Soft starters for asynchronous motors
Altistart 48 soft start/soft stop units

Selection criteria for an Altistart 48 soft start/soft stop unit

The Altistart 48 should be selected on the basis of 3 main criteria:

- Two line supply voltage ranges are available for selection:
  - 3-phase AC supply: 230 – 415 V,
  - 3-phase AC supply: 208 – 690 V.

- The power and nominal current on the motor rating plate.

- The type of application and the operating cycle.

To simplify selection, applications are categorized as one of 2 types:
- standard applications,
- severe applications.

Standard or severe applications define the limit values of the current and the cycle for motor duties S1 and S4.

Standard application

In standard applications, the Altistart 48 is designed to provide:

- Starting at 4 In for 23 seconds or at 3 In for 46 seconds from cold state (corresponding to motor duty S1).

- Starting at 3 In for 23 seconds or at 4 In for 12 seconds with a load factor of 50% and 10 starts per hour or an equivalent thermal cycle (corresponding to motor duty S4).

The motor thermal protection must conform to protection class 10.
Example: centrifugal pump.

Severe application

In severe applications, the Altistart 48 is designed to provide:

- Starting at 4 In for 48 seconds or at 3 In for 90 seconds from cold state (corresponding to motor duty S1).

- Starting at 4 In for 25 seconds with a load factor of 50% and 5 starts per hour or an equivalent thermal cycle (corresponding to motor duty S4).

The motor thermal protection must conform to protection class 20.
Example: grinder.

Motor duties

S1 motor duty is based on starting followed by operation at constant load, making it possible to achieve thermal equilibrium.
S4 motor duty is based on a cycle consisting of starting, operation at constant load and an idle period.
This cycle is characterized by a load factor of 50%.

Selecting the starter

Once the appropriate application has been selected from the following page, select the starter from page 10 according to the supply voltage and the motor power.

Caution:
If the Altistart 48 is installed inside an enclosure, observe the mounting and derating recommendations.

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Application areas

Depending on the type of machine, the applications are categorized as standard or severe based on the starting characteristics, which are given as examples only, in the table below.

Type of machine	Application	Functions performed by the Altistart 48	Starting current (% In)	Starting time (s)
Centrifugal pump	Standard	Deceleration (reduction in pressure surges) Protection against underload or reversal of phase rotation direction	300	5 to 15
Piston pump	Standard	Control of pump priming and the pump's direction of rotation	350	5 to 10
Fan	Standard Severe if > 30 s	Detection of overloads caused by clogging or underloads (motor/fan transmission broken) Braking torque on stopping	300	10 to 40
Cold compressor	Standard	Protection, even for special motors	300	5 to 10
Screw compressor	Standard	Protection against reversal of phase rotation direction Contact for automatic draining on stopping	300	3 to 20
Centrifugal compressor	Standard Severe if > 30 s	Protection against reversal of phase rotation direction Contact for automatic draining on stopping	350	10 to 40
Piston compressor	Standard	Protection against reversal of phase rotation direction Contact for automatic draining on stopping	350	5 to 10
Conveyor, transporter	Standard	Monitoring of overloads for incident detection or underloads for break detection	300	3 to 10
Lifting screw	Standard	Monitoring of overloads for hard spot detection or underloads for break detection	300	3 to 10
Drag lift	Standard	Monitoring of overloads for jamming detection or underloads for break detection	400	2 to 10
Elevator	Standard	Monitoring of overloads for jamming detection or underloads for break detection Constant starting with variable load	350	5 to 10
Circular saw, band saw	Standard Severe if > 30 s	Braking for fast stop	300	10 to 60
Pulper, butchery knife	Severe	Torque control on starting	400	3 to 10
Agitator	Standard	The current display indicates the density of the material	350	5 to 20
Mixer	Standard	The current display indicates the density of the material	350	5 to 10
Grinder	Severe	Braking to limit vibrations during stopping, monitoring of overloads for jamming detection	450	5 to 60
Crusher	Severe	Braking to limit vibrations during stopping, monitoring of overloads for jamming detection	400	10 to 40
Refiner	Standard	Torque control on starting and stopping	300	5 to 30
Press	Severe	Braking to increase the number of cycles	400	20 to 60

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