Platinum 24V DC VFDs

Retrieving the History & Fault Codes

Fault Logger Mode

The ABB control panel (ACS-CP-A) can be used to log faults if the VFD fault light is illuminating. This red LED indicates abnormal drive status and should be investigated using the fault history.

In this mode, you can:

- View the fault history (maximum 10 faults, 3 faults if the drive has been powered down)
- See the details of the faults
- Read the help text for the specific fault

Note: The face plate may be installed while the VFD is powered up.

To view the faults, follow the below procedure:

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	LOC ↻ MAIN MENU 1 PARAMETERS ASSISTANTS CHANGED PAR EXIT | 00:00 | ENTER
2.	Go to the Fault logger mode by selecting FAULT LOGGER on the menu with keys ▲ and ▼, and pressing ENTER. The display shows the fault log starting with the latest fault. The number on the row is the fault code according to which the causes and corrective actions are listed in chapter *Fault tracing* on page *311*.	LOC ↻ FAULT LOGGER 1 10: PANEL LOSS 19.03.05 13:04:57 6: DC UNDERVOLT 7: AI1 LOSS EXIT | 00:00 | DETAIL
3.	To see the details of a fault, select it with keys ▲ and ▼, and press DETAIL.	LOC ↻ PANEL LOSS FAULT 10 FAULT TIME 1 13:04:57 FAULT TIME 2 EXIT | 00:00 | DIAG
4.	To show the help text, press DIAG. Scroll the help text with keys ▲ and ▼. After reading the help, press OK to return to the previous display.	LOC ↻ DIAGNOSTICS Check: comm lines and connections, parameter 3002, parameters in groups 10 and 11. EXIT | 00:00 | OK

Date Issued: 1/10/2019

Fault Codes

Fault Code Information

The fault information found in parameters 0401 TO 0409 refer to the most recent fault that has occurred.

Parameter	Name	Description
0401	LAST FAULT	Code of the last fault. 0 = fault history is clear, or NO RECORD may appear.
0402	FAULT TIME 1	Day on which the last fault occurred. Date if a real-time clock is used; if not, it will be days since power on
0403	FAULT TIME 2	Time at which the last fault occurred. Displayed on the basic control panel as time elapsed since power on in 2 second ticks. I.e. 30 ticks = 60 seconds.
0404	SPEED AT FLT	Motor speed in rpm at the time the last fault occurred. 1 = 1 rpm
0405	FREQ AT FLT	Frequency in Hz at the time the last fault occurred. 1 = 0.1 Hz
0406	VOLTAGE AT FLT	Intermediate circuit voltage in V DC at the time the last fault occurred. 1 = 0.1 V
0407	CURRENT AT FLT	Motor current A at the time the last fault occurred. 1 = 0.1 A
0408	TORQUE AT FLT	Motor torque in percent of the nominal motor torque at the time the last fault occurred. 1 = 0.1%
0409	STATUS AT FLT	Drive status in hexadecimal format at the time the last fault occurred.
0412	PREVIOUS FAULT 1	Fault code of the 2nd latest fault.
0413	PREVIOUS FAULT 2	Fault code of the 3rd latest fault.
0414	DI 1-5 AT FLT	Status of digital inputs DI1-5 at the time the last fault occurred. (Binary).

