



# WC Series Vended Washers Troubleshooting, and Fault Codes

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# Common Troubleshooting Solutions

Symptom	Probable Cause	Suggested Remedy	
Machine does not start	Power Supply	Check these areas: Circuit breakers, Voltage, Power leads, Power connections. Is front display LED showing a dollar amount.	
	Door Switch	Check for continuity through door switch when door is closed. If no continuity, adjust or replace door switch.	
	Control Breaker or Fuse	Check 1.5 amp (T-950 and T-1200 use 2.5amp) breaker or fuse for continuity. If no continuity, replace breaker or fuse.	
	<u>Control</u> <u>Transformer</u>	Check voltage output from control transformer for 120VAC. If voltage is incorrect, replace transformer.	
	Coin Acceptor	Check coin acceptor to make surethere is no blockage or damage. clean or replace acceptor.	
	Check PCB board	Check all wire connections for sure contacts.	
	<u>Check wiring</u> between PCB and VFD	Check data cable. This is the cable with the phone type connectors on the main PCB control and the VFD. With the power removed unplug and check for damage, replug and retry washer.	
	Check Relay PCB	Check all wire connections for sure contact.	
	Check Door Motor	Check that 120 v power is at Motor after start button is pushed.	
Machine will not accept	Coin Acceptor	Check coin acceptor switch for any type of blockage or dam age. Clean, adjust or replace the acceptor.	
and count coins	Power Supply	Check these areas: Circuit breakers, Voltage,Power leads, Power connection.	
	Door Closed Safety Switch	Check door closed switch at door hinge for proper operation.	
	Door Handle Closed Switch	Check single door closed switch at left side of door handle to close when handle is vertical.	
	Control Breaker or Fuse	Check breaker or fuse for continuity. If no continuity, re- place breaker or fuse. The T-300 through T-950 use the 1.5 amp fuse. The T-1200 and t-1450 uses A 2.5 amp fuse.	
	Main PCB	Replace	
Door does not lock	Check display for fault code	Does Door Lock Error show on the front of display. If yes fol- low tests described in fault code section.	
	Door locking Motor	Check to insure that Motor is receiving 120VAC from main relay PCB. If it is, replace solenoid.	
	Door Switch	Check for continuity through door latch switch when door closed. If no continuity, adjust or replace door switch.	
Door will not open	Thermoactuator	Check to see if thermoactuator(s) and/or its mechanism is stuck or binding and not allowing the door lock solenoid to open. Check to be sure that the locking thermoactuator is not receiving 120VAC during the last 1 1/2 minutes of the cycle. Also check to see that the unlocking thermoactuator is receiving 120VAC during the last minute of the cycle. If the thermoactuators do not receive voltage at the correct times, change the timer. If the timing and voltage are cor- rect, replace the thermoactuator.	

## Common Troubleshooting Solutions

Symptom	Probable Cause	Suggested Remedy
Door will not open	Door Rod	Check to see that door rod from solenoid to lock ass'y is long enough to allow lock ass'y to disengage. If not, adjust rod.
	<u>Gear Motor</u>	Check the door lock motor. Make sure the motor is not stuck or in a bind. If motor does not move freely, replace locking motor.
No hot water in	Water Valve Coil	Check coil continuity at terminals and replace if no continu- ity. 120 V power only on for 20 second in wash bath.
detergent dispenser	Water Inlet	Check water inlet screens for blockage and clean screens if necessary.
	Water	Check to insure that water is turned on and operating.
	P-20 Wire Harness	Check black & white harness.
Hot water does not	Water Valve Coil	Check coil continuity at terminals and replace if no continu- ity. Check for 120 V power from main relay PCB
enter tub in wash	Water Inlet	Check water inlet screens for blockage and clean if neces- sary screens
	Water	Check to insure that water is turned on and operating.
	Blk or Wht wire at main controller	Check black or white wires at Molex plug on PCB at main controller and at relay PCB.
	Pressure Switch	Check pressure switch continuity between terminals . If no continuity, <u>check pressure switch hose for obstruction.</u> If hose okay, change pressure switch.
No cold water to tub	Water Valve Coil	Check coil continuity at terminals and replace if no continu- ity.
in wash	<u>Water Inlet</u> <u>Screens</u>	Check water inlet screens for blockage and clean if neces- sary.
	Water	Check to insure that water is turned on and operating.
	Blk or whit wire at controller and main relay PCB	Check black or white wires at Molex plug on PCB at main controller and at relay PCB.
	Pressure Switch	Check pressure switch continuity between terminal contacts. If no continuity, <u>check pressure switch hose for obstruction</u> . If hose okay, change pressure switch.
Water comes in but level does not	<u>Drain Valve (open)</u>	Check these areas • Drain valve blockage • Drain valve mo- tor and gear train. If power but drain valve does not close, replace valve. • Power to the drain valve. If no power to drain valve, check (brn/yel) circuit for power.
rise	Blk or whit wire at controller	Check black and white wires at molex plug on main PCB controller and at main relay PCB
Water does <u>Water Valve Coil</u> not flush		Check coil continuity at terminals and replace if no continu- ity.
softener	Water Inlet	Check water inlet screens for blockage and clean if neces-
compart- ment.	Screens	sary.

