

The Enclosed Altistart™ 22 Soft Start/Soft Stop Motor Controller

A pre-engineered solution with an integrated circuit breaker disconnect
and an Altistart 22 soft start in a stand-alone enclosure



Make the most of your energySM

Schneider
Electric™



Get more

from your solution with the
Enclosed Altistart™ 22 soft start/
soft stop motor controller

Features include:

- > Mid-range enclosed soft starter
- > Low cost and space-saving design with integrated bypass function
- > Easy start-up
- > Integrated controls included within the enclosures
- > Optimized with a circuit breaker disconnect, pilot devices, control logic, signal relaying and selectable options designed to meet application requirements up to 125 hp at 480 V
- > UL Type 1, 12 and 3R enclosure ratings
- > UL listed combination motor controller (UL 508)
- > Coordinated short circuit current rating of 100 kA at 480 V and 50 kA at 600 V
- > Service entrance rating
- > Automatic remote starting

Extend the service life of your machines



The Enclosed Altistart 22 solid-state combination motor controllers provide a pre-engineered, integrated solution for reduced voltage starting and soft stopping of standard three-phase asynchronous induction (squirrel cage) motors. The Enclosed controllers consist of a circuit breaker disconnect and an Altistart 22 soft starter in a stand-alone enclosure.

With its energy efficient features, such as reduced current inrush, reduced voltage drop and mechanical shock at motor start and stop, the Enclosed Altistart 22 controller offers an ideal solution for your basic motor control needs, including:

- A six thyristor (SCR) solid-state power configuration providing smooth acceleration and deceleration control of three-phase squirrel cage motors
- Control algorithms that are integrated to ensure smooth rotation throughout the starting ramp without mechanical instability at the end of starting
- An integral shorting contactor to reduce steady state controller operational losses

Achieve greater energy efficiency with simple system integration and control

The Enclosed Altistart 22 combination motor controller combines integrated bypass and control components that improve your machine's performance and reliability and cut installation costs. If you need an economical controller that is suited for harsh environments, the Enclosed Altistart 22 combination motor controller is an ideal choice.

Less wiring, more saving

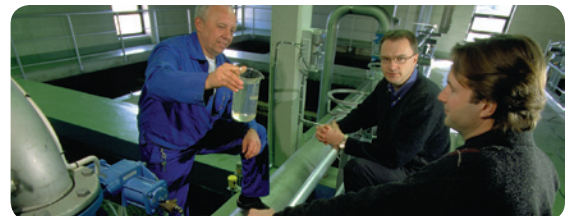
- Integrated bypass reduces the number of external components: power wiring, contactor and control wiring for coil
- Wiring six terminals instead of twelve saves time and money
- Integrated bypass contactor decreases heat dissipation, allowing for a smaller enclosure
- Conformal coated printed circuit boards provide enhanced resistance to harsh environments, increasing the service life of your installation and reducing maintenance costs

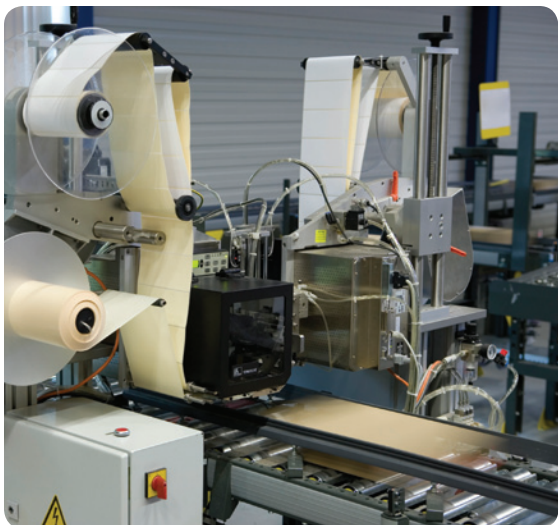
Improve your machine's performance, protect the motor and reduce down time

- True three-phase control combined with other protection functions allow you to monitor and protect your machine to improve up time
- The soft start and soft stop control reduces mechanical stress on the motor and machine components to increase its productive life:
 - » For the motor – delivers thermal protection by calculation, with phase loss detection and protection from excessive starts
 - » For the machine – provides both overload and underload protection and guards against stalled impellers, rotation direction and excessive acceleration time

Take advantage of easy communication and programming features

- The integrated keypad display provides access to configuration menus enabling real-time visual feedback
- The "simply start" menu allows you to set up basic parameters to get you up and running quickly
- The multi-function integrated Modbus™ port allows connection to either:
 - » A remote-mount keypad for access outside of the enclosure
 - » Connection to a Modbus network for remote communication
 - » SoMove™ PC software for configuration and diagnostics





Integrated functions to optimize your machines

Centrifugal pumps

- Soft slowdown and stopping reduces water hammer
- Protection against underloads and reversed rotation

Piston pumps

- Monitors pump priming and direction of rotation
- Voltage boost on start-up

Fans

- Underload parameter for broken belt detection
- Brakes torque on stopping

Turbine blowers

- Thermal monitoring of the motor with an electrically-isolated PTC probe

Refrigerant compressors

- Monitors starting characteristics
- Manages number and time lapse of starts

Screw compressor and centrifugal compressor

- Protection against reversed rotation
- Contact for automatic draining on stopping

Conveyors

- Overcurrent threshold and time delay parameter for load monitoring
- Second set of motor parameters based on the load carried

Screw conveyors

- Input to monitor external state or condition

Agitators, mixers

- Displays the current indicating the density of the material
- Automatic cooling fan control



The Enclosed Altistart 22 can even replace traditional low HP starters in commercial/industrial applications.

