

Status and Error States

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The motor status can be queried by sending the motor a ?99 command. The motor will then reply with a status number that responds to a specific status or error. An error may be any of the following discreet numbers, or a combination of them. For instance, a status of 8 would mean that the motor is ready and in position, and a status of 32 would mean that the push mode torque limit has been reached. It is also possible to have a status of 40 which would mean both of these statuses are true. Due to the numbering of the statuses, there is only one possible way for these sums to be made.

0: Motor Running

Any time the motor is executing a move, the status will be 0.

1: Position Error Overflow

A position error overflow means that the position error, the distance between the actual motor position and the instantaneous target position, is too great. This will cause the motor to disable. This can occur when the load is too great and the motor cannot accelerate to the required speed in the time it needs to, or if something is impeding the movement of the motor. The amount of position error that is required to cause this error can be changed in [K56](#).

2: Over Speed/Voltage

This error can occur under two conditions: the speed of the motor is too great, or the input voltage is too high. This will result in the motor being disabled. The most likely reason for this error is that the speed of the motor is too high. See [Motor Specifications](#) for the maximum speed of your motor.

The other possible reason for this error is that the voltage across the 24V input and GND is too high. This can occur via voltage spikes from the power source, or conversely from regenerated voltage from the motor. If the motor is accelerating a very high load, it is possible for it to produce large regenerated voltage spikes. This can be mitigated by utilizing the varistor which comes with the CM1 motor, or by using a [SRL](#) module which contains an addition voltage regulation circuit. This error will occur instantaneously when the voltage rises above the limit programmed in parameter [K72](#).

4: Over Load/Current

The over load error will occur whenever the motor current, and by extension the torque on the motor, exceeds the maximum rated torque of the motor for a certain amount of time. This will result in the motor being disabled. The amount of time that is required to cause this error is able to be changed in parameter [K57](#). See [Motor Specifications](#) for the rated torque of your motor.

8: In Position / Ready

This is the normal resting status of the motor. This status means that the motor has reached the target position and is now ready and waiting for another command.

16: Disabled

The disabled status will only occur if the motor is manually disabled through the) command, or through an input programmed as "Motor Free". This status will not occur if the motor is disabled via another method or as the result of another error disabling the motor.

32: Push Mode Torque Limit Reached

This status will appear when using push mode. When the motor reaches the torque limit programmed in parameter [K60](#) the status will change to this until the push move finishes or another command is executed.

128: Over Temperature

The over temperature error will occur if the motors control board located at the back of the motor reaches a temperature threshold, as programmed in [K71](#). This can occur with large loads, large duty cycles, and high speeds.

256: Push Mode Timeout not Reached

The push mode timeout error will occur when the motor is executing a push move, and the target position is reached. This means that there is no push being executed, as the motor has reached the position without resistance. When this error occurs, the current program bank will be paused, but the motor will remain enabled. Sending a run command to the motor will resume the bank at the next step.

512: Emergency Stop

The emergency stop status will occur whenever the emergency stop command, * is sent to the motor, or when an input programmed as an emergency stop is triggered. This error will be present if it is triggered on any motor on the daisy chain network. Under this condition the motor will not disable, but it will halt movement at its current position, as well as ceasing any running programs or actions and will not respond to further commands until the error is cleared. This error can be cleared by sending the *1 command or by deactivating the emergency stop input.