\*Please note: some videos may require you to allow access through a pop-up window.

### Common Troubleshooting Solutions

Symptom	Probable Cause	Suggested Remedy		
Water level too high	Pressure Switch	Check for blockage in pressure switch hose. <u>Check for pres</u> - <u>sure switch opening circuit across terminals.</u> Replace switch if contacts do not open.		
Water drains slowly	<u>Drain System</u>	Check hoses and drain valve for blockage. Clean of inad- equate size. if necessary. Check building drains for blockage		
Machine does not turn	<u>VFD</u>	Check VFD by removing top panel and record power or fault lights are iluminated. If the fault light is on, turn power off to machine at breaker for 2 minutes and turn poiwer back on to reset. If still no display replace VFD		
Machine tumbles in one direc-	VFD	Remove Top cover record if power light of fault lights are displayed, wee front control for related codes. See fault code section for more info.		
tion	Check wiring between Relay PCB and VFD	Inspect yellow enable wires from main relay PCB and at VFD		
Excessive vibration	Mounting System	Check these areas: • Strength of mounting structure, con- crete or base. • Mounting bolts may be loose and need tightening.		
	Drive Belt	Worn drive belt can cause vibration and noise.		
	Loading	Note: Small loads contribute to out of balance loading and increase vibration.		
Machine does not spin	Pressure Switch	Check pressure switch for continuity across terminals #21 & #22 indicating pressure switch has reset to the empty position. If no continuity, change pressure switch.		
Machine starts and does not operate	<u>VFD</u>	Check yellow enable wires from relay PCB P13 & motor P14to VFD advances through cycle are connected. Check fault code on VFD before removing power from the drive. Check orange P-15 wire for signal from door switches.		
Machine	Main PCB	Main PCB controls time cycle at end of cycle		
does not stop	Braking Resistors	Check braking resistors for continuity. Verify ohms resis- tance by Molex.		
Water leak- age around loading door	Door Adjustment	Door may need adjustment due to abuse or wear. Check tightness around perimeter using a dollar bill. Adjust left to right tightness by shims at door lock or hinge side. It is important to center gasket to tub opening before tighten- ing door to hinge bolts. Chalk may be used on tub front to show point of contact with tub. If gasket is deformed, worn, or damaged, replace. Refer to parts section for door gasket expander kit.		
Machine Starts goes Directly to end of cycle	<u>E-Stop button or</u> <u>switch</u>	If machine says PUSH then goes directly to "0" or "00" may be bad stop Button or switch. Replace switch assembly.		

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### Troubleshooting Machine Fault Errors

#### Displayed on front of washer

The following pages are a description of fault codes that will appear on the front of the washer. There is a chart format that shows what fault code that will be displayed at washer front. These codes displayed may stop machine operation or may not stop machine Please check chart before removing power to reset. PLEASE NOTE: CHECK DRIVE FAULT CODE BEFORE POWERING MACHINE DOWN!