Fault Codes

CODE	FAULT	CAUSE	WHAT TO DO
0001	OVERCURRENT (2310) *0305* bit 0	Output current has exceeded trip level.	Check motor load. Check acceleration time (*2202* and *2205*). Check motor and motor cable (including phasing). Check ambient conditions. Load capacity decreases if installation site ambient temperature exceeds 40 °C. See section *Derating* on page *338*.
0002	DC OVERVOLT (3210) *0305* bit 1	Excessive intermediate circuit DC voltage. DC overvoltage trip limit is 420 V for 200 V drives and 840 V for 400 V drives.	Check that overvoltage controller is on (parameter *2005 OVERVOLT CTRL*). Check input power line for static or transient overvoltage. Check deceleration time (*2203*, *2206*).
0003	DEV OVERTEMP (4210) *0305* bit 2	Drive IGBT temperature is excessive. Fault trip limit is 135 °C.	Check ambient conditions. See also section *Derating* on page *338*. Check air flow and fan operation. Check motor power against drive power.
0004	SHORT CIRC (2340) *0305* bit 3	Short circuit in motor cable(s) or motor	Check motor and motor cable.
0006	DC UNDERVOLT (3220) *0305* bit 5	Intermediate circuit DC voltage is not sufficient due to missing input power line phase, blown fuse, rectifier bridge internal fault or too low input power.	Check that undervoltage controller is on (parameter *2006 UNDERVOLT CTRL*). Check input power supply and fuses.
0007	AI1 LOSS (8110) *0305* bit 6 (programmable fault function *3001*, *3021*)	Analog input AI1 signal has fallen below limit defined by parameter *3021 AI1 FAULT LIMIT*.	Check fault function parameter settings. Check for proper analog control signal levels. Check connections.
0008	AI2 LOSS (8110) *0305* bit 7 (programmable fault function *3001*, *3022*)	Analog input AI2 signal has fallen below limit defined by parameter *3022 AI2 FAULT LIMIT*.	Check fault function parameter settings. Check for proper analog control signal levels. Check connections.

CODE	FAULT	CAUSE	WHAT TO DO
0009	MOT OVERTEMP (4310) *0305* bit 8 (programmable fault function *3005…3009 / 3504*)	Motor temperature is too high (or appears to be too high) due to excessive load, insufficient motor power, inadequate cooling or incorrect start-up data.	Check motor ratings, load and cooling. Check start-up data. Check fault function parameters.
		Measured motor temperature has exceeded fault limit set by parameter *3504 FAULT LIMIT*.	Check value of fault limit. Check that actual number of sensors corresponds to value set by parameter *3501 SENSOR TYPE*. Let motor cool down. Ensure proper motor cooling: Check cooling fan, clean cooling surfaces, etc.
0010	PANEL LOSS (5300) *0305* bit 9 (programmable fault function *3002*)	Control panel selected as active control location for drive has ceased communicating.	Check panel connection. Check fault function parameters. Check control panel connector. Refit control panel in mounting platform. If drive is in external control mode (REM) and is set to accept start/stop, direction commands or references through control panel: Check group *10 START/STOP/DIR* and *11 REFERENCE SELECT* settings.
0012	MOTOR STALL (7121) *0305* bit 11 (programmable fault function *3010…3012*)	Motor is operating in stall region due to eg excessive load or insufficient motor power.	Check motor load and drive ratings. Check fault function parameters.
0014	EXT FAULT 1 (9000) *0305* bit 13 (programmable fault function *3003*)	External fault 1	Check external devices for faults. Check parameter *3003 EXTERNAL FAULT 1* setting.
0015	EXT FAULT 2 (9001) *0305* bit 14 (programmable fault function *3004*)	External fault 2	Check external devices for faults. Check parameter *3004 EXTERNAL FAULT 2* setting.
0016	EARTH FAULT (2330) *0305* bit 15 (programmable fault function *3017*)	Drive has detected earth (ground) fault in motor or motor cable.	Check motor. Check motor cable. Motor cable length must not exceed maximum specifications. See section *Motor connection data* on page *348*. **Note**: Disabling earth fault (ground fault) may void the warranty.

CODE	FAULT	CAUSE	WHAT TO DO
0018	THERM FAIL (5210) *0306* bit 1	Drive internal fault. Thermistor used for drive internal temperature measurement is open or short circuited.	Contact your local ABB representative.
0021	CURR MEAS (2211) *0306* bit 4	Drive internal fault. Current measurement is out of range.	Contact your local ABB representative.
0022	SUPPLY PHASE (3130) *0306* bit 5	Intermediate circuit DC voltage is oscillating due to missing input power line phase or blown fuse. Trip occurs when DC voltage ripple exceeds 14% of nominal DC voltage.	Check input power line fuses. Check for input power supply imbalance. Check fault function parameters.
0024	OVERSPEED (7310) *0306* bit 7	Motor is turning faster than highest allowed speed due to incorrectly set minimum/maximum speed. Operating range limits are set by parameters *2007 MINIMUM FREQ* and *2008 MAXIMUM FREQ*.	Check minimum/maximum frequency settings. Check adequacy of motor braking torque.
0026	DRIVE ID (5400) *0306* bit 9	Internal drive ID fault	Contact your local ABB representative.
0027	CONFIG FILE (630F) *0306* bit 10	Internal configuration file error	Contact your local ABB representative.
0028	SERIAL 1 ERR (7510) *0306* bit 11 (programmable fault function *3018*, *3019*)	Fieldbus communication break	Check status of fieldbus communication. See chapter *Fieldbus control with the embedded fieldbus* on page *287*. Check fault function parameter settings. Check connections. Check if master can communicate.
0029	EFB CON FILE (6306) *0306* bit 12	Configuration file reading error	Contact your local ABB representative.
0030	FORCE TRIP (FF90) *0306* bit 13	Trip command received from fieldbus	See appropriate communication module manual.

