

# Product data sheet

Specifications



## soft starter-ATS22- control 110V-power 230V(15hp)/460V(30hp)/575V(40hp)

ATS22D47S6U

### 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	15 hp 230 V 30 hp 460 V 40 hp 575 V
Factory setting current	40 A
Power dissipation in W	48 W for standard applications
Utilisation category	AC-53A
Type of start	Start with torque control (current limited to 3.5 In)
IcL starter rating	47 A for connection in the motor supply line for standard applications
IP degree of protection	IP20

### 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

<b>Discrete input number</b>	3
<b>Discrete input type</b>	(LI1, LI2, LI3) logic, 5 mA 20 kOhm
<b>Discrete input voltage</b>	110 V <= 121 V
<b>Discrete input logic</b>	Positive logic LI1, LI2, LI3 at State 0: < 20 V and <= 15 mA at State 1: > 79 V, <= 2 mA
<b>Output current</b>	0.4...1 Icl adjustable
<b>PTC probe input</b>	750 Ohm
<b>Communication port protocol</b>	Modbus
<b>Connector type</b>	1 RJ45
<b>Communication data link</b>	Serial
<b>Physical interface</b>	RS485 multidrop
<b>Transmission rate</b>	4800, 9600 or 19200 bps
<b>Installed device</b>	31
<b>Protection type</b>	Phase failure: line Thermal protection: motor Thermal protection: starter
<b>Marking</b>	CE
<b>Type of cooling</b>	Forced convection
<b>Operating position</b>	Vertical +/- 10 degree
<b>Height</b>	265 mm
<b>Width</b>	130 mm
<b>Depth</b>	169 mm
<b>Net weight</b>	7 kg

## Environment

<b>Electromagnetic compatibility</b>	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
<b>Standards</b>	EN/IEC 60947-4-2
<b>Product certifications</b>	GOST CSA UL C-Tick CCC
<b>Vibration resistance</b>	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
<b>Shock resistance</b>	15 gn for 11 ms conforming to EN/IEC 60068-2-27
<b>Noise level</b>	45 dB
<b>Pollution degree</b>	Level 2 conforming to IEC 60664-1
<b>Relative humidity</b>	0...95 % without condensation or dripping water conforming to EN/IEC 60068-2-3
<b>Ambient air temperature for operation</b>	-10...40 °C (without derating) 40...60 °C (with current derating 2.2 % per °C)
<b>Ambient air temperature for storage</b>	-25...70 °C
<b>Operating altitude</b>	<= 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 Height	22.0 cm
Package 1 Width	28.0 cm
Package 1 Length	33.5 cm
Package 1 Weight	5.706 kg
Unit Type of Package 2	P06
Number of Units in Package 2	10
Package 2 Height	73.5 cm
Package 2 Width	80.0 cm
Package 2 Length	60.0 cm
Package 2 Weight	70.06 kg

## 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
China RoHS Regulation	<a href="#">China RoHS declaration</a>
RoHS exemption information	Yes
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
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

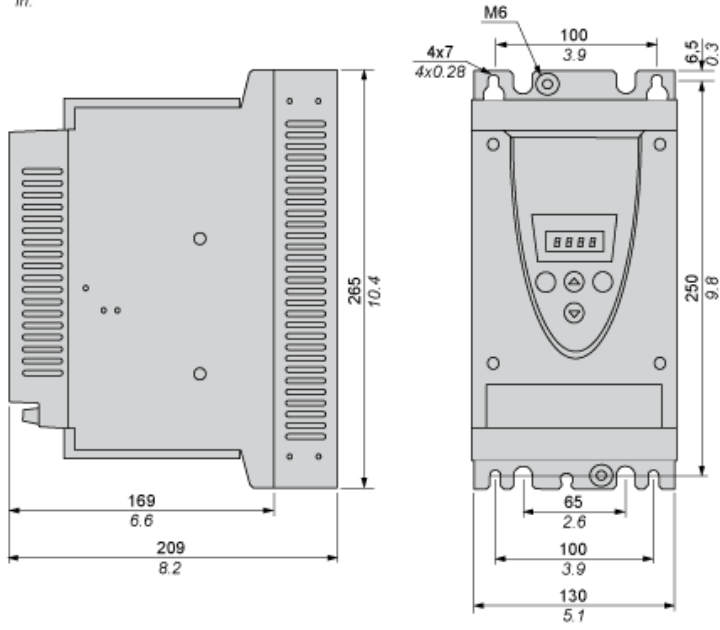
## Contractual warranty

Warranty	18 months
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Frame Size A

Dimensions

mm  
in.



