

McQuay WMC Fault Code Quick Reference

McQuay - WMC fault codes | Model Type: Water-Cooled Screw Chiller

Code	Alarm Description	Severity	Probable Causes	First Inspection Step
E01	Compressor high pressure protection	Critical	Condenser water flow insufficient; Condenser water temperature too high; Non-condensables in refrigerant system	Verify condenser water flow rate
E02	Compressor low pressure protection	Warning	Low refrigerant charge; Expansion valve not feeding adequately; Evaporator water flow too low	Check refrigerant subcooling and superheat
E03	Compressor motor overload	Critical	Compressor motor bearing failure; Supply voltage low or imbalanced; Liquid refrigerant floodback	Measure motor current on all three phases
E04	Compressor discharge temperature high	Warning	Compression ratio too high from high head pressure; Compressor oil level low; Condenser not rejecting heat adequately	Check discharge pressure and temperature
E05	Evaporator water flow fault	Warning	Chilled water pump stopped or failed; Flow switch stuck or misaligned; Strainer clogged in water line	Verify chilled water pump is operating
E06	Condenser water flow fault	Warning	Condenser water pump stopped; Flow switch malfunction; Condenser tubes fouled restricting flow	Verify condenser water pump operation
E07	Evaporator water temperature low	Warning	Chilled water setpoint set too low; Evaporator water flow too low; Building load very low	Verify chilled water setpoint is appropriate
E08	Temperature sensor fault	Warning	Sensor element failure or drift; Sensor wiring open circuit or shorted; Connector corrosion or loose connection	Identify faulting sensor from diagnostic
E09	Communication fault	Warning	Network cable damaged or disconnected; Controller offline or not responding; Protocol or baud rate mismatch	Check network cable connections at both ends
E10	Phase loss or reversal protection	Critical	One phase of power supply missing; Phase sequence reversed; Blown fuse on one phase	Measure voltage on all three phases
E11	Overcurrent protection	Critical	Compressor motor overload; Short circuit in motor winding; Contactor contacts welded	Measure motor running current on all phases
E12	Oil pressure low	Critical	Oil pump failure or internal wear; Oil filter element clogged; Low oil charge in compressor	Check compressor oil level sight glass
E13	Oil level low	Critical	Refrigerant leak carrying oil from system; Oil separator not returning oil properly; Compressor bearing wear consuming oil	Check oil sight glass level
E14	Expansion valve fault	Warning	Electronic expansion valve stepper motor failure; Valve controller communication lost; Valve mechanically stuck or frozen	Check expansion valve wiring connections

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E15	Power supply fault	Warning	Voltage outside acceptable range; Phase voltage imbalance exceeding limits; Transformer failure or tap wrong	Measure power supply voltage on all phases
E16	Condenser fan fault	Warning	Condenser fan motor failure; Fan motor capacitor defective; Fan control relay or contactor fault	Check fan motor winding resistance
E17	Condenser fan 2 fault	Warning	Condenser fan 2 motor failure; Fan 2 capacitor defective; Fan 2 control relay fault	Check fan 2 motor winding resistance
E18	Compressor vibration alarm	Warning	Compressor mounting bolts loose; Bearing wear causing vibration; Foundation degradation	Measure compressor vibration with meter
E19	Pumpdown failure	Warning	Pumpdown solenoid valve not closing; System pressure not reaching pumpdown setpoint; Pumpdown timer expired	Check pumpdown solenoid valve operation
E20	Compressor surge alarm	Warning	Operating conditions near surge line; Condenser conditions too severe; Refrigerant charge incorrect	Check operating conditions vs performance map
E21	High bearing temperature	Warning	Bearing lubrication inadequate; Bearing wear; Cooling oil flow insufficient	Check bearing temperature sensors
E22	Low subcooling alarm	Warning	Refrigerant charge low; Condenser not subcooling adequately; Expansion valve overfeeding	Check subcooling value
E23	High superheat alarm	Warning	Expansion valve starving; Refrigerant charge low; Subcooling too low	Check superheat value
E24	Low oil differential pressure	Critical	Oil pump wear; Oil filter clogged; Oil pressure regulating valve stuck	Check oil sight glass level
E25	Compressor start inhibit	Warning	Safety interlock preventing compressor start; Anti-recycle timer not elapsed; Oil heater not warmed oil sufficiently	Check all safety interlocks and alarms
E26	Evaporator approach temperature high	Warning	Fouled evaporator tubes; Low refrigerant charge causing poor heat transfer; Refrigerant distribution problem in evaporator	Calculate approach temperature (refrigerant temp vs water temp)
E27	Condenser approach temperature high	Warning	Fouled condenser tubes; Non-condensables in system; Refrigerant overcharge	Calculate condenser approach temperature
E28	Chiller staging error	Warning	Compressor staging logic error; Capacity control mismatch between compressors; Lead/lag compressor rotation fault	Check compressor staging configuration
E29	Energy efficiency alarm	Warning	Chiller operating below expected efficiency; Approach temperatures too high; Refrigerant charge incorrect	Check current kW/ton vs design
E30	Compressor runtime exceeded	Warning	Compressor has exceeded maximum continuous runtime; Maintenance interval reached; Compressor requires inspection per OEM schedule	Check compressor runtime log

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E31	Refrigerant level alarm	Warning	Refrigerant level sensor indicating low charge; Refrigerant leak in system; Subcooling below expected value	Check refrigerant level sensor reading
E32	Cooling tower water fault	Warning	Cooling tower fan not operating; Cooling tower water level low; Condenser water temperature too high	Verify cooling tower fan operation

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.