CODE	FAULT	CAUSE	WHAT TO DO
0031	EFB 1 (FF92) *0307* bit 0	Error from the embedded fieldbus (EFB) protocol application. The meaning is protocol dependent.	See chapter *Fieldbus control with the embedded fieldbus* on page *287*.
0032	EFB 2 (FF93) *0307* bit 1		
0033	EFB 3 (FF94) *0307* bit 2		
0034	MOTOR PHASE (FF56) *0306* bit 4	Motor circuit fault due to missing motor phase or motor thermistor relay (used in motor temperature measurement) fault.	Check motor and motor cable. Check motor thermistor relay (if used).
0035	OUTP WIRING (FF95) *0306* bit 15 (programmable fault function *3023*)	Incorrect input power and motor cable connection (ie, input power cable is connected to drive motor connection). The fault can be erroneously declared if the drive is faulty or the input power is a delta grounded system and the motor cable capacitance is large.	Check input power connections.
0036	INCOMPATIBLE SW (630F) *0307* bit 3	Loaded software is not compatible.	Contact your local ABB representative.
0038	USER LOAD CURVE (FF6B) *0307* bit 4	Condition defined by *3701 USER LOAD C MODE* has been valid longer than the time set by *3703 USER LOAD C TIME*.	See parameter group *37 USER LOAD CURVE*.
0039	UNKNOWN EXTENSION (7086) *0307* bit 5	Option module not supported by the drive firmware is connected to the drive.	Check connections.
0040	INLET VERY LOW (8A81) *0307* bit 6	Pressure at pump/fan inlet too low	Check for a closed valve on the inlet side of the pump/fan. Check piping for leaks. See parameter group *44 PUMP PROTECTION*.
0041	OUTLET VERY HIGH (8A83) *0307* bit 7	Pressure at pump/fan outlet too high	Check piping for blocks. See parameter group *44 PUMP PROTECTION*.

Date Issued: 1/10/2019

CODE	FAULT	CAUSE	WHAT TO DO
0042	INLET LOW (8A80) *0307* bit 8	Pressure at pump/fan inlet too low	Check for a closed valve on the inlet side of the pump/fan. Check piping for leaks. See parameter group *44 PUMP PROTECTION*.
0043	OUTLET HIGH (8A82) *0307* bit 9	Pressure at pump/fan outlet too high	Check piping for blocks. See parameter group *44 PUMP PROTECTION*.
0101	SERF CORRUPT (FF55) *0307* bit 14	Drive internal error	Write down fault code and contact your local ABB representative.
0103	SERF MACRO (FF55) *0307* bit 14		
0201	DSP T1 OVERLOAD (6100) *0307* bit 13		
0202	DSP T2 OVERLOAD (6100) *0307* bit 13		
0203	DSP T3 OVERLOAD (6100) *0307* bit 13		
0204	DSP STACK ERROR (6100) *0307* bit 12		
0206	CB ID ERROR (5000) *0307* bit 11		
1000	PAR HZRPM (6320) *0307* bit 15	Incorrect frequency limit parameter setting	Check parameter settings. Check that following applies: • *2007 MINIMUM FREQ* < *2008 MAXIMUM FREQ* • *2007 MINIMUM FREQ* / *9907 MOTOR NOM FREQ* and *2008 MAXIMUM FREQ* / *9907 MOTOR NOM FREQ* are within range.
1001	PAR PFC REF NEG (6320) *0307* bit 15	Incorrect PFC parameters	Check parameter group *81 PFC CONTROL* settings. Check that following applies: • *2007 MINIMUM FREQ* > 0 when *8123* is *ACTIVE* or *SPFC ACTIVE*.

