X SERIES

X-Series Series Vended Stack and Single Pocket Dryers
Reversing and Non-Reversing Troubleshooting Guide

DEXTER® LAUNDRY

TROUBLESHOOTING

CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

If any of the following symptoms occur on this dryer, check the suggested remedies listed below. If all probable causes have been eliminated and the symptom still exists, contact your local Dexter agent for further troubleshooting assistance.

Symptom	Probable Cause	Suggested Remedy
Tumbler does not turn	Control	Check that Control Display shows time available for drying. If not, deposit money as needed.
	Loading Door	Check that Loading Door is completely closed.
	Lint Compartment Door	Check that Lint Compartment Door is completely closed.
	Drive Belts	Check drive belts for excessive wear. Replace as needed.
Tumbler Turns, but no burner flame is present	Gas shut-off valve	Make sure gas shut-off valve is in the open position.
	Ignition Module	Follow the procedure for checking the ignition cycle listed in Dryer Ignition section of this manual.

Symptom	Probable Cause	Suggested Remedy
Slow drying	Control	Check that proper Temperature setting is chosen.
	Lint Screen	Clean Lint Screen.
	Air flow Restrictions/ Make-up Air	Follow installation guidelines for static back pressure and make-up air.
	Exhaust	Check exhaust for obstructions, follow installation guidelines.
"Temp Sensor Short" or "Temp Sensor Open" Error Code displayed on control	Temperature Sensor	Check to confirm Temp Sensor wiring, and then cycle power to dryer to clear Error Code. If Error Code persists, contact Dexter agent for assistance.
Soft reset procedure		1) Locate the SW1 and SW2 switches on the back of the main control board. 2) Press and hold button for 3 seconds. 3) Release the SW1 switch and continue holding SW2 until the Dexter Laundry logo appears. 4) Release all buttons. This completes the soft reset.

Common Troubleshooting Fault Codes

The dryer control reacts to various abnormal conditions by displaying an Error message. These messages usually contain the "Error" text, and then a general description of the message. Below is a listing of Error messages separated by each potential displayed message in bold face. Each is followed by:

- Condition that creates the displayed message on the control
- Action that the control takes responding to the condition
- Exit is the method the user (or the control) should use to bring the machine back to normal operation.

The actual displayed message on the control may contain the general description listed below and additional details (such as number or additional text). However, the condition, action or exit qualities of the error message should be the same for all variations.

OPERATION IN PROGRESS	
Condition	This error occurs when the user is attempting to start a machine operation while another operation is ending.
Control Action	When detected, the control does not respond to user input. There is no delay in the action once the criteria are met. The control will finish the current operation while displaying "OPERATION IN PROGRESS". Once the operation is complete, the error will no longer be displayed, and the control will respond to user input normally.
Exit	The error will be reset automatically once the current operation is complete.

POWER LOSS	
Condition	This error occurs when the Main Control Board detects a total loss of 24VAC power (usually accompanied by loss of power to the machine).
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed for 10 seconds. After 10 seconds, the Error code should automatically reset and the cycle should be ready to re-start or the control should be in Idle mode (depending on the time period of the power loss).
Customer Action	1) Measure the supply voltage to the VFD on the L1, L2 (or N), and L3 (if connected to 3-Phase power). They supply voltage should be from 200-245VAC or 110-130VAC for a 120VAC VFD. Also, make sure the supply wires on L1, L2 (or N), and L3 (if connected to 3-phase power) are securely connected; 2) Verify the Control Transformer is set correctly. The Control Transformer is located inside the control trough and steps a range of 208-240V down to 115V. There are two terminals on the Control Transformer for the primary (incoming) power. Use the terminal marked "208V" for power supplies between 208-219V. Use terminal marked "240V" for power supplies between 220-240V.

Common Troubleshooting Fault Codes

BROWN OUT	
Condition	This error occurs when the Main Control Board detects less then 21VAC at the 24VAC input.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed for 10 seconds. After 10 seconds, the Error code should automatically reset and the cycle should be ready to re-start or the control should be in Idle mode (depending on the time period of the power loss).
Customer Action	1) Measure the supply voltage to the VFD on the L1, L2 (or N), and L3 (if connected to 3-Phase power). They supply voltage should be from 200-245VAC or 110-130VAC for a 120VAC VFD. Also, make sure the supply wires on L1, L2 (or N), and L3 (if connected to 3-phase power) are securely connected. 2) Verify the Control Transformer is set correctly. The Control Transformer is located inside the control trough and steps a range of 208-240V down to 115V. There are two terminals on the Control Transformer for the primary (incoming) power. Use the terminal marked "208V" for power supplies between 208-219V. Use terminal marked "240V" for power supplies between 220-240V.

