ABB general machinery drives

Troubleshooting ACS355 drives

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Fault tracing

What this chapter contains

The chapter tells how to reset faults and view fault history. It also lists all alarm and fault messages including the possible cause and corrective actions.

Safety

WARNING! Only qualified electricians are allowed to maintain the drive. Read the safety instructions in chapter *Safety* on page *17* before you work on the drive.

Alarm and fault indications

Fault is indicated with a red LED. See section *LEDs* on page *356*.

An alarm or fault message on the panel display indicates abnormal drive status. Using the information given in this chapter, most alarm and fault causes can be identified and corrected. If not, contact An Thái Corp.

The four digit code number in parenthesis after the fault is for the fieldbus communication. See chapters *Fieldbus control with embedded fieldbus* on page *301* and *Fieldbus control with fieldbus adapter* on page *325*.

How to reset

The drive can be reset either by pressing the keypad key RESET EXIT (basic control panel) or RESET (assistant control panel), through digital input or fieldbus, or by switching the supply voltage off for a while. The source for the fault reset signal is selected by

parameter *1604 FAULT RESET SEL*. When the fault has been removed, the motor can be restarted.

Fault history

When a fault is detected, it is stored in the fault history. The latest faults are stored together with the time stamp.

Parameters *0401 LAST FAULT*, *0412 PREVIOUS FAULT 1* and *0413 PREVIOUS FAULT 2* store the most recent faults. Parameters *0404*…*0409* show drive operation data at the time the latest fault occurred. The assistant control panel provides additional information about the fault history. See section *Fault logger mode* on page *101* for more information.

Alarm messages generated by the drive

CODE	ALARM	CAUSE	WHAT TO DO
2001	OVERCURRENT *0308* bit 0 (programmable fault function *1610*)	Output current limit controller is active.	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 *359*.
2002	OVERVOLTAGE *0308* bit 1 (programmable fault function *1610*)	DC overvoltage controller is active.	Check deceleration time (*2203* and *2206*). Check input power line for static or transient overvoltage.
2003	UNDERVOLTAGE *0308* bit 2 (programmable fault function *1610*)	DC undervoltage controller is active.	Check input power supply.
2004	DIR LOCK *0308* bit 3	Change of direction is not allowed.	Check parameter *1003 DIRECTION* settings.
2005	IO COMM *0308* bit 4 (programmable fault function *3018*, *3019*)	Fieldbus communication break	Check status of fieldbus communication. See chapter *Fieldbus control with embedded fieldbus* on page *301*, chapter *Fieldbus control with fieldbus adapter* on page *325* or appropriate fieldbus adapter manual. Check fault function parameter settings. Check connections. Check if master can communicate.
2006	AI1 LOSS *0308* bit 5 (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.
2007	AI2 LOSS *0308* bit 6 (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	ALARM	CAUSE	WHAT TO DO
2008	PANEL LOSS *0308* bit 7 (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.
2009	DEVICE OVERTEMP *0308* bit 8	Drive IGBT temperature is excessive. Alarm limit is 120 °C.	Check ambient conditions. See also section *Derating* on page *359*. Check air flow and fan operation. Check motor power against drive power.
2010	MOTOR TEMP *0308* bit 9 (programmable fault function *3005*…*3009* / *3503*)	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 alarm limit set by parameter *3503 ALARM LIMIT*.	Check value of alarm 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.
2011	UNDERLOAD *0308* bit 10 (programmable fault function *3013*…*3015*)	Motor load is too low due to eg release mechanism in driven equipment.	Check for problem in driven equipment. Check fault function parameters. Check motor power against drive power.
2012	MOTOR STALL *0308* 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.
2013 [1)]	AUTORESET *0308* bit 12	Automatic reset alarm	Check parameter group *31 AUTOMATIC RESET* settings.
2018 [1)]	PID SLEEP *0309* bit 1	Sleep function has entered sleeping mode.	See parameter groups *40 PROCESS PID SET 1*… *41 PROCESS PID SET 2*.
2019	ID RUN *0309* bit 2	Motor Identification run is on.	This alarm belongs to normal start-up procedure. Wait until drive indicates that motor identification is completed.

