EcoNet and Flash Codes

The error codes below will be displayed at the EcoNet Control Center under Service window / Current Faults or in the Fault History and will be time & date stamped. VSODU (Variable Speed Outdoor Unit Control – EcoNet control board) fault code is what will be displayed on the VSODU.

<table>
<thead>
<tr>
<th>EcoNet error code at Control Center</th>
<th>VSODU Fault Code</th>
<th>Description</th>
<th>Possible Resolution(s)</th>
<th>EV2 Drive LED Code</th>
</tr>
</thead>
</table>
| A900_O Inverter Fault – Identity Fault | 8 | • The inverter drive itself is not programmed and is not field serviceable.  
• This fault should not occur in the field. | • Replace drive. | LED's unlikely to display anything |
| T901_O Inverter Fault – Compressor Overcurrent | 15 | • Compressor is pulling more current than allowed | • Compressor Shorted to Ground – Check resistance of windings to ground.  
• Wiring to compressor or molded plug damaged – Inspect compressor wiring harness.  
• Wire not secure on U, V, or W – Check connections.  
• Defective Drive – Replace Drive | Yellow 1 or 3 Flashes  
Or | Red 4 Flashes |
| T902 Inverter Fault – Envelope Protection | 31 | • Compressor current outside of predetermined envelope for RPM’s | • Will display 31 at VSODU at time of fault – Will return to operation after time delay  
• Must occur 15 times in a 24 hour period to be displayed in control center fault history  
• Verify refrigerant charge, often related to overcharge | |
| T903_O Inverter Fault – PFC Overcurrent | 15 | • PFC (Power Factor Correction) module is detecting high current internally | • Check Choke – Replace Choke  
• If Choke doesn’t work, check drive | |
**EcoNet and Flash Codes**

<table>
<thead>
<tr>
<th>Inverter Product</th>
<th>Code</th>
<th>Description</th>
<th>Yellow Flashes</th>
</tr>
</thead>
</table>
| T904_O Inverter Fault – DC Bus Overvoltage            | 15   | • Verify line voltage to equipment/drive does not exceed maximum allowable voltages  
• Incoming - > 285 VAC  
• DC Bus - > 385 VDC  
• Correct incoming line voltage issue  
• Replace Drive                                                                                                                                  | Yellow 7 Flashes |
| T905_O Inverter Fault – DC Bus Undervoltage           | 15   | • DC Bus voltage has dropped below acceptable voltage  
• Incoming Voltage < 187 VAC  
• DC Bus Voltage < 175 VDC  
• Fault will reset when voltage is returned. Early VSODU firmware (Before VSODU Rev 41) may not properly reset this fault. Update VSODU firmware to later revision.  
• Can occur with power flicker due to storms, will reset when voltage returns after delay.  
• Check Outdoor fan operation  
• Check Condenser coil for cleanliness  
• Check Drive Heat Sink                                                                                                                         | Yellow 8 Flashes |
| A906_O Inverter Fault – AC Input Overvoltage          | 28   | • Incoming Voltage > 275 VAC  
• Verify Incoming voltage to Drive by measuring voltage at L1 to L2                                                                                                                                         | Yellow 10 Flashes |
| A907_O Inverter Fault – AC Input Undervoltage         | 27   | • Incoming voltage < 170 VAC  
• Verify Incoming voltage to Drive by measuring voltage at L1 to L2                                                                                                                                          | Yellow 9 Flashes |
| T908_O Inverter Fault – PIM Over-temp                 | 15   | • Indicates the PIM (Power Inverter Module) on the drive is overheated.  
• May stop or fold back compressor RPM  
• Check Outdoor fan operation  
• Check Condenser coil for cleanliness  
• Check Drive Heat Sink                                                                                                                             | Yellow 4 or 18 Flashes |
| T909_O Inverter Fault – PFC Over-temp                 | 15   | • Indicates the PFC (Power Factor Correction) is overheated.  
• May stop or fold back compressor RPM  
• Check Outdoor fan operation  
• Check Condenser coil for cleanliness  
• Check Drive Heat Sink                                                                                                                             | Yellow 5 or 19 Flashes |
## EcoNet and Flash Codes