Fault	Description		Customer Action
DOOR LOCK ERROR	The door failed to close and lock or The	Condition	This error is when the Door Locked signal is not received within one second after the start of the cycle. After three attempts to start the washer.
	door failed to remain locked	Delay	Immediate
	during the cycle.	Action	When the error occurs, the Door Lock Solenoid will be turned off; all other outputs will be turned off.
		Solution	Inspect door lock motor assembly, make sure plastic arm moves freely up and down. Cycle power to machine to clear fault. Start machine to see if fault re-occurs. <u>Check to hear</u> <u>if door motor engaged</u> . If motor dioes not engage, check connections from the relay board to the door lock gear motor and/or test power to machine and make sure the transformer is on the proper tap, (if between 208VAC and 220VAC make sure is on the 208VAC tap, if above 220VAC make sure is on 240VAC tap). If the door lock motor engages then falls, try to adjust the stacked door lock switches on the left side of the latching plate. <u>(See online service video)</u>
CLOSE DOOR ERROR	<b>DOOR</b> Switch or Door	Condition	This error is when the Door closed and latched signal is not received within one second after the start of the cycle. The "Close Door" error involves an incomplete circuit through the Hinge Switch and the standalone Latching Switch on the latching plate.
		Delay	Immediate
		Action	After three attempts to start the washer Fault will change to Door lock error.
		Solution	With Door closed and latched, test for Voltage on the P11 Pin on the relay board, (should be 120VAC). If no voltage lift up on Door lock motor arm to the locked position and test The P11 for voltage. If no voltage replace door closed switch. If has voltage need ot adjustor replace door latch switch. Test power to machine and make sure the transformer is on the proper tap, (if between 208VAC and 220VAC make sure it is on th e208 tap, if above 220VAC make sure it is on the 240VAC tap). Remove Brown/Yellow wire from Drain valve, see if fault reoccures. if not replace Drain valve.

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Fault	Description		Customer Action
<u>SLOW</u> FILL	Slow Fill Error	Condition	This error is when a low water level is not reached within 7 minutes.
ERROR		Delay	Immediate
		Action	The washer cycle will continue
		Solution	Turn off the power to the washer. Check the operation of the water valves. Check the incoming water pressure. Check for blocked or restricted water flow. Check to ensure the drain valve is functioning properly. Is machine filling less than 7 Min. (small chassis should 2 to 3 min, Large chassis 3 to 4 min). if filling over 2 inches on glass clean pressure switch tube or possible pressure switch problem.
MEMORY ERROR	Checksum or Out of Range	Condition	Memory error in the controller. The memory checksum is wrong or a parameter value is out of range.
	Error	Delay	Immediate
		Action	Stop the washer and turn off all the outputs.
	Solution	Check VFD fault light before turning off power. Try a <u>soft</u> <u>Reset</u> of the controller with the white button. Test power to machine and make sure the transformer is on the proper tap, (if between 208VAC and 220VAC make sure is on the 208VAC tap, if above 220VAC make sure is on 240VAC tap). If connected to 3rd party payment system, disconnect from control board and power cycle control using the <u>"soft reset"</u> <u>procedure</u> . If problem persist replace PCB controller.	
<u>COMM</u> ERROR 1		Condition	Washer controller communication error on the I2C bus. Both the main slave micro and the master micro can be in this error state. The slave micro error is recoverable at any time, if I2C communication resumes. The master micro error is permanent.
		Delay	The main slave starts displaying this error after 6 seconds of no (valid) I2C activity. The master micro goes into this permanent error state after 8 seconds of no (valid) I2C activity
		Action	Stop the washer and turn off all outputs.
		Solution	Test power to machine and make sure the transformer is on the proper tap, (if between 208VAC and 220VAC make sure is on the 208VAC tap, if above 220 VAC make sure is on 240 VAC tap). Check VFD fault light before turning off power. Try the data cable first. Move around cable and remove any side loading tension from data cable connector ends. Check connection P23 to P15. Turn power back on to the washer using the <u>"soft reset" procedure</u> . If the problem returns, replace the PCB washer controller.If connected to payment system or is networked disconnect and soft reset. update firmware. If problem persists replace control board.

