

# Soft start/soft stop units

## Altistart 22

for asynchronous motors

Catalog

March 2017



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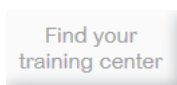


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# Soft starters for asynchronous motors

## Applications

### Starting simple machines

### Controlled starting and deceleration of simple machines



Power range for 50...60 Hz line supply (kW/HP) (connection to the motor power supply line)	
Single-phase 110...230 V (kW)	
Three-phase 200...240 V (kW/HP)	
Three-phase 200...480 V (kW/HP)	
Three-phase 208...600 V (kW/HP)	
Three-phase 208...690 V (kW/HP)	
Three-phase 230...415 V (kW)	
Three-phase 230...440 V (kW)	
Three-phase 380...415 V (kW)	
Three-phase 440...480 V (HP)	

0.37...11/0.5...15	0.75...15/1...20
0.37...2.2	–
–	0.75...7.5/1...10
0.37...11/0.5...15	–
–	–
–	–
–	–
–	–
–	1.5...15
–	2...20

Drive	
Number of controlled phases	1
Type of control	–
Operating cycle	–

1	2
–	–
–	–

Functions	
Bypass	
Number of I/Os	Analog inputs
	Logic inputs
	Analog outputs
	Logic outputs
	Relay outputs

Integrated
–
–
–
–
–

Communication	
Integrated	–
Available as an option	–

–
–

Standards and certifications
IEC/EN 60947-4-2 CE, UL, CSA, C-Tick, and CCC

IEC/EN 60947-4-2 CE, UL, CSA, C-Tick, GOST, CCC
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References
ATS01N1●●●●
ATS01N2●●●●

ATS01N1●●●●
ATS01N2●●●●

Pages
Please refer to the Altistart 01 catalog.

Please refer to the Altistart 01 catalog.
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## Controlled starting and deceleration of simple and complex machines



4...400/3...500	3...900	3...900/3...1,200
–	–	–
–	–	–
–	–	–
4...400/3...500	–	–
–	–	3...900/3...1,200
–	3...630	–
4...355	–	–
–	–	–
–	–	–

3	
Configurable voltage ramp	TCS (Torque Control System)
Standard	Standard and severe

Integrated	Available as an option
1 PTC probe	–
3	4
–	1
–	2
2 (CO)	3

Modbus	
–	Fipio, PROFIBUS DP, DeviceNet, Modbus TCP

IEC/EN 60947-4-2, EMC class A CE, UL, CSA, C-Tick, GOST, CCC	IEC/EN 60947-4-2, EMC class A and B CE, UL, CSA, DNV, C-Tick, GOST, CCC, NOM, SEPPO, and TCF
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ATS22●●●●	ATS48●●●Q	ATS48●●●Y
–	–	–

8	Please refer to the Altistart 48 catalog.
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# Altistart 22 soft start/soft stop units



The Altistart 22 soft start/soft stop unit offer

## Presentation

Altistart 22 soft start/soft stop units support the controlled starting and stopping, via voltage and torque, of three-phase squirrel cage asynchronous motors for power ratings ranging from 4 to 400 kW.

They are supplied ready for use in standard applications with class 10 motor protection.

Altistart 22 soft start/soft stop units have been designed to meet the performance requirements of applications where ruggedness, security of personnel and equipment, and ease of setup are a priority.

The bypass function (based on a bypass contactor) has been made easier to use by integrating it into the starter. This approach suits applications where it may be necessary to bypass the starter at the end of starting in order, for example, to limit the starter's heat dissipation.

Altistart 22 soft start/soft stop units have an integrated display terminal that allows the user to change both the programming and the adjustment or monitoring parameters in order to adapt and customize the application in line with customer needs.

They also feature an integrated thermal motor protection function as well as machine monitoring functionality, and offer immediate installation setup capability using SoMove setup software.

## Applications

The integrated functions of Altistart 22 soft start/soft stop units are compatible with the more common types of application found in the construction, infrastructure, or industrial sectors:

- centrifugal pumps, piston pumps
- fans
- screw compressors
- material handling (conveyors, etc.)
- specialist machinery (agitators, mixers, centrifuges)

Altistart 22 soft start/soft stop units offer a truly cost-effective solution by providing:

- a reduction in installation costs through optimum product sizes, integrated bypass function, and faster wiring time
- a reduction in the stress associated with electrical distribution through fewer current peaks and line voltage drops caused by motor starting
- a reduction in machine running costs through reduced mechanical stress

The three phases of the motor windings are controlled to help maintain performance, whatever the situation (with or without load, any voltage or power range, etc.).

