

SERVICE MANUAL

AXOR INDUSTRIES®

ENGLISH



MAGNUM 400®

Stand alone brushless servodrive



Twenty years of great motordrives

3.2 Alarms

The table below illustrates all the message errors:

ALARM		SOLUTION
AL1	EEPROM alarm Error while memorising parameter to the drive's EEPROM or reading parameters from drive's Eeprom.	Disable the drive, try to memorise the parameter, then re-enable.
AL2	Overcurrent alarm Short circuit between U, V, W or towards earth.	Disconnect the power, verify the wiring, then power up again.
AL3	Drive Temperature alarm Heat sink temperature too high, >70°C.	Disable the drive, verify: <ul style="list-style-type: none"> • the forced ventilation functioning, • the ambient temperature, wait until the radiator has cooled off, reset the alarm then enable the drive.
AL4	Hall alarm This alarm comes on if one or more of the hall cell's wires are disconnected.	Disable the drive, verify the cell's wire connection, reset the alarm, then enable the drive.
AL5	Encoder alarm This alarm comes on if one or more of the encoder channels are interrupted.	Disable the drive, control the connections, reset the alarm, then enable the drive. If the alarm persists contact Axor.
AL6	I²t Drive alarm The internal I ² t function has reached the maximum permitted. The cause could be one of the following: <ul style="list-style-type: none"> • the working cycle could be too heavy; • a possible mechanical block; • motor phase inversion; • the electronic brake is not unblocked; • the amplifier's dynamic constants: "KP", "KI" and "KD", could create useless current oscillation. 	<i>It is only a message.</i> This does not cause the disabling of the drive's functioning, but it is possible to close the Relè OK contact during this alarm. The current is limited to the rated one, set in "Current" window.
AL7	Motor Temperature alarm Heat sink temperature too high. This causes the opening of the Ok Relè contact and disables the drive.	Disable the drive: <ul style="list-style-type: none"> • control the heat sink temperature; • decrease the dynamic constant if the motor is vibrating. This situation causes current oscillation and consequently the overheating of the motor. Wait until the motor has cooled off, reset the alarm, then enable the drive.
AL8	Regenerative Resistance alarm The value I ² t energy recovery has reached the maximum allowed. This causes the opening of the Ok Relè contact and disables the drive.	Disable the drive: <ul style="list-style-type: none"> • check the AC power supply input; • check that the working cycles are not excessive; • verify if the motor, going at half speed, shows the same problem. Reset the alarm, then enable the drive.
AL9	Min/Max Voltage alarm Minimum or maximum converter voltage. See min/max voltage values at "1.3 Technical Data". This causes the opening of the Ok Relè contact and disables the drive.	Disable the drive, wait until the DC power supply voltage reaches the correct threshold, check the AC power supply input, then enable the drive.
AL10	Pre-Alarm Recovery alarm 80% of the I ² t energy recovery value has been reached. This does not cause the disabling of the drive.	Check the AC power supply input and the working cycles. This is <i>only a message</i> , it anticipates the intervention of the "Maximum recovery" alarm.

3.2 Alarms

AL12	Resolver alarm Missing one or more resolver signals. This causes the opening of the Ok Relè contact and disables the drive.	Disable the drive, control the resolver's contact, reset the alarm, then enable the drive.
AL14	Following Error The error between the position reference and the position feedback exceeds the "Max Position Error" parameter, because the "Max Position Error" parameter is too small, or the dynamic gains of the velocity-positioning loop are wrong. This causes the opening of the Ok Relè contact and disables the drive.	Disable the drive, check the Max Position Error parameter, check the dynamic gains, reset the alarm, then enable the drive.
AL15	Limit Switch The two fixed limited positions have both been disabled or interrupted. This causes the opening of the Ok Relè contact and disables the drive.	Disable the drive, check the limit contacts and external connections, then enable the drive.
AL17	Overcurrent regen resistance circuit Possible short-circuit in the regen resistance circuit. This causes the opening of the Relè OK contact and the disabling of the functioning.	Power off the drive, control the short-circuit, then power on the drive.
AL18	Mechanical Brake Overcurrent at the internal brake command or wrong connections. This causes the opening of the Ok Relè contact and disables the drive.	Disconnect the power: <ul style="list-style-type: none"> • control the external connections; • control the current absorption of the motor brake; • verify the settings of the "Holding Brake" parameter on the "Motor" window; then power up again.
24 UP	In-rush Bus <i>This is not an alarm.</i> Indication of the drive's in-rush phase or the lack of the main power supply.	
AL20	Auxiliary Voltage Presence of the main supply (L1, L2, L3), but the auxiliary +24Vdc voltage is missing. This causes the opening of the Ok Relè contact and disables the drive's functionability.	Disable the drive, connect the Auxiliary Voltage, and then re-enable.
AL21	Phasing Error or "Wake & Shake" The auto-phasing was not successful and causes the opening of the "Relay OK" contact and blocks functioning.	Disable the converter and check for friction or mechanical blockages on the axis.
AL23	Flash Alarm Errors in reading/writing parameters on the Flash memory, or Flash memory is empty. This causes the opening of the Ok Relè contact and disables the drive's functionability.	Disable the drive, save new values, then re-enable. If the problem persists contact Axor.
AL24	Can Bus Alarm Error during communication with CanOpen protocol. This causes the opening of the Ok Relè contact and disables the drive's functionability.	Disable the drive, check the cabling and re-enable. If the problem persists contact Axor.
AL26	Homing Error Position error too high during the homing procedure. The motor stops, but it is not disabled.	Check the homing setup, then reset the alarm using the "Start Homing" function.

3.2 Alarms

AL27	Encoder Pulse Counting Error Incorrect counting of the encoder pulses in a mechanical revolution of the motor shaft.	Check the connection of the shields in the green cable.
AL31	Intervention of the "IMMEDIATE STOP" function. The drive has detected the possibility of a "Run-away Motor"	It only generates, in Historical Alarm, the message "AL5" (ENCODER ALLARM).
AL32	Maximum speed exceeded The speed value set in the drive was exceeded.	This will generate Historical Alarm "AL32". And subsequently it will generate "AL31" which will initiate the Immediate Stop Function.