Fault	Description		Customer Action
СОММ	Wrong Washer	Condition	Invalid washer size jumper (harness) configuration.
ERROR 2	Size Jumper Configuration	Delay	Immediate (after the wrong size jumper configuration is read). Washer size/type inputs are read only at power up, before starting a cycle, once every 24 hours, and in factory test mode.
		Action	Stop the washer.
		Solution	Check VFD fault light before turning off power. If the controller was installed in a different size machine before being installed in this machine, a problem can occur. If someone has been doing repairs on the washer, check for the correct size drive. It can also be caused by a loose connection in the pressure switch harness. Check the pressure switch harness conections and ensure the correct harness in installed. The control can be reset by holding program button on controller during startup (soft reset). Check P5 Connector orange wire at Molex connector on controller coming from pressure switch or replace pressure switch harness.
COMM ERROR 3	Washer Size or Type Changed	Condition	The washer size or washer type configuration has changed.
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Delay	Immediate (after the size jumper configuration is read). Washer size/type inputs are read only at power up, before starting a cycle, once every 24 hours, and in factory test mode.
		Action	Stop the washer.
		Solution	Check VFD fault light before turning off power. Check to ensure all the harnesses are properly connected to the controller. Check to ensure the VFD drive horsepower is proper for this size of washer. Check orange wires at P5 Molex connector on control board coming from pressure switch. The control can be reset by holding program button on controller during startup ( <u>soft reset</u> ).
COMM ERROR 4	VFD Non Existent or communication	Condition	This error is when the washer controller cannot communicate with the drive.
	fault	Delay	Delay time is 2 seconds
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Step 1: Make sure the cable did not become unplugged during operation. Step 2: Make sure that the cable is not being pulled sideways at either the washer controller, or the VFD, plug end. If both ends of the communications cable are plugged in the washer computer and VFD and there is no tension on the communications cable pulling it from side to side, then replace the cable. Step 3: Inspect both female connection points at PCB controller and at VFD. Step 4: Turn power back on to the washer using the <u>"soft reset" procedure</u> . The cable may need replacement if it cannot be reset.

Fault	Description		Customer Action
COMM ERROR 5	VFD Communication	Condition	This error is a data error on communications between the controller and the VF drive
	Fault	Delay	Delay time is 12 seconds.
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	The CE errors are communications errors. Data Cable noise can cause the majority of these errors. Check VFD fault light before turning off power. Check the data cable between the controller and the drive. Replace data cable if it appears damaged and fault appears again. Please note that this fault will occur if you turned main power off and on to quickly. (See Note below)
СОММ	VFD	Condition	This error indicates that a VFD exception error is set
ERROR 6	Communication Fault	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Inspect Data communication cable connections and for damage to the cable.Cycle power to the machine,leave off until power light on the VFD goes out before repowering, varify if the code clears. Turn power back on to the washer using the <u>"soft reset" procedure</u> . Replace data cable first, and the varianble frequency drive second.
COMM ERROR 7	Communication Bus Error	Condition	If a state-of-health message reply is not seen by the master microprocessor from the UC3 microprocessor after 10 minutes, the master will reset the UC3 and restart the 10 minute timer. Again, after 10 minutes, if a state-of-health message is not received by the master, it will reset the UC3 a second time. After 10 minutes, the master will reset the UC3 a final time and post a COMM ERROR 7. Note: When the master resets the UC3, the control will disconnect from the network. If the first reset is not successful, the control will not be able to reconnect to the network, USB or card reader functions.
		Delay	3 cycles of 10 minutes (see above)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Test power to machine and make sure the transformer is on the proper tap, (if between 208VAC and 220VAC make sure is on the 208VAC tap, if above 220 VAC make sure is on 240 VAC tap)WasherCheck VFD fault light before turning off power. If connected to dexterLive or a 3rd party payment system disconnect and cycle power to the machine. Turn power back on to the washer using the <u>"soft reset" procedure</u> .