## Conformity to standards

Description		Performance
<b>Conducted and radiated emissions</b>	Conforming to IEC 60947-4-2	Class A
<b>Vibration resistance</b>	Conforming to IEC 60068-2-6	1.5 mm/0.06 in. from 2 to 13 Hz 1 gn from 13 to 200 Hz
<b>Shock resistance</b>	Conforming to IEC 60068-2-27	15 gn for 11 ms
<b>Maximum ambient pollution</b>	Conforming to IEC 60664-1	Degree 2
<b>Relative humidity</b>	Conforming to IEC 60068-2-3	95% non-condensing, no dripping water
<b>Degree of protection</b>	For ATS22D17...C11	IP 20 (IP 00 if no connection)
	For ATS22C14...C59	IP 00

Altistart 22 soft start/soft stop units conform to the RoHS Directive.

# Altistart 22

## soft start/soft stop units

### Functions

The main functions integrated in the drive are as follows:

#### Adjustment functions

- Adjustment of the Altistart 22 soft start/soft stop unit current in line with the motor nominal current
- Limiting current
- Choice of the type of stop (freewheel or deceleration)

#### Soft starter performance functions

- Management of the three supply phases
- Option to connect the starter in the motor delta connection in series with each winding. This supports the use of a soft start/soft stop unit with a lower rating (for the ATS22●●●Q range only)
- Management of the ramp and torque supplied to the motor throughout the acceleration and deceleration stages (significantly smoother)
- Variety of control profiles to suit different applications
- Integrated and automated management of the bypass function at the end of starting (bypass contactor), while preserving electronic protection functions

#### Protection functions for the motor and machine

- Integrated configurable motor thermal protection
- Thermal protection of the Altistart 22 soft start/soft stop unit
- Integrated processing of the PTC thermal probe with electrical isolation (optimum management of motor protection function)
- Monitoring of the duration and number of starts
- Management of stopping time before restart
- Protection against underloads and overcurrents in transient or steady state
- Automatic adjustment to the line frequency
- Phase sequence detection
- Phase loss detection
- Detection of imbalances between phases and of leakage currents (for the ATS22●●●S6 and S6U ranges)

#### Functions to facilitate integration into control systems

- 3 programmable logic inputs
- 2 programmable CO relay outputs
- Plug-in I/O connectors
- Second set of motor control parameters
- Modbus serial link via RJ45 connector
- Display of soft start/soft stop unit and machine states
- Display of I/O states and currents
- Detected errors log, diagnostics for soft start/soft stop unit
- Restore factory settings
- 4 LEDs on the front (Ready, Communication, Run, and Trip)

# Altistart 22 soft start/soft stop units



Testing and start-up of the ATS 22 soft start/soft stop unit using SoMove setup software

## The offer

The Altistart 22 soft start/soft stop unit offer comprises 2 voltage ranges for motor power ratings ranging from 4 to 400 kW:

- three-phase power supply voltage ranging from 230 V to 440 V, 50/60 Hz (ATS22●●●Q)
- three-phase power supply voltage ranging from 208 V to 600 V, 50/60 Hz (ATS22●●●S6 and ATS22●●●S6U)

## Options

The Altistart 22 soft start/soft stop unit range also offers a number of options:

- A remote display terminal can be installed on the front of a floor-standing enclosure with IP 54/UL type 12 or IP 65 protection depending on the model. It offers the same functions as an integrated display terminal.
- Additional fans to support a greater number of starts
- SoMove setup software
- Protective terminal covers for compliance with IP 20 degree of protection

## Selection criteria

Altistart 22 soft start/soft stop units have been designed for standard control system applications.

In addition to the chosen application, the choice of starter will depend on the following main criteria:

- the power and nominal current on the motor rating plate
- the load factor of the application

The starting capacity also needs to be considered when selecting an Altistart 22 soft start/soft stop unit.

## Starting capacity

The standard starting capacity for a class 10 motor is:

- 3.5 In for 40 seconds from cold in S1 duty
- 3.5 In for 20 seconds in S4 duty with a load factor of 95%

*Note: S1 duty corresponds to a start followed by operation at constant load, making it possible to achieve thermal equilibrium.*

*S4 duty corresponds to a cycle consisting of a start, operation at constant load, and an idle period.*

## Number of starts per hour

Assuming the starting capacity remains the same, the number of starts per hour can be increased by adding a fan.

ATS22D17Q...C17Q, ATS22D17S6...C17S6, and ATS22D17S6U...C17S6U soft start/soft stop units can be equipped with an additional fan (see options page 11).

