

Carrier 23XRV Fault Code Quick Reference

Carrier - 23XRV fault codes | Model Type: Variable Speed Screw Chiller (AquaForce)

Code	Alarm Description	Severity	Probable Causes	First Inspection Step
1	Evaporator water temperature sensor fault	Warning	Sensor failure; Wiring fault; Board input issue	Measure sensor resistance
7	Outdoor temperature sensor fault	Warning	Sensor element failure; Wiring damage; Moisture ingress	Check resistance vs chart
14	Discharge pressure transducer fault	Warning	Transducer failure; Port blockage; Wiring fault	Compare to gauge
44	High discharge pressure	Warning	Condenser water flow low; Non-condensables; Refrigerant overcharge	Verify water flow
54	Oil level low	Critical	Oil leak; Separator malfunction; Bearing wear	Check sight glass
68	Low oil pressure	Critical	Oil pump wear; Filter clogged; Low oil level	Check oil level
VSD1	VSD communication fault	Warning	VSD communication cable damaged; VSD controller offline; Protocol mismatch	Check VSD communication cable
VSD2	VSD over-temperature	Warning	VSD heatsink temperature too high; Cooling fan failure; Ambient too high	Check VSD temperature
VSD3	VSD hardware fault	Warning	VSD power module failure; VSD control board fault; Internal component failure	Check VSD fault codes
VSD4	VSD DC bus overvoltage	Warning	Regenerative energy from compressor; Braking resistor fault; Input voltage too high	Check DC bus voltage
VSD5	VSD DC bus undervoltage	Warning	Input voltage sag; Inverter capacitor degradation; Power supply issue	Check input voltage
VSD6	VSD output phase loss	Critical	Output terminal loose; Power module failure on one phase; Output cable damaged	Check output voltage all phases
VSD7	VSD ground fault	Warning	Ground fault on output; Motor winding insulation breakdown; Cable insulation damaged	Check with megohmmeter
VSD8	VSD motor overload	Critical	Compressor motor drawing excessive current; VSD parameters set incorrectly; Mechanical overload	Check motor current
VSD9	VSD speed feedback fault	Warning	Speed feedback sensor failure; Feedback wiring damaged; Sensor alignment off	Check speed feedback sensor
VSD0	VSD communication timeout	Warning	Communication timeout between main controller and VSD; VSD not responding; Network issue	Check communication timeout settings
2	Evaporator leaving water temperature sensor fault	Warning	Sensor degradation; Connector corrosion; Board input failure	Compare to thermometer

Code	Alarm Description	Severity	Probable Causes	First Inspection Step
3	Condenser entering water temperature sensor fault	Warning	Sensor failure; Wiring fault; Board input issue	Measure resistance
5	Defrost thermistor failure	Warning	Sensor element failure; Wiring damaged; Connector corrosion	Check resistance
8	Compressor discharge gas temperature sensor fault	Warning	Sensor element failure; Wire heat damage; Connector loose	Measure resistance
16	Suction pressure transducer fault	Warning	Transducer port blocked; Output drift; Connector corrosion	Compare to gauge
20	Compressor motor overload	Critical	Motor drawing excessive current; Voltage imbalance; Bearing failure	Measure current
30	CCN communication fault	Warning	CCN cable damaged; Board power failure; Address conflict	Check CCN cable
56	Low saturated suction temperature	Warning	Low refrigerant charge; Expansion valve issue; Low water flow	Check superheat
72	Evaporator frost protection	Critical	Low water flow; Setpoint too low; Expansion valve floodback	Verify flow
77	High compressor motor current	Warning	Motor bearing failure; Liquid floodback; Voltage imbalance	Measure current
41	Emergency stop	Critical	E-stop button activated; Remote safety open; Safety relay tripped	Check E-stop
85	High motor winding temperature	Warning	Motor cooling insufficient; Bearing wear; High load	Check motor temp sensor
88	Fault code memory error	Warning	Control board memory corruption; Battery backup failure; Firmware issue	Check backup battery
90	Bearing wear monitoring alarm	Warning	Bearing vibration trend increasing; Bearing surface degradation; Insufficient oil lubrication	Check vibration trend data

Disclaimer: All fault code data is for reference only. Do not use this information to replace certified professional HVAC technician judgment. Always refer to original OEM official service manual.