Fault	Description		Customer Action
COMM ERROR 8	VFD Communication	Condition	This error is caused when the VFD reports a frequency value that is out of range
	Fault	Delay	Delay time is 35 seconds
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Inspect Data communication cable connections and for dammage to the cable.Cycle power to the machine,leave off until power light on the VFD goes out before repowering, varify if the code clears. After each of the following steps, Turn power back on to the washer using the <u>"soft reset" procedure</u> . 1.) Replace data cable. 2.) Update firmware on the control. 3.) replace control.
PCB ERROR1	Controller Internal Fault	Condition	This error is an internal failure of the washer controller electronics.
		Delay	Immediate
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	The washer will not restart until the power is removed and re-applied. Turn power back on to the washer using the <u>"soft reset" procedure</u> . Check voltage at the transformer.
PCB ERROR 2	Controller Internal Fault	Condition	This error is an internal failure of the washer controller related to inputs being matched between the master and slave micros
		Delay	Immediate
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	The washer will not restart until the power is removed and re-applied. Turn power back on to the washer using the <u>"soft reset" procedure</u> . Check voltage at the transformer.
SLOW DRAIN	Drain Error	Condition	This error is when an empty water level is not reach within 7 minutes.
<b>ERROR</b>		Delay	Immediate
		Action	The washer cycle will continue. Do not spin the tumbler with out reaching an empty water level. If empty water level is not reached, agitate during the normal spin time.
	Solution	Check VFD fault light before turning off power. Check to ensure the drain valve is operating properly (slow drain has potential to cause this code). Check to ensure the pressure switch tube is clear of any blockage, and the pressure switch is operating properly. Check the pressure switch harness.	

Fault	Description		Customer Action
SPIN STOP ERROR	Stop Error	Condition	This error is when the washer does not stop spinning within 150 seconds after receiving the command.
		Delay	Immediate
		Action	Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Check VFD fault light before turning off power. Inspect the braking resistors and measure the resistance. Check connecting wiring from braking resistor to the drive mounted in the top of the washer. Test incoming Power, If 3 phase power does it have a High leg. If power has a high leg, cap off an run machine on single phase power on L1 & L2 Connections. Reset the drive and try again. Possibly incorrectly programmed drive.
DRIVE ERROR		Condition	This error is when the drive size does not match the washer size.
1		Delay	Immediate. (after the size jumper configuration is read). Washer size/type inputs are read only at power up, before starting a cycle, once every 24 hours and in factory test mode
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door
		Solution	Check VFD fault light before turning off power. If the controller was installed in a different size machine before being installed in this machine, a problem can occur. If someone has been doing repairs on the washer, check for the correct size drive. It can also be caused by pressure switch harness. Check to ensure the correct harness in installed. The control can be reset by holding program button on controller during startup ( <u>soft</u> <u>reset</u> ). Check orange wire at Molex connector on controller coming from pressure switch or replace pressure switch harness.
DRIVE ERROR	VFD Internal Error	Condition	This error occurs when there is an internal issue with the VF Drive
2		Delay	Occurs when too much slip of motor is detected
		Action	Occurs following the "DELAY" error (see corresponding detail)
		Solution	Check VFD light code before turning off power. Turn the power off to the washer. Turn power back on to the washer using the <u>"soft reset" procedure</u> . If no problem is observed, test the washer. If problem reappears, Replace VFD.

Fault	Description		Customer Action
DRIVE	VFD Over-current	Condition	This error is an over-current on the VF drive
OC		Delay	Delay time is 35 seconds
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Step 1: Check to make sure the washer cylinder 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 cylinder or check the bearings. If the motor does not turn freely, replace the motor. Step 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. Step 3: Check braking resistors to see if they measure the correct resistance. If a resistor does not measure the proper value, replace it.
DRIVE	VFD Over-voltage	Condition	This error is over-voltage on the VF drive
ον	Fault	Delay	Delay time is 35 seconds.
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	"Step 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 187 to 264 VAC or 108 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. Step 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. Step 3: Measure each braking resistor separately to make sure they are the correct resistance. (200 for 1 and 2 Hp VFD and 160 for 3 Hp VFD). Step 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.