TEMP SENSOR SHORT	
Condition	This error occurs when the control detects a short circuit from the temperature sensor.
Control Action	When detected, the dryer control shall turn off the motor and gas valve relays and the cycle time will be lost.
Exit	The dryer control shall not start until the detected short circuit is removed. Regardless of condition of short circuit, Error Code will be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1)Inspect Thermistor connections and harness for damage. 2) Test Thermistor resistance (10K OHMs at room temperature)

Common Troubleshooting Fault Codes

TEMP SENSOR OPEN	
Condition	This error occurs when the control detects an open circuit from the temperature sensor.
Control Action	When detected, the dryer control shall turn off the motor and gas valve relays and the cycle time will be lost.
Exit	The dryer control shall not start until the detected open circuit is removed. Regardless of condition of short circuit, Error Code will be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1)Inspect Thermistor connections and harness for damage. 2) Test Thermistor resistance (10K OHMs at room temperature)

CONTROL FIRMWARE ERROR	
Condition	This error occurs when the Main Control Board cannot communicate between the Graphics Board, and relay board as required by the cycle programming.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Inspect all harness connections for loose or damaged wires; 2) Check harness connections between Graphics Board, Control Board, and Relay Boards. Disconnect each, check pins, and reconnect; 3) Power cycle machine.

DRIVE ADDRESS ERROR	
Condition	This error occurs when the control detects incorrect 09-00 drive address combinations from the Upper (value of "1") and Lower (value of "3") pockets drives. Note: This error only applies for stack dryers.
Control Action	When the controls doesn't detect a value of "1" and "3" from the connected drives 09-00 address, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met. This check is only performed upon control bootup.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Verify there is no jumper wire present in upper VFD (MI1 to DCM); 2) Verify brown jumper wire is present in lower VFD (MI1 to DCM). If not present, power machine down, install jumper wire and power dryer back up.

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Common Troubleshooting Fault Codes

CYCLE UNEXPECTEDLY STOPPED	
Condition	This error occurs when the information received from the Main Control board arrives in an unexpected order.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Check incoming power supply; 2) Check wire connections to control board; 3) Check door switches, door switch tab and door switch harness for damage and operation; 4) Power cycle machine.

GRAPHICS SOFTWARE ERROR	
Condition	This error occurs when the Graphics Board cannot command the Main Control board as required by the cycle programming.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Inspect and replace if needed harness between graphics board and control board; 2) Check and update firmware if needed; 3) Power cycle machine.

MODEL JUMPER MISSING	
Condition	This error occurs when there is no connection to Ground (Pin 7) on the Model Jumper Header.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met. The machine control checks for this condition when power is cycled and before starting every machine cycle.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Inspect model connector on the control board, verify connection, and is correct for model of machine; 2) If VFD has been replaced, verify that it is correct for the model of machine; 3) Power cycle machine.

Common Troubleshooting Fault Codes

MODEL JUMPER CHANGED	
Condition	This error occurs when the jumper connections to Ground (Pin 7) on the Model Jumper Header have changed since the last control check.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met. The machine control checks for this condition when power is cycled and before starting every machine cycle.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Inspect model connector on the control board, verify connection, and is correct for model of machine. 2) If VFD has been replaced, verify that it is correct for the model of machine. 3) Power cycle machine

MODEL JUMPER DRIVE SIZE MISMATCH	
Condition	This error occurs when the jumper connections to Ground (Pin 7) on the Model Jumper Header do not match the VFD size code.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met. The machine control checks for this condition when power is cycled.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Inspect model connector on the control board, verify connection, and is correct for model of machine. 2) If VFD has been replaced, verify that it is correct for the model of machine. 3) Power cycle machine

Common Troubleshooting Fault Codes

MODEL JUMPER / DRIVE PARAMETER	
Condition	This error occurs when the jumper connections to Ground (Pin 7) on the Model Jumper Header do not match the VFD parameters being used.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met. The machine control checks for this condition when power is cycled.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Inspect model connector on the control board, verify connection, and is correct for model of machine. 2) If VFD has been replaced, verify that it is correct for the model of machine. 3) Perform soft reset.

NON-DEXTER DRIVE	
Condition	This error occurs when a non-Dexter VFD is installed in the machine.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met. The machine control checks for this condition when power is cycled and before starting every machine cycle.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	VFD has been replaced, disconnected, or removed. VFD Drive is not the correct Dexter version of the VFD. Replace VFD drive with Dexter VFD drive.

Common Troubleshooting Fault Codes

DRIVE OVERCURRENT	
Condition	This error occurs when the control receives a message that the drive has experienced an over current condition.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Check to make sure the basket turns freely by hand. If it turns freely, continue to step 2. If it does not, remove the belt and see if the motor turns freely by hand. If the motor turns freely, then check for obstructions in the basket or check the bearings. If the motor does not turn freely, replace the motor. 2) Check the motor wires for a short circuit between leads. If there are motor leads that have conductors touching, separate them and insulate them. If the wires are broken, splice them together or replace the motor. 3) Check braking resistors to see if they measure the correct resistance (200 ohms each). If a resistor does not measure the proper resistance value, replace. 4) Power cycle machine.

