



## Main

Range of product	Altistart 22
Product or component type	Soft starter
Product destination	Asynchronous motors
Product specific application	Pumps and fans
Component name	ATS22
Network number of phases	3 phases
[Us] rated supply voltage	208...600 V - 15...10 %
Motor power hp	125 Hp 460 V 150 Hp 575 V 50 Hp 208 V 60 hp 230 V
Factory setting current	156 A
Power dissipation in W	91 W for standard applications
Utilisation category	AC-53A
Type of start	Start with torque control (current limited to 3.5 In)
IcL starter rating	170 A for connection in the motor supply line for standard applications
IP degree of protection	IP00

## Complementary

Assembly style	With heat sink
Function available	Internal bypass
Supply voltage limits	177...660 V
Supply frequency	50...60 Hz - 10...10 %
Network frequency	45...66 Hz
Device connection	In the motor supply line
[Uc] control circuit voltage	110 V - 15...10 % 50/60 Hz
Control circuit consumption	20 W
Discrete output number	2
Discrete output type	Relay outputs R1 230 V running, alarm, trip, stopped, not stopped, starting, ready C/O Relay outputs R2 230 V running, alarm, trip, stopped, not stopped, starting, ready C/O
Minimum switching current	100 mA at 12 V DC (relay outputs)
Maximum switching current	5 A 250 V AC resistive 1 relay outputs 5 A 30 V DC resistive 1 relay outputs 2 A 250 V AC inductive 0.4 20 ms relay outputs 2 A 30 V DC inductive 7 ms relay outputs
Discrete input number	3
Discrete input type	(LI1, LI2, LI3) logic, 5 mA 20 kOhm
Discrete input voltage	110 V <= 121 V
Discrete input logic	Positive logic LI1, LI2, LI3 at State 0: < 20 V and <= 15 mA at State 1: > 79 V, <= 2 mA
Output current	0.4...1 IcL adjustable
PTC probe input	750 Ohm
Communication port protocol	Modbus
Connector type	1 RJ45

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Communication data link	Serial
Physical interface	RS485 multidrop
Transmission rate	4800, 9600 or 19200 bps
Installed device	31
Protection type	Phase failure: line Thermal protection: motor Thermal protection: starter
Marking	CE
Type of cooling	Forced convection
Operating position	Vertical +/- 10 degree
Height	356 mm
Width	150 mm
Depth	229.5 mm
Net weight	18 kg

## Environment

Electromagnetic compatibility	Conducted and radiated emissions level A conforming to IEC 60947-4-2 Damped oscillating waves level 3 conforming to IEC 61000-4-12 Electrostatic discharge level 3 conforming to IEC 61000-4-2 Immunity to electrical transients level 4 conforming to IEC 61000-4-4 Immunity to radiated radio-electrical interference level 3 conforming to IEC 61000-4-3 Voltage/current impulse level 3 conforming to IEC 61000-4-5
Standards	EN/IEC 60947-4-2
Product certifications	CSA GOST CCC C-Tick UL
Vibration resistance	1 gn (f= 13...200 Hz) conforming to EN/IEC 60068-2-6 1.5 mm (f= 2...13 Hz) conforming to EN/IEC 60068-2-6
Shock resistance	15 gn for 11 ms conforming to EN/IEC 60068-2-27
Noise level	56 dB
Pollution degree	Level 2 conforming to IEC 60664-1
Relative humidity	0...95 % without condensation or dripping water conforming to EN/IEC 60068-2-3
Ambient air temperature for operation	-10...40 °C (without derating) 40...60 °C (with current derating 2.2 % per °C)
Ambient air temperature for storage	-25...70 °C
Operating altitude	<= 1000 m without derating > 1000...< 2000 m with current derating of 2.2 % per additional 100 m

## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	13.28 kg
Package 1 Height	25.5 cm
Package 1 width	33.5 cm
Package 1 Length	42.0 cm
Unit Type of Package 2	P06
Number of Units in Package 2	4
Package 2 Weight	64.576 kg
Package 2 Height	73.5 cm
Package 2 width	80.0 cm
Package 2 Length	60.0 cm

## Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS Declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End Of Life Information</a>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Contractual warranty

Warranty	18 months
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## Precautions

### Standards

The Altistart 22 soft starter is compliant with pollution Degree 2 as defined in NEMA ICS1-1 or IEC 60664-1.

For environment pollution degree 3, install the Altistart 22 soft starter inside a cabinet type 12 or IP54.

