

McQuay PFS Fault Code Quick Reference

McQuay - PFS fault codes | Model Type: Air-Cooled Scroll Chiller

Code	Alarm Description	Severity	Probable Causes	First Inspection Step
E01	Compressor high pressure protection	Critical	Condenser coil fouled; Condenser fan motor failure; Non-condensables in system	Clean condenser coils
E02	Compressor low pressure protection	Warning	Low refrigerant charge; Expansion valve malfunction; Evaporator water flow low	Check refrigerant charge
E03	Compressor motor overload	Critical	Motor bearing failure; Voltage imbalance; Liquid floodback	Measure motor current
E04	Compressor discharge temperature high	Warning	High compression ratio; Low oil level; Condenser inefficiency	Check discharge temperature
E05	Evaporator water flow fault	Warning	Pump stopped; Flow switch fault; Strainer clogged	Verify pump operation
E06	Condenser water flow fault	Warning	Condenser pump stopped; Flow switch malfunction; Tubes fouled	Verify pump operation
E07	Freeze protection activated	Critical	Evaporator water temperature near freezing; Water flow too low; Setpoint too low	Check water temperature
E08	Sensor fault	Warning	Sensor element failure; Wiring open or shorted; Connector corrosion	Measure sensor resistance
E09	Communication fault	Warning	Network cable fault; Controller offline; Protocol mismatch	Check cable connections
E10	Phase loss or reversal	Critical	Missing phase; Incorrect phase sequence; Blown fuse	Check all phase voltages
E11	Overcurrent protection	Critical	Motor overload; Short circuit; Contactor welded	Measure motor current
E12	Oil pressure low	Critical	Oil pump wear; Filter clogged; Low oil level	Check oil level
E13	Oil level low	Critical	Refrigerant leak carrying oil; Oil separator malfunction; Bearing wear consuming oil	Check oil sight glass
E14	Expansion valve fault	Warning	Valve motor failure; Controller communication lost; Valve mechanically stuck	Check valve wiring
E15	Power supply fault	Warning	Voltage outside spec; Phase imbalance; Transformer failure	Measure voltage
E16	Condenser fan fault	Warning	Fan motor failure; Capacitor defective; Control relay fault	Check winding resistance
E17	Compressor 2 fault	Warning	Compressor 2 motor overload; Compressor 2 mechanical fault; Compressor 2 contactor fault	Measure compressor 2 motor current
E18	Compressor 3 fault	Warning	Compressor 3 motor overload; Compressor 3 mechanical fault; Contactor fault	Measure compressor 3 current

Code	Alarm Description	Severity	Probable Causes	First Inspection Step
E19	Compressor 4 fault	Warning	Compressor 4 overload; Mechanical fault; Contactor fault	Measure compressor 4 current
E20	Head pressure control fault	Warning	Head pressure control valve stuck; Head pressure sensor fault; Control algorithm error	Check head pressure control valve operation
E21	Ambient temperature low limit	Warning	Ambient temperature below minimum operating limit; Low ambient kit not functioning; Wind affecting condenser airflow	Verify ambient temperature
E22	Chilled water temperature sensor drift	Warning	Sensor calibration drift; Sensor element aging; Sensor exposed to extreme conditions	Compare sensor reading to calibrated thermometer
E23	Condenser water temperature sensor drift	Warning	Sensor calibration drift; Sensor element aging	Compare to calibrated thermometer
E24	Compressor sequence fault	Warning	Compressor staging sequence error; Lead/lag rotation fault; Capacity step mismatch	Check compressor staging configuration
E25	Pump interlock fault	Warning	Water pump auxiliary contact lost; Pump running signal not received; Interlock wiring damaged	Verify water pump is running
E26	Flow proving fault	Warning	Flow proving switch not closing; Flow switch setpoint too high; Actual water flow insufficient	Check flow proving switch operation
E27	Remote start/stop fault	Warning	Remote start/stop signal not received; Remote wiring damaged; BAS communication issue	Check remote start/stop wiring
E28	Alarm summary overflow	Warning	Too many active alarms for display; Alarm history buffer full; Control board memory issue	Review and clear acknowledged alarms
E29	Clock/calendar fault	Warning	RTC battery depleted; Control board RTC circuit failure	Replace RTC backup battery
E31	High ambient temperature alarm	Warning	Ambient exceeds design limit; Condenser capacity insufficient at high ambient; Low ambient kit fault	Verify ambient temp

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.