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

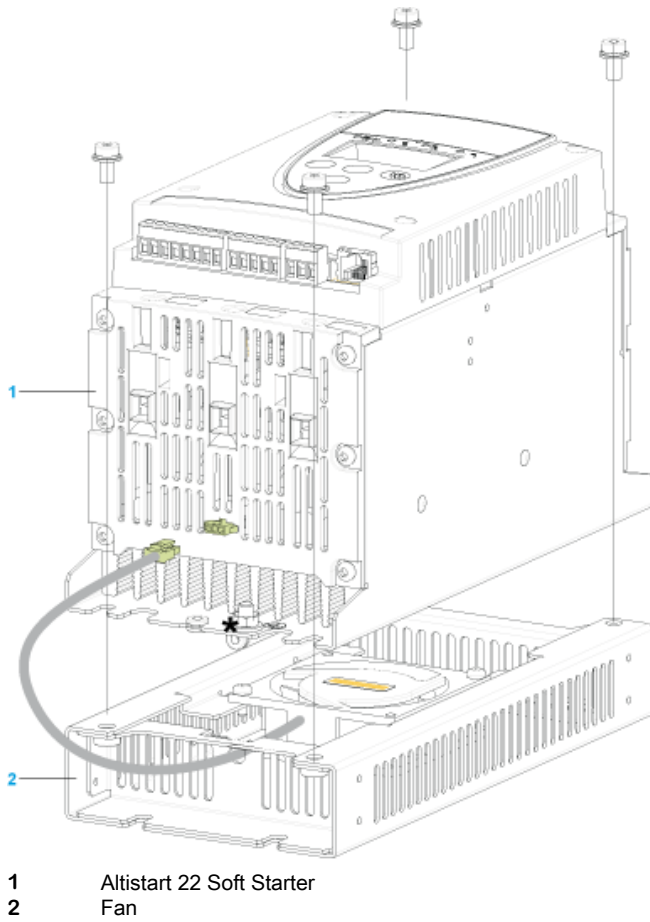
To avoid the soft starter to overheat, respect the following recommendations:

- 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 unit.
- 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 affect the top soft starter.

**Mounting**

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



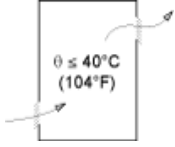
**Wall mounted or Floor-standing Enclosure with IP 23 Degree of protection**

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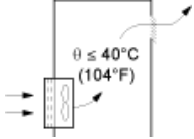
**Introduction**