Possible number of starts per hour based on a capacity of 3.5 In for 20 seconds (S4 duty) after adding a fan:

Soft start/soft stop unit	Number of starts per hour	
	Without fan	With additional fan
ATS22D17●...D47●	6	10
ATS22D62●...D88●	6	10
ATS22C11●...C17●	4	10

*Note: ATS22C21Q...C59Q, ATS22C21S6...C59S6, and ATS22C21S6U...C59S6U soft start/soft stop units are equipped with a fan as standard.*

*The standard number of starts per hour in S4 duty is 4. Anything more would require derating by one power rating.*

# Altistart 22 soft start/soft stop units



Example of using the Altistart 22 soft start/soft stop unit in a pumping application

## Standard applications

Examples of functions performed by Altistart 22 soft start/soft stop units depending on the application:

Type of machine	Functions performed by the Altistart 22
Centrifugal pump	Controlled deceleration and stopping (reduces water hammer) Protection against underloads or reversal of phase rotation direction
Piston pump	Control of pump priming and direction of rotation
Fan	Detection of under/overloads (motor/fan transmission broken) Braking torque on stopping
Turbine	Thermal monitoring of motor via electrically isolated PTC probe
Refrigeration compressor	Control of starting characteristics Automatic restart management
Screw compressor	Protection against reversal of phase rotation direction Contact for automatic draining on stopping
Centrifugal compressor	Protection against reversal of phase rotation direction Contact for automatic draining on stopping
Conveyor	Overload monitoring for incident detection or underload monitoring for break detection
Conveyor belt	Second set of motor parameters depending on the load transported
Lifting screw	Overload monitoring for hard spot detection or underload monitoring for break detection
Agitator	Display of the current to indicate the density of the material
Mixer	Display of the current to indicate the density of the material Boost on starting
Refiner	Torque control on starting and stopping

## Special applications

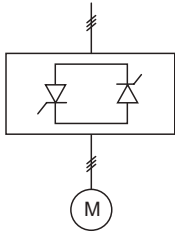
ATS 22 soft start/soft stop units can be used for applications outside the standard characteristics, but this may involve derating by at least one power rating.

Examples of applications outside the standard characteristics:

- Greater number of starts
- Motor thermal protection higher than class 10
- Excess current required on starting
- Certain ambient temperatures:  
For ambient temperatures between + 40 °C/+ 104 °F and + 60 °C/+ 140 °F, derate the nominal current of the Altistart by 2.2% for each additional degree.
- Certain altitudes:  
For altitudes between 1,000 m/3,280.83 ft and 2,000 m/6,561.66 ft, derate the nominal current of the Altistart by 2% for each additional 100 m/328.08 ft.
- ...

# Altistart 22 soft start/soft stop units

Three-phase power supply voltage 230...440 V



Connection in the motor power supply line

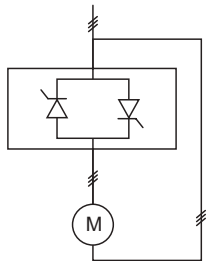


ATS22D17●●●●  
ATS22D32●●●●  
ATS22D47●●●●

## Connection in the motor power supply line

Motor power given in kW in accordance with standard IEC/EN 60947-4-2. 220 V control power supply on CL1, CL2

Motor	Power indicated on rating plate			Soft start/soft stop unit, 230...440 V - 50/60 Hz			Dimensions W x D x H	Reference	Weight
	230 V kW	400 V kW	440 V kW	Factory-set current (In) (1)	Nominal current (IcL) (2)	Power dissipated at nominal current W			
4	7.5	7.5	7.5	14.8	17	39	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D17Q	7.000/ 15.432
7.5	15	15	15	28.5	32	44	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D32Q	7.000/ 15.432
11	22	22	22	42	47	48	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D47Q	7.000/ 15.432
15	30	30	30	57	62	59	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D62Q	12.000/ 26.455
18.5	37	37	37	69	75	63	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D75Q	12.000/ 26.455
22	45	45	45	81	88	66	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D88Q	12.000/ 26.455
30	55	55	55	100	110	73	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C11Q	18.000/ 39.683
37	75	75	75	131	140	82	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C14Q	18.000/ 39.683
45	90	90	90	162	170	91	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C17Q	18.000/ 39.683
55	110	110	110	195	210	117	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C21Q	33.000/ 72.752
75	132	132	132	233	250	129	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C25Q	33.000/ 72.752
90	160	160	160	285	320	150	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C32Q	33.000/ 72.752
110	220	220	220	388	410	177	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C41Q	33.000/ 72.752
132	250	250	250	437	480	218	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C48Q	50.000/ 110.231
160	315	355	355	560	590	251	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C59Q	50.000/ 110.231



Connection in the motor delta connection



ATS22D62●●●●  
ATS22D75●●●●  
ATS22D88●●●●

## Connection in the motor delta connection

Motor power given in kW in accordance with standard IEC/EN 60947-4-2. 220 V control power supply