Selection guide

The Enclosed Altistart 22 catalog number, located on the nameplate on the inside of the door, is coded to describe the configuration, power ratings and selected options. Use the following table to translate the catalog number into a description of the Enclosed Altistart 22 combination motor controller.

Table 1: Catalog Number Example: 863922UCG4BA06A07

Field							
—	1	2	3	4	5	6	7
8639	22U	C	G	4	B	A06	A07
Controller Class	PowerPact™ Thermal-Magnetic Circuit Breaker	7.5 hp	Type 1 General Purpose	460 Vac	Basic Shunt Trip	Start-Stop Push Button	Run Light (Red), Off Light (Green)

Table 2: Catalog Number Description

Field	Digit	Characteristic	Description
—	—	Controller Class	8639 = Circuit Breaker Disconnect 8638 = Fusible Disconnect
01	1–3	Controller Style	22T = Altistart 22 with PowerPact Motor Circuit Protector 22U = Altistart 22 with PowerPact Thermal-magnetic Circuit Breaker 22F = Altistart 22 with Molded Case Switch and Class J Fuse Block
02	4	Horsepower Ratings	Type 1 and Type 12: Type 3R or 50° C Rated: 3–50 hp @ 208 V 3–40 hp @ 208 V 5–60 hp @ 230 V 5–50 hp @ 230 V 10–125 hp @ 460 V 10–100 hp @ 460 V 15–150 hp @ 575 V 15–125 hp @ 575 V
03	5	Enclosure Type	G = UL Type 1: General Purpose A = UL Type 12: Industrial Use H = UL Type 3R: Outdoor Use
04	6	Voltage	2 = 208 Vac 4 = 460 Vac 3 = 230 Vac 5 = 575 Vac
05	7	Power Circuit	Basic Shunt Trip Reversing Isolation Full-featured Shunt Trip Integral Full-voltage Bypass Non-reversing Isolation
06	8–10	Control Options	A06 = Start-Stop Push Buttons B06 = Forward-off-reverse C06 = Hand-Off-Auto (HOA) Selector Switch D06 = Stop-Run Selector Switch E06 = Hand-Auto Selector Switch/Start-Stop Push Buttons
07	11–13	Pilot Device Options	A07 = Run Light (Red), Off Light (Green) B07 = Push-to-Test Run Light (Red), Push-to-Test Off Light (Green) C07 = Run Light (Red), Off Light (Green), Trip Light (Yellow) D07 = Push-to-Test Run Light (Red), Push-to-Test Off Light (Green), Trip Light (Yellow) with Trip Reset Function
08	14–16	Miscellaneous Options Available	Contact your local Schneider Electric sales representative or distributor for more options.

Specifications

Electrical Specifications

Supply Voltage	208 Vac +10%/-15%; 230 Vac +10%/-15%; 460 Vac +10%/-15%; 575 Vac +10%/-15%	
Control Voltage	115 Vac +10%/-15% (control power transformer included)	
Frequency	50/60 Hz \pm 5%	
Rated Current	Full load current (FLA) per NFPA 70/NEC 2009	
Motor Power	Type 1 and Type 12: 3–50 hp @ 208 V 5–60 hp @ 230 V 10–125 hp @ 460 V 15–150 hp @ 575 V	Type 3R or 50° C Rated: 3–40 hp @ 208 V 5–50 hp @ 230 V 10–100 hp @ 460 V 15–125 hp @ 575 V
Motor Voltage	208 V, 230 V, 460 V and 575 V	
Starting Duty (Standard Duty)	S1: Starting at 350% of I_n ¹ for 40 s from a cold state	S3: Starting at 300% of I_n ¹ for 20 s, or 200% of I_n for 40 s, with a load factor of 95% and 3 starts per hour

¹ I_n is the controller full load current listed on the nameplate.

Environmental Specifications

Storage Temperature	-13° F to +158° F (-25° C to +70° C)
Operating Temperature	Type 1 and 12: +14° F to 104° F (-10° C to 40° C) Type 3R and Mod X10: +14° F to 122° F (-10° C to 50° C)
Humidity	95% with no condensation or dripping water, conforming to IEC 60068-2-3
Altitude	1000 m (3280 ft.), derated by 2.2% for each additional 100 m (328 ft.) up to 2000 m (6560 ft.) maximum
Enclosure	UL Type 1: General Purpose UL Type 12: Industrial Use, Dust-tight and Drip-tight UL Type 3R: Outdoor Use
Pollution Degree	Pollution degree 2 (UL Type 1 and UL Type 3R) and pollution degree 3 (UL Type 12) per NEMA ICS-1 and IEC 60664-1
Resistance to Vibration (Soft Starter Only)	According to IEC 60068-2-6: 1.5 mm peak to peak from 3 Hz to 13 Hz 1 gn from 13 Hz to 150 Hz
Resistance to Shocks	According to IEC 60068-2
Codes and Standards	UL listed per UL 508 under category NKJH. Conforms to applicable NEMA ICS, NFPA and IEC standards. Manufactured under ISO 9001 standards. Factory modification E10 provides Canadian cUL certification per C22.2 No.14. Complies with requirements of the American Recovery and Reinvestment Act (ARRA) of 2009 (Pub.L. 111-5). Equipment will be assembled in the U.S.

Features



- 1 Soft Start Control Fuse
- 2 User Terminal Block TB1
- 3 Circuit Breaker
- 4 Control Power Transformer
- 5 Control Fuses FU6, FU7, FU8
- 6 Altistart 22 Soft Start
- 7 Space for Field-mounted Control Option
- 8 Service Entrance Lug (Z10)
- 9 Ground Bar



For more information about the Enclosed Altistart 22 soft start/soft stop motor controller, visit www.Schneider-Electric.us/go/Drives or contact your local sales representative or Schneider Electric distributor.

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