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

**Ventilation Grilles**

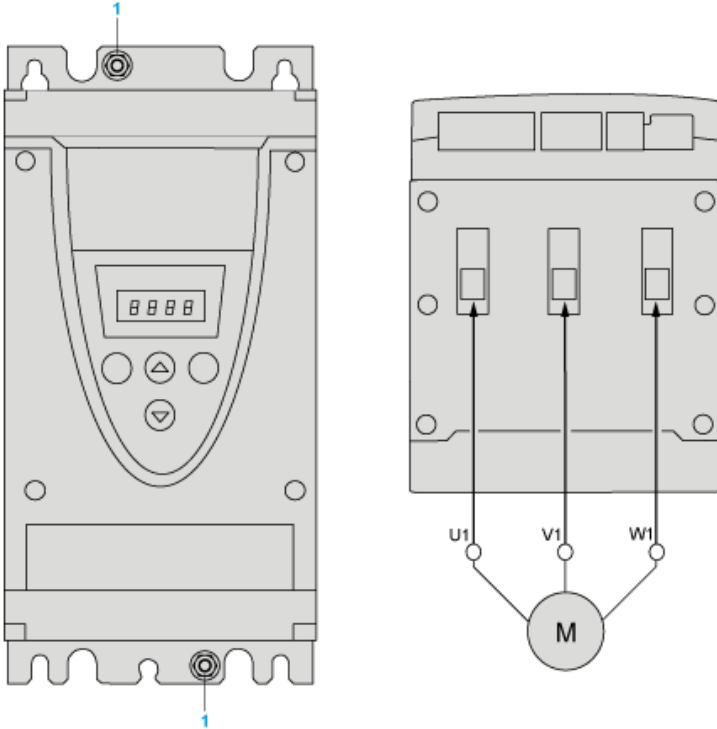


**Forced Ventilation Unit**



**Power Terminal**

**Cage Style**



1 Ground connection

**Power connections, minimum and maximum wiring capabilities, tightening torque**

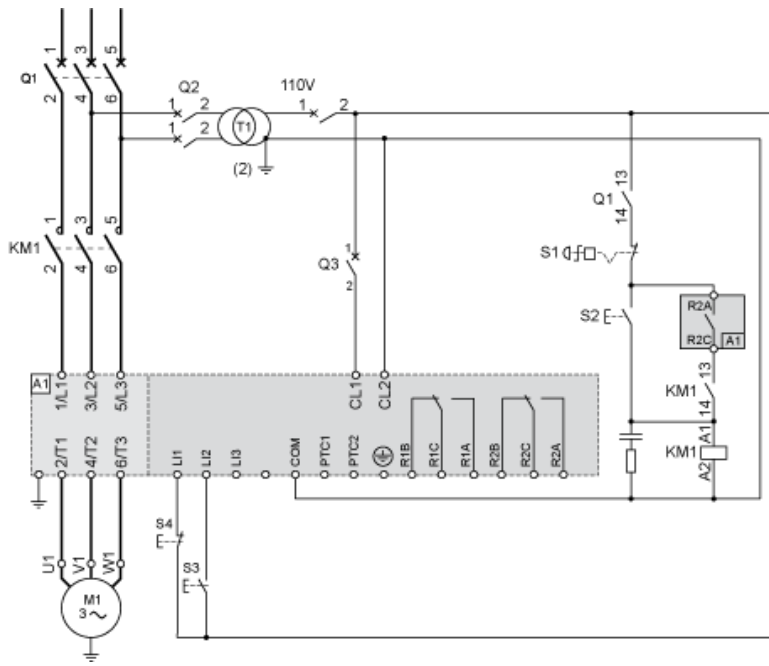
			IEC cable	UL cable
Power supply and output to motor	Size/gauge	min	2.5 mm	12 AWG
		max	16 mm	4 AWG
	Tightening torque	min	3 N.m	26.25 lb.in
		max	3 N.m	26.25 lb.in
	Strip length		10 mm	0.4 in.

**Power connections, minimum required wiring section**

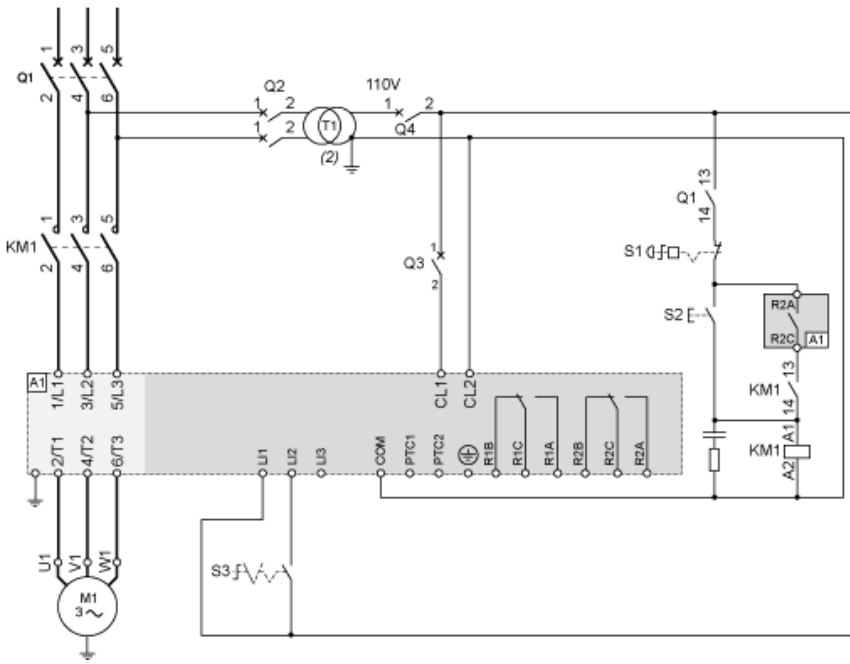
IEC cable mm <sup>2</sup> (Cu 70°C/158°F) (1)	UL cable AWG (Cu 75°C/167°F) (1)
10	6