Motor	Power indicated on rating plate			Soft start/soft stop unit, 230...440 V - 50/60 Hz			Dimensions W x D x H	Reference	Weight
	230 V kW	400 V kW	440 V kW	Factory-set current (In) (1) (3)	Nominal current (IcL) (2)	Power dissipated at nominal current W			
5.5	11	15	15	14.8	17	39	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D17Q	7.000/ 15.432
11	22	22	22	28.5	32	44	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D32Q	7.000/ 15.432
18.5	45	45	45	42	47	48	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D47Q	7.000/ 15.432
22	55	55	55	57	62	59	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D62Q	12.000/ 26.455
30	55	75	75	69	75	63	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D75Q	12.000/ 26.455
37	75	75	75	81	88	66	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D88Q	12.000/ 26.455
45	90	90	90	100	110	73	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C11Q	18.000/ 39.683
55	110	110	110	131	140	82	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C14Q	18.000/ 39.683
75	132	132	132	162	170	91	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C17Q	18.000/ 39.683
90	160	160	160	195	210	117	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C21Q	33.000/ 72.752
110	220	220	220	233	250	129	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C25Q	33.000/ 72.752
132	250	250	250	285	320	150	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C32Q	33.000/ 72.752
160	315	355	355	388	410	177	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C41Q	33.000/ 72.752
220	355	400	400	437	480	218	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C48Q	50.000/ 110.231
250	400	500	500	560	590	251	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C59Q	50.000/ 110.231

(1) In corresponds to the maximum continuous current for class 10 motors. It equates to the nominal current of a standard 4-pole, 400 V, class 10 motor (standard application).

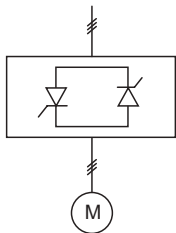
(2) IcL corresponds to the starter rating.

(3) In = motor current/√3.

(4) When connected in the delta configuration, starters allow the use of motors of a larger rating relative to that of the starter. In this configuration, the nominal motor current should not exceed 1.5 IcL.

# Altistart 22 soft start/soft stop units

Three-phase power supply voltage 208...600 V



Connection in the motor power supply line



ATS22C1●●●●



ATS22C2●●●●  
ATS22C32●●●●  
ATS22C41●●●●



ATS22C48●●●●  
ATS22C59●●●●

Connection in the motor power supply line									
Motor power given in kW in accordance with standard IEC/EN 60947-4-2. 220 V control power supply									
Motor				Soft start/soft stop unit, 230...600 V - 50/60 Hz					
Power indicated on rating plate				Factory-set current (I <sub>n</sub> ) (1)	Nominal current (I <sub>cL</sub> ) (2)	Power dissipated at nominal current	Dimensions (W x D x H)	Reference	Weight
230 V kW	400 V kW	440 V kW	500 V kW	A	A	W	mm/in.		kg/lb
4	7.5	7.5	9	14	17	39	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D17S6	7.000/ 15.432
7.5	15	15	18.5	27	32	44	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D32S6	7.000/ 15.432
11	22	22	30	40	47	48	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D47S6	7.000/ 15.432
15	30	30	37	52	62	59	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D62S6	12.000/ 26.455
18.5	37	37	45	65	75	63	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D75S6	12.000/ 26.455
22	45	45	55	77	88	66	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D88S6	12.000/ 26.455
30	55	55	75	96	110	73	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C11S6	18.000/ 39.683
37	75	75	90	124	140	82	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C14S6	18.000/ 39.683
45	90	90	110	156	170	91	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C17S6	18.000/ 39.683
55	110	110	132	180	210	117	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C21S6	33.000/ 72.752
75	132	132	160	240	250	129	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C25S6	33.000/ 72.752
90	160	160	220	302	320	150	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C32S6	33.000/ 72.752
110	220	220	250	361	410	177	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C41S6	33.000/ 72.752
132	250	250	315	414	480	218	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C48S6	50.000/ 110.231
160	315	355	400	477	590	251	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C59S6	50.000/ 110.231

Motor power given in HP. 110 V control power supply									
Motor									
Power indicated on rating plate				Factory-set current (I <sub>n</sub> ) (1)	Nominal current (I <sub>cL</sub> ) (2)	Power dissipated at nominal current	Dimensions (W x D x H)	Reference	Weight
208 V HP	230 V HP	460 V HP	575 V HP	A	A	W	mm/in.		kg/lb
3	5	10	15	14	17	39	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D17S6U	7.000/ 15.432
7.5	10	20	25	27	32	44	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D32S6U	7.000/ 15.432
–	15	30	40	40	47	48	130 x 169 x 265/ 5.12 x 6.65 x 10.43	ATS22D47S6U	7.000/ 15.432
15	20	40	50	52	62	59	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D62S6U	12.000/ 26.455
20	25	50	60	65	75	63	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D75S6U	12.000/ 26.455
25	30	60	75	77	88	66	145 x 207 x 295/ 5.71 x 8.15 x 11.61	ATS22D88S6U	12.000/ 26.455
30	40	75	100	96	110	73	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C11S6U	18.000/ 39.683
40	50	100	125	124	140	82	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C14S6U	18.000/ 39.683
50	60	125	150	156	170	91	150 x 229 x 356/ 5.91 x 9.02 x 14.02	ATS22C17S6U	18.000/ 39.683
60	75	150	200	180	210	117	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C21S6U	33.000/ 72.752
75	100	200	250	240	250	129	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C25S6U	33.000/ 72.752
100	125	250	300	302	320	150	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C32S6U	33.000/ 72.752
125	150	300	350	361	410	177	206 x 299 x 425/ 8.11 x 11.77 x 16.73	ATS22C41S6U	33.000/ 72.752
150	–	350	400	414	480	218	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C48S6U	50.000/ 110.231
–	200	400	500	477	590	251	304 x 340 x 455/ 11.97 x 13.39 x 17.91	ATS22C59S6U	50.000/ 110.231

