 | 13:00        |
| 54                                                                                                                                                                                                                                                                                              | Defrost time 4                                                                                                                                                                                                       | 00:00<br>00:01 - 23:59                         |                                                             | Defrost disabled<br>Defrost enabled                                                                                                                                                                              |                 | 00:00 - 23:59 | 19:00        |

| PREDICT DEFROST CONTROLLER ITEM NUMBERS                                                        |                                                                                                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                       | PD110         |              |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------|
| ITEM                                                                                           | DESCRIPTION                                                                                                                                                                                                                      | CODE                                                                                                                                                                          | CODE MEANING                                                                                                                                                                                                                                         | FACTORY DEFAULT                                                                                                                                                                                                                                                                                                                                                                                                                       | RANGE         | ITEM 9 VALUE |
| 55                                                                                             | Defrost time 5                                                                                                                                                                                                                   | 00:00<br>00:01 - 23:59                                                                                                                                                        | Defrost disabled<br>Defrost enabled                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                       | 00:00 - 23:59 | 00:00        |
| 56                                                                                             | Defrost time 6                                                                                                                                                                                                                   | 00:00<br>00:01 - 23:59                                                                                                                                                        | Defrost disabled<br>Defrost enabled                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                       | 00:00 - 23:59 | 00:00        |
| 60                                                                                             | Defrost schedule selection                                                                                                                                                                                                       | 24 hr<br>12 hr                                                                                                                                                                | 24 hour schedule<br>12 hour schedule                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 - 1         | 24 hr        |
| 43                                                                                             | Time next defrost is due                                                                                                                                                                                                         |                                                                                                                                                                               |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |              |
| <b>4.3 COORDINATED DEFROST INITIATION</b><br>This information is for use by defrost schedulers |                                                                                                                                                                                                                                  |                                                                                                                                                                               |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |              |
| 69                                                                                             | No of defrosts required per day<br>(Note, when the defrost strategy is set to PREDICT operation, this item is not used. When coordinated defrost is in operation this item sets the number of defrosts a day that are required.) | 0<br>1 - 12                                                                                                                                                                   | Function disabled<br>No of defrosts                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 - 12        | 3            |
| 224                                                                                            | Time since the start of last defrost                                                                                                                                                                                             |                                                                                                                                                                               |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |              |
| 216                                                                                            | Defrost requirement to defrost coordinator                                                                                                                                                                                       |                                                                                                                                                                               |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |              |
| 223                                                                                            | Defrost requirement priority                                                                                                                                                                                                     |                                                                                                                                                                               |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1 - 8         | 1            |
| 210                                                                                            | Electrical distribution Panel No.                                                                                                                                                                                                |                                                                                                                                                                               |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0 - 7         | 0.0          |
| 214<br>(414)                                                                                   | Electrical circuit phase                                                                                                                                                                                                         | 0<br>1<br>2<br>3                                                                                                                                                              | brn<br>blac<br>GrEY<br>3 - Ph                                                                                                                                                                                                                        | Brown phase (red)<br>Black phase (blue)<br>Grey phase (yellow)<br>3 phase                                                                                                                                                                                                                                                                                                                                                             | 0 - 3         | 3-ph         |