<table>
<thead>
<tr>
<th>Inverter Product</th>
<th>Flash Code</th>
<th>Details</th>
<th>Color Codes</th>
</tr>
</thead>
</table>
| A910_O Inverter Fault – Lost Rotor Position                                     | 15         | • Compressor rotor not matching speed command  
• Measured via Back EMF                                                          | Yellow 2 Flashes |
| T911_O Inverter Fault – Current Imbalance                                        | 16         | • Compressor Current Imbalance  
• Verify Compressor Connections at U, V, W and Molded plug  
• Check Compressor Windings for significant differences in resistance.           | Red 14 Flashes   |
| A912_O Inverter Fault – Micro Fault                                              | 16         | • Micro on Drive faulted  
• Hard Reset on Drive  
• If Hard Reset fails, replace Drive                                              | Red 13 Flashes   |
| A913_O Inverter Fault - PIM Sensor Open                                          | 15         | • Power Inverter Module temperature sensor is open  
• Replace Drive                                                                  | Red 2 Flashes    |
| T914_O Inverter Fault – DC Voltage Low                                           | 15         | • DC Bus Voltage is running low  
• Check Incoming Line Voltage at L1 to L2  
• Voltage on DC Bus is generally 325 to 380VDC.  
• PIM on Drive Defective  
• Replace Drive                                                                    | Yellow 17 Flashes|
| T915_O Inverter Fault – Discharge Temp                                           | 16         | • Compressor Discharge Temperature has exceed 225°F degrees and compressor may fold back until temperature is below 200°F  
• Verify Operating Superheat and Charge  
• Check Reversing Valve for leakage from Discharge to Suction  
• Check DLT Sensor Connection to Drive  
• Verify DLT sensor resistance                                                     | Yellow 6 Flashes |
## EcoNet and Flash Codes

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<tr>
<th>Inverter Product</th>
<th>Code</th>
<th>Description</th>
<th>Actions</th>
<th>Flash Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>A919_O Inverter Fault – PFC/DSP Comm Fault</td>
<td>15</td>
<td>Drive lost internal communication between PFC and DSP</td>
<td>Check Mod Bus Cable, Hard Reset of Drive, If fault persists - replace drive</td>
<td>Red 9 Flashes</td>
</tr>
<tr>
<td>A920_O Inverter Fault – COM/DSP Comm Fault</td>
<td>16</td>
<td>Drive lost internal communication between PFC and DSP</td>
<td>Check Mod Bus Cable, Hard Reset of Drive, If fault persists - replace drive</td>
<td>Red 8 Flashes</td>
</tr>
<tr>
<td>A921_O Inverter Fault – PFC Temp Sensor Open</td>
<td>16</td>
<td>Sensor to PFC Is either low or open</td>
<td>Verify proper airflow over the heatsink of the drive. Remove any obstructions., Check the compressor is operating with in specified limits., If the problem still persists, replace the drive.</td>
<td>Red 1 Flash</td>
</tr>
<tr>
<td>T922_O Inverter Fault – PIM Temp Foldback</td>
<td>15</td>
<td>Drive has folded back as a result of PFC temperature</td>
<td>Verify proper airflow over the heatsink of the drive. Remove any obstructions., Check the compressor is operating with in specified limits., If the problem still persists, replace the drive.</td>
<td>Yellow 21 Flashes</td>
</tr>
<tr>
<td>A925_O Inverter Fault – Compressor Model Unknown</td>
<td>16</td>
<td>Drive size and model data card do not match</td>
<td>Incorrect Memory Card has been installed, Incorrect Inverter Drive has been installed</td>
<td>Yellow 22 Flashes</td>
</tr>
</tbody>
</table>
### EcoNet and Flash Codes

<table>
<thead>
<tr>
<th>Inverter Product</th>
<th>Flash Code</th>
<th>Description</th>
<th>Recommended Actions</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>A927_O Inverter Fault – DLT sensor Open</td>
<td>16</td>
<td>• Discharge Line Temperature Sensor is open • Check DLT sensor connection to drive • Check DLT sensor resistance to temp</td>
<td>Red 3 Flashes</td>
<td></td>
</tr>
<tr>
<td>A928_O Locked</td>
<td>16</td>
<td>• This is an indication that the system is locked out and needs to be reset • Check fault history for cause of lockout condition at control center • Address fault as indicated in history</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A929_O 240VAC Missing or Comm Failure (Formerly Comm Failure)</td>
<td>16</td>
<td>• Drive is either not powered or there is a problem with the mod bus cable between VSODU and Drive • Verify Line voltage to unit is on and is measured by reading line voltage into drive at L1-L2 • Check Modbus cable between VSODU and Drive. Closely Examine pins in connectors • Hard Reset of Drive • Replace Drive</td>
<td>Red 11 Flashes</td>
<td></td>
</tr>
<tr>
<td>A950_O Configuration Data Restore Failure</td>
<td></td>
<td>• Firmware in VSODU is corrupt • Replace Firmware in VSODU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A951_O Memory Card Data Write Failure</td>
<td>d1</td>
<td>• VSODU is unable to write data to memory card • Possible Damage to solder joints on back of memory card socket on VSODU • Replace VSODU • Replace Memory Card also if VSODU does not resolve</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## EcoNet and Flash Codes