## ⚠ DANGER

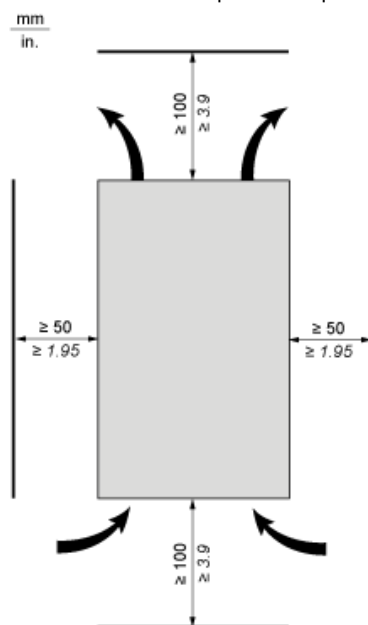
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

ATS22 soft starters are open devices and must be mounted in a suitable enclosure.

Failure to follow these instructions will result in death or serious injury.

### Air Circulation

Leave sufficient free space to help the air required for cooling purposes to circulate from the bottom to the top of the unit.



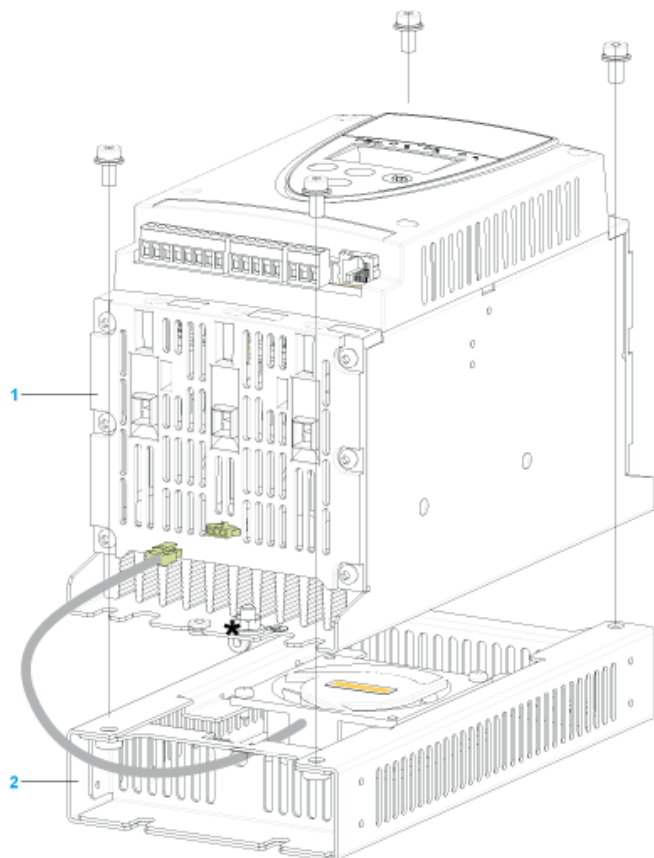
### Overheating

To avoid the soft starter to overheat, respect the following recommendations:

- Mount the Altistart 22 Soft Starter within  $\pm 10^\circ$  of vertical.
- Do not locate the Altistart 22 Soft Starter near heat radiating elements.
- Electrical current through the Altistart 22 Soft Starter will result in heat losses that must be dissipated into the ambient air immediately surrounding the soft starter. To help prevent a thermal fault, provide sufficient enclosure cooling and/or ventilation to limit the ambient temperature around the soft starter.
- If several soft starters are installed in a control panel, arrange them in a row. Do not stack soft starters. Heat generated from the bottom soft starter can adversely affect the ambient temperature around the top soft starter.

### Mounting

## Connection Between the Fan and the Altistart 22 Soft Starter



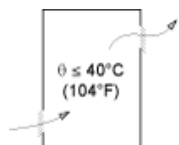
- 1 Altistart 22 Soft Starter
- 2 Fan

## Wall mounted or Floor-standing Enclosure with IP 23 Degree of protection

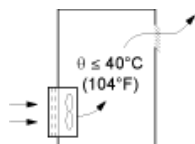
### Introduction

To help proper air circulation in the soft starter, grilles and forced ventilation can be installed.