DRIVE OVERLOAD	
Condition	This error occurs when the control receives a message that the drive has experienced an overload condition.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	(Check drive fault code before powering down). Check the dryer motor to ensure it turns freely. Check the wiring for loose connections to the drive and motor. Measure the braking resistor values (200 ohms). Check for damaged motor wires. Check V-Belt tension and adjust to 1” deflection at center. Check braking resistors.

DRIVE OVERVOLTAGE	
Condition	This error occurs when the control receives a message that the drive has experienced an over voltage condition.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Measure the supply voltage to the VFD on the L1, L2 (or N), and L3 (if connected to three phrase power). the supply voltage should be from 200 to 245 VAC or 110 to 132 VAC for a 120 VAC VFD. Also make sure the supply wires on L1, L2 (or N) and L3 (if connected to three phase power are securely connected. 2) Check the braking resistor connections at the VFD. The terminal screws should be tight. Once of the braking resistor wires should be connected to terminal B2. 3) Measure each braking resistor separately to make sure they are the correct resistance. (200 ohms). 4) If you have a 240 VAC, high leg voltage supply, try disconnecting the high leg. If this cures the problem, either leave the high leg disconnected, connect a transient voltage surge suppressor (with some form of filtering) at the voltage supply panel, connect a line choke on the high leg or install a VFD filter. 5) Power cycle machine

DRIVE OVERHEAT	
Condition	This error occurs when the control receives a message that the drive has experienced an overheat condition.
Control Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Make sure the cooling fins on the VFD heatsink and the ventilation louvers on the VFD cooling fan cover are clean. 2) Start a dryer cycle and make sure the VFD cooling fan operates after the basket starts turning. 3) Power cycle machine

Common Troubleshooting Fault Codes

DRIVE GROUND FAULT	
Condition	This error occurs when the control receives a message that the drive has experienced a ground fault condition.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Check VFD light code before turning off power; 2) Check the wiring connections to the drive and motor; 3) Check for damaged motor wires; 4) Check door switch harness for damaged or pinched wires. Check door switches. 5) Check the ground wiring of the drive, motor and incoming connection to ensure a proper ground is present.

DRIVE LOW VOLTAGE ERROR	
Condition	This error occurs when the control receives a message that the drive has experienced a low voltage condition.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	Check VFD light code before turning off power. Turn the power off to the dryer. Check the wiring connections to the drive and motor. If no problem is observed, turn on power to the dryer and test. Measure the incoming line voltage.

Common Troubleshooting Fault Codes

DRIVE INTERNAL ERROR	
Condition	This error occurs when the control receives a message that the drive has experienced an internal error.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	Check VFD fault light before turning off power. Turn the power off to the dryer. Wait one minute. Turn the power on to the dryer. If problem reappears, contact your Dexter representative.

DRIVE EXCEPTION ERROR	
Condition	This error occurs when the control receives a message that the drive has logged an exception code.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	Check VFD fault light before turning off power. Turn the power off to the dryer. Wait one minute. Turn the power on to the dryer. If problem reappears, contact your Dexter representative.

DRIVE COMMUNICATION ERROR	
Condition	This error occurs the control cannot communicate with the VFD.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Check wire connections and communication cable between the VFD and the control board. 2) Power cycle machine

Common Troubleshooting Fault Codes

DRIVE ENABLE ERROR	
Condition	This error occurs when the control sees a message that the VFD Enable circuit is not closed.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed until the condition is no longer present. Once the condition is removed, the machine still will not start, and the Error Code will continue to be displayed until power is cycled to the machine, or the control is Reset to return it to Idle Mode.
Customer Action	1) Power cycle machine; 2) Verify wire connections on both end of the enable wires at the drive (VFD) and the control board - yellow and white wires; 3) Verify connection on data cable.

OUT OF SERVICE	
Condition	This error occurs when the user has designated that the machine control should be made inoperable.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	The machine will not start, and the Error Code will continue to be displayed the user changes the Out of Service state.
Customer Action	Remove from Out of Service state. Be sure to check manual programming and DexterLive status if networked.

MAX PAUSE TIME EXCEEDED	
Condition	This error occurs when a power loss or a brown out event causes an in-progress cycle to stop. If the cycle is not resumed after 1 hour, this error will be thrown.
Action	When detected, the control turns off the motor and all other outputs. There is no delay in the action once the criteria are met.
Exit	No action required. Error will be displayed for 5 seconds and then return to Idle screen.

Note: Whenever power is turned off to the dryer, it must remain off for one minute. The dryer will not operate properly if this is not done.