| 213                                                                                            | Electrical circuit number choice<br>(depends on item 214)                                                                                                                                                                        | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20<br>21<br>22<br>23<br>24<br>25<br>26<br>27<br>28<br>29<br>30<br>31 | cct1<br>cct2<br>cct3<br>cct4<br>cct5<br>cct6<br>cct7<br>cct8<br>cct9<br>cc10<br>cc11<br>cc12<br>cc13<br>cc14<br>cc15<br>cc16<br>cc17<br>cc18<br>cc19<br>cc20<br>cc21<br>cc22<br>cc23<br>cc24<br>cc25<br>cc26<br>cc27<br>cc28<br>cc29<br>cc30<br>cc31 | Circuit 1<br>Circuit 2<br>Circuit 3<br>Circuit 4<br>Circuit 5<br>Circuit 6<br>Circuit 7<br>Circuit 8<br>Circuit 9<br>Circuit 10<br>Circuit 11<br>Circuit 12<br>Circuit 13<br>Circuit 14<br>Circuit 15<br>Circuit 16<br>Circuit 17<br>Circuit 18<br>Circuit 19<br>Circuit 20<br>Circuit 21<br>Circuit 22<br>Circuit 23<br>Circuit 24<br>Circuit 25<br>Circuit 26<br>Circuit 27<br>Circuit 28<br>Circuit 29<br>Circuit 30<br>Circuit 31 | 1 - 31        | cct1         |
| 215<br>(46)                                                                                    | Jnet network initiated defrost command status                                                                                                                                                                                    | P.dEF<br>F.dEF<br>nonE                                                                                                                                                        | Defrost<br>Forced defrost<br>No command                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |              |

| PREDICT DEFROST CONTROLLER ITEM NUMBERS |                                                                               |             |                                                                     |                        | PD110      |                    |
|-----------------------------------------|-------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------|------------------------|------------|--------------------|
| ITEM                                    | DESCRIPTION                                                                   | CODE        | CODE MEANING                                                        | FACTOR<br>Y<br>DEFAULT | RANGE      | ITEM<br>9<br>VALUE |
| 217                                     | Evaporator data to plant                                                      |             |                                                                     |                        |            |                    |
| 220                                     | Defrost coordinator status                                                    | oFF<br>cord | No defrost coordinator<br>Defrost coordinator<br>present on network |                        |            |                    |
| 261<br>to<br>272                        | Learned defrost schedule<br>(12 times starting at item 261 through<br>to 272) |             |                                                                     |                        |            |                    |
| 4.4 JTL PREDICT DEFROST INITIATION      |                                                                               |             |                                                                     |                        |            |                    |
| 225                                     | Minimum time between defrosts<br>(hours)                                      |             |                                                                     |                        | 2 - 24     | 6                  |
| 226                                     | Maximum time between defrosts<br>(hours)                                      |             |                                                                     |                        | 6 - 72     | 24                 |
| 228                                     | PREDICT volatility integral setpoint                                          |             |                                                                     |                        | 2.0 - 12.0 | 2.5                |
| 229                                     | PREDICT volatility integral                                                   |             |                                                                     |                        |            |                    |
| 230                                     | Current PREDICT volatility                                                    |             |                                                                     |                        |            |                    |
| 231                                     | Long run PREDICT volatility                                                   |             |                                                                     |                        |            |                    |
| 227                                     | Number of samples to discard from<br>top & bottom of sorted average array.    |             |                                                                     |                        | 0 - 3      | 1                  |
| 232                                     | Ratio of current PREDICT<br>volatility/long run volatility                    |             |                                                                     |                        |            |                    |
| 233                                     | Mean value from PREDICT sampling<br>array                                     |             |                                                                     |                        |            |                    |
| 234                                     | Minimum value from PREDICT<br>sampling array                                  |             |                                                                     |                        |            |                    |
| 235                                     | Maximum value from PREDICT<br>sampling array                                  |             |                                                                     |                        |            |                    |
| 237                                     | Latest reading                                                                |             |                                                                     |                        |            |                    |
| 236                                     | Average of latest superheat readings                                          |             |                                                                     |                        |            |                    |
| 281<br>to<br>296                        | Array of latest superheat readings                                            |             |                                                                     |                        |            |                    |
| 301<br>to<br>316                        | Array of average of latest superheat<br>readings                              |             |                                                                     |                        |            |                    |
| 321<br>to<br>336                        | Sorted array of average of latest<br>superheat readings                       |             |                                                                     |                        |            |                    |

| PREDICT DEFROST CONTROLLER ITEM NUMBERS                                                                                                                                                                 |                                                                                                                                                                               |                                       |                                                                                       |                 | PD110 |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------|-------|--------------|
| ITEM                                                                                                                                                                                                    | DESCRIPTION                                                                                                                                                                   | CODE                                  | CODE MEANING                                                                          | FACTORY DEFAULT | RANGE | ITEM 9 VALUE |