(1) I<sub>n</sub> corresponds to the maximum continuous current for class 10 motors. It equates to the nominal current of a standard 4-pole, 400 V, class 10 motor (standard application).  
(2) I<sub>cL</sub> corresponds to the starter rating.

# Altistart 22

## soft start/soft stop units

Options: dialog and configuration tools



SoMove setup software

### SoMove setup software

#### Presentation

SoMove software incorporates various functions for setting up Schneider Electric motor control devices, including:

- configuration preparation
- setup
- maintenance

To facilitate setup and maintenance, SoMove software can use a direct USB/RJ45 cable link TCSMCNAM3M002P or a Bluetooth® link.

Visit our website [www.schneider-electric.com](http://www.schneider-electric.com) to download the SoMove software and catalog.

#### References

Description	For soft start/soft stop unit	Reference	Weight kg/lb
SoMove setup software	ATS 22	–	–
USB/RJ45 cable equipped with a USB connector and an RJ45 connector for connecting a PC to the Altistart 22 soft start/soft stop unit Length: 2.5 m/8.20 ft	ATS 22	TCSMCNAM3M002P	0.115/0.254

### Remote display terminal

#### Presentation

This terminal enables the human machine interface of the Altistart 22 soft start/soft stop unit to be positioned remotely on the door of a floor-standing enclosure. It provides IP 54/UL type 12 or IP 65 protection depending on the model.

It is used to:

- set and configure the soft start/soft stop unit remotely
- display the soft start/soft stop unit status and detected errors remotely

Its maximum operating temperature is 50 °C/122 °F. Please refer to our website “[www.schneider-electric.com](http://www.schneider-electric.com)” if the temperature exceeds this value.

#### Description

- 1 4-digit display
- 2 Selection/validation key ENT: opens a menu or validates the selected value
- 3 Navigation keys ▲, ▼
- 4 Selection key ESC: used to exit a menu

#### References

Description	Degree of protection	Length	Dimensions W x D x H		Reference	Weight kg/lb
			m/ft	mm/in.		
Remote display terminals A remote-mounting cordset is also required VW3A1104R●●	IP 54/UL type 12	–	50 x 15 x 70/ 1.97 x 0.59 x 2.76		VW3G22101	0.250/ 0.551
	IP 65	–	66 x 19 x 106/ 2.60 x 0.75 x 4.17		VW3G22102	0.275/ 0.606
Remote-mounting cordsets with 2 RJ45 connectors	–	1/ 3.28	–		VW3A1104R10	0.050/ 0.110
	–	3/ 9.84	–		VW3A1104R30	0.150/ 0.331
	–	–	–		–	–

### Modbus serial link

#### Connection via splitter box with RJ45 connectors

Description	Item	Length	Unit reference	Weight
		m/ft		kg/lb
Modbus splitter box with 10 RJ45 connectors	1	–	LU9GC3	0.500/ 1.102
Cordsets for Modbus serial link with 2 RJ45 connectors	2	0.3/ 0.98	VW3A8306R03	0.025/ 0.055
		1/ 3.28	VW3A8306R10	0.060/ 0.132
		3/ 9.84	VW3A8306R30	0.130/ 0.287
		–	–	–
Modbus T-junction boxes (with integrated cable)	3	0.3/ 0.98	VW3A8306TF03	0.190/ 0.419
		1/ 3.28	VW3A8306TF10	0.210/ 0.463
		–	–	–
Line terminators (2) (3)	4	R = 120 Ω	VW3A8306RC	0.010/ 0.022
		C = 1 nf	–	–
		R = 120 Ω	VW3A8306R	0.010/ 0.022

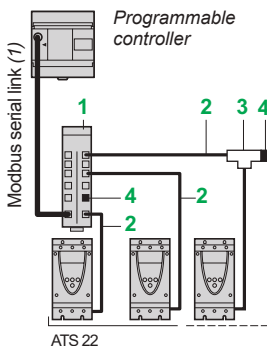
(1) Cable depends on the type of controller or PLC.

(2) Sold in lots of 2.

(3) Depends on the bus architecture.



VW3G22101



Example of Modbus serial link architecture with connection via splitter box with RJ45 connectors

# Altistart 22 soft start/soft stop units

Options: fans and accessories  
Replacement parts



ATS22D17Q + VW3G2240●

## Fans

### Presentation

ATS22C21Q...C59Q, ATS22C21S6...C59S6, and ATS22C21S6U...C59S6U soft start/soft stop units have an integrated fan.