CODE	ALARM	CAUSE	WHAT TO DO
2021	START ENABLE 1 MISSING *0309* bit 4	No Start enable 1 signal received	Check parameter *1608 START ENABLE 1* settings. Check digital input connections. Check fieldbus communication settings.
2022	START ENABLE 2 MISSING *0309* bit 5	No Start enable 2 signal received	Check parameter *1609 START ENABLE 2* settings. Check digital input connections. Check fieldbus communication settings.
2023	EMERGENCY STOP *0309* bit 6	Drive has received emergency stop command and ramps to stop according to ramp time defined by parameter *2208 EMERG DEC TIME*.	Check that it is safe to continue operation. Return emergency stop push button to normal position.
2024	ENCODER ERROR *0309* bit 7 (programmable fault function *5003*)	Communication fault between pulse encoder and pulse encoder interface module or between module and drive.	Check pulse encoder and its wiring, pulse encoder interface module and its wiring and parameter group *50 ENCODER* settings.
2025	FIRST START *0309* bit 8	Motor identification magnetization is on. This alarm belongs to normal start-up procedure.	Wait until drive indicates that motor identification is completed.
2026	INPUT PHASE LOSS *0309* bit 9 (programmable fault function *3016*)	Intermediate circuit DC voltage is oscillating due to missing input power line phase or blown fuse. Alarm is generated 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.
2029	MOTOR BACK EMF *0309* bit 12	Permanent magnet motor is rotating, start mode 2 (*DC MAGN*) is selected with parameter *2101 START FUNCTION*, and run is requested. Drive warns that rotating motor cannot be magnetized with DC current.	If start to rotating motor is required, select start mode 1 (*AUTO*) with parameter *2101 START FUNCTION*. Otherwise drive starts after motor has stopped.

CODE	ALARM	CAUSE	WHAT TO DO
2035	SAFE TORQUE OFF *0309* bit 13	STO (Safe torque off) requested and it functions correctly. Parameter *3025 STO OPERATION* is set to react with alarm.	If this was not expected reaction to safety circuit interruption, check cabling of safety circuit connected to STO terminals X1C. If different reaction is required, change value of parameter *3025 STO OPERATION*. **Note:** Start signal must be reset (toggled to 0) if STO has been used while drive has been running.

[1] Even when the relay output is configured to indicate alarm conditions (eg parameter *1401 RELAY OUTPUT 1* = 5 (*ALARM*) or 16 (*FLT/ALARM*)), this alarm is not indicated by a relay output.

Alarms generated by the basic control panel

The basic control panel indicates control panel alarms with a code, A5xxx.

ALARM CODE	CAUSE	WHAT TO DO
5001	Drive is not responding.	Check panel connection.
5002	Incompatible communication profile	Contact An Thái Corp.
5010	Corrupted panel parameter backup file	Retry parameter upload. Retry parameter download.
5011	Drive is controlled from another source.	Change drive control to local control mode.
5012	Direction of rotation is locked.	Enable change of direction. See parameter *1003 DIRECTION*.
5013	Panel control is disabled because start inhibit is active.	Start from panel is not possible. Reset emergency stop command or remove 3-wire stop command before starting from panel. See section *3-wire macro* on page *113* and parameters *1001 EXT1 COMMANDS*, *1002 EXT2 COMMANDS* and *2109 EMERG STOP SEL*.
5014	Panel control is disabled because of drive fault.	Reset drive fault and retry.
5015	Panel control is disabled because local control mode lock is active.	Deactivate local control mode lock and retry. See parameter *1606 LOCAL LOCK*.
5018	Parameter default value is not found.	Contact An Thái Corp.
5019	Writing non-zero parameter value is prohibited.	Only parameter reset is allowed.
5020	Parameter or parameter group does not exist or parameter value is inconsistent.	Contact An Thái Corp..
5021	Parameter or parameter group is hidden.	Contact An Thái Corp..
5022	Parameter is write protected.	Parameter value is read-only and cannot be changed.
5023	Parameter change is not allowed when drive is running.	Stop drive and change parameter value.
5024	Drive is executing a task.	Wait until task is completed.
5025	Software is being uploaded or downloaded.	Wait until upload/download is complete.
5026	Value is at or below minimum limit.	Contact An Thái Corp.
5027	Value is at or above maximum limit.	Contact An Thái Corp.
5028	Invalid value	Contact An Thái Corp..

