

Soft Start and Soft Stop

Why soft start?

A motor started with soft start can lower inrush current during the startup to avoid:

- Sudden voltage drop on the power network that might effect normal operation of facilities powered by electricity such as blinking of lightings or interference on electronic facilities and machines powered by electricity.
- Demand charge due to large inrush current during the startup.
- Impact on the machines due to rapid startup of the motor.
- Inertial impact on the load due to rapid startup of the motor such as transported bottles on the conveyer.
- Damage on the valve due to large imbalance of the pressure on both sides of the valve created by rapid startup of the motor.

How to choose an idea soft starter ?

One can choose an idea soft starter based on the following criteria:

- Can have limited current with stable constant plateau during the startup.
- The starting current ramps up from small current to the constant plateau.
- Has good adjustability on the current plateau. An idea soft starter can have the current plateau ranging from 50% to 300% of the rated current.
- Has kick-start feature so that a motor with large starting torque can be started with the help of kick-start.
- Has automatic bypass feature so that after completion of soft-start, the controller can switch to bypass automatically. With this feature a motor that has no energy saving possibility can run with direct power supply so that the life span of the soft starter can be significantly extended.

Why soft stop?

A motor stopped with soft stop can avoid:

- Impact on the machines run by the motor.
- Inertial impact on the load due to sudden stop of the motor such as transported bottles on the conveyer.
- Water hammer due to quick stop of the water pump. Water hammer can create large noise and damage the water pipe.
- Damage on the valve due to large imbalance of the pressure on both sides of the valve created by rapid stop of the motor.

How to choose an idea soft top?

- Has good adjustability on the stopping voltage.
- Has good adjustability on the stopping time.
- Can be automatically switched back to soft stop from bypass.