ATS22D17Q...C17Q, ATS22D17S6...C17S6, and ATS22D17S6U...C17S6U soft start/soft stop units are ventilated by means of natural convection.

To meet the needs of more demanding applications, such as those with a greater number of starts, the Altistart 22 range offers fans as an option. These are driven by the soft start/soft stop unit and are mounted on the back of the device.

The fan noise level is less than 60 dBA.

### References

Description	Control supply voltage V	For soft start/ soft stop unit	Dimensions	Reference	Weight
			W x D x H mm/ in.		
Fans	220	ATS22D17Q...D47Q, ATS22D17S6...D47S6	130 x 40 x 265/ 5.11 x 1.57 x 10.43	VW3G22400	1.200/ 2.646
		ATS22D62Q...D88Q, ATS22D62S6...D88S6	145 x 40 x 295/ 5.71 x 1.57 x 11.61	VW3G22401	1.400/ 3.086
		ATS22C11Q...C17Q, ATS22C11S6...C17S6	150 x 40 x 350/ 5.91 x 1.57 x 13.78	VW3G22402	1.600/ 3.527
	110	ATS22D17S6U...D47S6U	130 x 40 x 265/ 5.11 x 1.57 x 10.43	VW3G22U400	1.200/ 2.646
		ATS22D62S6U...D88S6U	145 x 40 x 295/ 5.71 x 1.57 x 11.61	VW3G22U401	1.400/ 3.086
		ATS22C11S6U...C17S6U	150 x 40 x 350/ 5.91 x 1.57 x 13.78	VW3G22U402	1.600/ 3.527

## Protective covers for power terminals (for use with eyelet connectors)

ATSC11Q...C59Q, ATSC11S6...C59S6, and ATSC11S6U...C59S6U soft start/soft stop units have 6 unprotected power terminals. These terminals can be equipped with protective covers.

Description	For soft start/ soft stop unit	Reference	Weight kg/ lb
Set of 6 protective covers	ATS22C11Q...C17Q, ATS22C11S6...C17S6, ATS22C11S6U...C17S6U	LA9F702	0.250/ 0.551
	ATS22C21Q...C59Q, ATS22C21S6...C59S6, ATS22C21S6U...C59S6U	LA9F703 (1)	0.250/ 0.551



LA9F70●



VZ3V22D1220V



VZ3V22E1110V

## Replacement parts

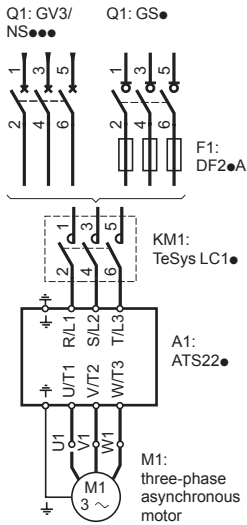
### References

Description	Control supply voltage V	For soft start/ soft stop unit	Reference	Weight
				kg/ lb
Fans	220	ATS22C21Q...C41Q ATS22C21S6...C41S6	VZ3V22D1220V	1.145/ 2.524
		ATS22C48Q...C59Q ATS22C48S6...C59S6	VZ3V22E1220V	2.195/ 4.839
	110	ATS22C21S6U...C41S6U	VZ3V22D1110V	1.145/ 2.524
		ATS22C48S6U...C59S6U	VZ3V22E1110V	2.195/ 4.839

(1) For use with M10 x 35 mm/1.38 in. screws (not supplied).

