

E-Series Error Codes

ST-101.R3 Logi, LogiPro, and Vended Control



Summary

The information listed below is provided as general guidelines to assist in troubleshooting. It is ultimately the owner's/ distributor's/ technician's responsibility to properly troubleshoot the piece of equipment down to the failed component(s). Girbau North America's will not be held liable for any part replacement and/or labor associated with the misdiagnosed troubleshooting of the equipment.

It is recommended to run the Test Mode to assist in troubleshooting any error codes. There are Test Mode videos located on our website www.gnalaundry.com. Click on Services and Support. Click on Technical Service.

Alarm/ Error Code	Description/ Possible Causes	Action
ALn/ VAR 0 ALn/ VAR 1 ALn / VAR 2	Communication error -No communication between the inverter and microprocessor- In order to properly communicate the inverter needs to have the required power to the inverter. It will also digitally communicate with the inverter.	1. Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* 2. Verify power at the inverter. Check fuses and inverter relay. 3. Verify power on the communication cable (EH020 EM025) 4. Verify the integrity of the communication wire harness and clean the contacts points with contact cleaner. Make sure wires are properly pushed into the connector. 5. Possible bad inverter 6. Possible bad microprocessor
ALn/ U-00	Communication error - In order to properly communicate the inverter needs to have the required power to the inverter. It will also digitally communicate with the inverter.	1. Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* 2. Verify voltage supply in and out of Z1 filter. 3. Verify KA1 relay voltage across terminals 4 to 8 on the start of a cycle. 4. Verify F6 fuse is correct on L1 inductance board located in the front of the inverter.
ALn/ VAR 3 ALn/ U-47 ALn/ U-59	Overcurrent condition detected - Fast and high rise of motor currents detected by the inverter during acceleration, deceleration, and normal operation	1. Verify the basket movement restrictions. Possibly caused possibly by the basket catching on something, motor seizing up, or bad bearings. 2. Verify the operation of the drain. Look inside drain valve/ pump, make sure no debris has restricted valve movement. 3. Verify the inverter's heatsink is clear of debris and the inverter fan is operating properly. Clean inverter. 4. Verify the inverter's cover is installed. This cover creates a wind tunnel. 5. Remove the belt and spin the motor by hand to test for bad motor bearings. 6. Isolate the inverter by disconnecting the motor and jumping out the kluxons, run Test Mode. 7. Verify the motor windings are not shorted or open. Phase to phase should read about the same. Phase to kluxon should read open. Phase to motor housing should read open. 8. Verify the amperage draw across each leg of power going to the motor. Amperage draw should be similar. 9. Verify the integrity of the motor harness/ power coming into the inverter

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ALn / VAR 4 ALn/ U-04	Over heat condition in the motor. The motor klixons (over loads) should close when temperature gets below a certain threshold.	1. Verify the basket movement restrictions. Possibly caused possibly by the basket catching on something, motor seizing up, or bad bearings. 2. Check inside drain valve/ pump, make sure no debris has restricted valve movement. 3. Verify the inverter is clear of debris and the inverter fan is operating properly. Clean inverter. 4. Verify dip switches on the inverter are set correctly. 5. Remove the motor pulley belt and spin the motor to test for bad motor bearings. 6. Isolate the inverter by disconnecting the motor and jumping out the klixons. Run Test Mode. 7. Verify that the motor windings are not shorted or open. 8. Verify the amperage draw across each leg of power going to the motor. Amperage draw should be similar. 9. Check for bad motor bearings. 10. Verify the integrity of the motor harness/ power coming into the inverter
ALn / VAR 5 ALn/ U-48 ALn/ U-49	High voltage detected on the DC buss- The DC buss on the inverter is detecting a higher DC voltage than allowed	1. Verify the voltage coming into the inverter is within the recommended range. Too high or too low of input voltage can cause this alarm. 2. Possible bad inverter 3. Possible bad inductor (if equipped)
ALn / VAR 6 ALn / VAR 7 ALn / V- 13 ALn/ U-55	High temperature detected on the inverter- Inverter's temperature is above the operating range	1. Verify the customer is not over sudsing the machine. 2. Verify the basket movement restrictions. Possibly caused possibly by the basket catching on something, motor seizing up, or bad bearings. 3. Verify the operation of the drain. Look inside drain valve/ pump, make sure no debris has restricted valve movement. 4. Verify the inverter's heatsink is clear of debris and the inverter fan is operating properly. Clean inverter. 5. Verify the inverter fan motor is functional. 6. Verify the inverter's cover is installed. This cover creates a wind tunnel. 7. Remove the belt and spin the motor by hand to test for bad motor bearings. 8. Isolate the inverter by disconnecting the motor and jumping out the klixons, run Test Mode. 9. Verify the motor windings are not shorted or open. Phase to phase should read about the same. Phase to klixon should read open. Phase to motor housing should read open. 10. Verify the amperage draw across each leg of power going to the motor. Amperage draw should be similar. 11. Verify the integrity of the motor harness/ power coming into the inverter 12. Stand pipe too high (EH020 pump only)
ALn / VAR 8	Unidentified inverter failure- Inverter is detecting an unknown error	1. Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* 2. Verify the belt is not slipping, possibly replace the belt.