### Ventilation Grilles

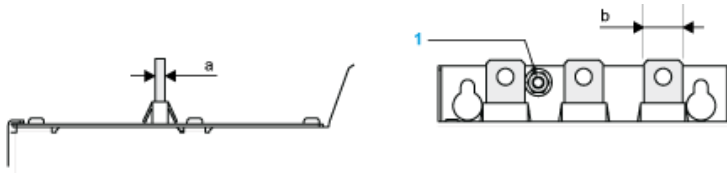


### Forced Ventilation Unit



Power Terminal

Bar Style

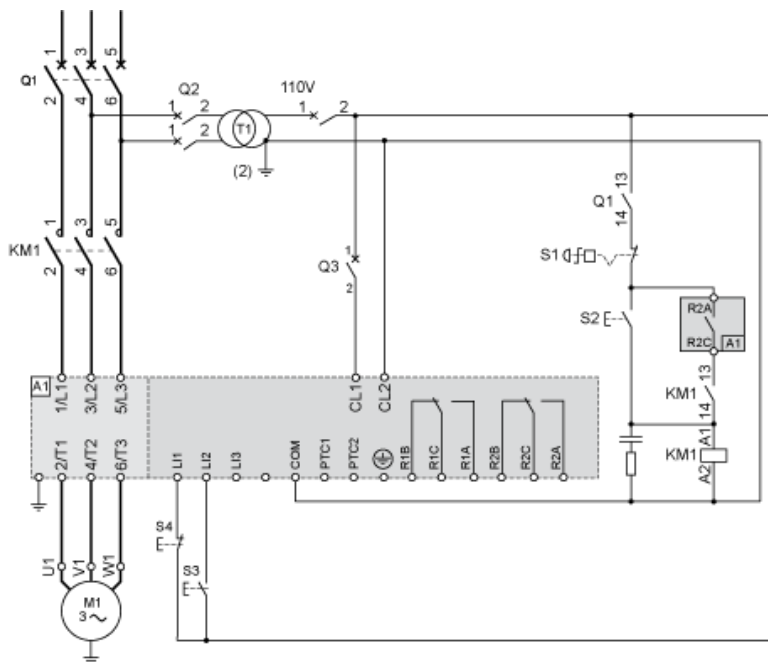


Power supply and output to motor	Bar	b	20 mm (0.79 in)
a	5 mm (0.2 in)		
Bolt	M8 (0.31 in)		
Cable and protective cover	Size	95 mm <sup>2</sup>	
Gauge	250 MCM		
Protective cover	LA9F702		
Tightening torque	18 N.m		
157.5 lb.in			

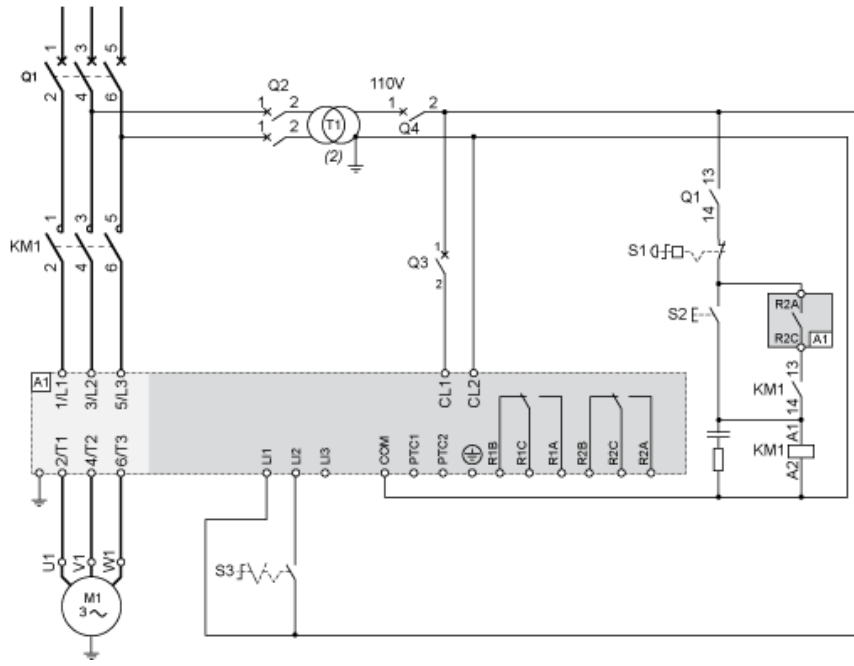
Power connections, minimum required wiring section

IEC cable mm <sup>2</sup> (Cu 70°C/158°F) (1)	UL cable AWG (Cu 75°C/167°F) (1)
70	4/0