<table>
<thead>
<tr>
<th>Inverter Product</th>
<th>Code</th>
<th>Description</th>
<th>Checks</th>
</tr>
</thead>
<tbody>
<tr>
<td>T952_O Outside Temperature Thermistor Failure</td>
<td>84</td>
<td>Outdoor Temperature Thermistor is either Open, Shorted or Low</td>
<td>Check connection at VSODU, Verify leads to sensor are not pinched, or damaged, Check sensor resistance/temp</td>
</tr>
<tr>
<td>A953_O Coil Temperature Thermistor Failure</td>
<td>83</td>
<td>Coil Temperature Thermistor is either Open, Shorted or Low</td>
<td>Check connection at VSODU, Verify leads to sensor are not pinched, or damaged, Check sensor resistance/temp</td>
</tr>
<tr>
<td>(Formerly called Evap Temperature Thermistor)</td>
<td></td>
<td>Unit will run in cooling mode, but will not run in heating mode</td>
<td></td>
</tr>
<tr>
<td>A954_O Suction Temperature Thermistor Failure</td>
<td>35</td>
<td>Suction Thermistor is either Open, Shorted, or Low</td>
<td>Check connection at VSODU, Verify leads to sensor are not pinched, or damaged, Check sensor resistance/temp</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unit will run in cooling mode but will not run in heating mode</td>
<td></td>
</tr>
<tr>
<td>T955_O Compressor Temperature Thermistor Failure</td>
<td>42</td>
<td>Sump Thermistor is either Open, Shorted, or Low</td>
<td>Check connection at VSODU, Verify leads to sensor are not pinched, or damaged, Check sensor resistance/temp</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stator heat will not operate</td>
<td></td>
</tr>
<tr>
<td>A956_O Suction Pressure Sensor Failure</td>
<td>36</td>
<td>Suction Transducer is either, shorted, grounded or open or outside of acceptable range</td>
<td>Check Transducer using formula, PSIA= 375*(DCVout/DCVin)-22.8, PSIG=PSIA-14.7, Verify Connections at VSODU and Transucer</td>
</tr>
<tr>
<td>T957_O Low Refrigerant Pressure</td>
<td>21</td>
<td>Pressure at Transducer has fallen below settings.</td>
<td>Check Refrigerant Charge, Check for Restrictions in liquid or suction lines, drier, strainers etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 PSIG for Cooling and 15 PSIG for Heating modes</td>
<td></td>
</tr>
<tr>
<td>Inverter Product</td>
<td>EcoNet and Flash Codes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **A957_O Low Refrigerant Pressure** | • System has tripped the low pressure threshold 3 times in one call.  
• Unit will be locked out for one hour  
• Check Refrigerant Charge  
• Check for Restrictions in liquid or suction lines, drier, strainers etc. |
| **T958_O High Refrigerant Pressure** | • System High pressure switch has opened.  
• Check Refrigerant Charge  
• Check connection of HPS to Drive  
| Yellow 20 Flashes |
| **A958_O High Refrigerant Pressure** | • System High pressure switch has opened 3 times and is locked out for one hour  
• Check Refrigerant Charge  
• Check connection of HPS to Drive  
| Yellow 20 Flashes |
| **T959_O Compressor Heater On** (Normal Operation) | • Indicated only at control center  
• Often times this is a result of short cycling due to envelope protection or pressure switch trips.  
• Usually related to overcharge conditions  
• Compressor Sensor not in correct location or not making good surface contact with compressor.  
• Service Firmware |
| **T960_O Compressor Lube Protection** | • Compressor Temperature fell below saturated refrigerant pressure indicating liquid is returning to compressor  
• Check refrigerant charge  
• Can happen in extreme cold temperatures when compressor slows down from overdrive |
### Inverter Product

| T961_O Compressor Discharge Temperature High | • Folding back due to high discharge temperature | • When Discharge temperature exceeds 225°F, Compressor will slow down to bring discharge temperature down below 200°F.  
• Check system superheat and charge  
• Verify reversing valve is not leaking from discharge to suction. | Yellow 6 Flashes |

### Troubleshooting Notes:

If blower will not run but the thermostat / control center, control board and outdoor equipment is otherwise showing to be powered, check low voltage fuse on air handler control board.

If reversing valve will not shift to heating mode, check fuse on VSODU in addition to solenoid and wiring to reversing valve.

If compressor RPM’s are not as expected, check LED on drive to see if it is folding back as a result of an issue.