Fault	Description		Customer Action
DRIVE	VFD Overheat	Condition	This error is over-heating on the VF drive
он	Fault	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	The washer will not restart until the power is removed and re-applied.
<b>DRIVE OL</b>	VFD Overload	Condition	This error is overload on the VF drive
	Fault	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	"DRIVE OL"
		Solution	(Check drive fault code before powering down). Check the washer motor to ensure it turns freely. Check the wiring for loose connections to the drive and motor. Measure the braking resistor values. inspect for damaged motor wires. Check V-Belt tension and adjust to 1" deflection at center. Check braking resistors. Inspect to make sure machine is draining properly. Inspect drain valve and external drain. Beyond this it is recommeded to Ohm Check the T1,T2 and T3 wires coming from the motor to the variable frequency drive to verify that they are reading the correct resistance.
DRIVE	VFD Ground	Condition	This error is a ground fault interruption on the VF drive
GFI	Fault	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Check VFD light code before turning off power. Check the wiring connections to the drive and motor. Inspect motor wires netween drive and motor to make sure not damaged. Check the ground wiring of the drive, motor and incoming connection to ensure a proper ground is present. Check for damaged motor wires. OHM test Motor to see if windings resistance is in range. Verify proper connection of the 2 yellow enable wires going between the variable frequency drive and the relay control board. If all tests ok and problem reoccures replace VFD.
DRIVE LV	VFD Low	Condition	This error is low voltage on the VF drive
	Voltage	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Check VFD light code before turning off power. Turn the power off to the washer. Check the wiring connections to the drive and motor. If no problem is observed, turn on power to the washer and test. (See Note) Measure the incoming line voltage to verify it is high enough.

Fault	Description		Customer Action
DRIVE IF	VFD Internal	Condition	This error is an internal VF drive error
	Fault	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Check VFD fault light before turning off power. Turn the power off to the washer. Wait one minute. Turn power back on to the washer using the <u>"soft reset"</u> <u>procedure</u> . If problem reappears, Replace VFD.
INVALID DRIVE	Drive is not the correct Dexter	Condition	The error indicates the VF drive is not a Dexter version of the Delta E-drive.
	version of the Delta E-drive	Delay	Immediate (after the Dexter indication value is read from drive). Drive indication value is read only at power up, before starting a cycle, once every 24 hours, and in factory test mode.
		Action	Stop the machine and clear the cycle. Keep the doo locked until the machine has stopped moving and then unlock the door.
		Solution	VFD has been replaced, disconnected, or removed. Drive is not the correct Dexter version of the Delta MS300 drive. Replace drive with the correct Dexter Delta MS300 drive for that machine size and motor. Power down and then turn power back on to the washer using the <u>"soft reset" procedure</u> .
DRIVE STO	VFD Safety Torque Off Error	Condition	This error occurs when the drive detects an open circuit in both the S1 and S2 to +24V drive jumper connections.
		Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Check VFD light code before turning off power. Turn the power off to the washer. Check the wiring connections to the S1, S2, and +24V drive jumper connections. If no problem is observed, turn on power to the washer and test. If problem reappears, Replace VFD.
DRIVE STL	VFD Internal Hardware Error	Condition	This error occurs when the drive detects an open circuit in either the S1/+24V or S2/+24 drive jumper connections.
		Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Check VFD light code before turning off power. Turn the power off to the washer. Check the wiring connections to the S1, S2, and +24V drive jumper connections. If no problem is observed, turn on power to the washer and test. If problem reappears, Replace VFD.