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

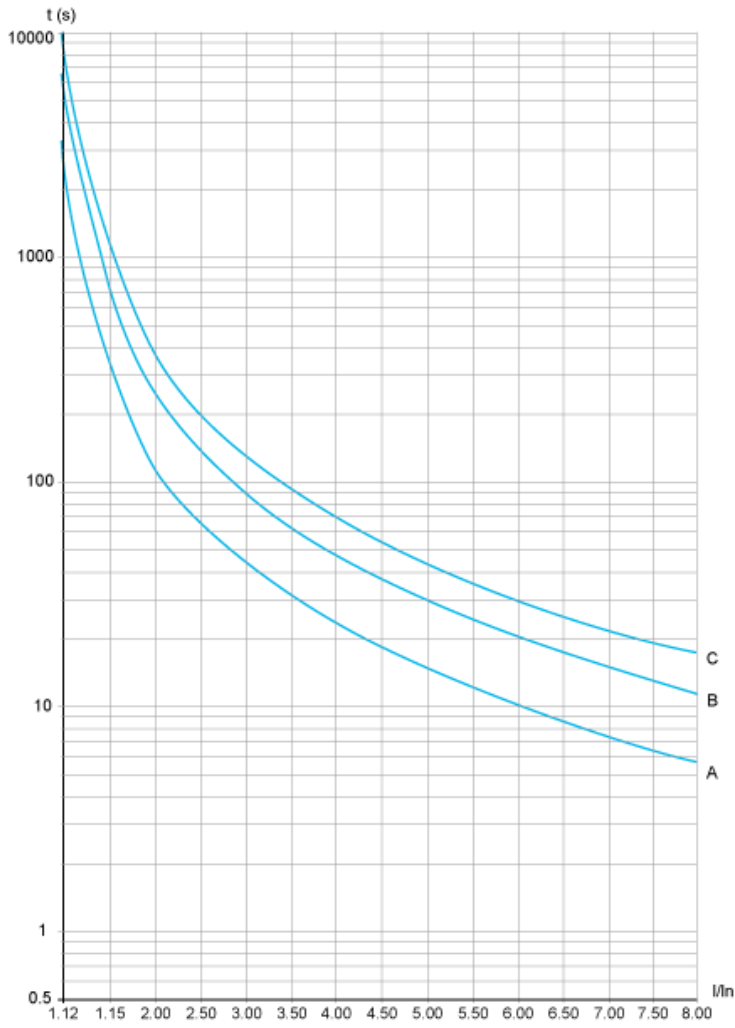


110 Vac control, Logic Inputs (LI) 110 Vac, 2-wire control, freewheelstop



**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)**

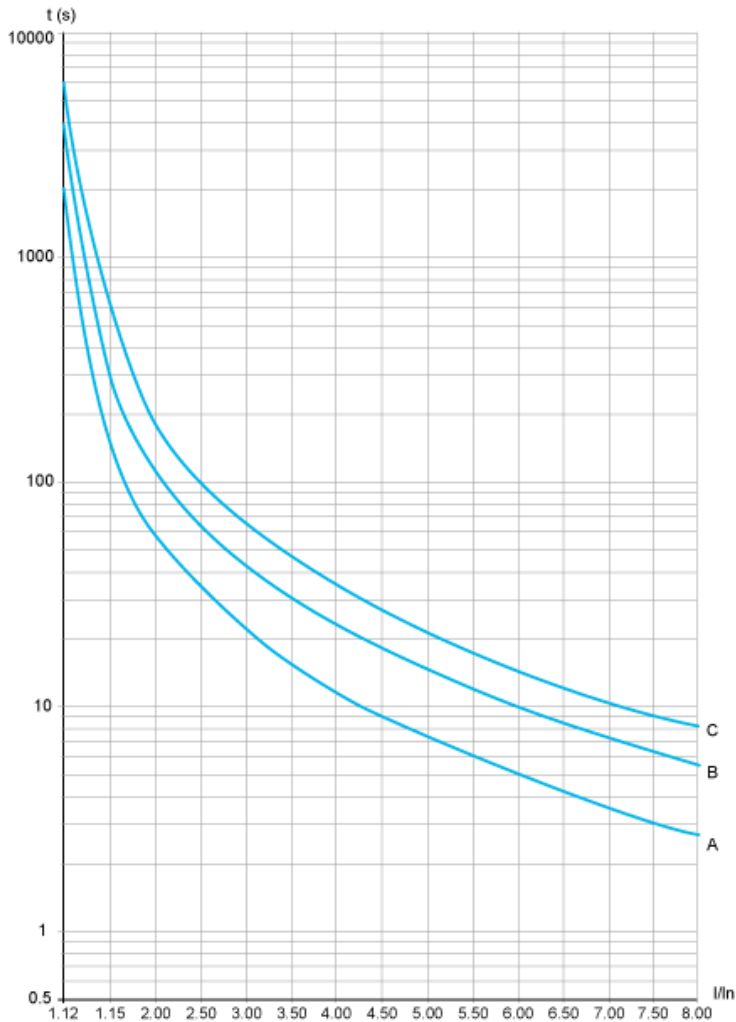
3.5 In
63 s

**Trip time for a Severe Application (Class 30)**

3.5 In
95 s

**Motor Thermal Protection - Warm Curves**

**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

**Recommended replacement(s)**