EcoNet and Flash Codes

Inverter Product

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

EcoNet error code at Control Center	VSODU Fault Code	Description	Possible Resolution(s)	EV2 Drive LED Code
A900_O Inverter Fault – Identity Fault		• 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		• 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		• 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		• PFC (Power Factor Correction) module is detecting high current internally	• Replace Drive	

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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 Incoming Line Voltage to Drive	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

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A910_O Inverter Fault – Lost Rotor Position	15	• Compressor rotor not matching speed command • Measured via Back EMF	• Verify Compressor Connections at U, V, W and Molded plug • System Grossly Overcharged • Compressor Tight or Locked • Drive Defective – Solder Bridging	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

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A919_O Inverter Fault – PFC/DSP Comm Fault	15	• Drive lost internal communication between PFC and DSP	• Check Mod Bus Cable • Hard Reset of Drive • If fault persists - replace drive	Red 9 Flashes
A920_O Inverter Fault – COM/DSP Comm Fault	16	• Drive lost internal communication between PFC and DSP	• Check Mod Bus Cable • Hard Reset of Drive • If fault persists - replace drive	Red 8 Flashes
A921_O Inverter Fault – PFC Temp Sensor Open	16	• Sensor to PFC Is either low or open	• Verify proper airflow over the heatsink of the drive. Remove any obstructions.. • Check the compressor is operating with in specified limits. • 3. If the problem still persists, replace the drive.	Red 1 Flash
T922_O Inverter Fault – PIM Temp Foldback	15	• Drive has folded back as a result of PFC temperature	• Verify proper airflow over the heatsink of the drive. Remove any obstructions.. • Check the compressor is operating with in specified limits. • 3. If the problem still persists, replace the drive.	Yellow 21 Flashes
A925_O Inverter Fault – Compressor Model Unkown	16	• Drive size and model data card do not match	• Incorrect Memory Card has been installed • Incorrect Inverter Drive has been installed	Yellow 22 Flashes

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A927_O Inverter Fault – DLT sensor Open	16	• Discharge Line Temperature Sensor is open	• Check DLT sensor connection to drive • Check DLT sensor resistance to temp	Red 3 Flashes
A928_O Locked	16	• 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	
A929_O 240VAC Missing or Comm Failure *(Formerly Comm Failure)*	16	• 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	Red 11 Flashes
A950_O Configuration Data Restore Failure		• Firmware in VSODU is corrupt	• Replace Firmware in VSODU	
A951_O Memory Card Data Write Failure	d1	• 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	

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T952_O Outside Temperature Thermistor Failure		• Outdoor Temperature Thermistor is either Open, Shorted or Low	• Check connection at VSODU • Verify leads to sensor are not pinched, or damaged • Check sensor resistance/temp	
A953_O Coil Temperature Thermistor Failure *(Formerly called Evap Temperature Thermistor)*		• Coil Temperature Thermistor is either Open, Shorted or Low • Unit will run in cooling mode, but will not run in heating mode	• Check connection at VSODU • Verify leads to sensor are not pinched, or damaged • Check sensor resistance/temp	
A954_O Suction Temperature Thermistor Failure		• Suction Thermistor is either Open, Shorted, or Low • Unit will run in cooling mode but will not run in heating mode	• Check connection at VSODU • Verify leads to sensor are not pinched, or damaged • Check sensor resistance/temp	
T955_O Compressor Temperature Thermistor Failure		• Suction Thermistor is either Open, Shorted, or Low • Stator heat will not operate	• Check connection at VSODU • Verify leads to sensor are not pinched, or damaged • Check sensor resistance/temp	
A956_O Suction Pressure Sensor Failure		• Suction Transducer is either, shorted, grounded or open or outside of acceptable range	• Check Transducer using formula • PSIA= 375*(DCVout/DCVin)-22.8 • PSIG=PSIA-14.7 • Verify Connections at VSODU and Transucer	
T957_O Low Refrigerant Pressure		• Pressure at Transducer has fallen below settings. • 50 PSIG for Cooling and 15 PSIG for Heating modes	• Check Refrigerant Charge • Check for Restrictions in liquid or suction lines, drier, strainers etc.	

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A957_O Low Refrigerant Pressure	L 21	• 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	L 29	• System High pressure switch has opened.	• Check Refrigerant Charge • Check connection of HPS to Drive	Yellow 20 Flashes
A958_O High Refrigerant Pressure	L 29	• 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)	Flashing H	• 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	

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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.