Fault	Description		Customer Action
DRIVE_PH_	VFD Input Phase	Condition	This error occurs when an input phase loss is detected
Ц	Loss	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and the unlock the door.
		Solution	Check VFD light code before turning off power. Turn the power off to the washer. Check the wiring connection to the drive and motor. Test power to L1 and L2 to see if has lost a leg of power. If no problem is observed, turn on power to the washer and test. If problem reappears replace VFD.
DRIVE_PH_ LO	VFD Output Phase Error	Condition	This error occurs when an issue is detected with the drive output phases
		Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and the unlock the door.
		Solution	Check VFD light code before turning off power. Turn to power off to the washer. Check the wiring connection and inspect wires between the drive and motor. If no problem is observed, turn on power to the washer and test. If problem reappears, replace the VFD.
MOTOR_OL	VFD Motor Overheating	Condition	This error occurs when the VF AC motor drive is overheating
		Delay	Occurs following the "DELAY" error (see correspondin detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and the unlock the door.
		Solution	Check VFD light code before turning off power. inspect tub to ensure it turns freely. Check the washer motor to ensure it turns freely. Check the wiring for loose connections to the drive and motor. Measure the braking resistor values. Check for damaged motor wires. Check V-Belt tension and adjust to 1" deflection at center. Check braking resistors. Inspect thatthe washer is draining properly. inspect Drain valve and external drain.
DRIVE_OT	VFD Over-Torque	Condition	This error occurs when too much torque is detected on the VFD
		Delay	Occurs following the "DELAY" error (see correspondin detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and the unlock the door.
		Solution	Check VFD light code before turning off power. Check the washer motor to ensure it turns freely. Check the wiring for loose connections to the drive and motor. Measure the braking resistor values. Check for damaged motor wires. Check V-Belt tension and adjust to 1" deflection at center. Check braking resistors. If problem reappears, contact your Dexter representative

Fault	Description		Customer Action
DRIVE_SLIP	Motor Slip Error	Condition	The washer will not restart until the power is removed and reapplied.
		Delay	Occurs following the "DELAY" error (see corresponding details)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
Solut		Solution	Check VFD light code before turning off power. Check the washer motor to ensure it turns freely. Check the wiring for loose connections to the drive and motor. Measure the braking resistor values. Check for damaged motor wires. Check V-Belt tension and adjust to 1" deflection at center. Check braking resistors.
DRIVE_ COMM_1	VFD Non Existent or	Condition	This error is when the washer controller cannot communicate with the drive.
	communication	Delay	Delay time is 2 seconds
	fault	Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
	Sc		Check the data communication cable between the washer computer and the variable frequency drive (VFD). Step 1: Make sure the cable did not become unplugged during operation. Step 2: Make sure that the cable is not being pulled sideways at either the washer controller, or the VFD, plug end. If both ends of the communications cable are plugged in the washer computer and VFD and there is no tension on the communications cable pulling it from side to side, then replace the cable. Step 3: Inspect both female connection points at PCB controller and at VFD. These may need replacement if they cannot be reset.
DRIVE_ COMM_2	VFD Internal Communication	Condition	This error occurs when communication issues are detected in the VF drive
_	Error	Delay	Occurs following the "DELAY" error (see corresponding detail)
		Action	Stop the machine and clear the cycle. Keep the door locked until the machine has stopped moving and then unlock the door.
		Solution	Check VFD light code before turning off power. Turn the power off to the washer. Turn power back on to the washer using the <u>"soft reset" procedure</u> . If no problem is observed, test the washer. If problem reappears, Replace VFD.

Fault	Description		Customer Action
SECONDARY FUSE ERROR	Factory program error	Condition	This error occurs when the fuse settings for the Slave/Secondary microprocessor have not been set correctly during factory programming
		Delay	None
		Action	When detected, the washer control shall not be operational.
		Solution	Replace control board.
MAIN FUSE ERROR	Factory program error	Condition	This error occurs when the fuse settings for the Master/Main microprocessor have not been set correctly during factory programming
		Delay	None
		Action	When detected, the washer control shall not be operational.
		Solution	Replace control board.
DELAY	Communication loss	Condition	This is an intermediate error code that displays as the control is attempting to re-establish communications with the variable frequency drive. It is a condition of other specified Error Codes (for example Comm Error6).
		Delay	4 cycles of 10 seconds if during tumble portion of cycle
			4 cycles of 2 minutes if during spin portion of cycle
		Action	Prompt is displayed during each of the specified 10 second or 2 minute periods. Error condition (such as Comm Error4) occurs, but Delay is shown instead of specific Error Code. Action during this time is dependent on the specific error code that caused it.
		Solution	The control is trying to reestablish communication to the control. A Code eventually occur. Update the control firmware to the latest version and then power down the control. Turn power back on to the washer using the <u>"soft reset" procedure</u> .
CRC ERROR	Firmware corrupted, voltage issues or	Condition	This error occurs the control firmware fails a CRC check.
	issues with coin	Delay	None
	pulsing time	Action	When detected, the control shall not be operational.
		Solution	<ol> <li>Verify Voltage to control, must test above 22 VAC.</li> <li>If connected to Card system - Disable and run independent to verify if reoccurs.</li> <li>Verify settings coin pulse. Time of coin pulse should be 50ms with a break of 100ms between pulses.</li> <li>Replace Optical switch on the coin mechanism</li> <li>Update firmware on the control board. Can be downloaded from Dexterlive.com</li> <li>If this error reoccurs after the previous measures have been taken, the control firmware is failing the CRC check. Replace Control.</li> </ol>