| <b>4.5 DEFROST FORCING FUNCTIONS</b><br>Forced functions remain forced if the Maintenance Unit remains plugged in. They are automatically cancelled 30 minutes after the Maintenance Unit is unplugged. |                                                                                                                                                                               |                                       |                                                                                       |                 |       |              |
| 77                                                                                                                                                                                                      | Forced defrost<br>(Note when item 412 is indicating Jnet network initiated defrost then forced defrost sends the command to the plant for action. It is NOT actioned locally) | OFF<br>Fd.on                          | Off<br>Forced defrost on                                                              |                 | 0 - 1 |              |
| 78                                                                                                                                                                                                      | Inhibit defrost                                                                                                                                                               | OFF<br>no.dF                          | Off<br>No defrosts                                                                    |                 | 0 - 1 |              |
| 79                                                                                                                                                                                                      | Forced refrigeration                                                                                                                                                          | OFF<br>Fr.on                          | Off<br>Forced refrigeration                                                           |                 | 0 - 1 |              |
| 222                                                                                                                                                                                                     | Enable forced defrost requirement to defrost coordinator                                                                                                                      | oFF<br>F.r.En                         | Disabled<br>Enabled                                                                   |                 | 0 - 1 | 0            |
| 221                                                                                                                                                                                                     | Forced defrost requirement to defrost coordinator (requires item 222 set to 1)                                                                                                | 0 - 63                                | Forced value                                                                          |                 |       |              |
| <b>5. Jnet COMMAND FUNCTIONS</b>                                                                                                                                                                        |                                                                                                                                                                               |                                       |                                                                                       |                 |       |              |
| 62                                                                                                                                                                                                      | Jnet network controlled shutdown selection                                                                                                                                    | oFF<br>Sh.dn                          | Disabled<br>Enabled                                                                   |                 | 0 - 1 | oFF          |
| 63                                                                                                                                                                                                      | Jnet network command for shutdown                                                                                                                                             | nonE<br>Sh.dn                         | No command<br>Shutdown                                                                |                 |       |              |
| 134                                                                                                                                                                                                     | Plant fail operation (v0.00.3 on)                                                                                                                                             | 0<br>1 oFF<br>2 oFF<br>3 In.dF        | Normal<br>Normal<br>Normal<br>Inhibit defrost                                         |                 | 0 - 3 | oFF          |
| 135                                                                                                                                                                                                     | Display Jnet network commands                                                                                                                                                 | nonE<br>O.S.df<br><br>PL.Ft<br>P.C.Ft | No command<br>Other associated systems on defrost<br>Plant fault<br>Plant comms fault |                 |       |              |

| PREDICT DEFROST CONTROLLER ITEM NUMBERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                    |                                           |                                                                                                            |                 | PD110         |              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------|---------------|--------------|
| ITEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | DESCRIPTION                                                                                                        | CODE                                      | CODE MEANING                                                                                               | FACTORY DEFAULT | RANGE         | ITEM 9 VALUE |
| 6. DISPLAY FUNCTIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                    |                                           |                                                                                                            |                 |               |              |
| 122                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Temperature display unit choice                                                                                    | CELS<br>FAhr                              | Celsius<br>Fahrenheit                                                                                      |                 | 0 - 1         | CELS         |
| 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<br>1 = Monday etc                                                                               |                 |               |              |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Date                                                                                                               |                                           |                                                                                                            |                 | 01:01 - 31:12 |              |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Year                                                                                                               |                                           |                                                                                                            |                 | 2004 - 2034   |              |
| 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Daylight saving enable                                                                                             | Std<br>dAY.S                              | Standard time<br>Daylight saving time                                                                      |                 | 0 - 1         | Std          |