ALARM CODE	CAUSE	WHAT TO DO
5029	Memory is not ready.	Retry.
5030	Invalid request	Contact An Thái Corp.
5031	Drive is not ready for operation, eg due to low DC voltage.	Check input power supply.
5032	Parameter error	Contact An Thái Corp.
5040	Parameter download error. Selected parameter set is not in current parameter backup file.	Perform upload function before download.
5041	Parameter backup file does not fit into memory.	Contact An Thái Corp.
5042	Parameter download error. Selected parameter set is not in current parameter backup file.	Perform upload function before download.
5043	No start inhibit	
5044	Parameter backup file restoring error	Check that file is compatible with drive.
5050	Parameter upload aborted	Retry parameter upload.
5051	File error	Contact An Thái Corp.
5052	Parameter upload has failed.	Retry parameter upload.
5060	Parameter download aborted	Retry parameter download.
5062	Parameter download has failed.	Retry parameter download.
5070	Panel backup memory write error	Contact An Thái Corp.
5071	Panel backup memory read error	Contact An Thái Corp.
5080	Operation is not allowed because drive is not in local control mode.	Switch to local control mode.
5081	Operation is not allowed because of active fault.	Check cause of fault and reset fault.
5083	Operation is not allowed because parameter lock is on.	Check parameter *1602 PARAMETER LOCK* setting.
5084	Operation is not allowed because drive is performing a task.	Wait until task is completed and retry.
5085	Parameter download from source to destination drive has failed.	Check that source and destination drive types are same, ie ACS355. See type designation label of the drive.
5086	Parameter download from source to destination drive has failed.	Check that source and destination drive type designations are the same. See type designation labels of the drives.

ALARM CODE	CAUSE	WHAT TO DO
5087	Parameter download from source to destination drive has failed because parameter sets are incompatible.	Check that source and destination drive information are same. See parameters in group *33 INFORMATION*.
5088	Operation has failed because of drive memory error.	Contact An Thái Corp.
5089	Download has failed because of CRC error.	Contact An Thái Corp.
5090	Download has failed because of data processing error.	Contact An Thái Corp.
5091	Operation has failed because of parameter error.	Contact An Thái Corp.
5092	Parameter download from source to destination drive has failed because parameter sets are incompatible.	Check that source and destination drive information are same. See parameters in group *33 INFORMATION*.

Fault messages generated by the drive

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 *359*.
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 brake chopper and resistor (if used). DC overvoltage control must be deactivated when brake chopper and resistor is used. Check deceleration time (*2203*, *2206*). Retrofit frequency converter with brake chopper and brake resistor.
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 *359*. 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.
0011	ID RUN FAIL (FF84) *0305* bit 10	Motor ID run is not completed successfully.	Check motor connection. Check start-up data (group *99 START-UP DATA*). Check maximum speed (parameter *2002*). It should be at least 80% of motor nominal speed (parameter *9908*). Ensure ID run has been performed according to instructions in section *How to perform the ID run* on page *69*.
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.

CODE	FAULT	CAUSE	WHAT TO DO
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 *367*. **Note:** Disabling earth fault (ground fault) may damage drive.
0017	UNDERLOAD (FF6A) *0306* bit 0 (programmable fault function *3013*…*3015*)	Motor load is too low due to eg release mechanism in driven equipment.	Check for problem in driven equipment. Check fault function parameters. Check motor power against drive power.
0018	THERM FAIL (5210) *0306* bit 1	Drive internal fault. Thermistor used for drive internal temperature measurement is open or short-circuited.	Contact An Thái Corp.
0021	CURR MEAS (2211) *0306* bit 4	Drive internal fault. Current measurement is out of range.	Contact An Thái Corp.
0022	SUPPLY PHASE (3130) *0306* bit 5 (programmable fault function *3016*)	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.
0023	ENCODER ERR (7301) *0306* bit 6 (programmable fault function *5003*)	Communication fault between pulse encoder and pulse encoder interface module or between module and drive.	Check pulse encoder and its wiring, pulse encoder interface module and its wiring and parameter group *50 ENCODER* settings.

CODE	FAULT	CAUSE	WHAT TO DO
0024	OVERSPEED (7310) *0306* bit 7	Motor is turning faster than highest allowed speed due to incorrectly set minimum/maximum speed, insufficient braking torque or changes in load when using torque reference. Operating range limits are set by parameters *2001 MINIMUM SPEED* and *2002 MAXIMUM SPEED* (in vector control) or *2007 MINIMUM FREQ* and *2008 MAXIMUM FREQ* (in scalar control).	Check minimum/maximum frequency settings. Check adequacy of motor braking torque. Check applicability of torque control. Check need for brake chopper and resistor(s).
0027	CONFIG FILE (630F) *0306* bit 10	Internal configuration file error	Contact An Thái Corp.
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 embedded fieldbus* on page *301*, chapter *Fieldbus control with fieldbus adapter* on page *325* or appropriate fieldbus adapter manual. 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 An Thái Corp.
0030	FORCE TRIP (FF90) *0306* bit 13	Trip command received from fieldbus	See appropriate communication module manual.
0034	MOTOR PHASE (FF56) *0306* bit 14	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).