### Vended Drive Motor Inverter Type Motor-Winding Resistance Chart

#### T-300 C-Series Washer (both voltages 115/208-240)

		Resistance	
Motor Winding	Wire #	Minimum	Maximum
20lb 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	3.91	4.60
Dexter #9376-307-001	T2 & T3	3.91	4.60
Marathon	T1 & T3	3.91	4.60

#### **T-350 C-Series Express Washer**

		Resistance	
<u>Motor Winding</u>	Wire #	Minimum	Maximum
60lb 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	3.71	4.09
Dexter #9376-307-001	T2 & T3	3.71	4.09
Marathon	T1 & T3	3.71	4.09

#### **T-400 C-Series Washer**

		Resist	Resistance	
Motor Winding	Wire #	Minimum	<u>Maximum</u>	
30lb 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	2.45	2.71	
Dexter #9376-305-001	T2 & T3	2.45	2.71	
A.O. Smith #19343600	T1 & T3	2.45	2.71	

#### **T-450 C-Series Express Washer**

		Resistance	
Motor Winding	Wire #	Minimum	<u>Maximum</u>
60lb 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	2.45	2.71
Dexter #9376-305-001	T2 & T3	2.45	2.71
A.O. Smith #19343600	T1 & T3	2.45	2.71

#### **T-600 C-Series Washer**

		Resistance	
Motor Winding	Wire #	Minimum	<u>Maximum</u>
40lb 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	2.45	2.71
Dexter #9376-305-001	T2 & T3	2.45	2.71
A.O. Smith #19343600	T1 & T3	2.45	2.71

#### **T-650 C-Series Express Washer**

		Resistance	
Motor Winding	Wire #	Minimum	Maximum
T-650 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	2.25	2.61
Dexter #9376-319-001	T2 & T3	2.25	2.61
Marathon #	T1 & T3	2.25	2.61

#### **T-750 C-Series Express Washer**

		Resistance	
Motor Winding	Wire #	Minimum	Maximum
T-750 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	.944	1.097
Dexter #9376-329-001	T2 & T3	.944	1.097
Marathon #	T1 & T3	.944	1.097

NOTE: Resistance values are measured at the stator. Values at the end of the motor wiring harness may be slightly higher.

Resistance					
Motor Winding	Wire #	Minimum	Maximum		
T-900 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	2.4	2.8		
Dexter #9376-308-001	T2 & T3	2.4	2.8		
Marathon #	T1 & T3	2.4	2.8		

### **T-900 C-Series Washer**

#### **T-950 C-Series Express Washer**

		Resistance	
Motor Winding	Wire #	Minimum	<u>Maximum</u>
T-950 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	.944	1.097
Dexter #9376-329-001	T2 & T3	.944	1.097
Marathon #	T1 & T3	.944	1.097

#### **T-1200 C-Series Washer**

		Resistance	
Motor Winding	Wire #	Minimum	Maximum
T-1200 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	0.944	1.097
Dexter #9376-329-001	T2 & T3	0.944	1.097
Marathon #	T1 & T3	0.944	1.097

### T-1450 C-Series Express Washer

I-ITJU C-SCIICS LAPICSS WASIICI				
	•	Resistance		
Motor Winding	Wire #	Minimum	Maximum	
T-1450 1ph or 3ph 60hzMain (wash & spin)	T1 & T2	.435	.505	
Dexter #9376-326-001	T2 & T3	.435	.505	
Marathon #	T1 & T3	.435	.505	

NOTE: Resistance values are measured at the stator. Values at the end of the motor wiring harness may be slightly higher.

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