| 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.                                                                                         | 0                                         | Frozen food                                                                                                | 0               |               |              |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Set default values selected by virtual Bitswitch<br><br>Note: Setting the virtual bitswitches alone has no effect. | 1234                                      | Set default values                                                                                         |                 |               |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                    | 1066                                      | Write to NVRAM without delay                                                                               |                 |               |              |
| 9. 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.<br>When all parameters are downloaded item 964 is cleared to 0. |                                                                                                                    |                                           |                                                                                                            |                 |               |              |
| 965                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Master database port                                                                                               | 0<br>1 - 4                                | Not in use<br>NC port no                                                                                   |                 |               |              |
| 964                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Set restore parameters from network                                                                                | 1234                                      | Request restore                                                                                            |                 |               |              |
| 963                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Parameter restore progress                                                                                         | rdy<br><br>nl.r<br>din.p<br>dnl.c<br>FAIL | Restore function possible<br>Restore requested<br>Restore in progress<br>Restore complete<br>Restore fault |                 |               |              |
| 959                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Requested template                                                                                                 | 0<br>1-9999                               | As commissioned<br>Template number                                                                         |                 | 0 - 9999      |              |

| PREDICT DEFROST CONTROLLER ITEM NUMBERS |                                                                                                                                                                                                                                                                     |              |                              |                 | PD110 |              |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------|-----------------|-------|--------------|
| ITEM                                    | DESCRIPTION                                                                                                                                                                                                                                                         | CODE         | CODE MEANING                 | FACTORY DEFAULT | RANGE | ITEM 9 VALUE |
| 10. SYSTEM ALARMS                       |                                                                                                                                                                                                                                                                     |              |                              |                 |       |              |
| 80                                      | Group alarm 81 - 88                                                                                                                                                                                                                                                 | 0<br>1 - 255 | No alarms<br>Check 81 -88    |                 |       |              |
| 85                                      | Sensor power supply fault                                                                                                                                                                                                                                           | CLr<br>PS.Ft | No fault<br>Fault            |                 |       |              |
| 87                                      | Shutdown alarm                                                                                                                                                                                                                                                      | CLr<br>Sh.dn | No fault<br>Fault            |                 |       |              |
| 88                                      | All sensors faulty, deselected or disconnected                                                                                                                                                                                                                      | CLr<br>t.SEn | No fault<br>Fault            |                 |       |              |
| 90                                      | Group alarm 91 - 98                                                                                                                                                                                                                                                 | 0<br>1 - 255 | No alarms<br>Check 91 - 98   |                 |       |              |
| 92                                      | Evaporator sensor fault                                                                                                                                                                                                                                             | CLr<br>EP.Pr | No fault<br>Fault            |                 |       |              |
| 93                                      | Suction line sensor fault                                                                                                                                                                                                                                           | CLr<br>SL.Pr | No fault<br>Fault            |                 |       |              |
| 94                                      | Expected defrosts have not been detected<br>(Note, This alarm normally depends on the setting in item 69. When the defrost initiation strategy is set to PREDICT the alarm occurs 3 hours after the defrost requirement has been set when no defrost has occurred). | CLr<br>dEF.F | No fault<br>Fault            |                 |       |              |
| 250                                     | Group alarms 251 - 258                                                                                                                                                                                                                                              | 0<br>1 - 255 | No alarms<br>Check 251 - 258 |                 |       |              |
| 251                                     | Forced defrost activated                                                                                                                                                                                                                                            | CLr<br>F.dEF | No fault<br>Forced defrost   |                 |       |              |
| 252                                     | Network communications failure                                                                                                                                                                                                                                      | CLr<br>FAIL  | No fault<br>Comms failure    |                 |       |              |
| 258                                     | Backup defrost strategy in operation                                                                                                                                                                                                                                | CLr<br>d.bAc | No fault<br>Backup defrost   |                 |       |              |



| PREDICT DEFROST CONTROLLER ITEM NUMBERS |                                                                                                                                                                              |                                   |                                                         |                 | PD110 |              |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------|-----------------|-------|--------------|
| ITEM                                    | DESCRIPTION                                                                                                                                                                  | CODE                              | CODE MEANING                                            | FACTORY DEFAULT | RANGE | ITEM 9 VALUE |
