

Drive Error List - Teco

Alarms in table below noted with asterisk () have additional important info below the table

Display	Name	Cause	Action
AL-01*	Under-Voltage	The main circuit voltage is below its minimum specified value. (190Vac)	Use a Voltmeter to check whether the input voltage is within the specified limit. If the input is correct there may be failure inside the drive.
AL-02* (Do not power cycle drive)	Over-Voltage (Regeneration error)	1. The main circuit voltage has exceeded its maximum allowable value (175 to 250 VAC)	1. Use Voltmeter to check whether the input voltage is within the specified limit.
		2. Regeneration voltage is too high	2. If this alarm appears during operation. Extend ac/deceleration time inside Mach software
AL-03	Overload	The drive has exceeded its rated load during continuous operation.	1. Check Motor terminals (U, V, W) and encoder
			2. Extend ac/deceleration time in Mach software
AL-04* (Do not power cycle drive)	Output Transistor Malfunction	Over temperature, Over current, or Over voltage	1. Check the motor terminal line (U, V, W) and encoder connections. Check all power connections. 2. Turn off the power and check for shorts
AL-05*	Encoder UVW-Phase Signal Error	Motor's encoder failure or encoder connection problem	1. Check the motor's encoder connections. 2. Check the motor code in the drive (CN30)
AL-06			
AL-07	Multi-Function Input Selection	Input/output function setting error	Call MachMotion

AL-08	Memory Error	Parameter write-in error	Disconnect the command cable then re-cycle the power. If alarm still occurs, it means the Drive has failed.
AL-09	Emergency Stop	Input contact point EMC activated	Call MachMotion
AL-10	Motor Over-Current	Motor current value is 4 times its rated current	1. Check if the motor wiring (U,V,W) and encoder connections and wiring are correct or not. 2. Possible internal malfunction, call MachMotion
AL-11*	Position Error	The difference between pulse command and encoder feedback pulse is outside limits	1. Extend the time of ac/deceleration in Mach software 2. Check if the motor wiring (U, V, W) is correct
AL-12	Motor Over-Speed	Motor speed is 1.5 times more than the rated speed	1. Reduce the speed command 2. Electronic gear ratio is incorrect check and set correctly
AL-13	CPU Error	Control system Malfunction	Turn off the power. Turn on again after 30min. If alarm still exists, this may be due to external interference.
AL-14	Drive Disable	CCWL & CWL input contacts activated simultaneously	Call MachMotion
AL-15	Drive Overheat	Power transistor temperature exceeds 90 degrees Celsius	Repeated overload will cause drive overheat, check and reset operational requirements.
bb (or 66)	Base Block (is actually a 'b', not a '6')	Drive enable/run signal not present	Is often a normal condition until Mach software is enabled. Otherwise, is likely the enable circuit on apollo board not activating or enable relay not activating.
POT NOT*	Positive Over Travel Negative Over Travel	CW and CCW limit pins active	Update parameters Hn504 from 0104 to 0004 and Hn505 from 0105 to 0005.

AL-01:

- This can be due to drive enable signal (through control cable), coming on prior to the drive having power (enable signal which powers up the drive through the contactor). We have had a bad batch of control cables cause this issue.

- Mach4: Increase drive enable delay in machmotion plugin\

AL-02:

*(Do not power cycle drive)

If you are getting an AL-02 Over-Voltage on your drive you should check the motor power terminal continuity (Ohms):

- The main circuit voltage has exceeded its maximum allowable value (170 to 250 VAC)
- Check continuity between GND and each pin for the motor power.
 - For smaller motors (3 main pins inside the connection), GND will be the outside threads for the motor power cable
 - For larger motors (4 main pins inside the connection), GND will be one of the pins. Shine a flashlight in to see the marking for which one is ground.
 - If there is any continuity between GND and any of the U,V,W terminals, it is a bad motor causing the problem and will likely need to replace the drive as well.

AL-04:

-If you are getting an AL-04 Output Transistor Malfunction error on your drive after following the instructions in the drive error list, it is most often the drive which has gone bad. However, it could be the motor as well. Do a continuity test on the power cable and motor coil to test for shorts. Contact MachMotion for help in cable swap testing.

- Could be the Motor Code being wrong. Contact MachMotion.

AL-05:

- if the drive has been in service less than 6 months, try removing the o-ring in the encoder cable connector at the motor side. The issue could be the connection is not quite good enough and there is vibration which could cause intermittent AL-05 alarms. Removing that o-ring will allow it to sit down further into the connector to make a better connection between the cable and the encoder connector.

AL-11:

-Could be a mechanical issue or a limit switch shorting.

Pot Not:

This is normal after performing drive reset with Cn029 as limit pins are not normally connected to any switches.

Check Hn504, Hn505 (CW and CCW limit); they will be 0104 and 0105; set them to 0004 and 0005; this inverts the logic of the inputs so inputs are normally open. Need to power cycle drive after setting those parameters.

Other:

After a factory reset has been performed, the drive will also have parameter CN035 = 0 which will then show "run" or "bb" depending on if the drive is enabled or not. We ship them with Cn035 = 15 which will then show the encoder feedback (the string of numbers that change as the motor moves).

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