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		3. Possible bad inverter
ALn/ VAR 9 ALn / V- 12	Inverter and microprocessor incompatibility- Wrong identification plug on microprocessor/ inverter combination. Incorrect inverter installed	1. Verify correct jumper is installed on the microprocessor 2. Verify correct inverter is installed. 3. Verify the microprocessor has the correct firmware on it. 4. Download and verify inverter parameters (on applicable models)
ALn/ U-09	Inverter parameters are not recognized- Inverter has to be able to talk with the microprocessor. Loading parameters allows this communication.	1. Download and verify inverter parameters. The door has to be closed in order to download parameters. 2. Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* 3. Verify power at the inverter. Check fuses and inverter relay. 4. Verify the integrity of the communication wire harness and clean the contacts points with contact cleaner. Make sure wires are properly pushed into the connector. 5. Possible bad inverter.
ALn / V- 10	Input inverter voltage out of range- Incorrect incoming voltage to inverter	1. Verify the input voltage connection are tight and properly crimped 2. Verify input voltage 3. Verify supply voltage to KA1 relay 4. Clean inverter 5. Inspect wiring from inverter to motor
ALn / V- 11 ALn / V- 14	Unbalanced amperage draw- The inverter detects an unbalanced amperage draw in between the motor and inverter	1. Verify connections going to the inverter and to the motor. 2. Verify amperage draw on each leg of the output side (motor side) of the inverter. Amperage draw should be about the same. 3. Possible bad inverter 4. Possible bad motor
UA 11	Open phase error- Loss of motor phase during operation	1. Verify the motor windings are not shorted or open. Phase to phase should read about the same. Phase to klixon should read open. Phase to motor housing should read open. 2. Replace the inverter if motor test good
UA 12 UA33	Motor not connected- Motor disconnected during operation EMF error- Internal damage of the inverter detected	1. Verify wiring between the motor and the inverter 2. Verify the motor windings are not shorted or open. Phase to phase should read about the same. Phase to klixon should read open. Phase to motor housing should read open. 3. Replace the inverter if motor test good
UA 13 UA 35	ADC hardware error- Inverter has failed Inrush current failure- Inverter has failed	1. Replace the inverter
UA 14	IPM overcurrent shunt error- Inverter is detecting an over current situation	1. Verify the basket and motor spins free. 2. Verify wiring between the motor and the inverter 3. Verify the motor windings are not shorted or open. Phase to phase

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UA 36		should read about the same. Phase to klixon should read open. Phase to motor housing should read open. - Verify the machine has a good Earth ground. - Verify the motor's insulation is not chaffing on the machine causing a short. - Replace inverter.
UA 15	Fault circuit error- Electronic circuit/ component error in the inverter.	Replace the inverter
UA28	Motor system error	
UA 16	I2T overcurrent error-	- Verify the basket and motor spins free. - Verify wiring between the motor and the inverter - Verify the motor windings are not shorted or open. Phase to phase should read about the same. Phase to klixon should read open. Phase to motor housing should read open. - Verify the machine has a good Earth ground. - Verify the motor's insulation is not chaffing on the machine causing a short. - Replace inverter.
UA 17	Inverter overload error- Excessive motor consumption	- Verify the basket movement restrictions. Possibly caused possibly by the basket catching on something, motor seizing up, or bad bearings. - Check inside drain valve/ pump, make sure no debris has restricted valve movement. - Verify the inverter is clear of debris and the inverter fan is operating properly. Clean inverter. - Verify dip switches on the inverter are set correctly. - Remove the motor pulley belt and spin the motor to test for bad motor bearings. - Isolate the inverter by disconnecting the motor and jumping out the klixons. Run Test Mode. - Verify that the motor windings are not shorted or open. - Verify the amperage draw across each leg of power going to the motor. Amperage draw should be similar. - Check for bad motor bearings. - Verify the integrity of the motor harness/ power coming into the inverter
UA31	Motor over temperature error software	
UA 36	Motor over temperature	
UA 18	Under voltage on the DC buss	- Verify the input voltage at the inverter is correct. If the voltage is incorrect work towards the power supply to find your voltage drop. - Replace the inverter
UA 24	Error in V buss sensor	
UA 32	Power fail error	
UA 19	Over voltage on the DC buss	- Verify error code when the machine is empty. This alarm can appear if the load has excessive inertia. - Verify the input voltage at the inverter is correct. If the voltage is incorrect work towards the power supply to determine why the voltage is too high.