CODE	FAULT	CAUSE	WHAT TO DO
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). Fault can be erroneously declared if drive is faulty or input power is delta grounded system and motor cable capacitance is large.	Check input power connections.
0036	INCOMPATIBLE SW (630F) *0307* bit 3	Loaded software is not compatible.	Contact An Thái Corp.
0037	CB OVERTEMP (4110) *0305* bit 12	Drive control board overheated. Fault trip limit is 95 °C.	Check for excessive ambient temperature. Check for fan failure. Check for obstructions in air flow. Check the dimensioning and cooling of cabinet.
0044	SAFE TORQUE OFF (FFA0) *0307* bit 4	STO (Safe torque off) requested and it functions correctly. Parameter *3025 STO OPERATION* is set to react with fault.	If this was not expected reaction to safety circuit interruption, check cabling of safety circuit connected to STO terminals X1C. If different reaction is required, change value of parameter *3025 STO OPERATION*. Reset fault before starting.
0045	STO1 LOST (FFA1) *0307* bit 5	STO (Safe torque off) input channel 1 has not de-energized, but channel 2 has. Opening contacts on channel 1 might have been damaged or there is a short circuit.	Check STO circuit cabling and opening of contacts in STO circuit.
0046	STO2 LOST (FFA2) *0307* bit 6	STO (Safe torque off) input channel 2 has not de-energized, but channel 1 has. Opening contacts on channel 2 might have been damaged or there is a short circuit.	Check STO circuit cabling and opening of contacts in STO circuit.

CODE	FAULT	CAUSE	WHAT TO DO
0101	SERF CORRUPT (FF55) *0307* bit 14	Drive internal error	Write down fault code and contact An Thái Corp..
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 speed/frequency limit parameter setting	Check parameter settings. Check that following applies: • *2001 MINIMUM SPEED* < *2002 MAXIMUM SPEED* • *2007 MINIMUM FREQ* < *2008 MAXIMUM FREQ* • *2001 MINIMUM SPEED* / *9908 MOTOR NOM SPEED*, *2002 MAXIMUM SPEED* / *9908 MOTOR NOM SPEED*, *2007 MINIMUM FREQ* / *9907 MOTOR NOM FREQ* and *2008 MAXIMUM FREQ* / *9907 MOTOR NOM FREQ* are within range.
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*.

CODE	FAULT	CAUSE	WHAT TO DO
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*.
1005	PAR PCU 2 (6320) *0307* bit 15	Incorrect motor nominal power setting	Check parameter *9909 MOTOR NOM POWER* setting. Following must apply: • 1.1 < (*9906 MOTOR NOM CURR* · *9905 MOTOR NOM VOLT* · 1.73 / P_N) < 3.0 Where P_N = 1000 · *9909 MOTOR NOM POWER* (if units are in kW) or P_N = 746 · *9909 MOTOR NOM POWER* (if units are in hp).
1006	PAR EXT RO (6320) *0307* bit 15	Incorrect relay output extension parameters	Check parameter settings. Check that following applies: • Output relay extension module MREL-01 is connected to drive. • *1402 RELAY OUTPUT 2*, *1403 RELAY OUTPUT 3* and *1410 RELAY OUTPUT 4* have non-zero values. See *MREL-01 relay output extension module user's manual* (3AUA0000035974 [English]).
1007	PAR FBUSMISS (6320) *0307* bit 15	Fieldbus control has not been activated.	Check fieldbus parameter settings. See chapter *Fieldbus control with fieldbus adapter* on page *325*.
1009	PAR PCU 1 (6320) *0307* bit 15	Incorrect motor nominal speed/frequency setting	Check parameter settings. Following must apply: • 1 < (60 · *9907 MOTOR NOM FREQ* / *9908 MOTOR NOM SPEED*) < 16 • 0.8 < *9908 MOTOR NOM SPEED* / (120 · *9907 MOTOR NOM FREQ* / Motor poles) < 0.992
1015	PAR CUSTOM 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
1017	PAR SETUP 1 (6320) *0307* bit 15	Only two of the following can be used simultaneously: MTAC-01 encoder module, frequency input signal or frequency output signal.	Disable frequency output, frequency input or encoder: • change transistor output to digital mode (value of parameter *1804 TO MODE* = 0 [*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*, or • disable (parameter *5002 ENCODER ENABLE*) and remove MTAC-01 encoder module.