

Operation

Starting and Stopping Modes

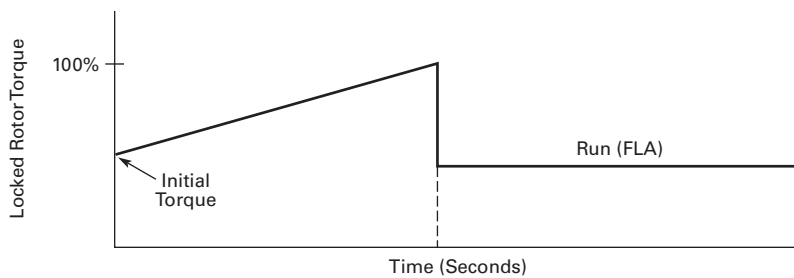
The S811 has a variety of starting and stopping methods to provide superior performance in the most demanding applications. The motor can be started in either voltage ramp start or current limit start mode. Kick start and soft stop are available within both starting modes.

Voltage Ramp Start

Provides a voltage ramp to the motor resulting in a constant torque increase. The most commonly used form of soft start, this start mode allows you to set the initial torque value and the duration of the ramp to full voltage conditions. Bypass contactors close after ramp time.

- Adjustable initial torque 0–85% of locked rotor torque
- Adjustable ramp time 0.5–180 seconds (can be extended with factory modification)

Starting Characteristics—Ramp Start



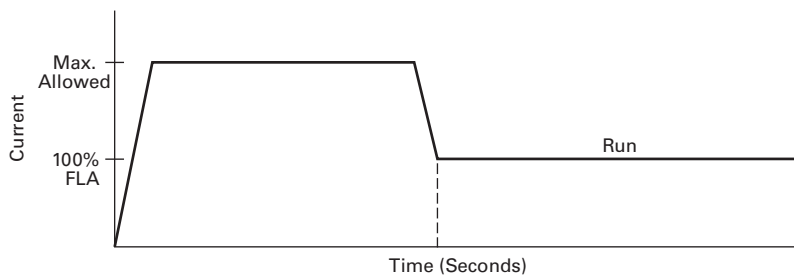
Current Limit Start

Limits the maximum current available to the motor during the start phase. This mode of soft starting is used when it becomes necessary to limit the maximum starting current due to long start times or to protect the motor. This start

mode allows you to set the maximum starting current as a percentage of locked rotor current and the duration of the current limit. Bypass contactors close after current limit time.

- Maximum current of 0–85% locked rotor current
- Adjustable ramp time 0.5–180 seconds (can be extended with factory modification)

Starting Characteristics—Current Limit Start

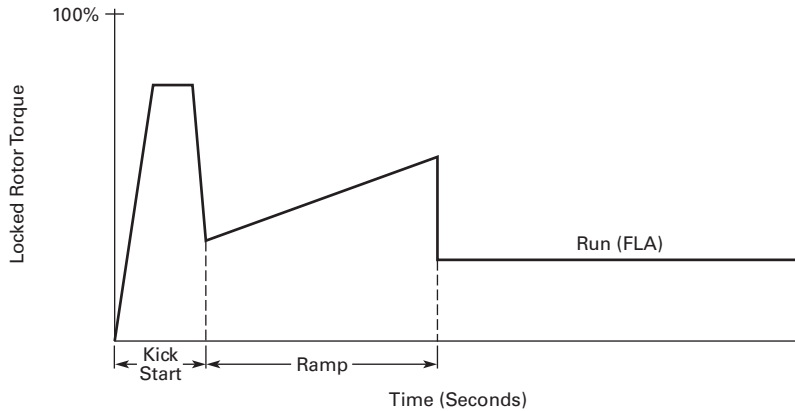


Kick Start

Selectable feature in both voltage ramp start and current limit start modes. Provides a current and torque “kick” for 0 to 2.0 seconds. This provides greater initial current to develop additional torque to breakaway a high friction load.

- 0–85% of locked rotor torque
- 0–2.0 seconds duration

Starting Characteristics—Kick Start

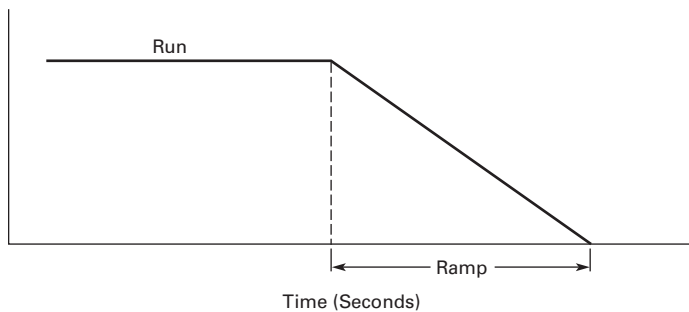


Soft Stop

Allows for a controlled stopping of a load. Used when a stop-time that is greater than the coast-to-stop time is desired. Often used with high friction loads where a sudden stop may cause system or load damage.

- Stop time = 0–60 seconds

Starting Characteristics—Soft Stop



Edge and Level Sensing Control**Edge Sensing**

Edge sensing requires +24 Vdc power be momentarily applied to Pin 1 (with terminal P at +24 Vdc) to initiate a start under all conditions. After a stop or fault occurs, the +24 Vdc must be removed, then reapplied to pin 1 before another start can occur. This control configuration should be used when restarting of the motor after a fault or stop must be supervised manually or as a part of a control scheme. The cycling of +24 Vdc power to Terminal 1 before starting is required regardless of the position of the auto reset switch on the DIM.

Level Sensing

Level sensing will enable a motor to restart after a fault is cleared without cycling +24 Vdc power to Terminal 1 as long as:

- Terminal P is supplied with +24 Vdc (to start from Terminal Block, Input #3 must also be enabled)
- The auto reset switch on the DIM is set to enabled
- All faults have been reset

This control configuration should be used where it is desirable to restart a motor after a fault without additional manual or automatic control. An example of this condition would be on a remote pumping station where it is desirable to automatically restart a pump after a power outage without operator intervention.

Note: If the auto reset feature is used, CAUTION must be exercised to ensure that any restart occurs in a safe manner.