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		3. Replace the inverter
UA 20	IPM Ta open/ short error	1. Verify the machine is above 0° C/ 32°F 2. Replace the inverter
UA 21	IPM over temperature error- Inverter power circuit over heated	1. Verify the basket movement restrictions. Possibly caused possibly by the basket catching on something, motor seizing up, or bad bearings. 2. Check inside drain valve/ pump, make sure no debris has restricted valve movement. 3. Verify the inverter is clear of debris and the inverter fan is operating properly. Clean inverter. 4. Verify dip switches on the inverter are set correctly. 5. Remove the motor pulley belt and spin the motor to test for bad motor bearings. 6. Isolate the inverter by disconnecting the motor and jumping out the kluxons. Run Test Mode. 7. Verify that the motor windings are not shorted or open. 8. Verify the amperage draw across each leg of power going to the motor. Amperage draw should be similar. 9. Check for bad motor bearings. 10. Verify the integrity of the motor harness/ power coming into the inverter
UA 22	Power fail error- Incoming power is out of range	1. Verify the input power to the inverter. 2. Replace inverter if input power is good.
UA 23	Speed limitation error- Compatibility error between the microprocessor and the inverter.	1. Verify the correct ID plug is on the microprocessor. 2. Replace the microprocessor.
UA 25	Communication error-	1. Verify the inverter has the proper input voltage 2. Disconnect the communication harness from the microprocessor to the inverter. Clean contacts with contact cleaner. Push conductor into plug if necessary.
UA 27	Startup fail error- Machine did not initialize when power was turned on.	1. Verify the inverter has the proper input voltage 2. Disconnect the communication harness from the microprocessor to the inverter. Clean contacts with contact cleaner. Push conductor into plug if necessary. 3. Inspect the connections/ wire harness from the motor to inverter. 4. Check the condition and conductivity of the belt. 5. Replace the inverter.
UA 29	IPM overcurrent shunt error- Internal permanent magnet issue on the motor	1. Verify the motor spins freely. 2. Verify the motor windings are not short or open. 3. Inspect the wiring between the motor and inverter. 4. Verify the machine has a good Earth ground and that it is properly insulated. 5. Replace inverter.
UA30	I2T overcurrent error	
UA 39	PFC over temperature error- Fault with the inverter's fan	1. Verify the inverter fan is functioning properly 2. Verify voltage to inverter fan. Replace fan if necessary.

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		- Inspect that the fan's air flow path is not obstructed. - Replace inverter.
ALn / V- 15	Low inverter voltage- The inverter is detecting a lower than normal voltage reading	- Verify input voltage is within the recommended operating range. - Verify that there is not a local brown-out condition due to a strain on the power grid. - Verify supply voltage to KA1 relay - Clean inverter - Inspect wiring from inverter to motor
ALn/ U-39	Inverter fault- Fault in inverters internal control	- Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* - Turn off power for 5 minutes to reset. - Possible bad inverter
ALn/ U-41 ALn/ U-42 ALn/ U-43	Inverter to motor fault - A fault in one of the three inverter/ motor output phases	- Check phase to phase power across U-V-W terminals at the inverter going to the motor. - Check motor cable wiring from inverter to the motor. - Verify the motor windings are not shorted or open. Phase to phase should read about the same. Phase to klixon should read open. Phase to motor housing should read open.
ALn/ U-50 ALn/ U-52	Short detected in the motor windings- A short in the motor or motor winding. This could be a short phase to phase, phase to housing, or phase to klixon.	- Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* - Inspect the motor cable wiring from the inverter to the motor. - Verify the motor windings are not shorted or open. Phase to phase should read about the same. Phase to klixon should read open. Phase to motor housing should read open. - Verify the amperage draw across each leg of power going to the motor. Amperage draw should be similar
ALn/ U-56	Short causing main circuit breaker to trip	- Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* - Inspect incoming line voltage wires for damage
ALn/ U-06, 32, 33, 37, 38, 45, 46, 53, 54, 62	Inverter fault - Breakdown of inverters electronics due to over temperature or component failure	- Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* - Inspect and clean inverter from any debris. - Verify the inverter fan is operating as designed. - Verify the inverter cover is installed.