110 Vac control, Logic Inputs (LI) 110 Vac, 3-wire control



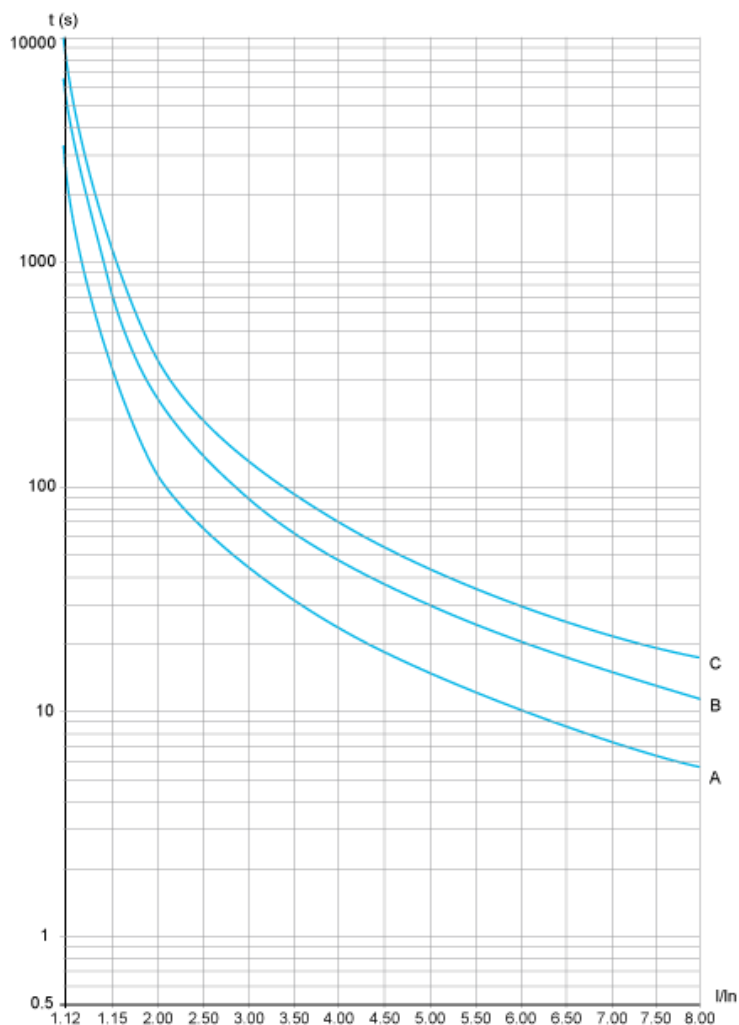
110 Vac control, Logic Inputs (LI) 110 Vac, 2-wire control, freewheelstop





Motor Thermal Protection - Cold Curves

Curves



- A Class 10
- B Class 20
- C Class 30

Trip time for a Standard Application (Class 10)

3.5 In
32 s

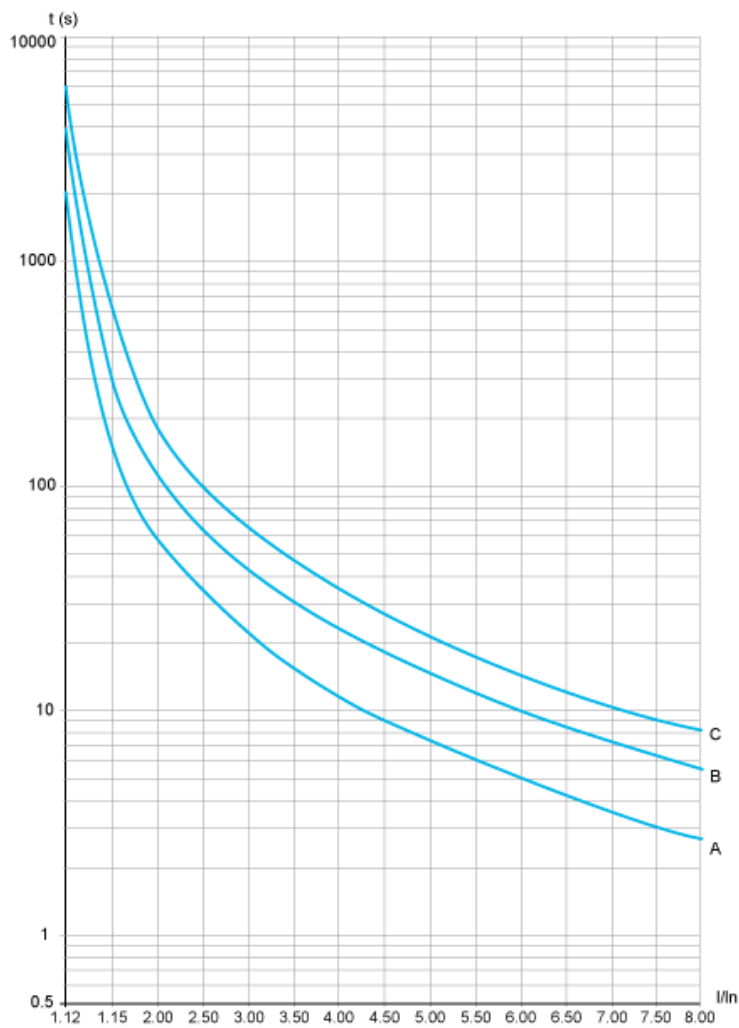
Trip time for a Severe Application (Class 20)

3.5 In
63 s

Trip time for a Severe Application (Class 30)

3.5 In
95 s

Curves



- A Class 10
- B Class 20
- C Class 30

Trip time for a Standard Application (Class 10)

3.5 In
16 s

Trip time for a Severe Application (Class 20)

3.5 In
32 s

Trip time for a Severe Application (Class 30)

3.5 In
48 s