CODE	FAULT	CAUSE	WHAT TO DO
1003	PAR AI SCALE (6320) *0307* bit 15	Incorrect analog input AI signal scaling	Check parameter group *13 ANALOG INPUTS* settings. Check that following applies: • *1301 MINIMUM AI1* < *1302 MAXIMUM AI1* • *1304 MINIMUM AI2* < *1305 MAXIMUM AI2*.
1004	PAR AO SCALE (6320) *0307* bit 15	Incorrect analog output AO signal scaling	Check parameter group *15 ANALOG OUTPUTS* settings. Check that following applies: • *1504 MINIMUM AO1* < *1505 MAXIMUM AO1*.
1006	PAR EXT RO (6320) *0307* bit 15	Incorrect extension relay output parameters	Check parameter settings. Check that following applies: • MREL relay output extension module is connected to the drive. • *1402...1403 RELAY OUTPUT 2 ... RELAY OUTPUT 3* and *1410 RELAY OUTPUT 4* have non-zero values. See *MREL-01 relay output extension module user's manual* (3AUA0000035974 [English]).
1012	PAR PFC IO 1 (6320) *0307* bit 15	I/O configuration for PFC not complete	Check parameter settings. Following must apply: • There are enough relays parameterized for PFC. • No conflict exists between parameter group *14 RELAY OUTPUTS*, parameter *8117 NR OF AUX MOT* and parameter *8118 AUTOCHNG INTERV*.
1013	PAR PFC IO 2 (6320) *0307* bit 15	I/O configuration for PFC not complete	Check parameter settings. Following must apply: • The actual number of PFC motors (parameter *8127 MOTORS*) matches the PFC motors in parameter group *14 RELAY OUTPUTS* and parameter *8118 AUTOCHNG INTERV*.
1014	PAR PFC IO 3 (6320) *0307* bit 15	I/O configuration for PFC not complete. The drive is unable to allocate a digital input (interlock) for each PFC motor.	See parameters *8120 INTERLOCKS* and *8127 MOTORS*.
1015	PAR USER DEFINED U/F (6320) *0307* bit 15	Incorrect voltage to frequency (U/f) ratio voltage setting.	Check parameter *2610 USER DEFINED U1...2617 USER DEFINED F4* settings.

CODE	FAULT	CAUSE	WHAT TO DO
1016	PAR USER LOAD C (6320) *0307* bit 15	Incorrect user load curve parameter setting	Check parameter settings. Following must apply: • *3704 LOAD FREQ 1* ≤ *3707 LOAD FREQ 2* ≤ *3710 LOAD FREQ 3* ≤ *3713 LOAD FREQ 4* ≤ *3716 LOAD FREQ 5* • *3705 LOAD TORQ LOW 1* ≤ *3706 LOAD TORQ HIGH 1* • *3708 LOAD TORQ LOW 2* ≤ *3709 LOAD TORQ HIGH 2* • *3711 LOAD TORQ LOW 3* ≤ *3712 LOAD TORQ HIGH 3* • *3714 LOAD TORQ LOW 4* ≤ *3715 LOAD TORQ HIGH 4* • *3717 LOAD TORQ LOW 5* ≤ *3718 LOAD TORQ HIGH 5*.
1017	PAR SETUP 1 (6320) *0307* bit 15	It is not allowed to use frequency input signal and frequency output signal simultaneously.	Disable frequency output or frequency input: • change transistor output to digital mode (value of parameter *1804 TO MODE* = *DIGITAL*), or • change frequency input selection to other value in parameter groups *11 REFERENCE SELECT*, *40 PROCESS PID SET 1*, *41 PROCESS PID SET 2* and *42 EXT / TRIM PID*.

Resetting the Fault

Once the fault condition has been resolved, use the RESET key to reset the fault, or switch off the supply voltage for 5 minutes.