# Altistart 22 soft start/soft stop units

Motor starters:  
three-phase supply voltage 400...440 V  
Type 1 coordination



Motor starter with protection via circuit breaker or disconnect switch

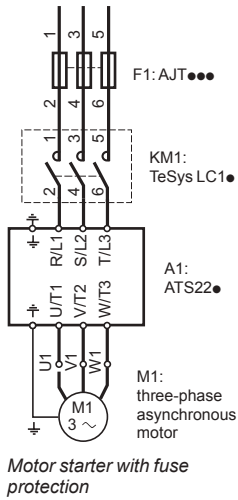
Compatible components according to standard IEC/EN 60947-4-2										
Use the contactor and starter with either a circuit breaker or a fused disconnect switch										
Three-phase 4-pole motor 50/60 Hz			Class 10 starter (1)	Circuit breaker		Contactor (3)	Fused disconnect switch (for front and side-mounted operator)	aM fuse		
400 V kW	440 V kW	A		Reference	Rating A			Unit reference (4)	Size mm/in.	Rating A
M1	M1		A1	Q1		KM1	Q1	F1		
7.5	7.5	14.8	ATS22D17●	GV3L20 NS80H-MA	– 25	LC1D18●●	GS1DD3	DF2CA16	10 x 38/ 0.39 x 1.50	16
15	15	28.5	ATS22D32●	GV3L32 NS80H-MA	– 50	LC1D32●●	GS1DD3	DF2CA32	10 x 38/ 0.39 x 1.50	32
22	22	42	ATS22D47●	GV3L50 NS80H-MA	– 50	LC1D50A●●	GS2F3	DF2EA50	14 x 51/ 0.55 x 2.00	50
30	30	57	ATS22D62●	GV3L65 NS80H-MA	– 80	LC1D65A●●	GS2J3	DF2FA63	22 x 58/ 0.87 x 2.28	63
37	37	69	ATS22D75●	NS80H-MA	80	LC1D80●●	GS2J3	DF2FA80	22 x 58/ 0.87 x 2.28	80
45	45	81	ATS22D88●	NSX100●MA	100	LC1D115●●	GS2J3	DF2FA100	22 x 58/ 0.87 x 2.28	100
55	55	100	ATS22C11●	NSX160●MA	150	LC1D115●●	GS2K3	DF2FA125	22 x 58/ 0.87 x 2.28	125
75	75	131	ATS22C14●	NSX160●MA	150	LC1D150●●	GS2L3	DF2GA1161	Size 0	160
90	90	162	ATS22C17●	NSX250●MA	220	LC1F185●●	GS2N3	DF2HA1201	Size 1	200
110	110	195	ATS22C21●	NSX250●MA	220	LC1F225●●	GS2N3	DF2HA1251	Size 1	250
132	132	233	ATS22C25●	NSX400● Micrologic 1.3-M	320	LC1F265●●	GS2N3	DF2HA1251	Size 1	250
160	160	285	ATS22C32●	NSX400● Micrologic 1.3-M	320	LC1F330●●	GS2QQ3	DF2JA1311	Size 2	315
220	220	388	ATS22C41●	NSX630● Micrologic 1.3-M	500	LC1F400●●	GS2S3	DF2KA1401	Size 3	400
250	250	437	ATS22C48●	NSX630● Micrologic 1.3-M	500	LC1F500●●	GS2S3	DF2KA1501	Size 3	500
315	355	560	ATS22C59●	NS630b● Micrologic 5.0	500	LC1F630●●	GS2S3	DF2KA1631	Size 3	630

(1) Replace ● with Q or S6 depending on the starter voltage range.  
To find out more about compatible combinations for 230 V (ATS22●●●Q starters) or 500 V (ATS22●●●S6 starters) motor supply voltages, visit our website "www.schneider-electric.com".  
(2) Replace ● with F, N, H, S, or L depending on the breaking capacity (see table below).  
(3) Replace ●● with the control circuit voltage reference: please refer to our "Control and protection components" catalog.  
(4) DF2CA, EA, FA: sold in lots of 10.  
DF2GA, HA, JA, KA: sold in lots of 3.

Maximum prospective starter short-circuit current according to standard IEC/EN 60947-4-2										
Starter	Iq (kA) at 500 V									
ATS22D17...ATS22D75●	25									
ATS22D88...ATS22C59●	50									
Breaking capacity of circuit breakers according to standard IEC/EN 60947-4-2										
Circuit breaker	Icu (kA) at 400 V					Icu (kA) at 400 V				
GV3L	50					50				
NS80H-MA	70					65				
Circuit breaker	Icu (kA) at 400 V					Icu (kA) at 400 V				
	F	N	H	S	L	F	N	H	S	L
NSX100...NSX630	36	50	70	100	150	35	50	65	90	130
NS630B	–	50	70	–	150	–	50	65	–	130

# Altistart 22 soft start/soft stop units

Motor starters:  
three-phase supply voltage 208...575 V



### Compatible components in accordance with standard UL 508

Product without enclosure										
Three-phase 4-pole motor 50/60 Hz					Class 10 starter	Maximum short-circuit current (SCC) at 600 V	Contactor (1)		Time delay fuse (sold by Ferraz Shawmut)	
208 V HP	230 V HP	460 V HP	575 V HP	A					Class J	Class L
M1	M1	M1	M1		A1		KM1		F1	
3	5	10	15	14	ATS22D17S6U	5	LC1D18●●		AJT40 –	
7.5	10	20	25	27	ATS22D32S6U	5	LC1D32●●		AJT70 –	
–	15	30	40	40	ATS22D47S6U	5	LC1D50A●●		AJT100 –	
15	20	40	50	52	ATS22D62S6U	10	LC1D65A●●		AJT125 –	
20	25	50	60	65	ATS22D75S6U	10	LC1D80A●●		AJT175 –	
25	30	60	75	77	ATS22D88S6U	10	LC1D115●●		AJT200 –	
30	40	75	100	96	ATS22C11S6U	10	LC1D115●●		AJT250 –	
40	50	100	125	124	ATS22C14S6U	10	LC1D150●●		AJT300 –	
50	60	125	150	156	ATS22C17S6U	10	LC1F185●●		AJT400 –	
60	75	150	200	180	ATS22C21S6U	18	LC1F225●●		– 500	
75	100	200	250	240	ATS22C25S6U	18	LC1F265●●		– 600	
100	125	250	300	302	ATS22C32S6U	18	LC1F330●●		– 700	
125	150	300	350	361	ATS22C41S6U	18	LC1F400●●		– 800	
150	–	350	400	414	ATS22C48S6U	18	LC1F500●●		– 1,000	
–	200	400	500	477	ATS22C59S6U	30	LC1F630●●		– 1,200	

