Eaton PowerXL DG1 VFD Fault Codes

Fault code	Fault Name	Fault type	Default	Possible Cause	Remedy
1	Over Current	Fault		AC drive has detected too high a current (>4*IH) in the motor cable: • Sudden heavy load increase • Short circuit in motor cables • Unsuitable motor	• Check loading • Check motor • Check cables and connections • Make identification run • Check ramp times
2	Over Voltage	Fault		The DC-link voltage has exceeded the limits defined: • Too short a deceleration time • Brake chopper is disabled • High overvoltage spikes in supply • Start/Stop sequence too fast	• Make deceleration time longer • Use brake chopper or brake resistor (available as options) • Activate overvoltage controller • Check input voltage
3	Earth Fault	Configurable	Fault	Current measurement has detected that the sum of motor phase current is not zero: • Insulation failure in cables or motor	Check motor cables and motor
5	Charging Switch	Fault		The charging switch is open, when the START command has been given: • Faulty operation • Component failure	• Reset the fault and restart • Should the fault re-occur, contact the distributor near to you
6	Emergency Stop	Fault		• STO terminal open in control board • Emergency signal from DI is activated	• Closed STO terminal • Remove signal from DI
7	Saturation Trip	Fault		• Short circuit in motor cables • IGBT module is damaged	Check cables and connections Reset the fault and restart verify that EMC screw is installed Should the fault re-occur, contact the distributor near to you
9	UnderVoltage	Configurable	Fault	DC link voltage is under the voltage limits defined: • Most probable cause: Too low a supply voltage • AC drive internal fault • Defect input fuse • External charge switch not closed Note: This fault is activated only if the drive is in Run state.	In case of temporary supply voltage break reset the fault and restart the AC drive Check the supply voltage. If it is adequate, an internal failure has occurred. Contact the distributor near you
10	Input Phase Spv	Configurable	Fault	Input line phase is missing	Check supply voltage, fuses and cable
11	Output Phase Spv	Configurable	Fault	Current measurement has detected that there is no current in one motor phase	Check motor cable and motor
12	BrakeChopperSpv	Fault		• No brake resistor installed • Brake resistor is broken • Brake chopper failure	Check brake resistor and cabling. If these are OK, the chopper is
13	Drive UnderTemp	Configurable	Warning	Too low temperature measured in power	

				Unit's heat sink or board. Heat sink temperature is under –10°C	
14	Drive OverTemp	Fault		Too high temperature measured in power Unit's heat sink or board. Heat sink temperature is over 90°C	• Check the correct amount and flow of cooling air • Check the heat sink for dust • Check the ambient temperature • Make sure that the switching frequency is not too high in relation to ambient temperature and motor load
15	Motor Stalled	Configurable	No Action	Motor is stalled	Check motor and load
16	Motor OverTemp	Configurable	No Action	Motor is too hot, based on either the drive's estimate or on temperature feedback	Decrease motor load. If no motor overload exists, check the temperature model parameters
17	Motor UnderLoad	Configurable	No Action	Condition defined by parameter P1.9.15~P1.9.17 have been valid longer than the time defined by P1.9.18	Check load
18	IP Address Conflict	Configurable	Warning	IP setting issue.	Check settings for IP address, verify no duplicates are on the network.
19	Power board EEPROM Fault	Fault		Power board eeprom fault, memory lost in eeprom.	Cyle power to drive. Try updating software, if issue continues contact Distributor near you.
20	FRAM Fault	Fault		FRAM data error in FRAM memory.	Cycle power to drive. Try updating software, if issue contines contact a Distributor near you.
21	Serial Flash Fault	warning		Serial flash error, serial flash memory failed.	Cycle power to drive. Try updating software, if issue contines contact a Distributor near you.
25	MCU WatchDog Fault	Fault		Watchdog register overflows in MCU	Cycle power to drive. Try updating software, if issue contines contact a Distributor near you.
26	Start-up Prevent	Fault		The time when Interlock signal activates is over setting time.	Stop drive and resend start command.
29	Thermistor Fault	Configurable	Fault	Option board or control board thermistor resistor lager than 4.7K	Thermistor open or short, over temperature
32	Fan Cooling	Fault		Fan is damaged or stalled.	Check fan and fan connected wires, verify 24Vdc is supplied to fan.
36	Compatibility Fault	Fault		The control board isn't match with the power board.	Cycle power to drive. Try updating software, if issue contines contact a Distributor near you.
37	Device Change	Warning		Power board or option card change.	Alarm will reset
38	Device Added	Warning		Power board or option board added.	Device is ready for use