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A2	Not an actual alarm-	1. If machine is not filling with water and the basket is not rotating the machine is waiting to restore itself because of a loss of power. 2. A2 indicates that the machine is filling up with tempered water.
ALn	The display is actually flashing ALn A or ALn L	3. The alarm that you might be seeing is ALn A (Ln will be flashing). 4. The alarm that you might be seeing is ALn L (A n are flashing). 5. Please refer to specific error codes.
ALn/A	Water fill alarm - Alarm is on if the programmed after level as not been reached within a set amount of time	1. Verify water supply valve is open. 2. Clean water valve filter screen (conical filter) 3. Place machine in test mode to test the functionality of the water valves, drain, and pressure switch circuit. 4. Verify power supply to hot or cold fill valves 5. Verify air dome is not clogged 6. Verify pressure switch tube is not clogged. 7. Replace/ repair valve. 8. Replace pressure switch and/ or pressure switch tube.
ALn/E	Drain alarm- Alarm is on if water is detected in the washer after a set amount of time after the drain opens.	1. Verify the drain valve functions as it should. Verify there are no obstructions in the drain valve. 2. Verify the air dome and/ or pressure tube is not clogged or dirty 3. Check for loose/ poor wire connection between circuit board and drain. 4. Check for loose/ poor wire connection between microprocessor and pressure switch. 5. Replace drain valve 6. Replace pressure switch
ALn/HOT	High bath temperature- Interruption of the program using the START/STOP key with the bath at high temperature	1. Resume cycle by pressing start 2. Verify the thermistor is reading correctly
ALn/L	Water level alarm- Alarm is on if level is detected when washer should be empty	1. Verify the functionality of the drain valve 2. Verify the air dome and/ or pressure tube is not clogged or dirty 3. Check for loose/ poor wire connection between microprocessor and pressure switch. 4. Replace drain valve 5. Replace pressure switch
ALn/SL	High water level- Alarm is on if higher water level is detected for 5 consecutive seconds	1. Water valve stuck in the open position with power off 2. Water valve stuck open with power on indicates faulty microprocessor 3. Verify the wiring going to the water valve
ALn/C	Heating system alarm- Alarm is on if auxiliary heat is programmed and the temperature	1. Verify the machine has steam and is properly configured. 2. Verify that there is proper steam supply 3. Check power to steam valve 4. Verify the temperature probe is within spec
ALn/Prob	Temp probe alarm-	1. Verify resistance of the temp probe. These have a negative

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	Alarm is on if the microprocessor senses the temperature probe is out of range	temperature coefficient. As the temp increases, the resistance decreases (and vice versa). 2. Verify the wiring 3. Faulty probe
ALn/bAL End-bAL	Balance switch alarm- Switch detected an out of balance condition	1. Verify the machine is properly loaded, the machine should be at least $\frac{3}{4}$ filled with linen. 2. Verify the machine is properly installed/ leveled. 3. Verify all of the panels and fasteners are installed (EH020) 4. Verify functionality of the balance switch 5. Verify wiring 6. Verify the unbalance value listed in the service manual. If above value, replace the inverter 7. Verify that the machine is properly set to the actual type. The EH020 can be configured to EM020.
ALn door	Door closed or door lock alarm- Door does not lock when commanded to	1. Verify the door lock adjustments with ST-113 R*(RMG055 and smaller) 2. Verify the functionality of the door hinge switch (EH060 and larger) 3. Verify the functionality of the door lock switch (EH060 and larger) 4. Adjust the door catch 5. Replace the door lock
CONF	Machine is in Configuration Mode	1. Move the top dip switch on the back of the microprocessor board
Err/ 000	Identification alarm- Identification error between model of washer and the microprocessor	1. Verify jumper connection at X18 & X19 located on the top of the micro.
EnEr	Emergency stop switch alarm- The emergency stop button has been pressed activated by pressing the switch in.	1. Release the E-Stop switch 2. Faulty E-Stop switch 3. Incorrect wire connections to the E-Stop
F ** or C**	Current temperature of the bath- Machine thinks there are auxiliary heaters turned on.	1. Turn off heaters (ht-0) in CONF menu, if machine does not have auxiliary heaters.
t-**	Not an alarm- Time remaining in a cycle	2. This number should gradually count down as the machine advances through the cycle.

Non-Error Code Related Issues

Extended cycles, machine does not advance to the next phase	1. Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* 2. Verify the heaters are not turned on in the configuration menu. Ht-0 indicates that the heaters are turned off. 3. Verify the drain is functional and not stuck open. 4. Verify good water flow to the machine. 5. Verify the pressure switch circuit (hose, air dome, voltage) 6. Verify the programs are set correctly.
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OPL machine is looking for vend. Vended machine is not looking for a vend.	1. Verify the second dipswitch from the top of the microprocessor board is in the correct position.
Machine is erasing or not saving programs	1. Verify the integrity of the motor discharge resistor and the Earth ground. Please refer to ST-112R* 2. Verify the clock chip battery, replace if bad. Remove the clock chip if you are not using the clock.