Enclosed product											
Three-phase 4-pole motor 50/60 Hz					Class 10 starter	Maximum short-circuit current (SCC) at 600 V	Minimum enclosure volume		Contactor (1)	Time delay fuse	
208 V HP	230 V HP	460 V HP	575 V HP	A			kA	cm <sup>3</sup>		in. <sup>3</sup>	Class J
M1	M1	M1	M1		A1				KM1		F1
3	5	10	15	14	ATS22D17S6U	100	40	2.406	LC1D18●●	30 –	
7.5	10	20	25	27	ATS22D32S6U	100	40	2.406	LC1D32●●	60 –	
–	15	30	40	40	ATS22D47S6U	100	40	2.406	LC1D50A●●	90 –	
15	20	40	50	52	ATS22D62S6U	100	52	3.149	LC1D65A●●	110 –	
20	25	50	60	65	ATS22D75S6U	100	52	3.149	LC1D80A●●	150 –	
25	30	60	75	77	ATS22D88S6U	100	52	3.149	LC1D115●●	175 –	
30	40	75	100	96	ATS22C11S6U	100	125	7.630	LC1D115●●	200 –	
40	50	100	125	124	ATS22C14S6U	100	125	7.630	LC1F150●●	250 –	
50	60	125	150	156	ATS22C17S6U	100	125	7.630	LC1F185●●	300 –	
60	75	150	200	180	ATS22C21S6U	100	130	7.892	LC1F225●●	400 –	
75	100	200	250	240	ATS22C25S6U	100	130	7.892	LC1F265●●	450 –	
100	125	250	300	302	ATS22C32S6U	100	130	7.892	LC1F330●●	600 –	
125	150	300	350	361	ATS22C41S6U	100	130	7.892	LC1F400●●	600 –	
150	–	350	400	414	ATS22C48S6U	100	195	11.869	LC1F500●●	– 800	
–	200	400	500	477	ATS22C59S6U	100	195	11.869	LC1F630●●	– 800	

(1) Replace ●● with the control circuit voltage reference: please refer to our "Control and protection components" catalog.

<b>A</b>			
ATS22C11Q	8	VW3A8306TF03	10
ATS22C11S6	9	VW3A8306TF10	10
ATS22C11S6U	9	VW3G22U400	11
ATS22C14Q	8	VW3G22U401	11
ATS22C14S6	9	VW3G22U402	11
ATS22C14S6U	9	VW3G22101	10
ATS22C17Q	8	VW3G22102	10
ATS22C17S6	9	VW3G22400	11
ATS22C17S6U	9	VW3G22401	11
ATS22C21Q	8	VW3G22402	11
ATS22C21S6	9	VZ3V22D1110V	11
ATS22C21S6U	9	VZ3V22D1220V	11
ATS22C25Q	8	VZ3V22E1110V	11
ATS22C25S6	9	VZ3V22E1220V	11
ATS22C25S6U	9		
ATS22C32Q	8		
ATS22C32S6	9		
ATS22C32S6U	9		
ATS22C41Q	8		
ATS22C41S6	9		
ATS22C41S6U	9		
ATS22C48Q	8		
ATS22C48S6	9		
ATS22C48S6U	9		
ATS22C59Q	8		
ATS22C59S6	9		
ATS22C59S6U	9		
ATS22D17Q	8		
ATS22D17S6	9		
ATS22D17S6U	9		
ATS22D32Q	8		
ATS22D32S6	9		
ATS22D32S6U	9		
ATS22D47Q	8		
ATS22D47S6	9		
ATS22D47S6U	9		
ATS22D62Q	8		
ATS22D62S6	9		
ATS22D62S6U	9		
ATS22D75Q	8		
ATS22D75S6	9		
ATS22D75S6U	9		
ATS22D88Q	8		
ATS22D88S6	9		
ATS22D88S6U	9		
<b>L</b>			
LA9F702	11		
LA9F703	11		
LU9GC3	10		
<b>T</b>			
TCSMCNAM3M002P	10		
<b>V</b>			
VW3A1104R10	10		
VW3A1104R30	10		
VW3A8306R	10		
VW3A8306R03	10		
VW3A8306R10	10		
VW3A8306R30	10		
VW3A8306RC	10		

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