					Old parameter settings will be used
39	Device Removed	Fault		Optional board removed from slot, or power board removed from control board.	Device no longer available in drive.
40	Device Unknown	Fault		Unknown device connected (power board/option board)	Check eeprom connection. Check board connection on slot A/B Power cycle to drive.
41	IGBT Temperature	Fault		IGBT temperature is too high.	• Check output loading • Check motor size • Decrease switching frequency
43	Encoder Fault	Fault		• Encoder 1 channel A is missing • Encoder 1 channel B is missing • Both encoder 1 channels are missing • Encoder reversed • Encoder board missing	• Check encoder connections • Check encoder and encoder cable • Check encoder board • Check encoder frequency in open loop
50	AIN<4mA(4to20mA)	Configurable	No Action	Loss in analog input signal, dropped below 4mA.	Verify analog input current reference value on either AI1 or AI2, check cabling.
51	External Fault	Configurable	Fault	Digital input is activated for external fault input.	check digital input settings and verify input level, could be an extrnal device causing fault.
52	Keypad Communication Fault	Configurable	Fault	The connection between the control keypad and frequency converter is broken, and The local reference is keypad reference or the local control place is keypad, and The keypad communication fault protection is not “NO action”	Check keypad connection and possible keypad cable.
54	OPT Card Fault	Configurable	Fault	Defective option card or option card slot	Check right option card and optoin card slot connections. Check Board Status on Keypad for exact cause of fault. Contact distributor nearest you.
55	Real time clock fault	Configurable	Warning	• Communication between MCU and RTC chip isn’t normal • The power of RTC chip isn’t normal • The real time isn’t normal	Check the RTC chip, power cycle to drive. If issue contines contact distributor near you.
56	PT100 Fault	Configurable	Fault	Temperature is beyond the limit of sensing capacity of PT100	Pt100 short, open or over temperature, check PT100 temperature probe.
57	Motor ID fault	Fault		The Motor parameters Identification running was not completed successfully	Check motor size Verify the input and output wiring is connected properly.

58	Current Measure Fault	Fault	Current measurement is out of range	Restart the drive again. Should the fault re-occur, contact the distributor near to you
59	Possible power wiring error de	Fault	power wiring connected to output of drive.	Verify power input wiring is connected to L1, L2 and L3 terminals and they are properly torqued.
60	Control Board OverTemp	Fault	Control board is over +85 degrees or under –30 degrees	Check NTC resistor Check control board temperature
61	Internal-ctrl Supply	Fault	+24V port voltage is over 27V or under 17V	Check voltage range of +24V on terminals 12 to 13. If voltage is out of range contact distributor near you.
62	Too Many Speed Search Restarts	Fault	Speed searching failed when peforming flying start.	Check motor parameters' setting and motor connections.
63	Current Unbalance	Fault	Output current unballanced.	Check motor wiring and voltage output of drive. If issue continues contact distributor near you.
64	Replace Battery	Configurable Warning	RTC Battery voltage is too low.	Check the RTC battery voltage, contact distributor near you for replacement battery.
65	Replace Fan	Configurable Warning	Fan life is less than 2 months	Check the fan, clean out any contamination, contact distributor near you for replacement fan.
66	Safety Torque Off	Fault	STO Triggered, STO input is open.	Reset STO Trigger and verify wiring. Reset fault after input is enabled.
67	current limit control	Warning	The output current has reached the current limit value	Check the load Set the acceleration time longer
68	over voltage control	Warning	The DC link voltage has reached its voltage limit value	Check the input voltage Set the acceleration/deceleration time longer
69	System Fault	Fault	thermistor spi communication error.	check thermistor chip.
70	System Fault	Fault	MCU send wrong parameters to DSP	Restart the drive again. Should the fault re-occur, contact the distributor near to you.
71	System Fault	Fault	MCU and DSP communication error.	Restart the drive again. Should the fault re-occur, contact the distributor near to you.
72	Power Board EEPROM Fault	Fault	Power board eeprom fault, memory lost in eeprom when initial drive.	Cyle power to drive. Try updating software, if issue continues contact Distributor near you.