| 11. DIAGNOSTIC & TEST FUNCTIONS         |                                                                                                                                                                              |                                   |                                                         |                 |       |              |
| 44                                      | Power off duration                                                                                                                                                           |                                   |                                                         |                 |       |              |
| 6                                       | Communications speed (in kilo baud)                                                                                                                                          | 4.8                               | Baud rate                                               |                 |       |              |
| 7                                       | Communications (Half duplex)                                                                                                                                                 | HALF                              | 2 wire                                                  |                 |       |              |
| 973                                     | Latest polling interval<br><br>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                           |                                                         |                 |       |              |
| 967                                     | Latest unit number polled on zone                                                                                                                                            |                                   |                                                         |                 |       |              |
| 975                                     | Network receive timer<br><br>Each time a message is read correctly the timer is set to 10 it counts down.<br>If the timer reaches 0 then the communications module is reset. | seconds                           | (counts down to 0)                                      |                 |       |              |
| 976                                     | Network receive bad character counter<br><br>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<br>Lo                          | Transmit<br>Receive                                     |                 |       |              |
| 8                                       | Bitswitch setting                                                                                                                                                            | Fr.Fd                             | Frozen food                                             |                 |       |              |
| 89                                      | Sensor excitation value (Factory test)                                                                                                                                       |                                   | Not used                                                |                 |       |              |
| 99                                      | Test digital display                                                                                                                                                         | CLr<br>SEt                        | Not active<br>Test active                               |                 | 0 - 1 |              |
| 100                                     | Test inputs                                                                                                                                                                  | iP - -<br>iP1 -<br>iP - 2<br>iP12 | No inputs<br>Input 1 on<br>Input 2 on<br>Both inputs on |                 |       |              |
| 101                                     | Test output relays                                                                                                                                                           | Clr<br>SEt                        | Not active<br>Test active                               |                 | 0 - 1 |              |
| 121                                     | Display switch status                                                                                                                                                        | Si- -<br>Si1 -<br>Si2<br>Si12     | OFF<br>Switch 1 on<br>Switch 2 on<br>Both switches on   |                 |       |              |
| 421                                     | Temperature sensor 1 reading                                                                                                                                                 |                                   |                                                         |                 |       |              |
| 422                                     | Temperature sensor 2 reading                                                                                                                                                 |                                   |                                                         |                 |       |              |
| 428                                     | Temperature sensor open circuit indication (from v0.00.2)                                                                                                                    | 0<br>1<br>2                       | No fault<br>Sensor 2<br>Sensor 1                        |                 |       |              |
| 429                                     | Temperature sensor short circuit indication (from v0.00.2)                                                                                                                   |                                   |                                                         |                 |       |              |
| 10                                      | Processor alarms (11 - 17)                                                                                                                                                   | 0<br>1 - 255                      | No alarms<br>Check 11 - 17                              |                 |       |              |

| PREDICT DEFROST CONTROLLER ITEM NUMBERS |                        |              |                   |                  | PD110 |              |
|-----------------------------------------|------------------------|--------------|-------------------|------------------|-------|--------------|
| ITEM                                    | DESCRIPTION            | CODE         | CODE MEANING      | FACTOR Y DEFAULT | RANGE | ITEM 9 VALUE |
| 11                                      | Static RAM fault       | CLr<br>rA.Ft | No fault<br>Fault |                  |       |              |
| 12                                      | Program/counter fault  | CLr<br>PC.Ft | No fault<br>Fault |                  |       |              |
| 13                                      | Stack pointer fault    | CLr<br>SP.Ft | No fault<br>Fault |                  |       |              |
| 14                                      | Background loop fault  | CLr<br>bL.Ft | No fault<br>Fault |                  |       |              |
| 15                                      | PROM checksum fault    | CLr<br>Pr.Ft | No fault<br>Fault |                  |       |              |
| 16                                      | NVRAM fault            | CLr<br>n.Ft  | No fault<br>Fault |                  |       |              |
| 17                                      | Instruction TRAP fault | CLr<br>tP.Ft | No fault<br>Fault |                  |       |              |

| DISPLAY DATA                              |                                                | PD110 |
|-------------------------------------------|------------------------------------------------|-------|
| NORMAL DISPLAY                            |                                                |       |
| - 99°                                     | Coldroom temperature (item 20 rounded)         |       |
| dEF                                       | Defrost                                        |       |
| dEFr                                      | Defrost recovery                               |       |
| OFF                                       | Shutdown                                       |       |
| FAnS                                      | Fans only                                      |       |
| --                                        | Display data error                             |       |
| JTL                                       | Start-up text                                  |       |
| ALARM TEXT (in descending priority order) |                                                |       |
| t.SEn                                     | All sensors faulty, deselected or disconnected |       |