73	FRAM Fault	Fault	fram chip is broken.	contact Distributor near you.
74	FRAM Fault	Fault	crc check fault when acess fram data	Try recovery factory default setting if issue continues contact Distributor near you.
75	Power Board EEPROM Fault	Fault	eeprom chipor I2c circuit is broken	contact Distributor near you.
76	Power Board EEPROM Fault	Fault	crc check fault when acess eeprom data.	Try recovery factory default setting if issue continues contact Distributor near you.
77	Serial Flash Fault	warning	external serial flash chip is broken.	contact Distributor near you.
82	BypassOverLoad	Fault	Over load when motor is in bypass mode	Check motor connection situation
83	FieldBus Fault	Configurable Fault	Loss of communication with Modbus RTU, and The fieldbus reference is the remote reference or The fieldbus control place is the remote control place ,and the fault protection is not “NO action”	Check RS485 communication wiring. Verify drive parameter are set correctly. Check master programming to verify proper addressing.
84	FieldBus Fault	Configurable Fault	Loss of communication with Modbus TCP ,and The fieldbus reference is the remote reference or The fieldbus control place is the remote control place ,and The fault protection is not “NO action”	Check Ethernet communication wiring. Verify drive parameter are set correctly. Check master programming to verify proper addressing.
85	FieldBus Fault	Configurable Fault	Loss of communication with BACnet, and The fieldbus reference is the remote reference OR The fieldbus control place is the remote control place ,and The fault protection is not “NO action”	Check RS485 communication wiring. Verify drive parameter are set correctly. Check BACnet master configuration programming to verify proper addressing.
86	FieldBus Fault	Configurable Fault	Loss of communication with Ethernet IP, and The fieldbus reference is the remote reference OR The fieldbus control place is the remote control place ,and The fault protection is not “NO action”	Check Ethernet communication wiring. Verify drive parameter are set correctly. Check EIP master configuration programming to verify proper addressing.
87	FieldBus Fault	Configurable Fault	Loss of communication with Profibus master on Slot A, and The fieldbus reference is the remote reference OR The fieldbus control place is the remote control place ,and The fault protection is not “NO action”	Check Profibus/CANOpen/DeviceNet communication wiring. Verify drive parameter are set correctly. Check Profibus/CANOpen/DeviceNet master configuration programming to verify proper addressing.

88	FieldBus Fault	Configurable Fault	Loss of communication with Profibus master on Slot B, and The fieldbus reference is the remote reference OR The fieldbus control place is the remote control place ,and The fault protection is not “NO action”	Check Profibus/CANOpen/DeviceNet communication wiring. Verify drive parameter are set correctly. Check Profibus/CANOpen/DeviceNet master configuration programming to verify proper addressing.
89	Under Voltage	Fault	The DC link voltage has reached the Drive under voltage stop limit value.	Check the input voltage.
90	Drive UnderTemp	Warning/Fault	• Cold weather mode is not enabled, and unit temperature is less than -10 degree. • Cold weather mode is enabled and Under Temp Fault Override is not set, unit temperature is less than -30 degree. • Cold weather mode is enabled and Under Temp Fault Override is not set, unit temperature is -20~ -30 degree. The temp <-20 degree when cold weather start time out.	If unit temp -20 ~ -10 degree, start motor in cold weather mode. If unit temp <-20 degree, Warm up unit above -20deg C for proper operation using cold weather mode.If still < -20 degree when cold weather mode time out, try higher output voltage in cold weather mode.
91	Option Card Fault	Fault	External supply on the DeviceNet communication connector is not present.	Check voltage and wiring of power supply of the DeviceNet communication.